Analyzing Efficiency of Agricultural Extension Programs by Participatory Rural Appraisal (PRA) (Illustrate: Wheat Farmers of Khouzestan Province, Iran)

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Abstract: The purpose of research is analyzing efficiency of agricultural extension programs by Participatory Rural Appraisal (PRA). The method of research was qualitative. The research carried out by 4 analytical loops in rural area of Shoushtar township of Khouzestan province, Iran. Each analytical loop consist 6 to 9 rural people and one outsider as facilitator. According to results extension programs based on efficiency was ranked. This ranking respectively include: Farmer Filed School (FFS), Meeting in Farm (MF), Results Farm Demonstration (RFD), Method Farm Demonstration (MFD), Extension classes, Bulletin and Posters, Radio and TV program. Also ranking of educational needs respectively include: productivity indicators, sustainability, farm management, water management, pest and disease, west management.
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1. Introduction

Agricultural extension is a significant social innovation, an important force in agricultural change, which has been created and recreated, adapted and developed over the all centuries. Its evolution extends over nearly four thousand years, although its modern forms are largely a product of the past two centuries (Jones and Garforth, 1997).

Van den Ban & Hawkins (1996) defined agricultural extension services (AES) as "transferring information from the global knowledge base and from local research to farmers, enabling them to clarify their own goals and possibilities, teaching them to be better decision-makers, and stimulating desirable agricultural development". Change in agriculture has brought about new challenges for farmers in relation to production and technology. As a result, more attention should be paid to agricultural extension. Van den Ban (1996) iterated the necessity of a progressive agricultural extension system. He pointed out that in many countries agriculture is in a process of rapid change and stressed that the demand for food is growing, as is international competition, labor productivity, and the rate of agricultural research. However, Van den Ban (1996) also pointed out, that employment opportunities and governmental supports for agricultural products are decreasing.

According to Rivera and Gustafson (1991), agriculture and farming, informational technology, and governments are all in the process of changing. These socio-economic, political, and technical changes inevitably affect the institution of agricultural extension and exert pressure on it to change. Considering the changes and challenges in agricultural extension today, one of the roles of an extension organization should be to contribute to the development of agriculture by helping villagers to become aware of the changes in their environment. While these changes do offer new opportunities for farm development they can also threaten development because it is no longer possible to earn a decent income from the present farming methods (Van den Ban, 1996).

Agricultural extension has now become recognized as an essential mechanism for delivering information and advice as an input into modern farming. Since commercial farmers can derive direct financial benefits from these inputs, there is a trend towards the privatization of the extension organizations, often as quasigovernmental agencies, with farmers being required to pay for services which they had previously received free of charge (Jones and Garforth, 1997).

Therefore, a major role of agricultural extension is to help farmers with the knowledge construction process and to support them to learn from their own experiences (Van den Ban & Hawkins, 1996). There are many different definitions and interpretations of extension from various extension specialists. Most definitions support previous statements and assume extension officers and personnel as: supporters of farmers, facilitators for knowledge exchange between researchers and farmers, introducers of new techniques and information to farmers, supporters of innovation, creativity, and self-confidence of farmers, relationship-builders between government and farmers, etc. (Campbell & Barker, 1997; Prawl,

Medlin & Gross, 1984; Rathore et al., 2001; Sulaiman & Hall, 2003).

Different approaches (often used in combination with other approaches) have been applied by extension policy makers of different countries. Some of most important approaches are ministry-based or general, commodity-based, university-based, training and visit (T&V), integrated or project-based, animation rural, client-based and client-controlled, extension as a commercial service, participatory or privatized extension (Baxter, Slade & Howell, 1989; Nagel et al., 1992; Rauch, 1993; Umali & Schwartz, 1994). However, in Iran, like many other Middle Eastern countries, a mixed approach is used with a focus on governmental or common extension approaches. In sum, it could be said that agricultural extension, as a whole, aims at improving the competencies (knowledge, skills and perceptions) of farmers in order to improve their career performance.

Some of the most promising recent developments in extension methodology have occurred where the key agenda is environmental or is concerned with equity, for example in the need for the joint management of forests by professionals and local forest users and in integrated pest management. A consistent theme running through the innovative approaches being used, such as participatory rural appraisal (Chambers, 1993), is a fundamental change in what are the respective roles of extension agent and clients. The agent is no longer seen as the expert who has all the useful information and technical solution; the clients own knowledge and ingenuity, individually and collectivity, are recognized as a major resource; solutions to local problems are to be developed in partnership between agent and clients. Since the scale at which extension support is required is thus often larger than the individual farm, extension workers need new skills of negotiation, conflict resolution, and the nurturing of emerging community organizations (Smith, 1994).

