Indian Res. J. Genet. & Biotech 7(2) : 274 – 282 (2015)

Socio-economic profile of farm women and their adoption level of agricultural inputs, dairy and household products

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(Received: February 2015; Revised: March 2015; Accepted: April 2015)

Abstract

The present study was conducted in Kanpur District in two blocks namely Kanlyanpur and Sarswal out of these two blocks, ten villages were randomly selected and a sample of 250 farm women was drawn randomly out of these ten villages. The main emphasize was made to analyze the farm women's existing socio-economic features of different farm groups and their adoption level of agricultural inputs, dairy and household products. The outcomes of the study clearly revealed that socio-economic features of the farm women were observed to the high level and their extent of adoption level pertaining to agricultural inputs, dairy and household products was recorded to medium and high level.

Keyword: socio-economic, Adoption level, Agriculture input, Dairy and household products.

Introduction

Development of agriculture is an integral part of economic development. Very few countries have attained sustained economic development without growth of the agricultural sector. Similarly, all countries that have attained significant growth in agriculture have also had a rapid growth of their overall economy. The government, private sector and the farmers have a key role in bringing about agricultural development. A breakthrough in agricultural production technology alone cannot make a significant impact unless the results of research reach the farmers in an appropriate form.

The adoption of improved farm technology depends not only on the personal characteristics of the farmers but also on the effectiveness of various agencies involved in the transfer of technology. As a matter of fact, with the present status of India's rural economy, credit and extension work are the two important components of technological change. Agricultural extension service is that form of education which goes into the farmers' lobby and sets an environment conducive to strengthen their faith in the things which they have seen.

Like other countries of the world, in India too, rural women actively participate in many agriculture and animal husbandry related activities, besides their usual role of child bearing and home keeping. Rural households are the basic productive units in India and women play a very significant and critical role in various agricultural operations such as storage of grains, animal husbandry and social forestry.

Women are traditionally known for their skills in the selection and storage of seeds, collection of fuel and fodder, livestock management, organic recycling, etc. Women, as compared to men, in small and marginal farm families in the villages, carry a very heavy work load both on the farm and in the house, with very limited access to and control over the resources necessary for farming or home keeping. Keeping the above facts in mind the present research work was carried out farm women on their socio-economic features and adoption level of agricultural input, dairy and household products.

The specific objectives are

1. To study the socio-economic profile of farm women in under study.
2. To study the adoption level of agricultural inputs, dairy and household products.

Research Methodology

Uttar Pradesh was chosen as locale of the study. This was done with the intension that U.P. is a major state of the country and rural women have an important role to play in the development of the state as well as the country. District Kanpur was deliberately selected for this study as the researcher hailed from this place.

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Published by the Indian Society of Genetics, Biotechnology Research and Development
Biotech Bhawan 5 E Nikhil Estate, DPS Road, Shastripuram, Agra 282007
Online management by www.isgbrd.co.in

District Kanpur Nagar comprises of ten blocks, out of which two blocks, namely Kalyanpur and Sarsaul, were randomly selected for the purpose of drawing samples. These two blocks provided sufficient number of villages from where indicated size of sample could be drawn. List of total villages falling in the block was prepared separately for each of the two blocks. From each of the two blocks five villages situated at a distance were selected with the help of systematic random sampling method. Thus, a total of 10 villages (5 from each block) were selected for the purpose of drawing the required sample of respondents. A group of 25 farm women was selected randomly from each listed village. The lists of farm women were prepared with the help of respective Village list. The selected farm women were categorized as medium and large farmers. A total sample of 250 farm women was drawn for interviewing them personally.

Socio-economic features of farm women include, age, education, caste, occupation, family structure, house type, size of land holding, income, marital status, material possession, farm power implements and drought animals.

Data collection

The primary data was collected by the investigator herself personally, with the help of a well structured interview schedule. In all, the 250 farm women were individually contacted and required information was gathered.

Sample percentage, Arithmetic's mean, Weighted mean, Rank, Standard deviation (S.D.), Correlation coefficient, were employed for statistical analysis.

