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Factors Influencing Rural Women Participation in Agricultural Extension Programs, Case Study Mazandaran, Iran

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ABSTRACT

The general purpose of this article is to identify the influencing factors on rural women participation in agricultural extension programs in Mazandaran Province. Therefore, using multi-stage sampling, 300 rural women were selected randomly. The research instrument was a semi-structured questionnaire. Results show that rural women participation in agricultural extension programs is at average level. Rural women have more interaction with agricultural extension workers and female facilitators. Moreover, significant associations were found between some of the individual and professional characteristics of rural women and their participation in agricultural extension programs. Moreover, results from multiple regression shows that about 32 percent of changes in rural women participation in extension programs are identified by their experience in rice farming and their education level.

Keywords: Rural Women; Rice Farming; Participation; Agricultural Extension; Mazandaran Province

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INTRODUCTION

Nowadays, the vital role of rural women in many aspects of rural development is recognized worldwide (Shabanali- Fami, 2009). Different reports show that rural women's share in agriculture and agricultural related activities is different in each country. For example in the Philippines rural women share is 35 percent, in Malaysia is 35 percent, in Indonesia is 54 percent and in Thailand is more than 60 percent (ESCAP, 1996). Emadi (2001) asserts that in developing countries, rural women share in production is 60 percent in rice production, 90 percent in vegetables, 50 percent in cotton production, 30 percent in gardening, 90 percent in silkworm farming, and finally 65 percent in livestock production and handicrafts. Habibi and Zandieh (2011) reported that the participation of rural women in rice farming is more than 50 percent. In addition to participation in agricultural related activities, women are responsible of decision-making in economic and social activities of family (Sathar & Kazi, 1997). Moreover, rural women still have their traditional duties such as cooking, washing, cleaning, child caring, etc.

Habibi and Zandieh (2011) believe that there is a positive association between women role in farm and non-farm activities and men employment rate. With seasonal and daily migration of men to cities, 30 to 40 percent of home and farm activities are done by rural women. Therefore, there is a need to permanent support from rural women with the appropriate and reliable information through agricultural extension services (Kizilaslan, 2007).

Despite such a huge contribution, rural women role has yet not been recognized (Jamali, 2009) and extension services do not address rural women appropriately (Shabanali- Fami, 2009). Agricultural extension organizations do not consider the needs of rural women (Kizilaslan, 2007) so that different research findings show that the rate of extension organizations' services to rural women is 5 percent . Still many policy makers and managers believe that farmers are men and women support them only (Shabanali-Fami, 2009). Moreover, even where there is a female-specific extension programs, rural women do not participate well (Chizari *et al*., 1997) because generally, extension system in Iran has been described as ineffective and inadequate (Rasouliazar *et al*., 2010). Different studies show that rural women participation in extension programs such as training courses, farm day and farm demonstration is less than 21 percent (Umeta *et al*., 2011) and in some cases it is reported as less than 6 percent (Al-Rimavi, 2002). Sadaf *et al*. (2005) in their research showed that about 75 percent of rural women believe that they really need extension programs. However, Abedi *et al*. (2011) believe that agricultural extension can provide opportunities for rural women to access the needed information, facilities and credits. Now, the question is that which factors result in more participation of rural women in agricultural extension programs. Literature Review show that few researchers tried to understand these factors. Alibeigi and Amerian (2009) in their study show that rural women in Kermanshah Province in Iran take advantage of training courses at a very low level but they meet female extension workers and read informative brochures. Moreover, their findings show that variables such as age, family size, and their husband's age associate with rural women participation in extension programs negatively. Other factors such as rural women education level and their husband education level were associated with rural women participation in extension programs positively.

Hajiloo *et al*. (2007) value the role of rural women facilitators in improving the participation of rural women and assert that rural women facilitators are leaders who have strong interaction with other women in the village and link indigenous knowledge with modern knowledge. Rural women facilitators' main role is in capacity-building for improving rural women participation and self-reliance. Mirak-Zadeh *et al*. (2010) in their research on factors influencing rural women participation in Kermanshah Province show that there is a significant difference between rural women in different age groups and education level. Al-Rimavi (2011) reported that participation of rural women who are the head of household is less than women from male-headed households. Moreover, there is a significant relationship between farm size and rural women participation in extension programs. Chizari *et al*. (1997) in their research in Gilan Province show that there is a significant and positive relationship between farm size and education level with rural women participation in extension programs, but they did not confirm the relationship between rural women age and their participation in extension programs. Al-Rimavi (2002) in his research found that age, education, the time which is allocated to home chores, number of livestock, number of children, and family size have significant relationship with rural women participation in extension programs.

In line with previous studies, this research is conveyed to understand which factors influence the participation of rural women in agricultural extension programs in Mazandaran Province, Iran. More specifically this research aimed at:

- Identifying individual and professional characteristics of respondents,
- Understanding the level of rural women participation in extension programs,
- Understanding the association between respondents' participation in extension programs and independent variables,
- Understanding the cause-and-effect relationship between independent variables and respondents' participation in extension programs.

