

Original Research Article

Knowledge Indices of Rural Farm Women with Reference to Organic Farming and Organic Foods

Seema Chawla^{1*}, Chander Bhan¹ and Hanuman Ram²

¹Agricultural Research Station (SKRAU), Sriganganagar, Rajasthan-335001, India

²Krishi Vigyan Kendra (SKRAU), Sriganganagar, Rajasthan-335001, India

**Corresponding author*

ABSTRACT

This research paper attempts to bring together knowledge indices of rural farm women with reference to organic farming and organic foods in the light of recent developments in organic farming. Women are the major stakeholders in organic agriculture, precisely because they are the worst victims of chemical farming. Over decades, the socio-economic and health status of women in farming communities has been adversely affected by green revolution/ industrial farming technologies and policies leading them into debt, disease and destitution. The study was conducted in four villages of Padampur panchayat smiti of Sriganganagar district. The sample consisted of randomly selected 240 women respondents. The selected villages from both groups (organic and non-organic) were comparable with reference to soil type, crops grown and the socio economic profile. Data was collected by personal interview method. Analysis was carried out by using means, frequencies and percentages and 't' test. Findings of the study revealed that majority of the respondents had high to medium level of knowledge about organic farming whereas more than three fourth of the respondents of organic villages had low level of knowledge about organic foods and none had high knowledge. In addition it is revealed that respondents from non-organic village had less knowledge about organic farming and organic foods. Extension work will have to be intensified through conducting extension activities at village level for achieving better knowledge about organic farming and organic food. This can be done by organizing campaigns in all the villages for educating the rural folk not only about farming and soil health but also about the effects on human health, animal health and the environment. It also suggests that intensive efforts by KVK should be made to educate rural mass with special emphasis given to farm women as they are producers as well as preparers of food.

Keywords

Rural Farm
Women, Organic
Farming and
Organic Foods

Introduction

Organic agriculture follows the principles and logic of a living organism, in which all elements (soil, plant, farm animals, insects, the farmer and local conditions) are closely linked to each other. Organic agriculture shares many techniques used by other sustainable agricultural approaches (e.g. intercropping, crop rotation, mulching, integration of crops and livestock).

However, the use of natural inputs (non-synthetic), the improvement of soil structure and fertility and the use of a crop rotation plan represent the basic rules that make organic agriculture a unique agricultural management system (Nandish, 2006).

Modern agricultural farming practices, along with irrational use of chemical inputs over

the past four decades have resulted in not only loss of natural habitat balance and soil health but have also caused many hazards like soil erosion, decreased groundwater level, soil salinization, pollution due to fertilizers and pesticides, genetic erosion, ill effects on environment, reduced food quality and increased the cost of cultivation, rendering the farmer poorer year by year (Ram, 2003). It is in this context that alternative farm techniques and strategies for growing crops ought to be found in the larger interest.

The principle of organic cultivation is attracting farmers' world over due to its various advantages over modern agricultural practices (Khana, 2007). Sustaining crop production, productivity without damaging the resources and environment are big challenge and this problem can be overcome by several ways but the first and foremost way is organic farming (Sodjinou *et al.*, 2015). Organic farming system in India is not new and is being followed from ancient time. It is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (biofertilizers) to release nutrients to crops for increased sustainable production in an eco-friendly pollution free environment (Sharma and Kaur, 2013).

The vital role played by women in Indian agriculture is a well-known fact. Agriculture in India has been a joint venture of male and female members of the family. Women are said to devote 40 per cent of their efforts towards farming and 60 per cent for food preparation (Nagnur *et al.*, 2012). Rural farm women are extensively involved in agricultural activities and the extent of their

involvement differs with the variations in agro-production systems. In all farm production, women's average contribution is estimated at 55 percent to 66 percent of the total labour (Reddy, 2010). Women are the major stakeholders in organic agriculture, precisely because they are the worst victims of chemical farming.

