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Role of agricultural extension and education on rural women's trends toward micro-credits programs

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Since credit organizations have formed the base of people's participation, it is a good opportunity to use these communities to develop training-extension activities. So, it is better that special programs at different extension areas, such as agriculture, ranching, family health, housekeeping economy and other courses according to the conditions of the regions and rural women's needs, should be considered. Extensional education should be a provider of opportunities for rural women in order for them to be able to use educational facilities, access the needed credits, be familiar with new jobs and finally, know their legal status. Furthermore, educating rural women is considered as an intangible need of rural women communities, which thus improve their level of technical knowledge. Also, it is important to increase rural men's technical knowledge, by facilitating the propagator's educational duties about educating male farmers.

Key words: Agricultural extension, rural women, empowerment, micro-credit.

INTRODUCTION

If extension is assumed as an educational process with the aim of conveying useful information for rural producers and changing their insight, knowledge, attitude and skills in order to access a better life for their family and society, and if we assign villagers as the target group of the agricultural extension activities; undoubtedly, education and extension would not be neglected at basic fields. However, extension about values and functions has been faced with some critics; although these critics sometimes relate the management of extensional organizations directly to the intended goals at development, and also practice strategies while carrying out extension services. Nowadays, most of these critics have failed due to lack of proper perception of the real concept of extension, but failure to provide appropriate extensional services for women can be considered as "negligence" at the most optimistic condition. Moreover, this negligence is more significant in developing and third world countries (Fami, 2001).

By reviewing statistics, at the field of population and demographic composition of villages (men and women), literacy rate between men and women's population, educational women's role on training and educating children, and women's role at different social and economic fields, we can see other aspects of this negligence. In third world countries, rural women's deprivation is more as compared to rural men (Banihashem, 1999).

A rural woman helps to prepare farm, and then plows, harvests, weeds and transplants, while she does milking and acts as a shepherd. Also, she weaves carpet, tries to make tools and handicrafts, bakes bread, cook, does housekeeping duties, fetches water from water sources that are far away, fetches firewood, cares for children, spins wool and makes curd, buttermilk, yogurt, butter and oil. In addition to all these, she is a mother and family supervisor too. In spite of that, rural women in developing countries are producers of about 80% of foods and are responsible for supervising about 30% of rural families, but their activities are not considered as economical and they are simply removed from agriculture and rural development programs. Based on formal existing statistics, women form about 31% of agriculture active

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workforce in developing countries. While informal and local statistics were used to estimate the number of working women at agriculture more than formal statistics, in Egypt, based on formal statistic, rural women's activity was reported to be about 36%, while local statistic represents between 35 and 50%. Based on formal statistic at many African countries (for example Congo), women's share in preparing the labor workforce at agriculture is 60%, but based on informal statistics, this share is reported as 80%. This statistical difference exists in most developing countries. In addition to the aforementioned instances, it is possible to mention the women's share of active force at agriculture as follow (Movahedi, 2002): Central America (4%), northwest of Africa (5%), south of America (10%), Middle East (12%) with the exception of Syria and Turkey, Caribbean (24%), far East (33%) and South America (36%), while the informal statistics show higher numbers.

Informal statistics and findings in countries, such as Cyprus, Sudan, Haiti and Bolivia determine women's share as 53, 27, 47 and 59%, respectively.

Since rural women take different responsibilities and roles, such as: producers of crops, ranching and keeping poultry, children education, housekeeping, supervising family economy and managing it, collecting firewood and weaving carpet, illiterate women who have no possibility to utilize mass media properly, would not be able to do their duties and roles, and so, would not be effective in developing rural societies. So, the importance of education is very critical for rural women especially extensional educations. In most UN reports, women have been considered as the greatest deprived group of the human societies. While at the global level, about two third of all affairs are done by women, only one third of all recorded affairs relates to women. Also, just 1% of the proceeds of estates and assets of the world belong to women and two third of the illiterates in the world are women; however, they form 50% of workforce at agriculture and they produce half of the foods all over the world. So, educating women is important, according to Das (2000):

1. Women play historical roles in agriculture development.
2. Rural women are mothers and home managers.
3. Rural women are decision makers at home and are involved in other activities such as agriculture, etc.
4. Rural women are productive factors in agriculture and rural industries.
5. Rural women are effective members of the society and they participate in rural development.