Results and discussion

Socio-economic features of farm women

The socio-economic feature of the farm women was studies in terms of their age, education, caste, occupation, family structure, house type, size of land holding, income, marital status, material possession, farm power and farm implements and drought animals.

Table 1.1. Socio-economic features of farm women

S.No.	Attributes	Frequency	Per cent
1	**Age group (in years)**		
	30 – 40	144	57.6
	40 – 50	72	28.8
	50 and above	34	13.6
	Total	250	100.0
2	**Education**		
	Illiterate	40	16.0
	Primary	62	24.8
	Secondary	38	15.2
	High School	54	21.6
	Intermediate	35	14.0
	Graduate and above	21	8.4
	Total	250	100.0
3	**Caste**		
	General	112	44.8
	OBC	84	33.6
	SC/ST	54	21.6
	Total	250	100.0
4	**Occupation**		
	Farming	122	48.8
	Business	48	19.2
	Service	18	7.2
	Housewife	62	24.8
5	**Total**	250	100.0
	Type of family		
	Nuclear	158	63.2
	Joint	92	36.8
	Total	250	100.0

6	**Family size**		
	Upto 4 members	58	23.2
	5 – 8 members	114	45.6
	9 members and above	78	31.2
	Total	250	100.0
7	**Type of house**		
	Kuchcha + Pucca	74	29.6
	Pucca	176	70.4
	Total	250	100.0
8	**Land holding**		
	Medium	168	67.2
	Large	82	32.8
	Total	250	100.0
9	**Income (in Rs.)**		
	1,00,000 – 2,00,000	168	67.2
	2,00,000 and above	82	32.8
	Total	250	100.0
10	**Marital status**		
	Married	238	95.2
	Divorcee	4	1.6
	Widow	8	3.2
	Total	250	100.0
11	**Material possession**		
	T.V.	206	82.4
	Gas	192	76.8
	Cooler	172	68.8
	Scooter/Motorcycle	210	84.0
	Washing machine	80	32.0
	Sewing machine	162	64.8
	Double bed	205	82.0
	Solar cooker	-	-
	Cooker	238	95.2
	Car	7	2.8
	Bullock cart	90	36.0
	Sofa set	44	17.6
	Any other	128	51.2
	Total	1734	693.6
12	**Farm power**		
	Tractor	164	65.6
	Tube well	48	19.2
	Cultivator	118	47.2
	Winnower	126	50.4
	Thresher	172	68.8
	Chaff cutter	204	81.6
	Sprayer	222	88.8
	Total	1054	421.6
13	Drought animals		
	Upto 2	154	61.6
	3 – 4	68	27.2
	Above 4	28	11.2
	Total	250	100

Note:More than one material possession is being shown by the respondents, hence total percentage exceeds to 100

(Table 1.1) shows that (57.6 %) women belonged to the age group of 30 to 40 years. Very high majority that is (84%) respondent were found educated, majority of them (55.2%) belonged to OBC and ST group, maximum that is (48.8%) respondent in farming majority, (63.2%) belonged to nuclear family, (68.8%) respondent having 5 to 8 member in their family majority (74%) had pucca house, (67.2) farm women belonged to medium farm size holding. The table further revels that very high majority (67.2%) respondent had annual income in range of Rs. 1.00,000 to 2,00,000 levels. Of the total sample (95.2%) farm women were found married. Very high majority of the respondent had material possession like Cooker (95.2%), Scooter and Motor cycle (84.8%), T.V. (82.4%), Double bed (82.0%), Gas (76.8%), Cooler (68.8%) and Sewing machine (48.8%).

