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RESEARCH ARTICLE :

Study of attitude, training need assessment and constraints faced by farmers in adoption of organic farming in Dantewada district of Chhattisgarh

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SUMMARY : The present study was conducted in 11 adopted villages from Dantewada district of Chhattisgarh during the year 2016-17. The study aims to assess the socio-economic profile of the farmers, attitude of farmers towards organic farming, assessment of training need and problems in adoption of organic farming practices. The data were collected personally from respondents by using pre-tested and well structured interview schedule and after that collected data were analyzed by using appropriate statistical tools *i.e.* frequency, percentage etc. The findings of the study reveals that the 52.73 per cent of the respondents are belonged to the middle age group, 47.27 per cent of the respondents were educated upto primary school level, 66.36 per cent were belonged to Scheduled tribes and having small size of family (73.64%) and had experience in agriculture between 6 to 10 years (61.82%). As regards to size of land holding, 40.91 per cent of the respondents were having small size of land holding and 42.73 per cent of the respondents having their income, in the range of Rs.10,0001 to Rs. 1,50,000. As regards to attitude towards organic farming, 59.09 per cent of the respondents expressed more favourable attitude towards organic farming. Cent per cent of the respondents reported lack of minimum support price organic produce as major constraints and 98.18 per cent of the respondents suggested that minimum support price and establishment of marketing facilities for organic produce should required minimizing the constraints.

KEY WORDS :
Attitude, Assessment of training need, Constraints, Organic farming

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BACKGROUND AND OBJECTIVES

Agriculture plays a vital role in India's economy. Over 58 per cent of the rural households depend on agriculture as their principal means of livelihood. Agriculture, along with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP). However, Indian agriculture is facing serious challenges because of its ever-increasing population, limited land and water availability, and degradation of natural resources. It is desirable to increase agricultural productivity in a sustainable

manner. The excessive use of agro-chemicals over past decades has deteriorated soil health leading to declines of crop yields and produce quality (Yadav, 2011). Organic farming emerged as a potential alternative for meeting food demand, maintaining soil fertility and increasing soil carbon pool. However, Indian organic farming industry is almost entirely export oriented, running as contract farming under financial agreement with contracting firms, and as per the latest report (Ramesh *et al*., 2010). In India modern organic agriculture came into existence with the growing demand for organically grown food and fiber in the western world. Soon civil society organizations joined the movement for its potential in sustaining the soil health, preventing contamination in surface and ground water aquifers and ensuring safe and healthy food (Yadav, 2015).

Chhattisgarh has often been dubbed rice bowl of Central India, with the main crop being Paddy. Apart from paddy, cereals like maize, kodo-kutki and other small millets, pulses like tur and kulthi and oilseeds like Groundnut, Soybean, Niger and Sunflower are also grown. Agriculture is counted as the chief economic occupation of the state. According to a government estimate, net sown area of the state is 4.828 million hectares and the gross sown area is 5.788 million hectares. Horticulture and animal husbandry also engage a major share of the total population of the state. About 80% of the population of the state is rural and the main livelihood of the villagers is agriculture and agriculture-based small industry. Organic farming is emerging as an important income generating opportunity in the state of Chhattisgarh (Source: Dept. of Agriculture, Govt. of C.G., 2015-16).

Dantewada is one of the districts in Chhattisgarh which is most remote and affected by LWE activities. The state of livelihood is dismal in rural and tribal areas of the district. Forest Produce and Agriculture are two most important sources of livelihood for the communities in Dantewada. However, the forest based livelihood is limited and gradually weakening due to increasing population and various other changes. On the other hand the low productivity of agriculture is also proving to be insufficient for the growing needs of the people. However, the district also has its strengths in terms of very low usage of chemical fertilizers and pesticides, and a rich diversity of traditional varieties of Rice and millets. Leveraging these strengths, the district Administration of Dantewada has been promoting Organic farming and Sustainable Agriculture based livelihood among the farmers of Dantewada since 2013-14. So far more than 1000 farmers have joined these efforts and are cultivating paddy, millets, vegetables and other crops organically. Now the Chhattisgarh Government declared Dantewada district as an 'Organic Farming District' (Source: DDA, Dantewada, 2015-16).

Keeping all these facts in mind the present study was undertaken to assess attitude of farmers towards organic farming, assessment of training need and major constraints faced by the organic farmers in adoption of organic farming practices.