Over decades, the socio-economic and health status of women in farming communities has been adversely affected by green revolution/industrial farming technologies and policies leading them into poor health, debt, disease and destitution. So, it becomes all the more important to involve women while transferring farm technology.

Objective of the Study

To study the knowledge indices of rural farm women with reference to organic farming and organic foods.

Materials and Methods

The present study was conducted in four villages of Padampur panchayat smiti of Sriganganagar district of Rajasthan. Two selected organic villages from Padampur panchayat smiti were adopted by KVK, Sriganganagar. The other two villages were selected from same block practicing inorganic agriculture. The selected villages from both groups (organic and non-organic) were comparable with reference to soil type, crops grown and the socio economic profile.

A sample of 240 farm women were selected for the study, i.e. 60 farm women from each of the four villages. Data was collected by personal interview method. Analysis was carried out by using means, frequencies & percentages and 't' test (Rayanagoudar *et al.*, 2012).

Results and Discussion

Knowledge level of farm women about organic farming

The results in table 1 indicate the level of knowledge about organic farming. In the organic village more than half of the respondents (60.00%) had high level of knowledge. About 32.50 percent of the farm women possessed medium level of knowledge and only 7.5 percent of the respondents had low level of knowledge about organic farming. In case of non-organic village, total no of respondents fall in the category of low level of knowledge about organic farming. Similar findings were reported by Choudhary and Singh, 2000; Rayanagoudar *et al.*, 2012 Sharma and Kaur, 2013.

Organic villages are adopted by the KVK, Sriganaganar and these villagers are practicing organic farming since four years. Intensive efforts have been made by the KVK scientists to educate the villagers regarding organic farming and harmful effects of chemicals, fertilizers and pesticides. Many of them have attended training on organic farming. This might be the reason why majority of the respondents from organic village possessed high level of knowledge about organic farming. In non-organic villages, respondents have absolutely less idea about the concepts of organic farming. This could be probably because they have not been exposed to these concepts whether through mass media or by way of trainings. These women should be told about organic farming by way of intensive awareness campaigns. However this does not mean that they have no idea about FYM etc. but it means to say that they are not aware about the use of FYM as an important input in the concept of organic farming.

Knowledge indices of rural women about organic farming

Table 2 depicts the knowledge of farm women with regard to each statement towards organic farming. Perusal of table reveals that cent percent of the respondents knew about use of FYM, Compost, Vermicompost, green manure, cow dung as organic inputs. All the respondents are also aware and had knowledge about crop rotation as a mean of organic farming.

About 98 percent of them knew that quality of soil could be improved by applying vermi compost and concept of organic farming. About two third of them knew about quantitative difference in yield after applying organic manure, clusterbean and Dhaincha as green manuring crops and biofertilizer as an organic input. In non-organic village, about one fourth of the respondents have an idea about the use of FYM and Compost for natural farming and 19.16 percent respondents knew about the use of cow dung as a source of organic farming. Similar finding were reported by Subrahmanyeswari and Chander 2011; Rayanagoudar *et al.*, 2012.

Knowledge level of farm women about organic foods

Table 3 shows the level of knowledge about organic foods in organic and non-organic villages. While respondents from non-organic villages had no idea of organic foods, respondents of organic villages possessed only a little knowledge. Most respondents (82.50%) of organic villages had low level of knowledge. About 17 per cent had medium knowledge and none had high knowledge. Although farm women have been exposed to organic farming concepts, they have not been explained about organic foods.

