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## Adoption of organic farming practices in Southern Karnataka

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### Abstract

Organic farming is gaining momentum among farmers. The study was carried out to assess the adoption level of organic farmers in Bengaluru rural and Chikkaballapur district of Karnataka state. 120 organic farmers were selected as sample for the study. Data was elicited from farmers using a structured interview schedule and collected data were analyzed using appropriate statistical tools like frequency, mean and standard deviation. Ex Post facto research design was employed for the investigation. Results revealed that 58.33 percent of respondents belonged to high adoption category followed by low (24.17%) and medium (17.50%) category of overall adoption of organic farming practices. Probable reason for this is high level of training undergone, farming experience, extension participation and innovativeness of the organic farmers. Efforts from the line departments under Savayava Bhagya Yojane also contributed to the above trend of findings. It could be observed that about 40.00 percent of the organic farmers belonged to low to medium category of overall adoption. Hence the concerned agencies need to carry out educational programmes and sensitize the farmers to adopt organic farming practices.

**Keywords:** Organic farming, adoption, farmers, extension participation, innovativeness

### Introduction

Prior to independence and till two decades later a majority of the Indian farmers were unaware of the usage of fertilizers for plant nutrition and pesticides for control of pests and diseases. In fact, it was all holistic agriculture then and the majority of farmers were cultivating in this way. However, to feed the increasing population of the country, it was felt necessary to rapidly increase the food grain production. Thus, to achieve self-sufficiency in food, dams and irrigation systems were put in place, use of external inputs like seeds of high yielding varieties of crops, chemical fertilizers and plant protection chemicals were developed and made available. Though, India has become self-sufficient in food production over the years, it has resulted in serious environmental degradation and health hazards to mankind, animals and the biodiversity. This has also sometimes resulted in lower returns to the farmers due to glut in the market.

The gravity of environmental degradation has motivated scientists and planners towards finding out eco-friendly, economically feasible and sustainable farming systems for different agro-climatic conditions to meet the needs of present and future generations. The organic farming was found to be the potential solution. Organic farming is highly responsive to nature with broad principle of "Live and let live" with an intensive partnership between agro forestry and animal husbandry ensuring the production on farm of the required inputs. There are several initiatives being implemented to promote organic farming for the betterment of the farming community by spending crores of rupees. Hence, it was felt important to analyze the pulls and pushes operating in the organic farming movement in Karnataka. The present study was planned to assess the adoption level of organic farming practices by the farmers.

### Methodology

Ex Post facto research design was employed for the investigation. The study was carried out in Bengaluru rural and Chikkaballapur district of Karnataka state. Four organic farmers associations were selected from each district and from each association, fifteen organic farmers were selected. Thus from both districts, 120 organic farmers were selected as sample for the study. Data was elicited from farmers using a structured interview schedule and collected data were analyzed using appropriate statistical tools like frequency, mean standard deviation etc.,. In the present study adoption is operationally defined as application of major technological interventions of organic farming by organic farmers without compromising the

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principles of organic farming.

**Results and Discussion**

**Overall adoption of organic farming practices**

It can be inferred from Table 1 that 58.33 percent of respondents belonged to high adoption category followed by low (24.17%) and medium (17.50%) category of overall adoption of organic farming practices.

Probable reason for this is high level of training undergone, farming experience, extension participation and innovativeness of the organic farmers. Efforts from the line departments under Savayava Bhagya Yojane also contributed to the above trend of findings. Findings are in line with the findings of Akkamahadevi Naik (2016) [1]

**Table 1:** Overall adoption of organic farming practices

(n=120)					
Category	Criterion Score	Frequency	Percent	Mean	SD
Low	< 12.48	29	24.17	14.25	3.52
Medium	12.48-16.01	21	17.50		
High	> 16.01	70	58.33		

**Item wise adoption of organic farming practices**

Table 2 explains the adoption of different organic farming practices. It can be observed that 73.33 percent of organic farmers had adopted summer ploughing practice and 26.67 percent of farmers did not adopt it.

It can be observed that all (100%) of the respondents applied farm yard manure in their fields. As far as addition of neem cake, pongamia cake etc. is concerned, majority (83.33%) of organic farmers had adopted this practice and very less percentage (16.67%) did not adopt it. In case of use of traditional varieties, nearly half (52.50%) of the farmers were using traditional varieties and 47.50 percent of them did not adopt this practice. When the practice of enrichment of compost with trichoderma, pseudomonas etc. is concerned, majority (87.50%) of farmers followed the practice while 12.50 percent of farmers did not adopt the practice.

High majority (90.83%) of farmers had adopted the practice of seed treatment with beejamrutha and very less (09.17%) of farmers did not adopt the practice of seed treatment with beejamrutha. Usage of jeevamrutha was adopted by 91.66 percent of farmers and only 08.34 percent of farmers did not adopt it. With respect to use of bio pesticides, it was found that high majority (94.16%) of respondents had adopted using bio pesticides and negligible (05.84%) of farmers were not using bio pesticides.

While the practice of bio mulching is concerned, 78.33 percent of organic farmers were following bio mulching practice and 21.67 percent had not adopted it. It was found that high majority (95.83%) of the farmers were using vermicompost in their fields and very less (04.17%) of farmers were not using vermicompost. Further it can be observed that 100 percent of farmers were using the compost in their fields.