RESOURCES AND METHODS

Dantewada districts of Chhattisgarh state were selected purposively for the study because Govt. of Chhattisgarh declared this district as organic farming district. From the selected district, 11 villages were selected purposively on the basis of availability group of organic farmers. From each selected village, 10 organic farmers who are the member organic farmer group were selected randomly by using simple random sample method. In this way a total of 110 farmers were considered as respondent for the present study. Primary data from respondents were collected though personal interview with the help of pre-tested structured interview schedule. Collected data were tabulated and processed by using appropriated statistical tools *i.e.* frequency, percentage etc.

The organic farming is an integrated approach, where all aspects of farming systems are interlinked with each other and work for each other, therefore it is very much necessary to know the attitude of farmers, and for the same purpose a scale has been developed comprising of 21 statements (11 positive and 7 negative) which can be used to measure the attitude of farmers towards organic farming Kumar (2016). The responses were obtained on a five point continuum *viz*. - Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA) and Strongly Disagree (SDA) with a score of 5, 4, 3, 2 and 1,

Table A : Scale of the respondents

Categories	Score
Less favourable (Upto 35 score)	1
Moderately favourable (36 to 70 score)	2
Most favourable (71 to 105 score)	3

respectively for the positive statement and for the negative statement reverse scoring was adopted.

On the basis of maximum obtainable score, the respondents were categorized and is given in Tabla A.

The training need of respondents in organic farming practices were obtained, in order to ascertain the extent of training need of respondents in organic farming. The training need of respondents were recorded in to four point continuum scale, namely "most needed", "needed", "somewhat needed" and "not needed" by giving score '3', '2', '1' and '0', respectively.

After calculating the total scores and mean scores of each item, the rank values were assigned and for preference of training in a particular area the below mentioned scale was adopted (Table B)

Table B : Adopted scale

Most needed	(MN)	02.26 – 03.00	Mean score
Needed	(N)	01.51 – 02.25	Mean score
Somewhat needed	(SN)	00.76 – 01.50	Mean score
Not needed	(NN)	00.00 – 00.75	Mean score

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

Table 1 : Distribution of the respondents according to their socio-personal characteristics (n=110)

Characteristics	Frequency	Percentage
Age		
Young (upto 35 years)	41	37.27
Middle (36 to 50 years)	58	52.73
Old (above 50 years)	11	10.00
Education		
Illiterate	17	15.45
Primary School (upto 5th class)	52	47.27
Middle School (6th to 8th class)	28	25.46
High School (9th to 10th class)	09	08.18
Higher Secondary School (11th to 12th and above)	04	03.64
Caste		
Scheduled Caste	00	00.00
Scheduled Tribes	73	66.36
Other Backward Class	34	30.91
General	03	02.73
Size of family		
Small (upto 5 members)	81	73.64
Medium (6 to 10 members)	24	21.82
Large (above 10 members)	05	04.54
Experience in Agriculture		
Upto 05 years	12	10.91
06 to 10 years	68	61.82
Above 10 years	30	27.27

Socio-personal characteristics :

The findings on age of the respondents are presented in Table 1. The data reveal that the most of the respondents (52.73%) belonged to the middle age group (between 36 to 50 years). However, 37.27 per cent of the respondents were of young age group (upto the age of 35 years). Whereas, in the older age group the percentage of respondents was only 10%. The findings indicated that the maximum number of the respondents in the study area belonged to the middle to young age group. This reflected that old people were not much involved in the organic farming. Meena (2010), Dhruw (2008) and Naik *et al*. (2009) also found almost similar findings in his study.

About education, the data reveal that the, 47.27 per cent of selected respondents were educated upto primary school level. However, 25.46 per cent of selected respondents had middle school level of education, followed by 15.45 per cent illiterate, 8.81 per cent high school passed and only 3.64 per cent respondents had passed higher secondary school and above.

The data presented on caste of the respondents in Table 1 indicates that the majority of the respondents (66.36%) of the selected respondents belonged to scheduled tribes, followed by 30.91 per cent of the respondents belonging to Other Backward Class and only 2.73 per cent of the respondents belonged to general category. None of the respondents belonged to Schedule caste.