Since the goal of extension is based on empowering the human society, and also the issue that women have basic role at producing different agricultural productions and rural industries, it is impossible to develop rural societies without considering the rural women (Ministry of Agriculture, 2000).

So, women should enjoy the facilities and programs and they should be considered at programming and rural development activities, especially at extension programs. Unfortunately, since extensional technology-oriented structures are top-down in most developing countries, they do not only prepare the poor people's need by considering them in the program, but do not consider women as producers in the program. As a result of this, programs performed for them, are the same programs performed for men, which are prepared even without considering areas and regional conditions. Also, most extension programs are run by male propagators. One of the other most basic barriers of rural women's growth is lack of their access to credits in order to invest on business. However, illiteracy of most women itself is a great barrier to enjoying bank credits and the attitude towards women as second gender or dependent human (based on the idea that financial decision making belongs to men) is considered as one of the important barriers for rural women's access to formal credits. Educating rural women can be an important factor for more desire and willingness of rural women. This can be done through different educational activities that exist at the field of rural women (Chabokru et al., 2005).

EXTENSION AND RURAL WOMEN

Rural women play major roles to produce food all over the world, but rarely enjoy extension services. However, rural women as producers of food productions and family supervisors, have little contact with extension services organizations, so their problems and needs would rarely reflect extensional information feedback; therefore, agricultural research institutions would not be able to create and develop technology, suitable for their needs (Swanson, 1991).

Global surveys show that about 5% of total extension resources all over the world are dedicated to programs for female farmers, but women form just 15% of extension personnel in the world. Some extensional issues that traditionally belong to women, such as economy of family, are supported very little, in that they receive just about 1% of the total extension resources of agriculture. Human workforce of agriculture extension in most countries is formed with men, which provide services for male farmers. According to findings at Kenya, female farmers can enjoy extension and agricultural education. They produce more of 7% per hectare as compared to men, but totally, they produce 4 to 15% less than men. This is due to economic cost which prevents female farmers from enjoying education, extension, etc. It should be mentioned that their proportion is very low in most agricultural extension institutions of the world, in that women averagely form just 13% of the extension personnel all over the world (FAO, 1998). The social-cultural area significantly dictates how women are

considered as the goal of extension programs education or their removal from this program. For example, most Islamic societies can not simply bear male propagator's access to female farmers. Significant reaction to this issue was persuading in recruiting female propagators (Najafi, 2007).

Even when female propagators are employed, other cultural barriers that prevent effective extensional activities may exist and yet in many villages, women's occupation issue outside the house is an exceptional issue and there is a possibility that it is retaliated with disgust. Denying women's access to facilities at rural societies can prevent rural society's development.

So, until now, most of the extensional activities are performed by male propagators or male farmers on great farms that have good capacity to perform technical recommendations, and to increase production efficiency (Kavoosi, 2000). Yet women's talent in agriculture production is not considered well and no services have been performed by extension for them as producers of crops and makers of agricultural products.

IMPROVING EXTENSIONAL SERVICES FOR RURAL WOMEN

Global researches show that women play a critical and important role in agriculture and now, in most countries, they form the major workforce of this part. In spite of the importance of women workforce in different systems of agriculture, they have less access to development resources, as compared to men. Although during the past two decades, various programs have been performed to enable women gain success in agriculture, due to different problems, those that gained success were very few than the required numbers. One of the major problems in this field is inadequate and inappropriate access to extensional services. Low efficiency of agriculture extension systems to provide services for rural women does not just refer to structure and function of these organizations and systems, but to other issues including research and cultural barriers in this field. However, one of the essential needs of agriculture extension is determining appropriate ways and approaches to educate women at every region or country (Fami, 2000). For many past decades, significant global efforts were done to provide education on how to access information, appropriate and effective technology for female farmers that led to positive effects on producing agricultural crops and consequently increasing family welfare (Jiggins et al., 2003).

Indeed, at many development programs, women could not apply theories and their own basic concepts. Problems such as lack of women's access to farm, credits, suitable educational and extensional services, exist at many areas (Paknazar, 2000). Thus, some or the entire responsibility of institutions and organizations is

enabling women at development.

They should try to set their intervention programs, base on needs, problems, preferences and rural women's demands.

Among these programs, educational and extensional activities have certain importance, because they lead to most of the existing problems in this field, which refer to low efficiency of agriculture extension systems in order to provide suitable services to rural women (Fami, 2000).

