Attitude of Wheat Farmers in Dezful Township Regarding Extension of Waste Reduction in Production Process

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This study is aimed at evaluating and measuring the factors affecting the Dezful wheat farmers` attitude toward the extension of wheat waste reduction. The method of research was correlative-descriptive. The population of this study is all farmers cultivated wheat in Dezful from 2011 to 2012 (n=5291). The Number of samples size was 360 based on Krejcie and Morgan table. Panel of experts and Alpha Cornbach`s coefficient (0.76) were used to determine the validity and the reliability, respectively. Results of correlation showed that there is a positive and significant relationship between the variable of wheat farmers` attitude toward the extension of wheat waste reduction and rate of using communications channel, rate of participation in extension practices, level of the technical knowledge regarding waste management, and attitude toward productivity. Regression analysis results showed that the three variables include the rate of using communication channels, level of the technical knowledge, and participation in extension practices are the most important independent variables affecting the dependent variable and interactively explains 52 percent of the dependent variable`s variance. **[Mahdi Attar Roshan. Attitude of Wheat Farmers in Dezful Township Regarding Extension of Waste Reduction in Production Process. International Journal of Agricultural Science, Research and Technology in Extension and Education Systems, 2012; 2(4):191-194].**
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1. Introduction

Wheat is the most important variety among the cereal foods and, as a key and strategic product, is most of the world population`s food. During the 1990s, its global export amount was 610 million tons per year. 95 percent of wheat export wass belonged to USA, Canada, EU, Australia and Argentina which are mostly developed countries.

Based on the report of international food and agriculture organization (FAO), Iran, in 2010, with an increase to 14.5 million tones, went one step up and got the 11th position in the world. Based on Khuzestan organization of agricultural Jihad, rate of the province`s production was 1,250,000 tons (Khuzestan Organization of Agricultural Jihad, 2010).

In addition to its important commercial aspects in the world, wheat is an efficient weapon in the political and global issues and its importance is increasing every day. Although the population of Iran is 1 percent of the world`s population, it uses 2.5 percent of the world`s wheat which is not well-suited with the international standards; it has lots of wastes and is used by birds and animals (Safikhani, 2005).

According to FAO and the United Nations Environment Program (UNEP), any change in quality causing the product to be uneatable, inaccessible, and unsafe resulting that the agriculture product is unusable for mankind is called waste.

It can be said that wastes are any changes in the agriculture product quality making the product unusable, reducing the product health or capability of production input. In other words, wastes are produced materials which do not fulfill the forecasted requirements (Khoshnoodifar and Asadi, 2010).

Although wheat production has a good condition in the studied region, statistics indicate a high wheat waste. According to Dezful Management of Agricultural Jihad`s report, the rate of wheat waste was more than 40 percent in the studied year. So, it can be concluded that the evaluation of the wheat farmers` attitude toward the waste reduction management is too important and can help the wheat production sector`s practitioners in the long and short term schematizations.

Tavasol (2004) in his study aimed to evaluate the factors affecting the wheat farmers` motivation to participate in extensional activities, showed that there is a positive and significant relationship between farmer`s motivation and wheat farmer`s attitude toward the extension activities; in the regression analysis, variables of age, wheat farmers` attitude toward the extensional activities, and their attitude toward the extension agents have

the maximum effect on participation in the extensional activities.

Mohammadi (2005) emphasized on the important share and role of participation in the extensional and educational courses on changing the attitude and acceptance of new ideas among farmers (Mohammadi, 2005).

Yazdi Smadi and Majnoon Hoseini (2006) resulted that using education and extension programs and wheat farmers` contact with the agriculture experts are effective to reduce the wheat waste rate.

According to a study carried out in Turkey, the most important factor of bread waste is the excessive buying and unwillingness to use the stale bread. In this study, the most proper strategies to reduce the bread waste are enough purchase, educating people about the importance of reducing the bread waste and its production with different weights (Gul et al, 2003).

Pezeshki Rad, Boldaji, and Feli (2007) resulted that there is negative and significant relationship between the dependent variable of the study (acceptance of technologies related to the reduction of wheat waste during the drought periods) and the independent variables of age, wheat cultivation experience, and social attitude. In the other hand, there is a positive and significant relationship between the dependent variable and education level, income per month, wheat under cultivation area, lands ownership, attitude, and wheat farmers` technical knowledge.

This study is generally aimed to evaluate the wheat farmers of Dezful Township`s attitude toward the extension wheat waste reduction in order to achieve the mentioned objective. The followings are the specific objectives:

1. Determination of the economical characteristics related to the wheat farmers of Dezful Township`s attitude toward the extension wheat waste reduction

2. Determination of the social characteristics related to the wheat farmers of Dezful Township`s attitude toward the extension wheat waste reduction

3. Determination of the agricultural characteristics related to the wheat farmers of Dezful Township`s attitude toward the extension wheat waste reduction

2. Materials and methods

The research method of this study was descriptive-correlative, and analytically was casual-relational. Statistical population of this study is all wheat farmers (N=5291). 360 ones, in statistical population, were selected as the statistical sample. By using Krejcie and Morgan tables the statistical sample was determined. Face and content validity of the study were confirmed by the panel experts. To determine the questionnaire reliability, 30 ones were filled by farmers (out of the statistical population) and the Alpha Cornbach`s coefficient was calculated (0.76).