The data regarding size of family indicates that the, 73.64 per cent of the respondents were having small size of family (upto 5 members), followed by 21.82 per cent of respondents had medium size of family (6 to 10 members) and only 4.54 per cent of the respondents had big size of family (above 10 members).

The data regarding experience of agriculture is presented in Table 1. The findings revealed that majority of the respondents (61.82%) had experience in agriculture between 6 to 10 years, followed by 27.27 per cent had above 10 years of experience and only 10.91 per cent of the respondents had upto 5 years of

experience. Adesope *et al.* (2012) also found similar findings in their study.

Land holding of respondents :

The distribution of the respondents according to their size of land holdings are presented in the Table 2. The data regarding land holdings indicates that of the total, 40.91 per cent of the selected respondents were having small size of land holding, followed by 32.73 per cent of the respondents had 2.1 to 4 ha of land holdings (Medium farmers), 19.09 per cent of the respondents had large size of land holding (Above 4 ha) and only 7.27 per cent of the respondents had upto 1 ha of land holdings (Marginal farmers).

Table 2 : Distribution of the respondents according to their size of land holding (n=110)

Size of land holding	Frequency	Percentage
Landless farmer	00	00.00
Marginal (upto 1ha)	08	07.27
Small (1.1 to 2 ha)	45	40.91
Medium (2.1 to 4 ha)	36	32.73
Large (above 4 ha)	21	19.09

Annual income of respondents :

The distribution of the respondents according to their annual income from agriculture is presented in Table 3. As regards to annual income, the majority of the respondents (42.73%) were having their income, in the range of Rs.1,00001 to Rs. 1,50,000 followed by 32.73 per cent of respondents had their annual income in the range between Rs. 50,001 to Rs. 1,00000, 17.27 per cent of respondents had their low annual income *i.e.* upto Rs. 50,000, while, only 7.27 per cent of the respondents had obtained income more than Rs. 1,50,000.

Table 3: Distribution of the respondents according to their annual income (n=110)

Annual income (in Rs.)	Frequency	Percentage
Low (upto Rs. 50,000)	19	17.27
Medium (Rs. 50,001 to Rs. 10,0000)	36	32.73
High (Rs.10,0001 to Rs. 1,50,000)	47	42.73
Very high (> Rs. 1,50,000)	08	07.27

Attitude towards organic farming :

The data regarding attitude towards organic farming practices reveals that, 59.09 per cent of the respondents expressed more favourable attitude towards organic farming, followed by 30.91 per cent of the respondents expressed moderately favourable attitude, while, 10 per cent of the respondents expressed less favourable attitude towards organic farming (Table 4). Meena (2010) and Alzaidi *et al.* (2013) also found almost similar findings in their study.

Table 4 : Distribution of respondents according to their attitude towards organic farming (n = 110)

Attitude	Frequency	Percentage
Less favourable (upto 35 score)	11	10.00
Moderately favourable (36-70 score)	34	30.91
More favourable (above 70 score)	65	59.09

Training needs of the respondents :

As regards to training need of respondents the data are presented in Table 5. For summer deep ploughing, most of the respondents (37.27%) needed training, followed by 32.73 per cent respondents reported somewhat needed training, 19.09 per cent respondents not needed training and only 10.91 per cent of respondents reported most needed training. For Preparation and use of FYM/ NADEP/ Vermi-compost, most of the respondents (36.36%) recorded somewhat needed training, followed by 33.64 per cent respondents recorded needed training, 16.36 per cent of respondents recorded not needed training and 13.64 per cent of the respondents reported most needed training. For Green manuring, 41.82 per cent of the respondents recorded needed training followed by 26.36 per cent of the respondents recorded somewhat needed training, 20 per cent of the respondents recorded most needed training and 11.82 per cent of respondents not needed training.

As regards to crop rotation, 40.91 per cent of the respondents recorded most needed training followed by 30.91 per cent of the respondents recorded somewhat needed training, 24.54 per cent of the respondents recorded needed training and 3.64 per cent of respondents not needed training. For Bio-fertilizer (Rhizobium, PSB, BGA etc.), 78.18 per cent of the respondents recorded most needed training followed by 13.64 per cent of the respondents recorded needed training, 6.36 per cent of the respondents recorded somewhat needed training and 1.82 per cent of respondents not needed training. For Bio-dynamic farming, 65.45 per cent of the respondents recorded most needed training followed by 18.18 per cent of the respondents recorded needed training, 10.91 per cent of the respondents recorded somewhat needed

