

Role of Environmental Agriculture in Sustainable Rural Development: Challenges and Solutions

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Received: March 8, 2015

Accepted: May 10, 2015

ABSTRACT

Agriculture is one of the most important economic sections in the most developing countries. According to the FAO's latest reports approximately 40 percent of the active economic populations all over the world are working in this section, most of them living in developing countries. This study tries to investigate the socioeconomic dimensions of agricultural development in Behbahan township. The study was done on a descriptive-surveying method that uses field and documentary data. The aim of this study was to investigate farmers attitude of agricultural and rural development in southwest Iran. A descriptive survey design was employed in this study. The target population was N= 2800 and by the sampling population is estimated n=250 rural resident in Behbahan Township in Khuzestan province Southwest Iran. The reliability of the questionnaire was calculated using a Cronbach alpha coefficient ($\alpha > 0.7$) for different sections after conducting a pilot study. The reliability of the questionnaire was calculated using a Cronbach alpha coefficient ($\alpha > 0.7$) for different sections after conducting a pilot study. The result of research showed that the rural populations claim a relatively high satisfaction of their job and their village environment.

KEYWORDS: Agricultural development, Rural development, Iran.

1. INTRODUCTION

Common Agricultural Policy (CAP) emphasizes on the food production and nowadays the agriculture section has great reliance on the consumption of chemicals to meet the increasing demands to food for growing population of earth planet and to provide the sufficient and appropriate food (Hatirli et al. 2005) so that with development of modern sciences and technologies such as Genetic Engineering and Biotechnology, implanting the yielding varieties of crops and irregular use of fertilizers and pesticides have led into quantitative increase of agricultural products, and solved the problem of food in many countries, particularly developed and developing countries. However, the increase of production has faced with several environmental problems such as contamination of soil and water resources, the development of new plant pests and diseases, malnutrition and diseases resulting from decrease of foods quality (Kayani and Liaghati, 2008).

Agriculture plays an important role in protecting the environment in a healthy country, although the relationship between the natural environment and farming activities is complex. Agriculture has significant effects on the environment. Contamination of soil, water, air, fragmentation and loss of wildlife habitat, loss of biodiversity, increased flooding and drought, soil erosion and the increase of greenhouse gases can be regarded as the inappropriate agriculture practices and land use (Wilson et al., 1999). The Agriculture also has impact on the water quality of streams and rivers. The combination of these factors led that the environmental protection and food security and health to be one of the challenges that human beings face with contemporaneously, and the international community to seek appropriate strategies to solve problems and achieve sustainable agricultural systems. One of these strategies that investigate the agriculture from the environmental perspective (in fact environmental agriculture) is Agro-environmental or Agri-environmental (related to impact of agricultural practices on environment). Intensive farming has imposed serious consequences on the environment. Therefore, increased concern about the environmental impact of agriculture led to the introduction of the environmental agricultural plans (OECD, 2003). The purpose of the study is to general review in the presenting and implementing the environmental agricultural plans carried out in the rural development in the world, and the obstacles and challenges for implementing the environmental agriculture plans in the Iran, and to investigate its solutions.

2. MATERIALS AND METHODS

The current study has been carried out in the form of survey research. In this method, the samples or subjects selected from the society are investigated and analyzed. In the survey research, the most common method for data collection is questionnaire (Kerlinger, 1998). Beside questionnaire, interview, observation and documentation studies (Face Validity) are also employed in this method. The sample of study included the farmers of South Khorasan Province. Fifty farmers were randomly selected and their views were investigated. Considering the nature of the research, the data has been described in the current study.

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3. DISCUSSION AND CONCLUSION

Some results obtained regarding the obstacles and problems of environmental agriculture development (Agri-environmental agriculture). The results of the survey showed that all studied farmers were living in the village. Few of them had other activities beside the agriculture. The economic situation of them was moderate or weak. They aged from 35 to 50. The results of the study also indicated that majority of farmers were high school graduates and low literate. The obstacles and the problems to implement the Agri-environment plans in the Iran can be categorized generally as:

1. Lack of information and knowledge by farmers about implementation of Agri-environment programs in the Iran:

The results of the study indicates that some factors responsible for this problem such as lack of information and awareness of farmers about implementation of Agri-environment programs, low education levels and low literacy of farmers, and etc. given the importance of the knowledge and information on the adoption and development of a new technology is obvious, lack of information and knowledge is regarded as a major obstacle in the development of Agri-environment.

