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Farmers' Awareness and Performance about Agriculture Development Schemes in Haryana

Dr. Sube Singh [1*], Dr. Sandeep Bhakar [2] and Dr. P.S. Shehrawat [3]
[1] Assistant director (Extension education), Directorate of extension education, CCS Haryana Agricultural University, Hisar (Haryana), India.
[2] District extension specialist (Extension education), CCSHAU, Krishi Vigyan Kendra, Fatehabad (Haryana) -125 051, India.
[3] Professor (Extension education) Department of extension education, COA, CCSHAU, Hisar -125 004, India.
*Corresponding author email id: sube.singh@hau.ac.in

Abstract **– The State has undergone a rapid change in cropping pattern with the increase in irrigation facilities. In 1966-67, the pearl millet was the major kharif crop in the state occupying nearly 54% of area under major kharif crops, whereas paddy occupied only 12% area. Similarly, in rabi season gram occupied 48% of area under major rabi crops followed by wheat (33%). The scenario has now significantly changed. Now, paddy occupies 49% of the cultivated area in kharif reducing area mainly under pearl millet, sorghum and pulses. In rabi season, wheat crop occupies maximum area (79%) reducing the area of gram, barley and other crops. About 58% area has come under Rice-Wheat cropping system. 5. In this era of change, several second generation problems particularly depletion of soil and water resources have cropped-up. The problems like low organic carbon in soils, deficiency of various major and micro-nutrients, declining water table in rice-wheat cropping areas, decreasing availability of good (i) quality water for irrigation, disposal of raw sewer water into agricultural fields, climate change and pests & diseases are posing serious challenge in agriculture. Decline in TFP, size of holdings and capacity of employment are also important problems of this sector. Keeping the above facts in view, the study was conducted in Haryana Stare to assess the awareness about and performance of Agricultural development schemes implemented in Haryana and the results indicated that 86.00 per cent of the farmers were aware about the crops included under PMFBY followed by awareness about the premium paid for insurance of the crops (72.00%) and e-NAM facility (72.00%). As for as soil health card scheme is concerned, 68.00 per cent of the respondents have awareness followed by know about the benefits of the scheme (56.00%). Regarding performance of agricultural development schemes; majority of the respondents (87.00%) were of view that Pradhan Mantri Fasal Beema Yojana, Pradhan Mantri Krishi Sinchai Yojana (Per Drop More Crops) is performing good. 64.00%, 52.00% and 50.00% of the respondents viewed that ATMA, NFSM and MIDH schemes respectively are also performing good.**

Keywords **– Socio-Personal Attributes, Awareness, Performance, Agriculture, Development Schemes.**

I. INTRODUCTION

Haryana has 44.2 lakh hectares of land which is 1.34% of the total geographical area of the country. Agriculture contributes 16.7% to state GDP and is the mainstay of more than 51% population. The major cropping systems are: rice-wheat, bajra-wheat, cotton-wheat, and sugarcane-wheat and the cropping intensity is over 184%. The average productivity of total food grains has reached 35.27q/ha in the State as against 19.2 q/ha at national level. The annual growth rate of agriculture and allied sectors during the 11th plan in Haryana was 3.9%, whereas at all India level it was 3.7%. The State has attained quantum jump in food grains production which is mainly due to the contribution of principal crops viz., rice, wheat and bajra. The state enjoys first position in the production of basmati rice and also in productivity of wheat (51.8 q/ha), pearl millet (20.4 q/ha) and rapeseed & mustard (18.8q/ha). This could be possible due to development and adoption of improved technologies, expansion of infrastructure and farmers' friendly policies of the government. The contribution of

state in "Green Revolution" is widely recognized and admired. Haryana is the second largest contributor to national food grains reserves and has 60% share in basmati rice export from India. All these achievements are heartening considering the challenges related to soil health and availability of irrigation water. However, annual fluctuations in agricultural growth of the state are quite visible. The Government is concerned for the sustainability of agriculture and therefore, minimum 4% growth in this sector has been targeted in future through technological and policy interventions.