Table 5 : Training needs of respondents in the major areas of organic farming **(n=110)**

Area of training	Training need			
	MN (F/ %)	N (F/ %)	SN (F/%)	NN (F/%)
Summer deep ploughing	12 (10.91)	41 (37.27)	36 (32.73)	21 (19.09)
Preparation and use of FYM/ NADEP/ Vermi-compost	15 (13.64)	37(33.64)	40 (36.36)	18 (16.36)
Green manuring	22 (20.00)	46 (41.82)	29 (26.36)	13 (11.82)
Crop rotation	45 (40.91)	27 (24.54)	34 (30.91)	04 (03.64)
Bio-fertilizer (Rhizobium, PSB, BGA etc.)	86 (78.18)	15 (13.64)	07 (06.36)	02 (01.82)
Bio-dynamic farming	72 (65.45)	20 (18.18)	12 (10.91)	06 (05.45)
Biological method of insect-pest control	92 (83.64)	11 (10.00)	07 (06.36)	00 (00.00)
Bio-rational pest management techniques	80 (72.73)	22 (20.00)	04 (03.64)	04 (03.64)
Record keeping and standards of certification	78 (70.91)	30 (27.27)	02 (01.82)	00 (00.00)
Grading, packaging and marketing of organic produce	68 (61.82)	29 (26.36)	07 (06.36)	06 (05.45)

Note: MN = Most Needed, N = Needed, SN = Somewhat Needed, NN = Not Needed,

training and 5.45 per cent of respondents not needed training.

Regarding biological method of insect-pest control, 83.64 per cent of the respondents recorded most needed training followed by 10 per cent of the respondents recorded needed training and 6.36 per cent of the respondents recorded somewhat needed training. For Bio-rational pest management techniques, 72.73 per cent of the respondents recorded most needed training followed by 20 per cent of the respondents recorded needed training, 3.64 per cent of the respondents recorded somewhat needed training and 3.64 per cent of respondents not needed training. For Record keeping and standards of certification, 70.91 per cent of the respondents recorded most needed training followed by 27.27 per cent of the respondents recorded needed training and 1.82 per cent of the respondents recorded somewhat needed training. For Grading, packaging and marketing of organic produce, 61.82 per cent of the respondents recorded most needed training followed by 26.36 per cent of the respondents recorded needed training, 6.36 per cent of the respondents recorded somewhat needed training and 5.45 per cent of respondents not needed training.

Perceived preferences of farmers regarding organization of training programme :

The data regarding various aspects of training preference is evident from Table 6. Data in respect of preference of place of training indicated that majority of the respondents (52.73%) preferred to conduct training programmes at the nearest research extension centre/ departmental farm. On the other hand, 28.18 per cent of the respondents desired to have training at village level and 12.73 per cent of the respondents desired to have training at research station, while 6.36 per cent respondents wanted to attain training at the exhibition centres.

As regards to the duration of training, 80 per cent of the respondents suggested for arranging one weeks training programme against two weeks training period suggested by 14.55 per cent of the respondents. On the other hand, very few (5.45%) respondents suggested for one month training period.

Season is one of the important aspects of training especially for all kind of respondents. The data regarding preference of season of training, majority of the respondents (87.27%) expressed the pre-crop season as ideal for training. Crop season was chosen by only 9.09 per cent of the respondents. While only 3.64 per cent of the respondent preferred post crop season training.

Data in respect of nature of training indicated that the majority of the respondents (83.64%) expressed the need of practical training instead of basic training (16.36%). There is no doubt that practical utility training would definitely add utmost to their knowledge and skills that can be useful in the field efficiency.

An effective training programme is largely depend on facilities of training provides to the trainees. The present study shown that, majority (89.09%) of the respondents stated that teaching through audio visual aids should be provided, followed by 77.27 per cent respondents required exposure visit. About us 75.45 per cent of the respondents required stipend, 60 per cent of

Table 6 : Perceived preferences of farmers regarding organization of training programme (n=110)