EXISTING PROBLEMS IN THE FIELD OF EXTENSION-EDUCATION ACTIVITIES, RELATED TO WOMEN

Outside problems

These problems relate to custodians and agents who provide these kinds of services that contain defects in macro policies up to how extensional programs are performed all over the village, including the following cases (Jiggins et al., 2003):

- i. Lack of analysis for gender issues.
- ii. Non consideration of extension systems for rural women.

Inside problems

This group of existing problems mainly refers to the existing insufficiencies of the effective factors to attract such services. These kinds of insufficiencies or barriers contain attitudes and cultural beliefs about women's progress or education at societies up to women's issues and private readiness to use these kinds of services. These substances include:

- i. Limited access to production sources and control.
- ii. Time limited due to multiple roles (Fami, 2000).

In summary, basic barriers for extension-education activities to women are as follows:

- a. Absence, shortage and insufficiencies of base knowledge among women.
- b. Lack of women's access to informational resources and educational references.
- c. Lack of performance or inadequacy of educational programs that are appropriate for rural women's need.
- d. Inattention to perform basic education programs (literacy, religious, cultural and economical-social education).
- e. Absence of needed education among agents in order for women to participate responsibly in suitable activity and their related activities.
- f. Lack of applying adequate schemes to assign educational and developmental agents among qualified women in villages according to the activity at villages.

g. Lack of designing special broadcast programs for rural women (Maroofi and Fakar, 1999).

EFFECTIVE FACTORS USED IN IMPROVING EDUCATIONAL SERVICES FOR RURAL WOMEN

Educational services for rural women have 3 main goals: increasing agriculture efficiency, gender equality and eradicating rural poverty (Rivera and Corning, 1990). According to a review of global experiences, effective factors on educational services for women can be classified thus.

Discovering fields researches for status quo

Women's role, which is to improve production, and effective factors are extremely variable and they change from one place to another. The strategy and component of the extensional services projects for rural women, should consider the social-cultural conventions of the area. However, discovering field researches are important from two perspectives:

1. Exact determination of the status quo of women's participation at production, which will be placed as the base of extension-education needs assessment activity and in developing recent processing.
2. These kinds of researches effectively help to identify rural women's status and their critical role at agriculture productions for programmers and policy makers (World Bank, 2002).

Flexibility and diversity in providing extensional services

One of the important factors that determine the kind of program is the appropriate method or approach used to convey extensional services according to rural women's economical-social status. Therefore, different and various approaches should be applied at different conditions. On the other hand, gender roles, participation sample and even structure of production systems evolve through demands flexibility in extensional services programs.

Women's participation in programming and valuing extensional services

Longstanding experiments of extensional servicing at different countries show that indeed, participation is the process which both ensure successful performance of projects and also prepare conditions to develop human resources (Fami, 2000).

Farmers should participate in decision making related

to extension programs, because they have information that is critical to design one successful extension program; and if responsibility is entrusted to them, they would be motivated more to cooperate at extensional programs. In one democratic society, this is adopted as people's right, in that they participate in decision making, which is related to development purpose and social development. However, most of the agriculture development programs would not be solved by individual decision making, but there is need to group the participation of the target group (Van den Ban and Hawkins, 1998).

Synthesizing extensional services for rural women in mainstream extensional systems

Establishing distinctive official institutions to convey extensional services to rural women is threatened by a marginalization of women's programs and it leads to low success due to various problems, including lack of side support.

So, it is recommended that these programs should be combined with public systems' services, and it is possible to learn from previous activities that were based on different approaches, as part of extension duties in the future to find an appropriate approach.

Also, it is possible to determine and apply one multi-dimensional and synthesized approach (World Bank, 2002).

Informing rural women by considering their specific situations

In conveying technology to rural women, there is need to apply suitable communication tools. Sometimes, informing two male and female farmer groups may be done through one certain system. From the point of view of communality, one special communication system should be planned for rural women, because this group as a receiver of message has certain features, roles, needs and problems that separate them from other groups (Fami, 2000).

Extensional services through rural women's institutions

One of the ways used to inform and educate rural women is establishing rural women's institutions. It is necessary that this group is to be formatted and organized at the format of special groups, due to its problems, needs and certain situations generally. It does not seem that other existing organizations in the village can respond and prepare all the needs of this group (Samadi, 2004).