The State has undergone a rapid change in cropping pattern with the increase in irrigation facilities. In 1966-67, the pearl millet was the major kharif crop in the state occupying nearly 54% of area under major kharif crops, whereas paddy occupied only 12% area. Similarly, in rabi season gram occupied 48% of area under major rabi crops followed by wheat (33%). The scenario has now significantly changed. Now, paddy occupies 49% of the cultivated area in kharif reducing area mainly under pearl millet, sorghum and pulses. In rabi season, wheat crop occupies maximum area (79%) reducing the area of gram, barley and other crops. About 58% area has come under rice-wheat cropping system. 5. In this era of change, several second generation problems particularly depletion of soil and water resources has cropped-up. The problems like low organic carbon in soils, deficiency of various major and micro-nutrients, declining water table in rice-wheat cropping areas, decreasing availability of good (i) quality water for irrigation, disposal of raw sewer water into agricultural fields, climate change and pests & diseases are posing serious challenge in agriculture. Decline in TFP, size of holdings and capacity of employment are also important problems of this sector. Keeping the above facts in view, the study was planned to assess the awareness of farmers towards agricultural development schemes run by the government and their performance for the development of farming community.

II. Material and Methods

The study was conducted from randomly selected districts of Hisar and Fatehabad in Haryana state during the year 2018-19. From these two districts, five villages viz., Sarsod, Bichpuri, Behbalpur, Badonpatti & Dhansu of Hisar district and Dangra, Jandli Kalan, Chandrawal, Hasanga & Gorakhpur of Fatehabad district were also selected randomly. Out of these selected villages 10 farmers from each village were selected randomly to make the sample size of 100 for the study. The data were collected through well structured farmers' interview schedule to assess the awareness of farmers towards agricultural development schemes implemented in the state and to assess the performance of agricultural development schemes for economic development in the state. The basic information of the individual farmer regarding their socio-economic status was also collected. The collected data were analyzed, tabulated, interpreted and statistical measures like mean, frequency, percentage and rank orders etc. were applied to draw meaningful inferences.

III. Results and Discussion

1. *Socio-Personal Attributes of Farmers*

A. *Age* :

The data in table 1 revealed that more than half of the respondents (58.00%) belonged to the middle age group (31-50 years) followed by young (up to 30 years) to the extent of 28.00 per cent. The remaining 14.00 per cent of the respondents belonged to old age group (51 years and above) to the extent of 23.00 per cent.

Table 1. Personal profile of respondents, N = 100.

Sr. No.	Variables	Category	Percentage
1.	Age	Young (up to 30)	28.00
		Middle (31-50 years)	58.00
		Old (51 and above)	14.00
2	Education	Illiterate	06.00
		Primary	12.00
		Middle	18.00
		Matriculation	32.00
		Higher secondary	24.00
		Graduate	06.00
		Post graduate	02.00
3.	Land holding	Landless	00.00
		Less than 1 acre	06.00
		Above 1 and up to 5 acres	42.00
		Above 5 and up to 10 acres	36.00
		Above 10 to 15 acres	12.00
		Above 15 acres	04.00

B. *Education* :

The data also presented in table 1 revealed that about one-third of respondents (32.00%) were matric followed by 24.00 per cent, 18.00 per cent, 12.00 per cent, 6.00 per cent, 2.00 per cent having education level of higher secondary, middle, primary, graduate and illiterate, respectively. Only 2.00 per cent of the respondents having post graduate educational qualification.

C. *Land Holding* :

The data in table 1 regarding land holding of respondents is concerned, it revealed that maximum respondents i.e. 48.00 per cent were having land holding upto 5 acres. About one-third of the respondents (36.00%) were having land holding ranged from 5 to10 acres. The remaining 16.00 per cent respondents possess land holding more than 10 acres.

2. *Farm Implements*

The data in table 2 shows that about one-third of the respondents (38.00 %) had tractor followed by harrow (36.00 %), cultivator (32.00%), seed cum fertilizer drill (28.00 %), rotavator (24.00%), tractor mounted spray pump (24.00%), and puddler (12.00%), respectively. The table 2 also showed that very little percentage of respondents had happy seeder (4.00%), straw reaper (6.00%), laser land leveler (4.00%) and combine harvester (2.00%) using on their farm and majority of respondents having knap-sack sprayer to the extent of 88.00 per cent.

Table 2. Farm implements, N = 100.