Particulars	Frequency	Percentage
Place of training		
At the village level	31	28.18
Exhibition centre	07	06.36
At the nearest research extension centre/ departmental farm	58	52.73
At the research station	14	12.73
Duration of training		
One week	88	80.00
Two weeks	16	14.55
One month	06	05.45
Season of training		
Pre crop season	96	87.27
Crop season	10	09.09
Post crop season	04	03.64
Nature of training		
Basic training	18	16.36
Practical utility training	92	83.64
Facilities of training*		
Free boarding	66	60.00
Provide stipend	83	75.45
Provide transportation	53	48.18
Exposure visit	85	77.27
Teaching through audio visual aids	98	89.09
Trainers language		
Local language	84	76.36
Hindi	26	23.64
English	00	00.00
Methods of training		
Demonstration	35	31.82
Lectures	18	16.36
Group discussion/ conference	15	13.64
Audio visual aids/ Kisan mela/ Exhibitions/ Debates etc.	42	38.18
Number of trainees		
Up to 20 trainees	26	23.64
21 to 30 trainees	64	58.18
31 to 40 trainees	14	12.73
Above 40 trainees	06	05.45
Number of training in a year		
Once in a year	22	20.00
Twice in a year	61	55.45
Thrice in a year	24	21.82
More than thrice in a year	03	02.73

the respondents required free boarding, only 48.18 per cent of the respondents stated for the free transportation facilities. The above facilities make trainings more comfortable and effective.

Language is considered as a key aspect of the farmers training programme because educational status of the farmers is generally low and sometime frequency of illiterate farmers is high. About 76.36 per cent of the respondents suggested local language followed by 23.64 per cent of the respondents suggested Hindi language as the communicating medium between trainers and trainees. None of the respondents preferred English as teaching medium during training.

As regards to method of training, 38.18 per cent of the respondents suggested audio-visual aids/ kisan mela/ exhibition/ debates, followed by demonstration (31.82%), lecture (16.36%) and only 13.64 per cent of the respondents suggested group discussion/conference for training.

Data regarding number of training, maximum number of respondents (58.18%) said 21 to 30 trainees is suitable for best training followed by 23.64 per cent of the respondents said upto 20 trainees, 12.73 per cent of the respondents said 31 to 40 trainees. On the other hand 5.45 per cent of the respondents said above 40 trainees were suitable for best training programme.

Data in respect of number of training in a year, majority (55.45%) of the respondents suggested two training are suitable in a year, followed by 21.82 per cent of the respondents said three training in a year is suitable, 20 per cent of the respondents said only one training in a year is suitable while only 2.73 per cent of the respondents said more than three training in a year is suitable.

Constraints in the adoption of organic farming practices :

The respondents were enquired regarding the constraints they face in the adoption of the organic farming practices. The responses by them are presented in Table 7. The data reveals that the 100 per cent of the respondents gave opinion about lack of minimum support price organic produce. While, other constraints faced by the respondents were about lack of knowledge about organic certification and standardization of different organic produce (94.54%), inadequate marketing facilities of organic produce (93.63%), inadequate availability of inputs like bio-fertilizers, organic manures etc. (85.45%), lack of knowledge about grading, packaging and value addition of organic produce (81.81%), lack information about available sources and

Table 7: Constraints faced by the respondents in the adoption of improved organic farming	(n=110)	
Constraints	Frequency*	Percentage
Lack of knowledge about package and practices of organic farming	80	72.72
Lack of knowledge about improved methods of making NADEP compost, Vermi-compost and other bio-fertilizers etc.	42	38.18
Inadequate availability of inputs like bio-fertilizers, organic manures etc.	94	85.45
Lack information about available sources and methods of application of bio-fertilizers	88	80.00
Lack of knowledge about different bio-pesticide	75	68.18
Uncertainty and risk is high in organic farming	33	30.00
Lack of knowledge about grading, packaging and value addition of organic produce	90	81.81
Lack of knowledge about organic certification and standardization of different organic produce	104	94.54
Unavailability of literature on organic farming practices	26	23.63
Demand of organic produce in very low due high price	34	30.90
Inadequate marketing facilities of organic produce	103	93.63
Lack of minimum support price organic produce	110	100.00

* Data are based on multiple responses

Table 8: Suggestions given by respondents to minimize the constraints faced by them in organic farming	(n=110)	
Suggestions	Frequency*	Percentage
Information on package of practices of organic farming should be available	65	59.09
Training should be arrange on methods of making and application of bio-fertilizers and bio-pesticide	96	87.27
Inputs like bio-fertilizers, organic manures etc. should be available in sufficient quantity at lower price	100	90.90
Training should be arrange on grading, packaging and value addition of organic produce	86	78.18
Certification of organic produce should be available on local level	105	95.45
Literature on organic farming should be available	55	50.00
Minimum support price and marketing facilities should be arrange for organic produce	108	98.18

