



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; SP-12(9): 1811-1814
© 2023 TPI
www.thepharmajournal.com
Received: 14-07-2023
Accepted: 19-08-2023

Papireddy M
Senior Scientist and Head,
ICAR, KVK, UAS, Bangalore,
Karnataka, India

Tanweer Ahmed
Scientist, Department of
Agricultural Extension, ICAR,
KVK, UAS, Bangalore,
Karnataka, India

Aruna GR
Technical Officer, ICAR, KVK,
UAS, Bangalore, Karnataka,
India

Impact of village adoption programme on production and income of farmers

Papireddy M, Tanweer Ahmed and Aruna GR

Abstract

Village adoption programme is the key to demonstrate the benefits of agro technologies as a model for adoption to uplift of rural economy. ICAR Krishi Vigyan Kendra, Chintamani, Chikkaballapura adopted Brahmanadinne Village of Chintamani taluk for three years from 2019-2022 with the financial support of University of Agricultural Sciences, Bangalore. KVK, Chintamani had implemented different technological interventions like demonstration of integrated crop management in redgram, tomato, cucumber, chilli, short duration finger millet variety KMR-630, multicut fodder sorghum: COFS-29, medium duration finger millet variety ML-365, multicut fodder sorghum: COFS-31, field bean Var.HA-4, IPM in tomato, IPM in Chilli, IPM in Mango, IPM in cabbage etc., Capacity building programmes like training on nutri garden, formation of women SHGs, dryland agricultural technologies, mushroom cultivation and its value addition, importance of azolla, mulberry production, soil health camp, human health camp, animal health camp, were organized in the adopted village. To assess the impact of village adoption programme, ex post facto research design was employed. Secondary data was elicited from the reports of adopted village. For primary data, 30 beneficiary farmers were selected and collected the data using structured interview schedule. Data was analyzed using appropriate statistical tools like frequency, mean percentage etc., The results showed that there was 23.43 percent increase in redgram yield, 10.43 percent increase in finger millet KMR-630, 17.93 percent increase in finger millet ML 365 yield, 37.87 percent increased cowpea yield and 16.37 percent increase in Chilli yield. It was observed that the mean score of awareness before the village adoption programme was 4.46 and it was 10.03 after the programme. With respect to adoption is concerned, it was observed that the mean score before the village adoption programme was 4.20. Hence village adoption programme is a viable option in technology transfer.

Keywords: Village adoption, awareness, impact, demonstration

Introduction

The economy of the country is based on the economy of the village and agriculture is the main occupation in villages which in turn dependent on the quantity and quality of land and water besides the various inputs and environmental factors which contribute to the total productivity. Village adoption programme in the key to demonstrate the benefits of agro technologies as a model for adoption for upliftment of rural economy. In this regard ICAR Krishi Vigyan Kendra, Chintamani, Chikkaballapura adopted Brahmanadinne Village of Chintamani taluk for three years from 2019-2022 with the financial support of University of Agricultural Sciences, Bangalore. Brahmanadinne village is located in the Chintamani Taluk, which is a part of the Chikkaballapur district in the state of Karnataka, India. Chintamani Taluk is situated in the eastern part of Karnataka. The geographic coordinates of Brahmanadinne village are approximately 13.416° North latitude and 78.064° East longitude. It is situated at an average elevation of about 870 meters (2854 feet) above sea level. The village is nestled amidst rolling hills and fertile agricultural lands, offering a serene and tranquil environment. The climate of Brahmanadinne village, like most parts of Karnataka, is generally tropical monsoon. It experiences hot summers with temperatures ranging from 30 °C to 40 °C and relatively cool winters with temperatures ranging from 15 °C to 25 °C. The monsoon season, which occurs between June and September, brings moderate to heavy rainfall to the region. Total cultivable area in village is 250 acres and major soil type found is red loamy soil. The major crops that are grown include ragi, field bean, Redgram, tomato, mango etc., Participatory rural appraisal and group discussions were organized in the village and the major problems faced in the village include lower yields, severe incidence of pest and diseases, lack of knowledge about improved varieties, unscientific management of dairy animals etc., Based on the problems identified, different technical interventions were carried out.

Corresponding Author:
Tanweer Ahmed
Scientist, Department of
Agricultural Extension, ICAR,
KVK, UAS, Bangalore,
Karnataka, India

Materials and Methods

The study was carried out in Brahmanadinne village of Chintamani taluk of Chikkaballapura district. Secondary data were elicited from the annual reports of KVK, Chintamani and primary data was collected from 30 beneficiary farmers of adopted village using pre structured interview schedule. The collected data was analyzed using the statistical tools like frequency, mean percentage etc.

Results and Discussion

It is evident from the Table 1 that there was 23.43 percent increase in yield in redgram because of adoption of integrated crop management practices. Due to the introduction of ragi varieties like KMR-630, ML-365 and MR-6, yield enhanced to 10.43, 17.93 and 24.50 percent respectively. Multi cut fodder sorghum variety CoFS-29 and CoFS 31 were

demonstrated which were found to be palatable was adopted by the farmers and resulted in 12.40 and 7.04 percent yield increase respectively. Field bean var. HA-4 was demonstrated in adoption village and resulted in 11.57 percent in yield. Demonstration of Cowpea Var C-152 and horse gram var. PHG-9 enhanced the yield by 37.87 and 20.40 percent respectively.