Sr. No.	Farm implements	Percentage
1	Tractor	38.00
2	Harrow	36.00
3	Cultivator	32.00
4	Seed cum fertilizer drill	28.00
5	Laser land leveler	04.00
6	Combine harvester	02.00
7	Puddler	12.00
8	Rotavator	24.00
9	Happy seeder	04.00
10	Sprayer (Knap Sack)	88.00
11	Tractor mounted spray pump	24.00
12	Straw Reaper	06.00

3. *Irrigation Facilities*

The data in table 3 revealed that more than half of the respondents (56.00%) had irrigation facilities of submersible pump followed by tube well (38.00%). A total of 85.00 per cent of the farmers were having canal water irrigation facility.

Table 3. Irrigation facilities, N = 100.

Sr. No.	Modes of irrigation	Percentage
1.	Submersible pump	56.00
2.	Tube Well	38.00
3.	Canal	85.00

4. *Farming System*

The data in table 4 predicts that majority of respondents (88.00%) were doing livestock practices followed by agro-forestry (8.00%), bee keeping (4.00%), polyhouse vegetable production (4.00%), organic farming (3.00%), integrated farming system (2.00%) and mushroom cultivation (2.00%), respectively in their farming system.

Table 4. Farming system, N = 100.

Sr. No.	Farming system	Percentage
1	Livestock	88.00
2	Bee keeping	04.00
3	Agro-Forestry	08.00
4	Organic farming	03.00
5	Mushroom cultivation	02.00

Sr. No.	Farming system	Percentage
6	Polyhouse vegetable production	04.00
7	Integrated farming system	02.00

5. *Cropping Pattern and Crop Rotation*

The data presented in table 5 indicates that all the respondents (100.00%) using multiple cropping system at their farms. As for as crop rotation is concerned, about half of the respondents (48.00%) had paddy-wheat crop rotation followed by cotton-wheat (30.00%), bajra/guar/jowar/mustard/wheat (12.00%) and wheat-summer-moong-paddy (08.00%), respectively. Only 2.00 per cent of the respondents were using paddy-other crops (veg. crops) at their farms.

Table 5. Cropping pattern and crop rotation, N = 100.

Sr. No.	Farming system	Percentage	Crop rotation	Percentage
1	Multiple cropping	100.00	Paddy-Wheat	48.00
			Cotton-Wheat	30.00
			Wheat-Summer moong-Paddy	08.00
			Bajra/Guar/Jowar-Mustard/ Wheat	12.00
			Paddy-other crops (Veg.)	02.00

6. *Mass Media Exposure*

It is indicated from the table 6 that viewing of television ranked first with weighted mean score of 1.68 followed by reading newspaper ranked second, listening radio ranked third, online solution ranked fourth, reading magazines ranked fifth and visit of Kisan Sewa Kendra ranked sixth with weighted mean score of 1.01, 0.68, 0.30, 0.20 and 0.13, respectively for seeking information.

Table 6. Mass Media Exposure, N = 100.

Sr. No.	Mass media	Used (%)	Extent of utilization			Total score	Weighted mean score	Rank order
			Daily (3)	Often (2)	Sometimes (1)			
1	Radio	40.00	04 (12)	20 (40)	16 (16)	68	0.68	III
2	TV	78.00	34 (102)	22 (44)	22 (22)	168	1.68	I
3	Newspaper	40.00	23 (69)	15 (30)	02 (2)	101	1.01	II
4	Magazines	10.00	02 (6)	06 (12)	02 (2)	20	0.20	V
5	Kisan Sewa Kendra	06.00	02 (6)	03 (6)	01 (1)	13	0.13	VI
6.	Online solution	14.00	05 (15)	06 (12)	03 (3)	30	0.30	IV

7. *Extension Contact*

It is revealed from the table 7 that among the extension contact of farmers, the most popular were the progre-

-ssive farmers with weighted mean score 2.25. ADO and SDAO/SMS ranked second and third with weighted mean score of 2.02 and 1.58, followed by scientists and others ranked at fourth and fifth with weighted mean score 1.24, 0.94, respectively.

Table 7. Extension contact, N = 100.