Table.1 Knowledge level of farm women about organic farming (N = 240)

Knowledge Level	Organic village		Non-organic village	
	Frequency	Percentage	Frequency	Percentage
Low	9	7.5	120	100.00
Medium	39	32.5	-	-
High	72	60.0	-	-
Total	120	100	120	100.00

Table.2 Knowledge indices of rural women about organic farming (N = 240)

Statements	Organic village		Knowledge index	Non-organic village		Knowledge Index
	Know	Don't know		Know	Don't know	
Application of organic manure	95.00 (79.16)	25 (20.83)	79.16	-	120 (100.00)	-
Quality of soil is improved by applying vermicompost	118.00 (98.33)	02.00 (1.67)	98.33	-	120 (100.00)	-
Meaning of organic farming	118.00 (98.33)	02.00 (1.67)	98.33	-	120 (100.00)	-
Advantages of organic farming	111.00 (92.57)	9.00 (7.5)	92.5	-	120 (100.00)	-
FYM is organic input	120.00 (100.00)	-	100	37 (30.83)	83 (69.16)	30.83
Compost is organic input	120.00 (100.00)	-	100	28 (23.33)	92 (76.66)	23.33
Vermicompost is produced by earthworms	120.00 (100.00)	-	100	-	-	-
Green manure is organic input	120.00 (100.00)	-	100	-	120 (100.00)	-
Quantitative difference after applying organic manure	85.00 (70.83)	35.00 (29.16)	70.83	-	120 (100.00)	-
Visible difference after applying organic manure	120.00 (100.00)	-	100.00	-	120 (100.00)	-
Cluster bean(guar) and Dhaincha are green manuring crop	90.00 (75.00)	30.00 (25.00)	75.00	-	120 (100.00)	-
Crop rotation is followed in organic farming	120.00 (100.00)	-	100.00	-	120 (100.00)	-
Cowdung is good source of organic farming	120.00 (100.00)	-	100.00	23 (19.16)	97 (80.83)	19.16
Biofertilizer is organic input	85.00 (70.83)	35.00 (29.17)	70.83	-	120 (100.00)	-
Biopesticide is organic input	75.00 (62.50)	45.00 (37.50)	62.50	-	120 (100.00)	-

Note: Figures in the parentheses indicate percentage

Table.3 Knowledge level of farm women about organic foods (N = 240)

Knowledge Level	Organic village		Non-organic village	
	Frequency	Percentage	Frequency	Percentage
Low	99	82.5	120	100.00
Medium	21	17.5	0	-
High	0	-	0	-
Total	120	100	120	100.00

Table.4 Knowledge indices of rural women about organic farming (N = 240)

Statements	Organic village		Knowledge index	Non-organic village		Knowledge Index
	Know	Don't know		Know	Don't know	
Organic food contains more of vitamins and minerals	30.00 (25.00)	90.00 (95.00)	25.00	2.00 (1.67)	118 (98.33)	1.67
Organic foods are produced by using only natural material	25.00 (20.83)	45.00 (79.17)	20.83	9.00 (7.5)	111 (92.5)	7.5
Artificial fertilizers increases the water content of fruits and vegetables	15.00 (12.50)	105.00 (87.50)	12.50	-	120 (100.00)	-
Pesticide residue are not found in organic food	10.00 (8.33)	110.00 (91.66)	8.33	-	120 (100.00)	-
Pesticide in non-organic food causes cancer	05.00 (4.16)	115.00 (95.84)	4.16	-	120 (100.00)	-
Organic foods taste better than non- organic food	25.00 (20.83)	95.00 (79.17)	20.83	-	120 (100.00)	-
All organic farms and food companies are inspected at least once a year	-	120 (100.00)	-	-	120 (100.00)	-
Organic foods helps healthy growth	20.00 (16.66)	100.00 (83.34)	83.34	-	120 (100.00)	-
Recovery from illness is better when organic foods are used	15.00 (12.50)	105.00 (87.50)	12.50	-	120 (100.00)	-
Organic farming avoids the problem of pollution	05.00 (4.16)	115.00 (95.84)	4.16	-	120 (100.00)	-
Organic foods are considered as healthy foods	08.00 (6.66)	112.00 (93.34)	6.66	23 (19.16)	97 (81.83)	19.16
Pesticide residues are also found in the breast milk of the mother	05.00 (4.16)	115.00 (95.84)	4.16	-	120 (100.00)	-
Organic foods are good for wild life and the environment	10.00 (8.33)	110.00 (91.64)	8.33	-	-	-