Adoption of different technologies like use of improved varieties like BRG4 and BRG-5, nipping and spraying of micro nutrient mixture (Pulse magic) has led to increase in the Redgram yield. Similarly interventions in CoFS-29 and CoFS-31 like line sowing and nutrient management has led above trend of findings.

Adoption of technologies like use of improved varieties, seed treatment, line sowing, INM has led to increase in yield in finger millet, field bean, horse gram and cowpea.

Table 1: Impact of Crop production interventions on yield and income

Demonstration	Yield (Q/ha)		% increase	Net income		% increase
	Before	After		Before	After	
Integrated crop management in redgram	9.8	12.8	23.43	31200	45600	31.57
Introduction of short duration finger millet variety KMR-630	28.32	31.62	10.43	45265	52650	14.02
Demonstration of multicut fodder sorghum: COFS-29	154	175.8	12.40	67520	75880	11.01
Demonstration of medium duration finger millet variety ML-365	18.4	22.42	17.93	34044	44302	23.15
Demonstration of multicut fodder sorghum: COFS-31	168.8	181.6	7.04	52200	99200	47.37
Demonstration of field bean Var.HA-4	25.2	28.5	11.57	44255	51500	14.06
Demonstration of Cowpea Var.C-152	12.3	19.8	37.87	61500	71000	13.38
Demonstration of Horse gram Var.PHG-9	6.5	9.5	31.57	12350	18455	33.08
Demonstration of Ragi Var. MR -6	19.5	24.5	20.40	38450	52500	26.76

Crop protection plays an important role in getting the good yield and deducing the cost of production. Various technical intervention were made with respect to crop protection in adopted village. From table 2. it was found that due to the demonstration of wilt resistant redgram variety BRG-5, yield enhanced by 19.29 percent. Integrated pest management practices were demonstrated in tomato, Chilli, mango and

cabbage and it was found that there was increase in yield by 10.60, 6.88, 8.29 and 10.84 percent respectively. Selection of improved varieties, seed treatment, use of sticky traps, pheromone traps, trap crop, border crop and use of need based plant protection chemicals has led to the above trend of findings.

Table 2: Impact of Crop Protection interventions of yield and income

Demonstrations	Yield		% increase	Net income		% increase
	Before	After		Before	After	
Demonstration of wilt resistant variety BRG-5	9.2	11.4	19.29	26991	37387	27.80
Demonstration of IPM in Tomato,	631	706	10.62	325698	482417	32.48
Demonstration of IPM in Chilli	117.6	126.3	6.88	200850	258970	22.44
Demonstration of IPM in Mango	110.5	120.5	8.29	56540	79700	29.05
Demonstration of Integrated pest management in Cabbage	23.93	26.84	10.84	123318	180880	31.82

Horticulture being the major crop in the district, different technical interventions were implemented based on the problems faced by the farmers. Integrated crop management in cucumber, chilli and tomato were demonstrated in adopted village. There was 11.91, 16.37 and 6.66 percent increase in

yield in cucumber, Chilli and tomato. Integrated crop management includes nutrient, insect and disease management practices. Adoption of integrated approach has led to increase in the yield and also income.

Table 3: Impact of horticulture interventions on yield and income

Demonstration	Yield (Q/ha)		% increase	Net income (Rs./ha)		% increase
	Before	After		Before	After	
Integrated crop management in Cucumber	536.3	608.85	11.91	66241	87290	24.11
Integrated crop management in Chilli	194	232	16.37	317850	378970	16.12
Integrated crop management in Tomato	721.7	773.2	6.66	402902	531758	24.23

It is evident from table 4 that demonstration of integrated nutrient management in mulberry has resulted in 4.67 percent increased yield. Technical interventions like green manuring in situ, biofertilizers like trichoderma, pseudomonas, VAM,

PSB, waste decomposer, recommended dose of fertilizers and application of micro nutrients like seri boost, poshan etc., has contributed to the above results.

Table 4: Impact of INM in mulberry

Demonstration	Yield		% increase	Net income		% increase
	Before	After		Before	After	
Integrated Nutrient management in mulberry	632	663	4.67	26473	38725	31.63

Dairy being the one of the major enterprise in adopted village, technical interventions related to dairy, it was found that there

was 7.56 percent increase in milk yield because of use azolla as nutrient supplement along with timely management.

Table 5: Impact of azolla on milk yield in dairy animals

Demonstration	Yield (Lit/cow/day)		% increase	Net income		% increase
	Before	After		Before	After	
Demonstration on Azolla cultivation	17.1	18.5	7.56	44340	51900	14.56

Adoption of new technology by replacing old one

It can be inferred from table 6 that improved finger millet varieties like ML-365, MR-6 and KMR-360 has replaced the local varieties in the adopted village. Field bean varieties HA-3 and HA-4 has replaced the local varieties because of its yield potential. Further farmers were practicing only chemical methods for pest management but after the village adoption

programme farmers have adopted integrated pest management practices like seed treatment, yellow sticky cards, blue sticky cards, pheromone traps, neem oil and need based chemicals. Also farmers were just dumping the cow dung and waste and were heaping it but after village adoption programme, the farmers have started scientific composting methods and are enriching the manure with biofertilizers.