EMPOWERING WOMEN THROUGH AGRICULTURAL EXTENSION

A prerequisite for sustainable, effective and efficient development is the application of extension services; and consequently, educating professional women and performing developmental programs for female farmers is aimed at women gaining access to extensional services, communicating with women group and encouraging female farmers to participate at extensional activities' programs.

Seven recommendations are regarded as necessary considerations for agricultural extension system and developmental programs to empower women:

1. The base of developing programs should be on special realities, conditions and recognizing women's need in agriculture.
2. The base of programs should be on the total number of data given from gender need assessment.
3. Access to extensional services and their participation at designing and developing extensional programs, should be made especially for female farmers.
4. Valuing the extent of incompatibility, usefulness and effects of extensional programs for women at agriculture.
5. Employing women as professional and semi-professional staff and field agents is necessary and suitable for extensional services.
6. Offering educational services of extension to female staff at the management fields to convey information and techniques.
7. Offering extensional services as a form of communication with rural women groups in order to try to develop agriculture and participation (Rivera and Corning, 2001).

MICRO-CREDITS

One of the strategies raised, in order to accelerate investment process and reinforce financial foundations, as well as save it, at deprived and rural areas, has been empowering and eradicating poverty of rural societies through efficiency with emphasis on micro-credits application (Shahnaj and Sajedur, 2009).

Micro-loans as a useful tool to fight against poverty and starvation, has proven its capabilities and values to develop these areas. These tools have the ability to change and improve human life, especially that of poor people. Giving micro loans, saving accounts and various banking services to low income and poor families make them believe that by accessing these services, their income will increase; so they can protect themselves against barriers of unexpected problems and their current level of life, and also invest on nutrition, housing and their children's education (Varzgar and Azizi, 2001). Accessing these conditions is among the main goals of the third

millennium program (that is, eradicating absolute poverty of human societies).

Nowadays, micro-credits and supplying micro financial resources have changed humans' life and caused the revival of different societies in the poorest and richest countries of the world; thus, we can see a growth in humans' power to access common financial services. By accessing a wide range of financial tools, families according to their priorities invest on cases, such as costs of education, healthcare, healthy and good nutrition or housing.

Applicants for Microfinance resources mostly involved family supervisor women, pensioners, homeless people, frugal workers, small farmers and micro entrepreneurs. These people are divided into four groups: Poor, very poor, relatively poor and vulnerably poor.

Whenever repayment is afforded, bond terms and accessing of data in this classification will change. In order to supply the sustainable financial needs of various clients, procedures and operation structures will be developed (Fami, 2001).

Generally, in most countries, micro finance sources are considered for poor women. The possibility of women gaining access to finance services makes them stay committed to their loans and ensure its repayment. As such, they preserve their saving accounts and also enjoy insurance cover. Supplying programs for micro financial resources have strong message for families and societies. Most of the qualitative and quantitative studies and researches have proven that access to financial services will improve women's conditions in family and society. Women's confidence has increased and they are aware of their abilities (Banihashem, 1999). Thus, it has proven that supplying financial services to poor people is a powerful tool used to decrease poverty, which in turn enable them to establish finance, increase income and decrease vulnerability against economic pressures.

In micro-credits programs, there are also small savings and deposits, other than offering and distributing micro loans, designed as forms of saving-credit programs. The existing term in the phrase "micro-credits" points to two basic concepts that is due to the dominant perspective of this approach. The first term (that is, credits) points to rural areas and lack of access for many villagers to formal resources that are one of their major problems. Moreover, at the system of micro-credits, a trial was made to decrease the access barriers of poor families to credit sources and also to increase the effectiveness of these markets. The second term (that is, micro) emphasizes on deficiency of development, according to the classic economist's method. Emphasizing the concept of "micro" means revising recommendations of the market economy at rural society's development.

Generally, the goals of micro-credits programs are (Moazami et al 2005):

- i. Increasing the access coefficient of low income rural

women to credit facilities.

- ii. Considering and focusing on low income rural women groups.
- iii. Empowering rural women to enjoy the needed job skills.
- iv. Empowering rural women to deal with group works and cooperative activity.
- v. Equipping non-productive villager's saving (women) to effective and productive investment.
- vi. Planning in order to perform projects that are based on capacities and facilities of that area.
- vii. Breaking poverty cycle and saving rural family.
- viii. Developing employment and stabilizing jobs that are faced with financial crisis.