3. Results and discussion
3.1. Descriptive findings

Results show that the most frequency was related to the ages of 40 and 50 and the lowest one is related to the ages of 60 to 79. In addition, in the field of the educational level frequency, the most one is related to the guidance degree (119 ones) and the lowest one is related to a group who can only read and write (31 ones).

3.2. Correlation findings

To evaluate the relation between the study variables and wheat farmers` attitude toward extension wheat waste reduction, coefficient of correlation between variables and their level of significance were calculated and evaluated, respectively. Results of table 2 showed that there is a positive and significant relationship between the variable of wheat farmers` attitude toward the extension of wheat waste reduction and rate of using communications channel, rate of participation in extension practices, level of the technical knowledge regarding waste management, and attitude toward productivity.

Table 1. Individual characteristics

Variables	f	%	Cumulative %
Age(year)			
20-30	46	12.8	12.8
30-40	94	26.1	38.9
40-50	133	36.9	75.8
50-60	70	19.4	95.3
60-79	17	4.7	100
Level of education			
Read and write	31	8.6	8.6
Primary school	55	15.3	23.9
Guidance school	119	33.1	56.9
High school	85	23.6	80.6
Diploma and higher	70	19.4	100
Annual income (million Rial)			
Under 30	23	6.4	6.4
30-60	67	18.6	25
60-90	92	25.6	50.6
90-120	69	19.2	69.7
More than 120	109	30.3	100

Table 2. Correlation between the level of attitude to extension wheat waste reduction with other variables

Var 1	Var 2	r	sig
Age		0.023	0.66
Level of education		0.059	0.267
Number of children		0.007	0.89
Income		0.008	0.887
Land	level of attitude toward wheat waste reduction management	0.008	0.875
Yield		0.033	0.53
Attitude to productivity		0.166**	0.002
Social participation		0.026	0.62
Social altitude		0.036	0.49
Participation in extension		0.189**	0.000
Technical knowledge		0.132*	0.012
Communication channels		0.127*	0.016

3.3. Comparative test

To evaluate the difference of the wheat farmers` attitude toward wheat waste reduction management based on participation in extensional and educational courses, Mann-Whitney test was used. Results are showed in table 3. According to the table`s data, there is not significant difference between attitude of farmers participated in the extensional –educational courses (187.46) and those did not (170.69).

Kruskal-Wallis test was used to compare the wheat farmers` attitude toward wheat waste reduction management based on the kind of cultivation. Results indicated that there is a significant difference at a 0.038 level between alternative cultivation groups (table 4).

3.4. Stepwise regression analysis

Results showed that from the independent variables that having significant role and effect on the dependent variable, technical knowledge of wheat farmers in the field of wheat waste reduction management strategies, rates of using communication channels, rate of participation in extension practices are the most important independent variables affecting the dependent one and, interactively, explain 52 percent of the dependent variable`s variance. Standardized coefficients (Beta) were used to compare the effects of the three independent variables in the regression on the dependent one. results indicated that the independent variable of the technical knowledge of wheat farmers in the field of wheat waste reduction management strategies has the maximum effect an role. Regression analysis results are shown in table 5.

3.5. Discussion

There is a positive and significant relationship between the technical knowledge in the field of wheat waste reduction management strategies and the level of attitude toward the wheat waste reduction management. This is confirmed by Pezeshki Rad, Boldaji, and feali (2007).

There is a positive and significant relationship between the rate of participation in extension practices contacts and the level of attitude toward the wheat waste reduction management .this is confirmed by Koneshlo (2002), Tavasol (2004), and Yazdi and Majnon Hoseini (2006).

There is positive and significant relationship between the access to communicative channels and the level of attitude toward the wheat waste reduction management. This is confirmed by Dinpanah, Chizari, and Bghaee (2005) and Khoshnodifar and Asadi (2010).

There is a positive and significant relationship between the wheat farmers` attitude toward the wheat waste reduction based on the kind of cultivation. This is confirmed by Koneshlo (2002).

Table 3. Comparison attitude of wheat farmers based on participation in extension courses

Independent variable	group	Ordinal average	Mann-Whitney	sig
Participation in extension courses	yes	187.46	1.86	0.062
	no	170.69		

Table 4. Comparison attitude of wheat farmers based on kind of cultivation

Independent variable	group	Ordinal average	Chi-square(x^2)	sig
Kind of cultivation	Alternative	189.84	6.55*	0.038
	Continuous	170.14		
	Fallow	163.71		

Table 5. Results of the multi-stage stepwise regression analysis

Independent variables	B	SEB	Beta	B	T	sig
Technical knowledge	0.812	0.069	0.511	0.812	11.695**	0.000
Communication channels (x_2)	0.133	0.035	0.166	0.133	3.826**	0.000
Participation in extension practices (x_3)	0.066	0.023	0.128	0.066	2.948**	0.003
intercept	1.298	0.22	0.22	1.298	5.9**	0.000

R=0.585 R^2=0.52 R^2_{Adj}=0.517   F=61.818   sigF=0.000   significance in a 0.01 level:**

4. Recommendation

Followings are suggested according to the study results:

• Average literacy level was primary, so, in preparing the extensional-educational programs, education by practical trainings and farm day presentations are suggested

• Because there is a positive and significant relationship between the technical knowledge in the field of wheat waste reduction management strategies and the level of attitude toward the wheat waste reduction management, holding educational courses and extensional programs in order to increase technical knowledge is suggested .

• Because there is a positive and significant relationship between the communicative channels and wheat farmers` attitude, it is suggested that mangers and authorities identify more communicative channels and introduce them to the region`s wheat farmers.

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