ADOPTION LEVEL OF FARM WOMEN OF SELECTED AGRICULTURAL INPUTS, DAIRY AND HOUSEHOLD PRODUCTS

Agricultural inputs

Table 1.2 Adoption level of farm women of agricultural inputs

Agricultural inputs	Full	Partial	Non-adoption
1. Fertilizers			
Urea – KRIBHCO	86.0	14.0	-
IFFCO	90.0	10.0	-
GNFC	68.0	32.0	-
DAP – KRIBHCO	80.0	20.0	-
IFFCO	76.0	24.0	-
NFL	66.0	30.0	4.0
– KRIBHCO	85.0	14.0	1.0
IFFCO	83.0	15.0	2.0
2. Pesticides			
United Phosphorus Ltd.			
Celphos	38.0	44.0	18.0
Monocrotophos	40.0	38.0	22.0
DDVP or Moan	16.0	30.0	54.0
Rallis India Ltd.			
Carbofuron or Furadan	42.0	30.0	28.0
Dimethoate or Rogar	30.0	40.0	30.0
Cyanamid company			
Thimet	40.0	40.0	20.0
Hindustan Insecticide Ltd. (HIL)			
DDT	40.0	40.0	20.0
Hexit Chemical Industries			
Gamaxene	38.0	35.0	27.0
3. Weedicides			
Bharat Pulverising Ltd.			
2-4 D	38.0	42.0	20.0
Garda Company			
Isoproturon	40.0	40.0	20.0
Cyanamid Company			
Tetrazene	36.0	44.0	20.0
Pendimethalin	42.0	38.0	20.0
4. Seed Treatment Chemicals			
BASF India Ltd.			
Carbandazim	48.0	30.0	22.0
India Pesticide Ltd.			
Thiram	80.0	10.0	10.0

Table 1.2 reveals that 90.0 per cent farmers used IFFCO urea, while 10.0 per cent partially adopted it. Use of KRIBHCO urea (86.0 %) was at second level followed by GNFC (68.0 %). DAP adoption also showed the same trend with 76.0 per cent of IFFCO, 80.0 per cent KRIBHCO and 66.0 per cent NFL. 85.0 per cent farmers showed full adoption of KRIBHCO CAN and 83.0 per cent used IFFCO CAN, while only a very small portion (1.0 to 2.0 %) farmer did not believe in its use.

Percentage of full adopters of Celphos was less (38.0 %) as compared to 39.0 per cent partial users. Monocrotophos was only 40.0 per cent utilized, followed by DDVP which was fully adopted by 16.0 per cent women farmers. DDT was still a strong pesticide supported by 80.0 per cent farmers while 20.0 per cent did not use it at all. 40.0 per cent women respondents partially used Isoproturon launched by Garda Company while the same percentage of respondents adopted it fully.

Among Weedicides, total dependence on 2-4 D was 38.0 per cent, followed by Isoproturon 40.0 per cent, Tetrazene 36.0 per cent and Pendimethalin 42.0 per cent. A large population of farmers used these inputs upto only some extent (42.0 %, 40.0 %, 44.0 % and 38.0 %, respectively). 80.0 per cent women farmers prefered to treat the seeds only with Thiram of India Pesticide Ltd. 48.0 per cent who prefered Carbandazim of BASF India Ltd. for seed treatment. 10.0 per cent women farmers did not use Thiram.

Table 1.3. Adoption level of farm women of dairy products

Dairy products	Full	Partial	Non-adoption
1. Animal feed			
Kapila – Pashu Aahar	65.0	22.0	13.0
Godrej Agrovat			
Godrej animal feed	38.0	32.0	30.0
Agro Industries			
Agro animal feed	44.0	33.0	23.0
Milkman Company			
Mineral mixture	42.0	36.0	22.0
2. Vaccines			
Hoechst Company			
FMD vaccine	33.0	42.0	25.0
RP Serum (Tissue culture vaccine)	34.0	44.0	22.0
Oil adjuvant vaccine	30.0	45.0	25.0
Intervat Company			
Anthrax – spore vaccine	32.0	46.0	22.0
TB - BCG vaccine	44.0	40.0	16.0