MATERIALS AND METHODS

This study is regarded as a quantitative research. Rural women in Mazandaran Province were studied in the years 2010 and 2011. Using the multi-stage sampling method (Zamani *et al*., 2008), 300 respondents were selected. First, five counties from 19 counties were selected randomly. Then two districts from each county, three villages from each district and 10 rural women from each village were selected respectively (N=300).

The research instrument was a questionnaire designed according to the literature review. The questionnaire had two main sections. The first section is seeking to evaluate rural women participation in extension programs and had 9 questions which used 5-point Likert continuum (from 1: very little to 5: very much). Second section concerned the individual and professional characteristics of rural women. In order to identify the validity of the questionnaire, some questionnaires were administered to experts and teachers of Universities. The questionnaire was revised according to the comments from experts. A pilot test was conveyed with 30 rural women to identify the reliability of research instrument. After gathering, the data was coded through computer and the reliability of questionnaire was identified at 0.91 which shows that the questionnaire is highly reliable.

In this study, descriptive statistics (mean, standard deviation, CV, minimum, maximum, number and percent) and inferential statistics (Friedman test, Kruskal Wallis, Spearman correlation test and multiple regression models) were used. SPSS software (Version 14) was used in order to process the data.

RESULTS AND DISCUSSION

Individual and professional characteristics of respondents

The average age of the studied rural women was 41 years with the standard deviation of 9 years. The average years of experience in rice farming was 19 years with the standard deviation of 12, from which about 50 percent had between 21 and 30 years of experience in rice farming. The area which is cultivated by rural women is from 0.2 to 4 hectares with the average of 1 hectare. Most respondents (73 percent) had less than 1 hectare rice farm. The average years of rural women experience in animal production is 24 years with the standard deviation of 20. The average years of rural women experience in tree production is 8 years with the standard deviation of 4. The area which is allocated to trees is between 0.5 to 5 hectares with the average of 1 hectare. Family size is 6 on average with the minimum of 2 and maximum of 11. Finally, respondents were mostly educated at guidance level (21.97 percent). About 21 percent educated just at primary level and about 18 percent were illiterate. Individual and professional characteristics of respondents are summarized in table 1.

Rural women participation in extension programs

Table 2 shows the mean, standard deviation, CV., and rank of the items related to rural women participation in extension programs. Rural women had the highest level of participation in dialogue with female extension workers (CV=0.1467), women facilitators (CV=0.3271), and listening to extension radio and TV programs (CV=0.3902). Rural women had the least participation in items: attending in training courses (CV= 0.6418), interaction with male extension workers (CV=0.65), and reading extension brochures (CV=0.7854).

In order to describe the level of participation, the ISDM [1] method was used. In this method, data is divided to 4 levels of low, average, high, and very high. According to table 3, rural women participation is at an average and rather appropriate level.

A = Low	A< Mean – Sd
B = Average	Mean – Sd ≤ B ≤ Mean
C = High	Mean < C ≤ Mean + Sd
D = Very high	Mean + Sd < D

[1] Interval of Standard Deviation from the Mean

A comparison between the participation of different groups of rural women was made. ANOVA test shows that among different independent variables, only the type of land ownership is significant. As table 4 shows, rural women participation is different between groups of respondents with different types of land ownership. Rural women, who are the owners of lands, participate more in extension programs.

Table1: Individual and professional characteristics of respondents (N=300)

Variable	Levels of variable	Number	Percent	Mean	Sd.	Range	
						Min.	Max.
Age(Years)	24-35	105	35	40.65	9.45	24	59
	36-47	115	38.30				
	48-59	80	26.70				
Experience in rice farming (Years)	1-10	113	37.70	19.34	11.58	1	30
	11-20	38	12.70				
	21-30	149	49.70				
Experience in livestock production (Years)	1-15	120	40	24.31	20.46	1	45
	16-30	31	10.30				
	31-45	149	49.70				
Experience in tree production(Years)	1-7	163	54.30	8.22	3.86	1	20
	8-14	114	38				
	15-20	23	7.70				
Rice farm area (ha.)	1 >	219	73	1.06	0.85	0.2	4
	1-2	50	16.70				
	2 <	31	10.30				
Garden area (ha.)	1 >	271	90.30	1	0.85	0.5	5
	1-3	15	5				
	3 <	14	4.70				
Family size	-	-	-	5.84	1.25	2	11
Education level	Illiterate	53	17.70	-	-	-	-
	Primary school	62	20.70				
	Guidance school	85	21.97				
	High school	40	13.33				
	Diploma	23	7.70				
	Academic education	37	12.30				

Table 2: Ranking rural women participation in extension programs (N=300)