* Data are based on multiple responses

methods of application of bio-fertilizers (80 %), lack of knowledge about package and practices of organic farming (72.72%), lack of knowledge about different bio-pesticide (68.18%), Lack of knowledge about improved methods of making NADEP compost, Vermi-compost and other bio-fertilizers etc. (38.18%), demand of organic produce in very low due high price (30.90%), uncertainty and risk is high in organic farming (30%) and 23.63 per cent of the respondents gave opinion about unavailability of literature on organic farming practices.

Suggestions to overcome the constraints faced by the respondents :

As regards to suggestion given by the respondents to overcome the constraints in organic farming, the findings are presented in the Table 8. The data reveals that the majority of the respondents (98.18%) were of the opinion that minimum support price and marketing facilities should be arrange for organic produce followed by 95.45 per cent of the respondents were of the opinion that certification of organic produce should be available on local level, 90.90 per cent were of the opinion that inputs like bio-fertilizers, organic manures etc. should be available in sufficient quantity at lower price, 87.28 per cent were of the opinion that training should be arrange on methods of making and application of bio-fertilizers and bio-pesticide, 78.18 per cent of the respondents were opinion that training should be arrange on grading, packaging and value addition of organic produce, 59.09 per cent of the respondents were opinion that Information on package of practices of organic farming should be available and 50 per cent of the respondents were of the opinion that Literature on organic farming should be available.

Conclusion :

From the above findings it can be concluded that the most of the respondents are belonged to the middle age group educated upto primary school level, belonged to Scheduled tribes and having small size of family and had experience in agriculture between 6 to 10 years. As regards to size of land holding most of the respondents

were having small size of land holding having their income, in the range of Rs.10,0001 to Rs. 1,50,000 and of the respondents expressed more favourable attitude towards organic farming. The respondents were enquired regarding the constraints they face in the adoption of the organic farming practices, cent per cent of the respondents gave opinion about lack of minimum support price organic produce and they opinion that minimum support price and marketing facilities should be arrange for organic produce.

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REFERENCES

Adesope, O.M., Matthews-Njoku, E.C., Oguzor, N.S. and Ugwuja, V.C. (2012). Effect of socio economic characteristics of farmers on their adoption of organic farming practices, crop production technologies, Dr. Peeyush Sharma (Ed.), ISBN: 978-953-307-787-1, InTech.

Alzaidi, A.A., Baig, M.B. and Elhag, E.A. (2013). An Investigation into the Farmers' Attitudes towards Organic Farming in Riyadh Region – Kingdom of Saudi Arabia. *Bulgarian J. Agric. Sci.,* **19**(3): 426-431.

Dhruw, K.S. (2008). A study on adoption of recommended maize production technology among the farmers of Kanker district of Chhattisgarh state. M.Sc. (Ag.) Thesis, IGKV, Raipur (C.G.).

Kumar, K. (2016). A scale to measure attitude of farmers' towards organic farming. *Indian Res. J. Extn. Edu.*, **16** (1): 148-150.

Meena, B.S. (2010). Socio-economic study of organic farming in irrigated North Western Plain Zone of Rajasthan. *Agric. Sci. Digest.*, **30**(2) : 94- 97.

Naik, Hussain Munir, Srivastava, S.R., Godara, A.K. and Yadav, V.PS. (2009). Knowledge level about organic farming in Haryana. *Indian Res. J. Extn. Edu.,* **9**(1): 50-53.

Ramesh, P., Panwar, N.R., Singh, A.B., Ramana, S., Yadav, S.K., Shrivastava, R. and Rao, A.S. (2010). Status of organic farming in India. *Curr. Sci.*, **98**(9):1190-1194.

Yadav, A.K. (2011). Restoring soil health, fertility and sustainability in Indian Agricultural soils. In: National symposium cum brainstorming workshop on organic agriculture, CSKHPKV, Palampur, India held on April 19-20, 2011. Souvenir and Abstracts, p 8-11.

Yadav, A.K. (2015). Organic Agriculture at a Glance. *Krishi Jagran, krishijagran.com*.