Table 1.3 reveals that Kapila Pashu Aahar was the most preferred by 65.0 per cent full adopters, followed by 44.0 per cent full adopters of agro-animal feed of Agro-Industries whereas, Godrej animal feed of Godrej Agrovat was not adopted by 30.0 per cent of respondents. It was observed that only 36.0 per cent respondents partially adopted mineral mixture of Milkman Company. As far as vaccines were concerned, 33.0 per cent women respondents fully adopted FMD vaccine for animals for the prevention of Foot & Mouth disease, closely followed by 34.0 per cent respondents who used RP Serum vaccine of Hoechst Company to prevent Rinder Pest disease. Maximum, 45.0 per cent respondents partially adopted Oil adjuvant vaccine for Galghontu as compared to 42.0 per cent who used FMD vaccine. The data also shows that 44.0 per cent respondents used BCG vaccine of Intervat Company for TB, compared to 46.0 per cent respondents who partially adopted Spore vaccine of the same company for Anthrax. Also, it is observed that only those women respondents who were commercialized dairy entrepreneurs used branded animal feed regularly, such as Kapila Pashu Aahar and/or other branded products available in the market, whereas other farm women generally used green fodder, cake and other products that were available at household level.

Table 1.4. Adoption level of farm women of household products

Household products	Full	Partial	Non-adoption
Salt			
Ankur	30.0	30.0	40.0

Tata (Iodised)	70.0	20.0	10.0
Shuddh	30.0	40.0	30.0
Spices			
Ashok	35.0	45.0	20.0
Paras	10.0	20.0	70.0
	10.0	10.0	80.0
Goldiee	20.0	60.0	20.0
Tea			
Taaza	70.0	20.0	10.0
Tea City	20.0	40.0	40.0
Agni	10.0	20.0	70.0
Tiger	20.0	30.0	50.0
Mohini	10.0	10.0	80.0
Tez	20.0	30.0	50.0
502 Pataka Chai	5.0	10.0	85.0
Soaps – Bathing			
Nirma	40.0	40.0	20.0
Nima	20.0	60.0	20.0
Breeze	10.0	70.0	20.0
Lifebuoy	70.0	20.0	10.0
Washing			
Wheel	30.0	60.0	10.0
PSM	68.0	30.0	2.0
PLUS	10.0	30.0	60.0
RIN	10.0	20.0	70.0
Nirma	50.0	40.0	10.0
Fena	10.0	20.0	70.0
Ghari	60.0	20.0	20.0
Pressure cooker			
United	20.0	60.0	20.0
Hawkins	10.0	30.0	60.0
Bullet	20.0	50.0	30.0
Prestige	20.0	40.0	40.0
Gas Chulha			
Sunflame	40.0	30.0	30.0
Cello prince	30.0	30.0	40.0
Inalsa	20.0	30.0	50.0
Refrigerator			
Godrej	40.0	50.0	10.0
LG	20.0	60.0	20.0
Whirlpool	20.0	30.0	50.0
Videocon	10.0	20.0	70.0
Voltas	12.0	40.0	48.0
Mixie			
Usha	30.0	40.0	30.0
Gopi	22.0	32.0	46.00
Philips	20.0	42.0	38.0
Jaipan	28.0	32.0	40.0
Cream			
Fair & Lovely	60.0	30.0	10.0
Fairever	10.0	50.0	40.0
Ponds	15.0	40.0	35.0
Lipstick			
Blue heaven	28.0	40.0	32.0

Lakme	20.0	40.0	40.0
Local made	60.0	20.0	20.0
Sanitary napkin			
Stayfree	16.0	40.0	44.0
Whisper	18.0	50.0	32.0
Carefree	14.0	50.0	26.0
Family planning			
Mala-D	75.0	20.0	5.0
Saheli	60.0	20.0	20.0
Copper-T	40.0	30.0	30.0
Nirodh	70.0	20.0	10.0

Analysis of household products adopted by respondents is shown in Table 5.20. It is observed that Tata salt shows maximum adoption (90.0 %) by farm women, Ashok spices (80.0 %), Taaza tea (90.0 %), Nirma bathing soap (80.0 %), PSM washing soap (98.0 %), while among cookers Prestige and Bullet were adopted by 60.0 per cent and 70.0 per cent respondents, respectively, as against 80.0 per cent respondents who used United pressure cooker.