CONCLUSION AND DISCUSSION

Extension systems, especially at third world countries, have been neglected from humane dimension and development. It has been said severally that "extension" has ineffective functions, due to the lack of adequate sources, inappropriate staff's education, shortage of educational resources, mass and reference of non-extensional responsibilities, conflicts between extension staff and others; but it has not been pointed out why akin consideration has not been given to contacts and learners (men and women), why rural women's issue is not reflected on information feedback system and why institutions and extensional organizations do not have appropriate technology according to their needs.

Ellen et al. (2009) used the approach called "credits and education" at Bolivia, Ghana, Honduras, Mali and Thailand. This approach was used for empowering women through financial services with education. In this approach, women were familiar with importance of credits through education and extension, and also they were familiar with ways to access credits through establishing different groups.

Shahnaj and Chaudhury (2009) in their research "credits and its role on empowering women" concluded that there is a meaningful relation between attending credits programs and empowering women at economical dimensions. Woroniuk and Schalkwyk (1998) in their own research believe that now, micro credits, micro finance sources and small business units are the most effective mechanisms used to decrease poverty.

Plitt and others conducted a research titled "do credits programs empower women?" The results showed that corporation at credits programs help in empowering women. Ruhai et al. (2010) found that those who joined credit funds had more ability than those who did not. Jameela (2010) presented that credit programs have shown lot of effects on empowering women, in that it has increased their social, politic and economic ability.

In a research that was done by Chowdhury (2005), the effects of credits programs on base needs and standards

of borrower family life were surveyed, and this research was performed through comparing families that are under credit programs with those that are not. The finding showed that families under credit programs had more right and merit to enjoy basic education needs, healthcare, shelter and food, as compared to those who are not, because credit programs increased the ability of the families under credit programs to spend more cost on their basic needs. Also, families under credit programs had better condition about other indexes that are related to standards of living. Meanwhile, the results of this study have shown that participation at credit programs increase women's economic conditions and their empowerments through group cooperation, more activity and access to information about methods and services in order to prevent pregnancy. In addition, women's participation at credit programs has increased outside interactions and has prevented social isolation, thereby exposing them to new roles and dealings and also reinforcing admission through group membership. Through such activity, it is possible that the poor rural women would abandon attitudes and behaviors that lead to high productivity. Furthermore, changes in members of credit programs directly lead to their participation at programs and indirectly affect women empowerment. Also, it leads to a shift in women's thoughts and behaviors who are not members of the program. All of the performed studies emphasize the role of credits at women's social, cultural and economic development.

The aforementioned studies have shown that credits or membership at associations and credits funds lead to growth and women's economic development of their families, more women's participation at groups and communities and also a change of their attitudes toward issue of family and society, although some abnormalities sometimes follow, but they are very low against its advantages.

Nowadays, there are different solutions to the problems of performing extensional programs according to women's life conditions, of which the most important are, employing experts and female propagators, considering women's features at all programming, gaining exact data about women's activity at the intended area, offering solutions and tools that increase women's working hours, and consequently creating more opportunities to provide education and improve production status. Also, income generation activities are established, using appropriate ways of communicating with rural women, such as farmer connections and traditional women groups, identifying how to communicate with rural women and so on.

Extensional educations should be a provider of opportunities for rural women in order for them to be able to use educational facilities, access the needed credits, be familiar with new jobs and finally know their legal status. Furthermore, educating rural women is considered as an intangible need of rural women communities, which improves their level of technical knowledge.

Also, it is useful in increasing rural men's technical knowledge, and in facilitating the propagator's educational duties about educating male farmers. We can use many ways while educating rural women: educating them by male propagators, employing female propagators, using cooperation and assistance of female extension workers and employing female officers of other active institutions in the village. However, appropriate methods should be chosen according to cultures, customs and beliefs of rural residents. Besides, methods such as asking male farmers to allow their wives attend farm meeting and home meeting, asking local leaders to create an impact on women about public meeting time, using local leader's ideas about educational needs and extensional services for female farmers, educating women by group methods and women organizations at female farmers' centers, can be useful.

Employing female propagators provides more desirable environment for women's participation in learning, and is even useful in societies where there are cultural limitations between men and women. Furthermore, women are more comfortable while talking with female propagators as compared to male propagators.