Participatory Rural Appraisal (PRA) is a research method that use visualization techniques and interviews to create information for the design of effective communication programs, materials, media and methods for development purposes to ensure relevance and ownership by the farmers. PRA facilitates conversation among the rural people themselves and between them and the extension agents in order for all parties to reach mutual understanding and plan for action. PRA is therefore used to promote the participation of rural people in decision-making that affects their living (Anyaegbunam et al, 2004). PRA are tool to increase participation by local people organizing for rural and agricultural development (Toness, 2001). PRA is 'a growing family of approaches and methods to enable local people to share, enhance and analyze their knowledge of life and conditions, to plan and to act' (Chambers, 1994: 1).

Bhandari (2003) pointed, in PRA information is shared by local people. Researchers go to rural areas, but they facilitate rural people in collection, presentation and analysis of information by themselves.

In last decades Participatory Rural Appraisal (PRA) and later Participatory Learning and Action (PLA) methods emerged. PRA and PLA recognized that there were many things that researchers and subject matter specialists did not know and the only way to know them was by listening to the rural people. Similarly rural people were lacking some of the technical knowledge that the experts had to solve some of their problems. Thus, knowledge sharing became an essential component of PRA (Noorivandi and Ommani, 2009., Anyaegbunam et al, 2004).

PRA has been used extensively in agriculture, forestry and a number of other areas. PRCA belongs to the same family as PRA, PLA and the other participatory methods, but it is unique because it focuses specifically on rural communication systems and how to improve information sharing among all rural people in a development effort. From the time it was conceptualized in 1994, PRCA has undergone changes to better adapt it to field realities. (Anyaegbunam et al, 2004).

2. Material and Methods

The method of research was qualitative research. At this research used techniques of PRA for analyzing of agricultural extension efficiency. PRA is techniques and methods innovated for field data collection and analysis. The data is collected and analyzed using a group of tools" which help representation of realities in unusual form. The tools help to observe facts on the diagrams lead to best estimates; indicate people's preferences and priorities etc (Adebo, 2000). The research carries out by 4 analytical loops in rural area of Shoushtar township of Khouzestan province, Iran. Each analytical loop consist 6 to 9 rural people and one outsider as facilitator.

3. Results

Efficiency of Extension Program: For analyzing of efficiency of extension program was used matrix ranking technique. In matrix ranking criteria's (indicators of efficiency) are used for the rows in a matrix and items (extension programs) for columns, people fill in the boxes for each row. The

items are ordered for each of the criteria and people put seeds for scoring relative values. According to results calculated efficiency of extension programs by summing of seeds in each column. Base on the results extension programs was ranked. This ranking respectively include: Farmer Filed School (FFS), Meeting in Farm (MF), Results Farm Demonstration (RFD), Method Farm Demonstration (MFD), Extension classes, Bulletin and Posters, Radio and TV program (Figure 1, Table 1).

Educational Need Assessment: For analyzing of educational need assessment of farmers was used another one matrix ranking. In this matrix ranking criteria's (indicators of importance) are used for the rows in a matrix and items (educational needs) for columns, people fill in the boxes for each row. The items are ordered for each of the criteria and people put seeds for scoring relative values. According to results calculated importance of educational needs by summing of seeds in each column. Base on the results educational needs was ranked. This ranking respectively include: productivity indicators, sustainability, farm management, water management, pest and disease, west management (Table 2).