Table 5.20 further reveals that most popular gas chulha was Sunflame for which 40.0 per cent respondents showed full adoption, while 30.0 per cent did not adopt it at all. Inalsa was less popular (20.0 %) as 50.0 per cent women respondents did not know about it. The oldest brand of refrigerators 'Godrej' was still popular as 40.0 per cent were using it. However, 50.0 per cent farm women used it partially. LG, Whirlpool, Voltas and Videocon were less favoured. It is interesting to note that even after so much advertising, 70.0 per cent respondents were not going for Videocon refrigerator. 30.0 per cent respondents prefered Usha mixie as compared to 28.0 per cent who used Jaipan, 22.0 per cent who prefered Gopi and 20.0 per cent women who adopted Philips. However, majority of respondents did not prefer the above brands of mixie (40.0 %, 46.0 % and 38.0 %, respectively). Among cosmetics, Fair & Lovely cream was most widely used by 90.0 per cent respondents, followed by Fairever, which was used by 60.0 per cent and Ponds by 55.0 per cent. Local made lipsticks were fully adopted by 60.0 per cent farm women as against the branded ones like Blue heaven (28.0 %) and Lakme (20.0 %). Sanitary napkins were still uncommon and were not very popular. Only 14.0, 16.0 and 18.0 per cent respondents were using Carefree, Stayfree and Whisper, respectively. Mala-D was the most popular contraceptive adopted by 95.0 per cent respondents, whereas, 90.0 per cent respondents adopted Nirodh.

It was also observed that, women mostly used Tata salt in cooking because of the advertisements on TV and radio which emphasised so much on the iodine nutrient that it left a great impact on consumers' mind, thereby motivating them to use it. Tea was also gaining popularity in rural areas like the urban community. Today, most farmers and their children prefer Tazaa tea to the extent of 90.0 per cent against the routine milk since it is cheaper than other brands available in the market. For bathing and washing, 80.0 to 90.0 per cent women used Lifebuoy and PSM soap. In respect to pressure cookers 70.0 per cent women used United pressure cookers as United Company was popular for making cheap and good brands. Securing nutrients was also a major factor which motivated educated women to adopt it. Educated respondents also believed in the use of branded pressure cookers to avoid unforeseen kitchen accidents caused by cheap and locally made brands.

With the thought to become fair, 90 per cent farm women were using Fair & Lovely cream, which has gained popularity in village haats and was also being sold by small vendors. Family planning products such as Mala-D and Nirodh were adopted by a large number of respondents because these were being distributed free of cost by the government and media is also playing an important role in its advertising through TV, radios and newspapers. It has been noticed that in spite of free of cost distribution and more than 90.0 per cent adoption of family planning methods, the population of India is increasing rapidly. One of the reasons behind this is that, to manufacture the products at minimal costs, companies are providing cheap and poor quality products which are not safe and durable. On the contrary, big companies are also not focussing on rural market, as private products are expensive and rural consumer cannot afford it. Also, it is human psychology that once a person is given something free of cost, he will never buy that product from the market in exchange of money.

With increasing awareness about branded products and purchasing power, now the rural consumer can afford to buy branded products. The consumer is becoming important for the big companies manufacturing branded household products. As per the survey conducted by National Council for Applied

Economic Research (NCAER), there are equal numbers of rich consumers in rural India. Brand specialization has also emerged nowadays, with the acceptance of toilet soaps a differentiation is being made between washing of clothes and of the body.

Conclusion

From the foregoing discussion the following conclusion are drawn:

Majority of the respondent were educated who belonged to the age group of 30 to 40 years came from BC and SC caste group having farming as main occupation, majority of them lived in nuclear type of family. Very high majority of respondents had pucca house possession, medium size of land holding and earned annual income in range of Rs. 1,00,000 to 2,00,000 lacs. Very high majority of the respondents possessed Cooker, T.V., Double Bed, Scooter Motor cycle, Gas, Cooler and Swing machine. Spare, Chef Cutter, Thresher, Tractor and draught animals were main farm power as reputed majority of respondent.