However, dealing with the following issues can be among the major duties of extension organizations in achieving extension goals:

- i. Reviewing extension-education needs, appropriate educational organizations, barriers and problems about rural women's extensional educations.
- ii. Reviewing the economic, cultural and social effects of educating rural women and also the technical-vocational education for rural women development.
- iii. Reviewing the role of rural women's income on the economic life of the family and nation, and increasing per capita income and currency.

Obviously, these issues would be practical under the reality of one principle in humane development, which is creating educational opportunities and providing educational facilities for rural women.

REFERENCES

- Banihashem F (1999). Rural women, education, association and participation. *Jihad J. Village*, 310: 21-27.
- Chabokru GH, Mokhtari D, Abdshahi A (2005). Paper "of micro-credit on the value added of agricultural sector in Iran." Conference on rural development and poverty reduction, agricultural banks, Tehran.
- Chowdhury MJA (2005). The Role of Micro-credit in Alleviation of Poverty: A study of the Grameen Bank in Bangladesh. Department of Economics, University of Stirling, Stirling, Scotland and Department of Finance and Banking, University of Dhaka, Dhaka, Bangladesh.
- Das M (2000). Improve the efficiency and suitability of agricultural extension activities for women farmers. (Translated Farajollah Jamal Hosseini). Publication of agricultural education, Tehran.
- Deputy of extension and system operation Ministry of Agriculture Jihad (2000). Evaluate the present status of rural women 2nd Volume. Publication Righteous Village, Tehran.
- Ellen VDB, Maureen P, Christopher D, Kathleen ES (2009). Credit with education: a self-financing way to empower women.
- Fami S (2001). Analytical process to determine the educational needs - extension of rural women (Part I). *Jihad Mag.*, 242: 22-29.
- Fami S (2000). Evolution concepts and goals of rapid rural assessment and participatory rural assessment. *Sci. Monthly*, 227: 6-11.
- FAO (1998). Women in agricultural development. (Translated by: Saleh Nasab). Management studies and studies and promoting people's participation Deputy Agriculture (the former). pp 46-42.
- Jameela VA (2010). Micro credit, empowerment and diversion of loan use.
- Kavoosi S (2000). Evaluate compliance with the educational needs of extension programs of rural women in 2000 in Qazvin city. MSc thesis, Islamic Azad University, Science and Research, Tehran.
- Maroofi P, Fakar T (1999). The role of cooperation among some people and encourage participation in increasing the productivity of services provided to rural women for their empowerment and food security. Office extension and development activities of rural women.
- Moazami M, Rahimi A, Heidari A (2005). "Coverage and sustainability of micro-credit programs, case study of rural women micro-credit fund" Research Center for Rural Women and Rural Affairs Ministry of Agriculture.
- Movahedi R (2002). Women farmers and extension activities effectiveness. *Monthly Jihad*, 249: 35-42.
- Najafi M (2007). Participatory evaluation of rural women micro-credit fund scheme, the organization promoting education and agricultural research.
- Paknazar FS (2000). Major factors affecting the agricultural extension workers in the central province among rural women in farming year 78-79. MSc thesis, Islamic Azad University, Science and Research, Tehran.
- Rivera WM, Corning SL (2001). Empowering women through agricultural extension: a global perspective. *J. Extens.*, 28(45-53).
- Ruhal A, Yipping L, Ashrad A (2010). Women's credit programs and family planning in rural Bangladesh.
- Samadi Afshar S (2004). Factors affecting rural women's participation in training programs and extension services in agriculture in West Azarbaijan Province. MSc thesis, Islamic Azad University, Science and Research. pp. 81-82.
- Shahnaj P, Chaudhury SR (2009). Micro-credit intervention and its effects on empowerment of rural women, the BRAC experience.
- Swanson B (2002). Improving agricultural extension. (Saleh nasab, Movahedi, and karami dehkordi, translators). Ministry of Agriculture, Extension and System Operation Department, Tehran.
- Van den ban AW, Hawkins HS (1998). Agricultural esxtension, CBS publishers and distributors, New Dehli.
- Varzgar S, Azizi M (2001). Evaluation of labor force participation of rural women in cotton production and its related factors in the region and dome of Gorgan: 318.
- World Bank (2002). Designing and implementing agricultural extension for women farmers. World Bank, Women and development division; Technical notes. Washington DC.
- Woroniuk B, Schalkwyk J (1998). Micro-credit and equality between women and men. Stockholm, Sweden.