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## Effective Factors on Women Role in Sustainable Development (Case Study: Marvdasht Rural Areas in Iran)

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### Abstract

This paper aims to study the role of women in agricultural promotion and its effect on rural development. Research method in this study was based on a survey and the required information was collected through questionnaire from a sample of women especially rural women. The data were analyzed using Logit model. The results showed that women had a major role in farming including production, conservation, and destructing. The results also showed that women had a great tendency for participating in extension classes to improve their knowledge for sustainable development. Considering the results, it was necessary to provide the life facilities and necessities, awareness women especially rural women with group media and organizing the promotional and educational classes for reaching the sustainable development.

#### Keywords:

*The role of women, Promotion of agriculture, Sustainable development, Rural development*

## INTRODUCTION

Rural development has been emphasized as the main development strategy in many countries, especially in developing countries, where most of the populations live in rural areas. Today, importance of rural development and its vital role in development especially in developing countries is obvious, and experts believe that it is much depends on human resource development. Therefore, human resources development is more important than other dimensions of rural development. In other words, human resource development is a key variable and considered as a necessary precondition for achieving sustainable rural development, then special attention is considered about women situation especially rural women as half of the population of rural human resources (Khani, 2006). Overall objectives and policies of rural development is to reduce rural poverty, increase productivity, provide equal access to rural facilities, improve the quality of livelihood through providing basic infrastructures, enabling poor rural individuals and strengthening rural institutions.

In sustainable development process, rural women are considered as one of the target groups by planners. Their empowerment and processes for their participation in development as a great part of human resource in villages is the main concern of many countries' policy makers (Ghanaeian and Zarafshani, 1996).

Unawareness, lack of knowledge about natural

resources importance and its position in sustainability of the environment caused that rural women destroy natural resources meanwhile working and doing their tasks (Khani, 2006).

Most studies about women in third world have focused on them as victims of environmental degradation, because most of these damages have the most danger for themselves. Fossil fuels which are used in rural areas have strong effect like sever breathing infection for kids, chronic originating Asthma, lung cancer and fertility problems (Khani, 2006). In the field of present study we have some researches which are pointed to some of them as follows:

Noori-and Ghafari (2006), studied the role of rural women in sustaining the development process in Chahar Mahal and Bakhtiari province. The results showed that the socio-economic position of rural women in present condition is related to rural development planning and many variables such as general skills, access or control over resources and production agents effect it.

Rezvani (2003) examined the concepts and rural development planning process. The results showed that rural development planning cannot be concerned independently from the socio-economic, cultural, doctrinal environmental systems in rural areas.

The study area is Marvdasht Township which is extent more than 3687 km and located in northern part of city of Shiraz. Mentioned

Table 1: Main agriculture characteristics and population demographic indices for Marvdasht Township.

<b>Population</b>	<b>Men</b>	<b>17114</b>
	<b>Women</b>	<b>157173</b>
	<b>Urban</b>	<b>145194</b>
	<b>Rural</b>	<b>188636</b>
	<b>Active population</b>	<b>69830</b>
	<b>Unemployment (%)</b>	<b>13.7</b>
	<b>Non-residence population</b>	<b>438</b>
	<b>Total</b>	<b>333813</b>
	<b>Agriculture</b>	<b>150000</b>
	<b>Gardens (ha)</b>	<b>3580</b>
<b>Agriculture</b>	<b>Cultivated acreages (ha)</b>	<b>146470</b>
	<b>Agricultural product (tons)</b>	<b>1909024</b>
	<b>Horticultural product (tons)</b>	<b>62000</b>
	<b>Main horticultural products</b>	<b>Pomegranates, Walnuts, Grapes, Almonds,</b>
	<b>Main crops</b>	<b>Apricots, Apples, Peach, Dates</b>
		<b>wheat, barley, maize, rice, beet root, canola,</b>
		<b>tomatoes, onions, potatoes</b>

\* Kerman Province Statistical Yearbook, 2009.

Township consist of four section include Central, Kamfirooz, Doroudzan and Seyedan. Totally, 14 villages exist in this Township. Main agriculture characteristics and population demographic indices for Marvdasht Township summarized in Table 1:

The aim of present study was to investigate the role of women in the promotion, protection and restoration of natural resources and its impact on sustainable development. Also, economic potentials, problems and barriers exist for women in rural development planning are studied and some strategies to campaign against mentioned problems and barriers provided. It is obvious that this process clarify the consequences of economic and agriculture development in rural communities for planners. So, women in rural areas would be able to contribute to economic and social system considering their tasks and works in rural areas of Marvdasht.

## MATERIALS AND METHODES

The survey approach used in this study and the major instrument to collect the data sets is questionnaire which contains 24 questions. Sets of the questions include Multiple-choice questions with more than one option to choose as well as open questions and explanations and also some questions in Likert scale with four options.

Two Stage completely random methods were used to choose sample size through Cochran Formula which equals 114 samples of Marvdasht rural women. In order to investigate the effect of variables on the role and status of women in agriculture development, Logit binary econometric model was used. General form of this model is shown in equation (1):

$$P_i = F(Z_i) = F[\alpha + \sum_{j=1}^n \beta_j X_{ij}] = \frac{1}{1 + e^{-Z_i}} \quad (1)$$

$P_i$  is the probability of selecting  $X_i$  by a person and  $e$  is the base of natural logarithm.  $\alpha$  and  $\beta$  are model parameters and  $Z_i$  is a random variable that predicts the probability of acceptance of promotional class. In order to access to the main and simplified equation of Logit model we should consider the following hypothesis.