82.50 percent of farmers had adopted the practice of using bio digester and 17.50 percent of farmers were found not adopting the practice of using bio digester. With respect to use of green manure is concerned, it can be seen that majority (90.84%) of farmers had adopted this practice and 9.16 percent of farmers had not adopted the practice of green manuring.

In case of practice of selective weeding, it was found that 54.17 percent of farmers did not adopt this practice while 45.83 percent of farmers had adopted it. 85.00 percent of

farmers were following the practice of crop rotation in their fields and 15.00 percent of farmers were not following the practice of crop rotation. Majority (83.34%) of farmers had adopted the practice of green leaf manuring and 16.66 percent of the farmers did not adopt the practice of green leaf manuring. The practice of intercropping was adopted by 85.84 percent of the farmers while 14.16 percent of the farmers did not adopt the practice of intercropping.

It can be inferred from the above results that high majority of the respondents had adopted organic farming practices like usage of farm yard manure (100%), use of compost (100%), use of vermicompost (98.83%) and use of jeevamrutha (91.66%). This is due to the fact that farm yard manure, compost, vermicompost and jeevamrutha are the main source of nutrients in organic farming since usage of chemical fertilizers is prohibited in organic farming. Further the promotional efforts and incentives from the department of agriculture in the state under Savaya Bhagya Yojane has resulted in above trend of findings. It can also be observed that nearly half of the respondents did not adopt the practices like selective weeding, use of traditional varieties. It is because selective weeding is laborious and time consuming. In case of usage of traditional varieties, suitable traditional varieties for their situations were not available. Hence the above results were observed. Findings are in line with the findings of Shinogi (2011) [6]

**Table 2:** Item wise adoption of organic farming practices

(n=120)					
Sl. No	Organic farming practices	Adopted		Not adopted	
		No.	%	No.	%
1	Summer ploughing	88	73.33	32	26.67
2	Use of FYM	120	100	00	0.00
3	Use of neem cake, pongamia cake	100	83.33	20	16.67
4	Use of traditional varieties	63	52.50	57	47.50
5	Enrichment of compost with trichoderma, pseudomonas etc.	105	87.50	15	12.50
6	Seed treatment using Beejamrutha	109	90.83	11	09.17
7	Use of jeevamrutha	110	91.66	10	08.34
8	Use of bio pesticides (Neem extracts, fish oil)	113	94.16	07	05.84
9	Bio mulching	94	78.33	26	21.67
10	Use of vermicompost	115	95.83	05	04.17
11	Use of Compost	120	100	0	0.00
12	Use of bio digester	99	82.50	21	17.50
13	Use of green manures	109	90.84	11	09.16
14	Selective weeding	55	45.83	65	54.17
15	Crop rotation	102	85.00	18	15.00
16	Green leaf manuring	100	83.34	20	16.66
17	Inter cropping	103	85.84	17	14.16

**Relationship between personal, communication, psychological and socioeconomic variables and adoption of organic farming practices**

The relationship between adoption and independent variables are presented in Table 3. It can be observed that out of 17 independent variables, 15 independent variables have highly significant relationship with adoption of organic farming practices. Variables like age (r=0.358), training undergone (r=0.472), material possession (r=0.493), livestock possession (r=0.637) farming experience (r=0.605), extension participation (r=0.307), social participation (r=0.443), information seeking behaviour (r=0.807), scientific orientation (r=0.702), achievement motivation (r=0.758),

mass media participation ( $r=0.350$ ), innovativeness ( $r=0.667$ ), cosmopolitanness ( $r=0.761$ ), leadership ability ( $r=0.547$ ) and risk orientation ( $r=0.833$ ) had positive and significant relationship with adoption of organic farming practices at one percent level of significance. The variables like education ( $r=0.123$ ) and land holding ( $r= -0.049$ ) showed non significant relationship with adoption level.

**Table 3:** Relationship between personal, communication, psychological and socio-economic variables and adoption of organic farming practices

(n=120)

Sl. No	Characteristics	Correlation coefficient (r)
1	Age	0.358**
2	Education	0.123NS
3	Land holding	-0.049 <sup>NS</sup>
4	Training undergone	0.472**
5	Material possession	0.493**
6	Livestock possession	0.637**
7	Farming experience	0.605**
8	Extension participation	0.307**
9	Social participation	0.443**
10	Information seeking behaviour	0.807**
11	Scientific orientation	0.702**
12	Achievement motivation	0.758**
13	Mass media exposure	0.350**
14	Innovativeness	0.667**
15	Cosmopolitanness	0.761**
16	Leadership ability	0.547**
17	Risk orientation	0.833**

\*\* Significant at 1%, \*Significant at 5%, NS Non-significant

## Conclusion

It could be observed that about 40.00 percent of the organic farmers belonged to low to medium category of overall adoption. Hence the concerned agencies need to carry out educational programmes and sensitize the farmers to adopt organic farming practices. The study also enunciated that age, training undergone, material possession, farming experience, extension participation, social participation, information seeking behaviour, scientific orientation, achievement motivation, mass media participation, innovativeness, cosmopolitanness, leadership ability and risk orientation had positive and significant relationship with adoption of organic farming practices at one percent level of significance. Thus the concerned agencies should focus their efforts towards amplification of these factors through their developmental programmes and schemes in order to ensure enhancement in participation and adoption level.

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