90.0 per cent farmers used IFFCO urea, while 10.0 per cent partially adopte it. Use of KRIBHCO urea (86.0 %) was at second level followed by GNFC (68.0 %). DAP adoption also showed the same trend with 76.0 per cent of IFFCO, 80.0 per cent KRIBHCO and 66.0 per cent NFL. Percentage of full adopters of Celphos was less (38.0 %) as compared to 39.0 per cent partial users. Monocrotophos was only 40.0 per cent utilized, followed by DDVP which was fully adopted by 16.0 per cent women farmers. DDT was still a strong pesticide supported by 80.0 per cent farmers while 20.0 per cent did not use it at all. Total dependence on 2-4 D is 38.0 per cent, followed by Isoproturon 40.0 per cent, Tetrazene 36.0 per cent and Pendimethalin 42.0 per cent. A large population of farmers used these inputs upto only some extent (42.0 %, 40.0 %, 44.0 % and 38.0 %, respectively). Different agricultural inputs manufacturing companies have also brought about in their wake a large variety of products, inputs and processes, which have changed the consumption pattern from natural agricultural produce to manufactured substitutes, which are then transported and made available to consumers in distant markets. As a result, the consumers are often in a maze and feel ill-equipped to make choices from a range of commodities of which they know little. This has created a number of problems for the rural consumers and it calls for the planning and development of such marketing strategies which help them to gain more decision-making power, confidence and sound economic independence. Environmental factors also play an important role in the adoption of agricultural inputs. With drastic changes in weather conditions, insufficient rainfall and lack of irrigation facilities, farmers are forced to adopt modern agricultural practices. For example, earlier natural compost was used in farms, but now with increasing production levels, farmers have started using chemical and organic fertilizers, for which IFFCO and KRIBHCO have started manufacturing a product, which is a combination of N, P and K for rural markets meant for large scale use.

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References

1. **Ajrawat, Berjesh and J.P. Singh** 2004. “Adoption and technological gap on small and large holdings and constraints encountered in Jammu region”. *Ind. Res. Jr. of Extn. Edu.,* 4 (1&2) : 211.

2. **Article** 2007. “Women in World History: Unpacking Evidence Essay”.

3. **Awasthi, H.K.; P.R. Singh; M.A. Khan and P.N. Sharma** 2002. “Knowledge and attitude of dairy farmers towards improved dairy practices”. *Indian Jr. of Extn. Edu.,* 38 (1&2) : 104.

4. **Bunning, Sally and Catherine Hill** 1997. “Farmer’s Rights in the Conservation and Use of Plant Genetic Resources : A Gender Perspective”. FAO Rome.

5. Bishaw, Z.J. 2004. Summary, WU dissertation no.3575. "Adoption of modern crop technologies by farm women". www.library.wur.nl/wda/abstracts/ab3575.html-20k.

6. Chandra, Subhash and S.P. Singh 2003. "Constraints in adoption of integrated pest management practices in cotton." *Ind. Jr. of Extn. Edu.,* 39 (1&2) : 48.

7. Chisholm, Susan 2007. "The UVic Writer's Guide: The Essay : A Sample Expository Essay". www.uvic.ca/wguide/Pages/SampleEssaysExpos.html-12k.

8. Sadhu, Pushpinder 2004. CORD Abstracts August 2003. "Female labour force in Punjab : Socio-economic profile, participation rates and problems faced". *Indian J. of Social Work.* **63**(4) : 552-565, October, 2002.

9. Sparknet Scenario E. Conference 2004. "Rural Women in Agriculture".

10. Tripathi, Smita 2004. "Evaluation of Constraints Faced by farm Women in Adoption of Farm Technologies in Kanpur District". An unpublished M.Sc. Thesis, submitted to C.S. Azad University of Agriculture and Technology, Kanpur, U.P. pp. 64.

11. Umarani, K. 2004. "Technological needs of women in Dairying". *MANAGE Extn. Res. Review*, **3**(1) : 117-122.