Questions	Mean*	Sd.	CV.	Rank
Communication with female extension workers	3.68	0.54	0.1467	1
Communication with female facilitators	3.21	1.05	0.3271	2
Listening to radio programs	3.69	1.44	0.3902	3
Watching TV programs	2.42	1.03	0.4256	4
Visiting the model farms	1.93	0.92	0.4766	5
Participation in demonstration programs	1.50	0.84	0.56	6
Participation in technical and vocational programs	1.58	1.01	0.6392	7
Participation in training courses	1.48	0.95	0.6418	8
Communication with male extension workers	1.45	0.944	0.6513	9
Reading extension brochures and magazines	2.47	1.94	0.7854	10
Total	2.44	0.98	-	-

* 1: Very low; 2: Low; 3: Average; 4: Much; 5: Very much

Table 3: The level of rural women participation in extension programs

Level of participation	Number	Percentage	Cumulative percentage
Low	36	12	12
Average	95	31.7	43.7
High	124	41.3	85
Very high	45	15	100

Table 4: ANOVA test for rural women participation according to their ownership type (N:300)

Variables	Values	Frequency	Mean ranks	F	Sig.
Type of land ownership (Rice farm)	Husband	248	154.20	18.456**	0.00
	Woman	7	190.86		
	Joint ownership (Woman and husband)	15	187.40		
	Rental	30	92.03		
Type of land ownership (Garden)	Husband	255	153.02	27.747**	0.00
	Woman	14	179.61		
	Joint ownership (Woman and husband)	16	77.09		
	Rental	8	37.88		

** P≤ 0.001

Table 5: Correlation analysis

Variables	r_s	P	Type
Age	0.200**	0.000	Very weak
Education	-0.193**	0.000	Very weak
Experience in rice farming	0.250**	0.000	Very weak
Rice cultivation area	-0.133**	0.003	Very weak
Experience in rice production	0.167**	0.000	Very weak
Experience in tree production	0.175**	0.000	Very weak
Garden area	-0.188*	0.010	Very weak
Family size	0.174**	0.000	Very weak
Distance to nearest city	-0.014	0.756	Very weak

P≤ 0.05 **P≤ 0. 01

Correlation Analysis

Correlation analysis shows that the only variable which is not associated with the rural women participation in extension programs is "distance to nearest city". We used the method of Hinkle *et al*. (1988) to describe the results from correlation, in which the 0 to 0.3 is very weak, 0.3 to 0.5 is weak, 0.5 to 0.7 is average, 0.7 to 0.9 is strong and finally 0.9 to 1 is very strong. The Spearman correlation coefficients show that age (r_s=0.200, P=0.00), years of experience in rice planting (r_s= 0.250, P=0.00), years of experience in animal production (r_s= 0.167, P=0.00), years of experience in tree production (r_s= 0.175, P=0.00), and family size (r_s= 0.174, P=0.00) have significant and positive association with rural women participation in extension programs. Moreover, other variables such as education (r_s= -0.193, P=0.000), area which is cultivated by rice (r_s= -0.133, P=0.003), and size of garden (r_s= -0.118, P=0.01) have significant and negative association with rural women participation in extension programs.

Regression analysis

The stepwise regression was used to understand factors which effect the rural women participation in extension programs. The results from regression in table 6 show that two variables affect rural women participation in extension programs. These two variables identify about 32 percent of changes in the dependent variable.

Table 6: Regression analysis (dependent variable: participation in extension programs)

Independent variables	B coefficient	Beta coefficient	T	Sig.
Constant	2.148	-	39.203	0.000
Experience in rice farming	0.637	0.340	6.166	0.000
Education	0.219	0.107	2.134	0.02

R= 0.564 R^2=0.318 F= 38.014 Sig.= 0.00

CONCLUSION

Results from this study show that rural women participation in extension programs is less than average. The studied rural women are more interested in communication with female extension workers and rural women facilitators. This finding is in accordance with findings from Alibeigi and Amerian (2009). Disseminating extension programs through mass media (TV and radio) is another item which is interesting for rural women. Results from this study show that type of ownership affects rural women participation in extension programs. Rural women who were the owner of their rice farm

and garden have more participation in extension programs. Investigating the correlation show that with increasing the age (in contradiction to findings from Alibeigi & Amerian, 2009; Mirak-Zadeh *et al*., 2010; Al-Rimavi, 2002), experience in rice planting, experience in livestock production, experience in gardening and family size, rural women participation in extension programs increases. Moreover, results show that rural women participation in extension programs decreases with increasing education (in contradiction to findings from Mirak-Zadeh *et al*., 2010; Chizari *et al*., 2000; Al-Rimavi, 2002), larger area which is cultivated by rice and garden size (in contradiction to findings from Chizari *et al*., 2000; in line with findings from Umeta *et al*., 2011). Education level and experience in rice farming influence rural women participation in extension programs. These two variables identify about 32 percent of changes in the dependent variable: rural women participation in extension programs. Rural women who have more experience in rice farming find that they need extension services. This finding is in line with finding from Sadaf *et al*. (2005).

Considering the findings from this study the following suggestions are provided for increasing rural women participation:

- Recruiting more female extension workers;
- Propagating extension programs through TV and radio programs in order to mitigate cultural barriers and limitations of rural women;
- Planning credit schemes which facilitate purchasing land for rural women.

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