Sr. No.	Extension Official	Frequency of Contact				Total score	Weighted mean score	Rank order
		Weekly (4)	Fortnightly (3)	Monthly (2)	Whenever Needed (1)			
1	ADO	15 (60)	20(60)	22(44)	38 (38)	202	2.02	II
2	SDAO/SMS	8 (32)	18 (54)	10(20)	52(52)	158	1.58	III
3	Scientists	8 (32)	12(36)	06(12)	44(44)	124	1.24	IV
4	Progressive farmers	26(104)	15(45)	19(38)	38(38)	225	2.25	I
5	Others	02(8)	4(12)	6(12)	62 (62)	94	0.94	V

IV. FARMERS' AWARENESS ABOUT AGRICULTURAL DEVELOPMENT SCHEMES

The data regarding farmers' awareness about agricultural development schemes presented in table 8 predict that 86.00 per cent of the farmers were aware about the crops included under PMFBY followed by 72.00 per cent had awareness about the premium paid for insurance of the crops. 89.00 per cent of the respondents had knowledge that PMFBY is mandatory for loanee farmers. The data regarding awareness of PMKSY showed that more than half of the respondents had awareness about PMKSY. However, large majority the respondents (above 64.00 %) were not aware about subsidy pattern, sealing of area under scheme and additional benefit for small and marginal farmers.

Seventy two per cent of respondents were not about e-NAM facility. In case of ATMA scheme, majority of the respondents (72.00%) were aware about the scheme and its implementing agency at district level (68.00%). More than half of the respondents had awareness about NFSM. The data regarding awareness of Mission on Integrated Development of Horticulture (MIDH Sub component-NHM) revealed that 53.00 per cent of the respondents were aware about MIDH. 40.00 per cent of them know about the components covered under the scheme. About one-third (36.00%) of the respondents had awareness about subsidy pattern being followed for the components covered under the scheme. As for as soil health card scheme is concerned, the respondents had awareness to the extent of 68.00 per cent. More than half of the respondents (56.00%) know about the benefits of the scheme.

The awareness regarding promotion of Agricultural Mechanization for In-Situ Crop Residue Management (CRM) presented in table 8 indicated that two-third respondents had awareness about the scheme and 62.00 per cent of them knows that custom hiring centre established under the scheme. More than half of the respondent (58.00%) knows about the assistance being provided by the government on farm machineries under the scheme for crop residue management. A total of 65.00 per cent of the respondents were aware that trainings /extension programmes are organized under the scheme. Majority of the sampled farmers/respondents were not aware about Prampragat Krishi Vikas Yojana (PKVY) and Small Farmers Agri-business Consortium (SFAC). Only few (less than 15.00%) were aware about the PKVY & SFAC.

Table 8. Farmers' Awareness about Agricultural Development Schemes, N = 100.

Sr. No.	Statements	Degree of Awareness	
		Aware	Not Aware
		Percentage	Percentage
1.	**Pradhan Mantri Fasal Beema Yojana(PMFBY)**		
a.	Awareness about crops included under the scheme	86.00	14.00
b.	Awareness about premium of crops	72.00	28.00
c.	Knowledge that PMFBY is mandatory for Loanee farmers	89.00	11.00
2.	**Pradhan Mantri Krishi Sinchai Yojana (PMKSY)-Per Drop More Crops**		
a.	Awareness about PMKSY	56.00	44.00
b.	Awareness about subsidy pattern for micro irrigation	35.00	65.00
c.	Knowledge about sealing of area under the scheme for availing benefits	32.00	68.00
d.	Knowledge about additional benefits for Small & marginal farmers under the scheme	36.00	64.00
3.	**Awareness about e-NAM facility**	28.00	72.00
4.	**Agricultural Technology Management Agency (ATMA)**		
a.	Awareness about ATMA scheme	72.00	28.00
b.	Awareness about implementing agency	68.00	32.00
5.	**National Food Security Mission (NFSM)**		
a.	Awareness about NFSM scheme	58.00	42.00
b.	Awareness about implementing agency	52.00	48.00
6.	**Mission on Integrated Development of Horticulture (MIDH Sub component-NHM)**		
a.	Awareness about MIDH	53.00	47.00
b.	Awareness about implementing agency	48.00	52.00
c.	Awareness about the components of the scheme	40.00	60.00
d.	Awareness about subsidy pattern under the scheme	36.00	64.00
7.	**Soil Health Card Scheme**		
a.	Awareness about SHC	68.00	32.00
b.	Awareness about benefit of SHC	56.00	44.00
8.	**Promotion of Agricultural Mechanization for In-Situ Crop Residue Management**		
a.	Awareness about the scheme	70.00	30.00
b.	Knowledge about Custom Hire Centre	62.00	38.00
c.	Knowledge that assistance is being provided on farm Machinery under the scheme	58.00	42.00
d.	Awareness about programmes/trainings organized under the scheme	65.00	35.00