Fig.1 Knowledge level of farm women about organic farming

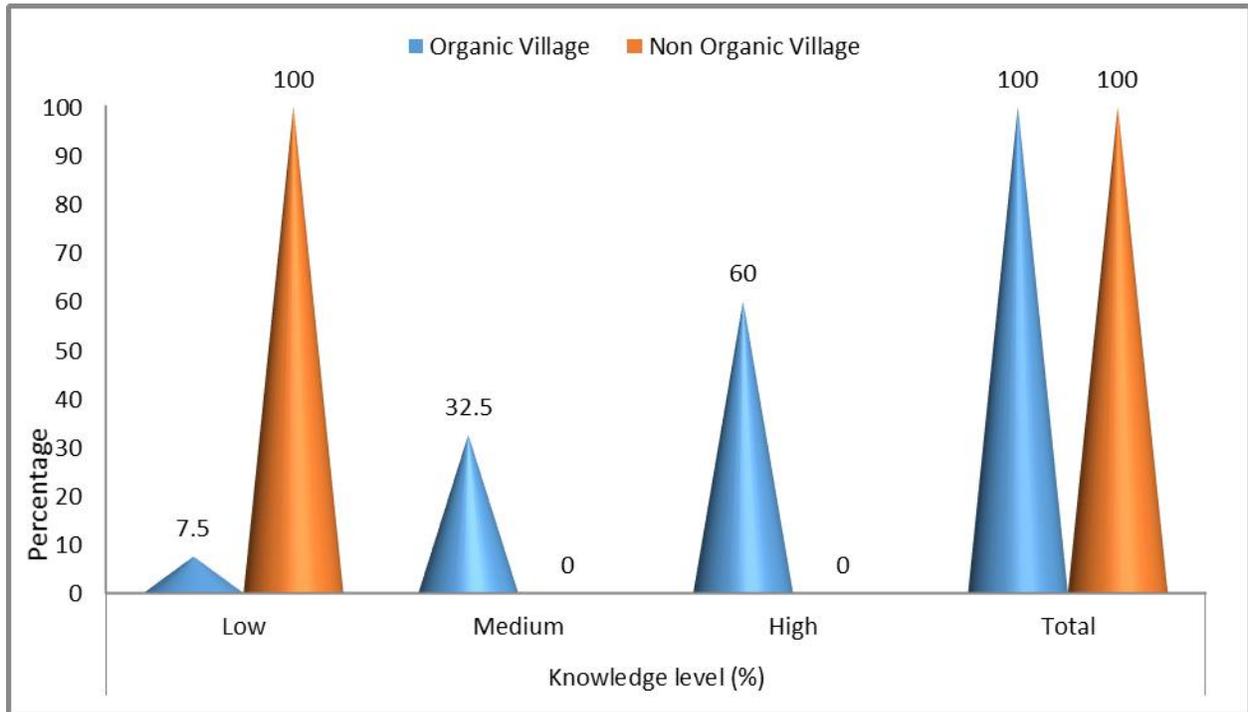
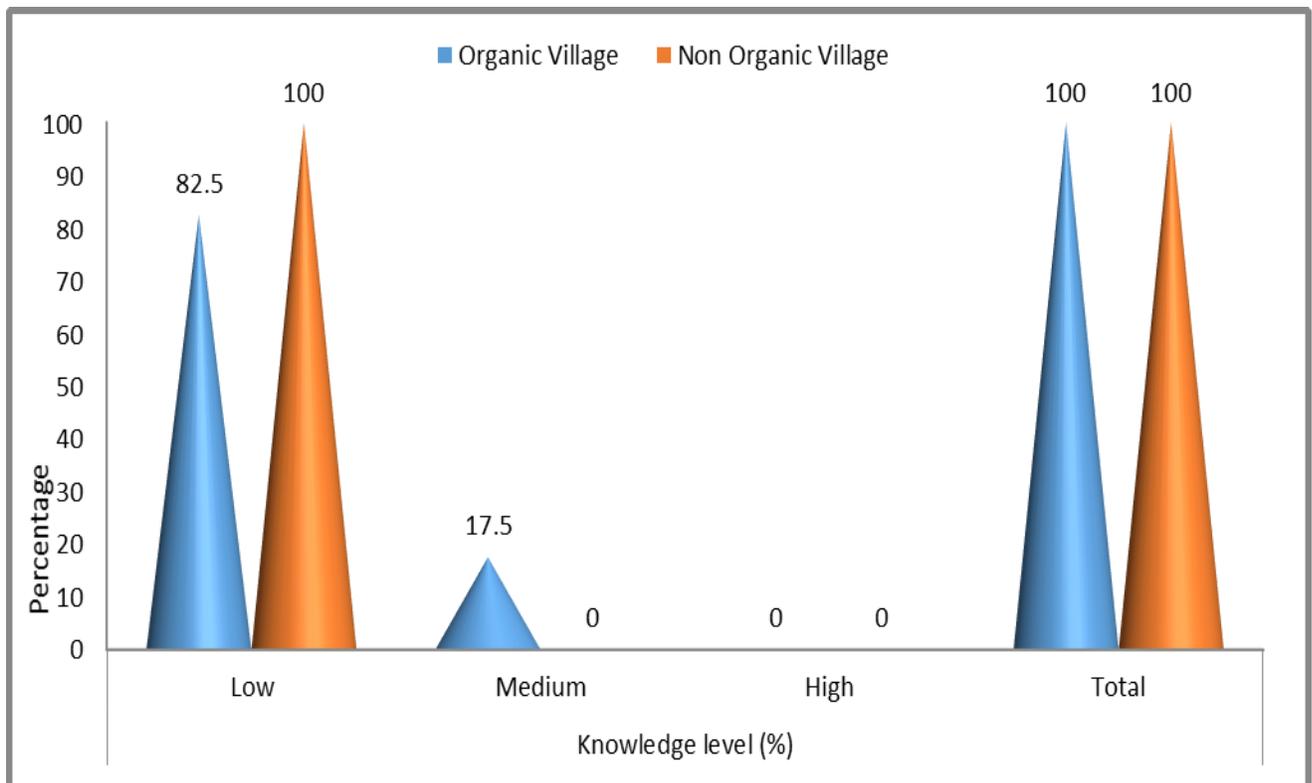