2. Technical and managerial issues in the implementation of the Agri-environment in Iran:

The results indicated that some factors in this problem play role which included: Enhancing of chemicals (nitrate), weed control problems, diseases, pests among farmers, lack of attention to biological diversity, lack of skills and technical knowledge to run programs Agri-environment, availability of fertile land suitable for running Agri-environment of the study area, the shortage of skilled labor in this field, and etc.

3. Legal barriers and supportive issues in the implementation of Agri-environment in Iran:

The obtained results indicated that following factors responsible for this problem: Lack of government support from implementation of Agri-environment programs, lack of advocates and experts who are familiar with the Agri-environment programs to educate farmers, lack of holding of training and promoting classes regarding Agri-environment issues, and etc.

4. Infrastructure issues on implementation of Agri-environment programs in Iran:

From the farmers' points of view, these factors were identified and investigated for this problem: lack of institution or organization for the implementation of Agri-environment programs, lack of appropriate place to run programs of Agri-environment, unavailability and insufficient entities for implementing the Agri-environment programs.

5. Economic problems in the implementation of the Agri-environment programs in the Iran:

In the case of economic problems the results indicated that following factors play role: reduction of production and incomes, lack of fund for implementation of Agri-environment programs, farmers' lack of interest in the program and paying the cost for implementing the Agri-environment programs.

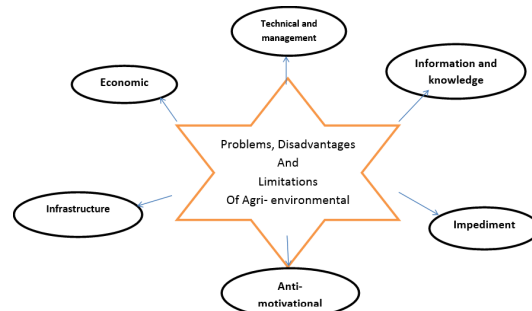
Given that the increase of the income and profit is one of the important factors in the adoption of modern technologies in agriculture, and since majority of the farmers studied in the current research had low or moderate economic situation, so this factor can be regarded as one of the major obstacles and problems in the implementation of the Agri-environment programs.

6. Anti-motivational factors influencing the Agri-environment programs in Iran:

Studies indicated that following factors can play role in this regard: lack of interest and willingness of farmers to run Agri-environment programs, farmers are accustomed to the use chemicals in agriculture, the increase of production and income of farmers by using common chemicals in agriculture, inability and lack of skills to implement Agri-environment plans by farmers. Due to problems in the field of implementation of Agri-environment programs, farmers show no interest to it and they find negative attitudes to implementation of Agri-environment programs. Therefore, we can overcome the problems by education and removing the past problems in the field of implementing the Agri-environment programs of the past in the field of education and implementation of Agri-environment and creating the interest and positive attitudes among the farmers in this regard.

Conclusion and recommendations for implementation of the Agri-environment programs in the Iran

The results show that there is an urgent need for a scientific evaluation of Agri-environment plans in Iran. Also, the results of the study indicates that the obstacles and the problems of Agri-environment development can be studied from the six dimensions of infrastructure factors, economic problems, lack of knowledge and awareness of farmers, lack of technical and administrative support, and motivational and attitudinal barriers.



Accordingly, given the importance and advantages of Agri-environment in the production of healthy products, several general strategies are presented along with Agri-environment development. These strategies included:

1. Study of environmental and agricultural situation in Iran and to identify opportunities and threats, strengths and weaknesses
2. For agricultural development the focus should be on rural development
3. Identification of regions of country which are appropriate for environmental agriculture
4. The membership of Iran in the Agricultural Guarantee and Guidance of Europe.
5. Providing opportunity to perform fundamental and applied research in the field of environmental agriculture
6. Prevention from the entry of invasive species of plants and animals
7. Collection of local knowledge of farmers as infrastructure for environmental agricultural development
8. Subsidies to be given for farmers instead of their healthy production
9. Creation of green belt around the cities
10. Instructional and promotional planning for farmers to enhance the knowledge related to the environmental agriculture
11. Protection of Wildlife
12. Organic agriculture development
13. Instructional and promotional to enhance the awareness of the consumers to importance of the environmental agriculture
14. Environmentally vulnerable areas to be identified
15. To minimize the use of chemical fertilizers and pesticides and agricultural inputs
16. The preparation and organizing of management plans by environmental agriculture perspective

Acknowledgments

At the end, I appreciate all of my colleagues and farmers who cooperated in the several stages of data collection and they responded all of the questions patiently.

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