1. First hypothesis:

$$Z_i = \beta_1 + \beta_2 X_i \quad (2)$$

2. Second hypothesis:

$$P_i = \frac{1}{1 + e^{-Z_i}} \quad (3)$$

This equation is known as the logistic cumulative distribution function.

3. Third hypothesis (the probability of non-happening):

$$1 - P_i = \frac{1}{1 + e^{Z_i}} \quad (4)$$

No by dividing equation 3 to 4 we have:

$$\frac{P_i}{1 - P_i} = \frac{1 + e^{Z_i}}{1 + e^{-Z_i}} = e^{Z_i} \quad (5)$$

If we take logarithm from recent equation, considering first hypothesis, we obtain equation (6) Which is simpler and more understandable than complicated equation (1).

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right) = Z_i = \beta_1 + \beta_2 X_i \quad (6)$$

Where,  $L$  is Logarithm of superiority or advantage, not only in terms of  $X$  But in terms of the parameters is also linear. Above  $L$  is known as Logit model. This model is used to investigate the effective parameters on rural women decisions to cooperate in renewable natural resource regeneration programs in Marvdasht Township.

## RESULTS

Considering the fact that recognition and information about natural areas and their importance in sustainable development is the first requirement in successful programs and related activities, the sample population was asked which one of the four areas include Forests, grasslands, deserts, woodlands are natural areas? In Table 2 showed that The response distribution showed that only 41 % of them choose deserts and 18 % woodlands as natural area, while they were living at the site of desert and woodlands. All of the above areas are considered as renewable natural resources but negative responses showed that, the rural women information about natural resources is low.

Conservation and restoration of renewable

Table 2: The frequency of rural women information about renewable natural resources

The type of answers		No		Yes	
Areas	Frequency%	Frequency%	Number%	Frequency%	
Forest	18	15.7	96	84.2	
Pasture	36	31.5	78	68.4	
Desert	67	58.7	47	41.2	
Woodland	93	81.5	21	18.4	

Table 3: Women's interest to participate in educational classes

The type of answers		No		Yes	
Type of Class	percent	frequency	percent	frequency	
Extension Class	14	16	85.9	98	
Training Class	24.5	28	75.5	86	

Table 4: The results of Logit model

Variable	Coefficient	t-value	Marginal effect	Weighted aggregate elasticity
Constant	-2.75	-4.15	-0.60	-0.85
Age	-0.03	-3.48*	-0.006	-1.31
Education	0.19	1.45	0.04	2.15
Classes seminars	0.74	1.45	0.16	1.62

AIC = -50.17

SBC = -62.72

LR = 81.5 \*

Pseudo-R-square = 0.78

Goodness of fit = 0.88

\* p&lt;0.01

natural resources is recently considered and relevant organizations and institute have run many programs based rural individuals' participation. The results showed that the majority of rural women in studied Township have a few participation rates which considered as one of the main reasons for failure of these programs.

Unfortunately, the programs couldn't achieve desired results because of many variables, such as inappropriate time and subjects of programs, lack of attention to cultural issues including dialect local languages in Programs. Meanwhile, studied rural women who had positive experience in past, willingness to participate in workshops related to restoration of renewable natural resources but with female teacher.

In Table 3 showed that To investigate the influence of different factors on the level of interest in women to participate in extension classes and its impact on rural development with regards to obtained data the Logit model was es-

timated. The results are given below in Table 4.

Among effective variables on interest level to participate in extension classes, only rural women age is statistically significant at 1% level. The marginal effect of mentioned variable showed that by one year increase in sample women age, the probability of interest to participate in extension classes' decrease by 0.006 units. Also, the elasticity of this variable revealed that one percent increase in the level of sample women age decrease the probability of interest to participate in extension classes' by 1.31%.

## RECOMMENDATIONS

Rural women who had more information about natural fields are more interested in participating in this program, but because of some reasons like the time of courses, using men teachers, and the high volume of women activity and disagreement of family they can't partici-



pate in mentioned classes. Due to the limited level of awareness in rural women about natural resources and its various programs, courses should be made by teachers and also protection-conservation activities should have been established using more women. For this reason, increasing literacy of women is very important. In other word the major reason of destructive activity of women is lack of facilities, such as, fossil fuel stations, supply of building materials, livestock forage and, transferring pastures to farmers and giving permission to use it and also economic problems and lack of adequate funds and facilities to improve their lives and working conditions, if these are provided they would certainly use without any resistance and they wouldn't insist on degradation of natural resources, In this case, some ways was suggested as follows:

1. Educational programs related to natural resources in rural level and providing continuing education for women and girls in rural areas to improve their knowledge and information in different fields such as natural resources and sustainable development.
2. Protection of women in the region focusing natural resources, along with transferring lands of public participation plan
3. Making Facilities and bank and credit loans in forms of long term loans by low interest for women s activities in conservative and protection activities which increase their incentive.
4. Controlling the time of radio and TV broadcasts regards to the Leisure time of women in villages.

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