Fig.2 Knowledge level of farm women about organic foods



This would call for intensive efforts to impart knowledge, to women about the advantages of organic foods and the ill-effects of in-organic foods. Hence, it should be noted that agricultural scientists and extension workers have propagated organic farming with the intention of protecting the soil health and environment while totally ignoring the health benefits of organic foods and the effect of pesticides on human health. Similar findings were reported by Rayanagoudar *et al.*, 2012; Sharma and Kaur, 2013.

Knowledge indices of rural women about organic farming

Table 4 shows the responses of women with regard to organic foods. Twenty five per cent of the farm women from organic village knew that organic foods contain more of vitamins and minerals. About 20.00 per cent each felt that organic foods taste better than non-organic foods and that organic foods are produced by using only natural material. About 12.00 per cent of them knew that artificial fertilizers increase the water content of fruits and vegetables. About 8.00 per cent each were aware about absence of pesticide residues in organic food and that organic foods are good for wild life and the environment. Only 4.00 to 6.00 per cent of them knew that pesticides in non-organic foods cause cancer, organic farming avoids pollution, pesticide residues are also found in the breast milk of the mother and that organic foods are healthy foods.

On non-organic village, most of the women do not have knowledge about organic foods only 7.5 % woman know about the fact that organic foods are produced by using natural material and about 20 % of farm woman had the knowledge that organic food are considered as healthy foods. Majority of the farm woman (98.33) of non-organic village

had no idea about the fact that organic food contains more of vitamins and minerals.