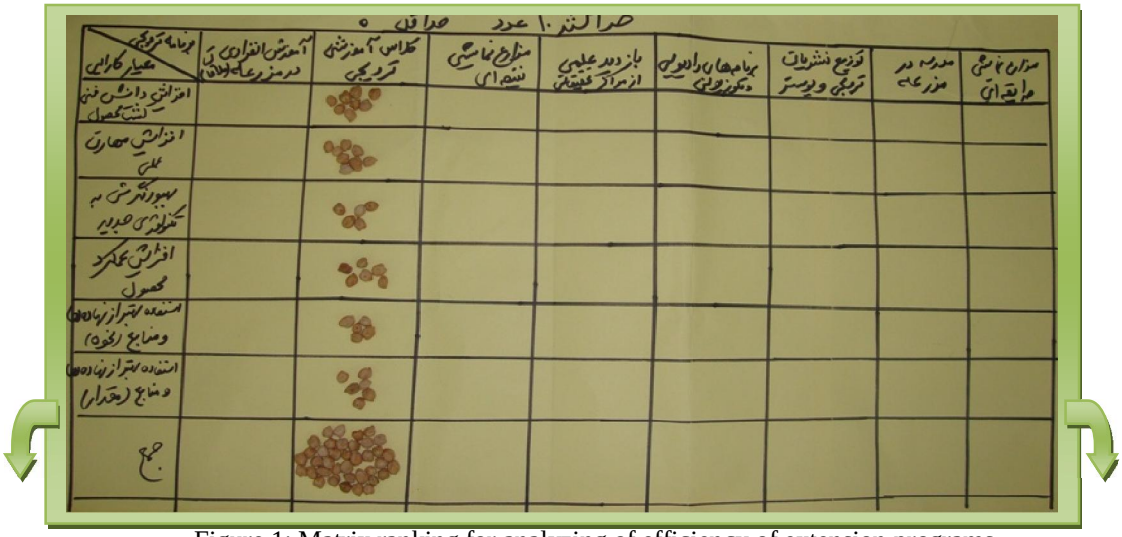

Figure 1: Matrix ranking for analyzing of efficiency of extension programs

Table1: Matrix ranking for analyzing of efficiency of extension programs

Extension program / Indicators	Meeting in Farm	Extension Classes	Results Farm Demonstration	Research Centers	Radio, TV	Bulletin Posters	FFS	Method Farm Demonstration
Increasing Knowledge	9*	8	8	3	5	4	7	6
Increasing skills	8	8	9	6	5	6	8	7
Optimization of attitude	9	5	8	5	6	5	7	6
Increasing crop yield	7	6	6	7	8	7	8	7
Optimization use of inputs (how)	7	5	7	5	6	7	9	8
Optimization use of inputs (how much)	5	6	5	6	5	8	9	7
Sum	45	38	43	32	35	37	48	41
Priorities	2	5	3	8	7	6	1	4
*: Minimum (without effect)= 0, Maximum (High effect)=10								

Table 2: Matrix ranking for educational need assessment of farmers

needs / Indicators	productivity indicators	water management	sustainability	farm management	pest and disease	west management
Crop yield	9*	8	8	8	5	4
Income	9	8	9	6	6	6
Reduce cost	9	5	8	7	6	5
Knowledge	7	6	7	7	8	6
Skill	7	6	7	8	6	7
Food security	5	6	6	6	6	7
Sum	46	38	45	42	37	35
Priorities	1	4	2	3	5	6
*: Minimum (without effect)= 0, Maximum (High effect)=10						

Conclusion:

Major role of extension programs is to help farmers with the knowledge construction process and to support them to learn from their own experiences (Van den Ban & Hawkins, 1996).

Agricultural extension and education is considered an essential factor in development of agricultural programs (Shahbazi, 1996). Agricultural extension and education has economic impact and sustainability in agriculture by providing information to induce the following sequence:

"A: Farmer's awareness

K: Farmer's knowledge, through testing and experimenting

A: Farmer's adoption of technology or practices

P: Changes in farmers productivity" (Evenson, 1997 p. 29).

Agricultural extension is a public service for human resource development (HRD) in the agricultural sector (van den Ban and Hawkins, 1996). Multiple studies in Iran showed that, although extension services has played a positive role in agricultural development of Iran, but there are difficulties, barriers, misunderstandings, and weaknesses in the transfer of new technology and information to farmers (Ommani and Chizari, 2002)

Participatory Rural Appraisal (PRA) is a suitable research method that use visualization techniques and interviews to create information for the design of effective communication programs. PRA facilitates conversation among the rural people themselves and between them and the extension agents in order for all parties to reach mutual understanding and plan for action. PRA is therefore used to promote the participation of rural people in decision-making that affects their living (Anyaegbunam et al, 2004). PRA is a adopted method for analyzing of extension programs and assessment of educational needs of farmers.

According to results extension programs based on efficiency was ranked. This ranking respectively include: Farmer Filed School (FFS), Meeting in Farm (MF), Results Farm Demonstration (RFD), Method Farm Demonstration (MFD), Extension classes, Bulletin and Posters, Radio and TV program. Also ranking of educational needs respectively include: productivity indicators, sustainability, farm management, water management, pest and disease, west management.

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