Table 6: Adoption of new technology by replacing old one

Sl. No.	Particulars	Old	New	No of farmers
1	Ragi	Local	ML-365 MR-6 KMR-630	48
2	Field bean	Local	HA-3 HA-4	24
3	Fodder	Napier	COFS 29 and COFS-31	42
4	Poultry birds	Local	Kadaknath and Aseel	70
5	Composting	Traditional, heaped manure	Vermicomposting and enrichment with biofertilizers	18
6	Pest management	Using only chemical pesticides	Seed treatment, yellow sticky cards, blue sticky cards, pheromone traps, neem oil and need based chemicals	17

Table 7 infers that an additional amount of Rs. 2884535 was derived because of adoption different improved practices in

the adopted village and 110 farmers benefitted from it.

Table 7: Economic impact on village

Sl. No.	Crop/variety/technology	Additional income realized after adoption (Rs.)	No of farmers
1	Integrated crop management in redgram	72000	05
2	Introduction of short duration finger millet variety KMR-630	110775	15
3	Demonstration of multicut fodder sorghum: COFS-29	125400	15
4	Demonstration of medium duration finger millet variety ML-365	102580	10
5	Demonstration of multicut fodder sorghum: COFS-31	705000	15
6	Demonstration of field bean Var.HA-4	72450	10
7	Demonstration of Cowpea Var.C-152	47500	05
8	Demonstration of Horse gram Var.PHG-9	30525	05
9	Demonstration of Ragi Var. MR -6	140500	10
10	Demonstration of IPM in Tomato,	783595	05
11	Demonstration of IPM in Chilli	290600	05
12	Demonstration of IPM in Mango	115800	05
13	Demonstration of Integrated pest management in Cabbage	287810	05
Total		2884535	110

Impact on social assets and infrastructure in adopted village

It can be observed from table 8 that additional 3 SHGs, 7 vermicomposting units, 8 farm ponds, 1 percolation tank, 3 cattle sheds and one rain harvesting structure was developed in the adopted village with the assistance of line departments and grama panchayath.

Table 8: Impact on social assets and infrastructure in adopted village

Particulars	Before	After
SHGs	2	5
Vermicomposting units	1	8
Farm ponds	1	9
Percolation tanks	0	1
Cattle sheds	4	7
Rain water harvesting structures	0	1

Conclusion

Village adoption is one of the best programme to show case the advantages of improved practices through effective transfer of technology within the given period. With the concentrated efforts of farmers, scientists and line departments, all-round development of village is possible provided it is further replicated for ensuring sustainability of rural economy with the involvement of all the stakeholders.

References

1. Chandan GH, Padaria RN. Adoption decision making behavior of farmers about contingency plans in Datia and Parbhani districts. *Mysore J Agric. Sci.* 2022;56(4):142-147.
2. Hema Sarat Chandra N, Rudroju V, Mishra OP. Model villages and village adoption approaches in the developmental arena of rural India: view and review. *Int. J Pure App. Biosci.* 2017;5(6):551-557.
3. Luthra S, Mangla SK, Xu L, Diabat A. Using AHP to evaluate barriers in adopting sustainable consumption and production initiatives in a supply chain, *Int. J. Prod. Econ.* 2016;181:342-349.
4. Manjunatha AV, Kumar P, DT. Preethika, Impact of National Food Security Mission on Input Use, Yield and Income. *Ind. J Agri. Econ.* 2019;74(4):562-575.
5. Montes De Oca Munguia O, Pannell DJ, Llewellyn R. Understanding the adoption of innovations in agriculture: A review of selected conceptual models. *Agronomy.* 2021;11(1):139.
6. Nagendra Babu N, Sivanarayana G, Gopikrishna T, Umadevi K. Impact of village adoption programme (VAP) on farmer's knowledge and adoption with respect to crop production. *Green farming.* 2020;11(2-3):217-220.
7. Sadvi PDA, Devi R, Uma Reddy R. A case study on village adopted by RARS, Polasa, Jagtial. *Agri. Update.* 2020;15(1&2):28-30.
8. Srivastava AP, Manisha N, Ashar, Ashok V. Minj, Livelihood improvement through integrated farming system. *Indian farming.* 2014;64(2):32-35.
9. Vijaya Lakshmi D, Vijay Kumar P, Padma Veni C. Impact of cluster frontline demonstrations to transfer of technologies in pulse production under NFSM. *Bull. Env. Pharmacol. Life Sci.* 2017;6(1):418-421.
10. Vivek MC, Sahana S. Socio-economic characteristics of the farmers following E-tendering system of Arecanut in Karnataka. *Ind. Res. J Extn. Edu.* 2021;21(2):117-125.