Irrespective of women being from organic or non-organic villages women had either very low or no knowledge at all about the organic foods. Although farm women have been exposed to organic farming concepts, they have not been explained about organic foods. This would call for intensive efforts to impart knowledge, to women about the advantages of organic foods and the ill-effects of in-organic foods. Similar findings were reported by Reddy, 2010; Rayanagoudar, 2009; Rayanagoudar *et al.*, 2012.

Although Indian agriculture has been organic for long, the necessities of producing more food for the ever increasing population lead to the use of fertilizers for increasing production and the use of pesticides to reduce losses (Pandey, 2008). Now the scientists have realized the ill-effects, and are propagating organic farming. One such effort has been the adoption of villages by KVK Sriganaganagar. The scientists of the KVK are constantly in touch with the adopted villages. They have been guiding the farmers in cultivating crops organically from the past four years. Awareness programmes have been conducted and men and women have been trained on different aspects of organic farming. Certain organic inputs have also been supplied by the KVK. That all these efforts have paid off is well exhibited by the significant differences in their knowledge about organic farming and organic foods.

The results of the present study indicated that respondents from non-organic village had less knowledge about organic farming and organic foods. Extension work will have to be intensified through conducting extension activities at village level for

achieving better knowledge about organic farming and organic food. This can be done by organizing campaigns in all the villages for educating the rural folk not only about farming and soil health but also the effects on human health, animal health and the environment. It also suggests that intensive efforts be made to educate rural mass with special emphasis given to farm women as they are producers as well as preparers of food.

References

- Chakraborty, M.R. and Maitra, N.Y., 2006. Participation of women in different micro situation based farming systems of sudarbans. *Leisa India*, 8(3):13-17.
- Choudhary, H. and Singh, S. 2000. Knowledge of farm women about agricultural activities. *Rural India*, pp. 13-14.
- Kanna, S. 2007. Organic vegetable cultivation and marketing, *Leisa India*, 9(1): 20-27.
- Nagnur, S., Hosamani V. and Shapur, A. 2012. Training on organic farming practices for women –An impact study. *Karnataka J. Agric. Sci.*, 25 (2): 253-255.
- Nandish, B.N. 2006. Green manuring the best way to improve soil health. *Leisa India*, 8(4):31-39.
- Pandey, M.K., Gupta, V., Klha, C.S. and Gupta, D. 2008. Organic farming-Principles and practices for progressive agriculture. *Green Farming*, 1(6): 16-19.
- Ram, B. 2003. Impact of human activities on land use changes in arid Rajasthan: Retrospect and prospects. In: *Human Impact on Desert Environments*, Eds: P. Narain, S. Kathaju, A. Kar, M.P. Singh and Praveen Kumar, Scientific Publishers, Jodhpur. pp. 44-59.
- Rayanagoudar, R., Nagnur, S. and Badiger, C. 2012. Knowledge level of farm women about organic farming and organic foods. *Karnataka J. Agric. Sci.*, 25(2): 298-300.
- Rayanagoudar, R.S. 2009. Knowledge of rural women about organic farming. M.Sc. (Agri.) Thesis submitted to University of Agricultural Sciences, Dharwad.
- Reddy, B.S. 2010. Organic Farming: Status, Issues and Prospects – A Review. *Agricultural Economics Research Review* Vol. 23 July-December pp 343-358.
- Sharma, S. and Kaur, C. 2015. In depth adoption of organic farming practices by tribal women. *International Journal of Science and Research*, 4(1):884-888.
- Sodjinou E., Glin, L.C., Nicolay, G. Tovignan, S and Hinv, J. 2015. Socioeconomic determinants of organic cotton adoption in Benin, West Africa. *Agricultural and Food Economics*, 3(12): 2-22.
- Subrahmanyeswari, B. and Chander, M. 2011. Organic agriculture: a way forward to achieve gender equality in India. *Journal of Organic Systems*, 6(3): 13-19.