Sr. No.	Statements	Degree of Awareness	
		Aware	Not Aware
		Percentage	Percentage
9.	**Prampragat Krishi Vikas Yojana (PKVY)**		
a.	Awareness about the scheme	36.00	64.00
b.	Awareness about implementing agency	32.00	68.00
c.	Awareness about purpose of scheme	28.00	72.00
d.	Knowledge about assistance given for promotion of organic farming under the scheme	16.00	84.00
10.	**Small Farmers Agri-business Consortium (SFAC)**		
a.	Awareness about the scheme	32.00	68.00
b.	Awareness about implementing agency	26.00	74.00
c.	Awareness about purpose of scheme	14.00	86.00

V. Performance of Agricultural Development Schemes in the State

The data in table 9 regarding performance of agricultural development schemes predict that majority of the respondent (87.00%) is of view that Pradhan Mantri Fasal Beema Yojana is performing good. Only 13.00 per cent of the respondents viewed that the scheme is performing not so good. In case of Pradhan Mantri Krishi Sinchai Yojana (Per Drop More Crops) is concerned, majority of the respondents (72.00%) had opinion that the scheme is performing good. The poor performance was observed in case of e-NAM facility provided by the government as 85.00 per cent of the respondents viewed that performance is not so good. It is also indicates that 64.00%, 52.00% and 50.00% of the respondents viewed that ATMA, NFSM and MIDH schemes respectively performing good. About half of the respondents (52.00%) viewed that the scheme for promotion of agricultural mechanization for In-Situ Crop Residue Management is performing good. Majority of the sampled farmers viewed that the schemes like Prampragat Krishi Vikas Yojana (PKVY), Small farmers Agri-business Consortium (SFAC) and Soil Health Cards are performing not so good.

Table 9. Performance of agricultural development schemes, N = 100.

Sr. No.	Statements	Degree of Performance (%)	
		Good	Not so good
1.	Pradhan Mantri Fasal Beema Yojana (PMFBY)	87.00	13.00
2.	Pradhan Mantri Krishi Sinchai Yojana (Per Drop More Crops)	72.00	28.00
3.	e-NAM	15.00	85.00
4.	Agricultural Technology Management Agency (ATMA)	64.00	36.00
5.	National Food Security Mission (NFSM)	52.00	48.00
6.	Mission on Integrated Development of Horticulture (MIDH Sub component-NHM)	50.00	50.00
7.	Soil Health Cards (SHC)	38.00	62.00

Sr. No.	Statements	Degree of Performance (%)	
		Good	Not so good
8.	Agricultural Mechanization for In-Situ Crop Residue Management (CRM)	52.00	48.00
9.	Prampragat Krishi Vikas Yojana (PKVY)	12.00	88.00
10.	Small Farmers Agri-business Consortium (SFAC)	16.00	84.00

VI. CONCLUSION

It is concluded that 86.00 per cent of the farmers were aware about the crops included under PMFBY followed by 72.00 per cent had awareness about the premium paid for insurance of the crops. Seventy two per cent of respondents were not about e-NAM facility. As for as soil health card scheme is concerned, the respondents had awareness to the extent of 68.00 per cent. More than half of the respondents (56.00%) know about the benefits of the scheme. Regarding performance of agricultural development schemes; majority of the respondents were of view that Pradhan Mantri Fasal Beema Yojana, Pradhan Mantri Krishi Sinchai Yojana (Per Drop More Crops) is performing good. 64.00%, 52.00% and 50.00% of the respondents viewed that ATMA, NFSM and MIDH schemes respectively are also performing good.

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AUTHOR’S PROFILE

First Author
Dr. Sube Singh, Ph.D., Agriculture (Extension Education) from CCSHAU, Hisar and working as assistant director (Extn. Edu.) in the directorate of extension education, CCSHAU, Hisar. He has good experience of extension & research in the field of extension education and has published about 100 publications (research papers, short publications, manuals, bulletins and popular articles etc.), Mob: 9416695834, Hisar (Haryana), India.

Second Author
Dr. Sandeep Bhakar, District extension specialist (Extension education) CCSHAU, Krishi Vigyan Kendra, Fatehabad (Haryana) -125 051, India.

Third Author
Dr. P.S. Shehrawat, Professor (Extension Education) Department of Extension Education, COA, CCSHAU, Hisar - 125 004 (Haryana) India.