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RESEARCH ARTICLE

INVESTIGATING EFFECTIVE FACTORS ON ATTITUDE OF FARMERS TOWARDS AGRI-ENVIRONMENT IN IRAN

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ABSTRACT

Agriculture has a significant effect on the environment. Declining water quality, loss of wildlife habitat, reduced biodiversity, and emissions of greenhouse gases are some of the major concerns specifically linked to agriculture. Contamination of soil, water and air, fragmentation of habitats and loss of wildlife, loss of biodiversity, increased flooding and drought, soil erosion and increasing greenhouse gases may be inappropriate practices agriculture and land use. Well as agricultural streams and rivers affect water Quality. Intensive farming has serious consequences on the environment. Thus increasing concerns about excessive environmental impacts agriculture has led to the introduction of agri-environmental schemes. The purpose of this research was to examine factors affecting to agri-environment in Southern Khorasan Province, East of Iran. This study used qualitative research methods. The research method was multiple-case study and purposive sampling method was used. The main instrument for data collection was a questionnaire. The results showed that factors affecting to agri-environment consist of: Facilitating factors include motivations and profits. Health and safety, environmental, Ideological and philosophical and economic motivations are the most important motivating factors mentioned. Barriers to conversion to agri-environment include challenges and costs. Lack of knowledge, lack of government supports, fear of the future and production are mentioned as the most important challenges of the conversion to agri-environment. The main objectives of this paper are to provide the broad agri-environmental context, examine the state of agri-environmental information, current agri-environmental statistics developments and future directions.

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INTRODUCTION

The intensification of agriculture has resulted in major environmental problems in recent decades, notably declines in bird populations together with their associated food resources (Donald *et al.,* 2000; Benton *et al.,* 2002; Robinson and Sutherland 2002) and this is likely to continue (Tilman *et al*., 2001). Future intensification, such as the use of genetically modified crops, is likely to have further detrimental consequences for biodiversity (Watkinson *et al.*, 2000). There are also implications for wider environmental issues, such as flood risk and effects on water quality (Sutherland, 2002) Over the last 60 years the unprecedented increase in food production, driven by advances in technology and supported by agricultural policy, has come at considerable cost to the natural environment and farmland biodiversity.

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In terms of monetary value the costs are huge, with the emissions of gases, declines in population of wildlife and contamination of water by pesticides being the greatest costs. It is now recognized that agriculture and conservation are interdependent, as the conservation of many species and habitats depends on agricultural management and agriculture depends on provision of ecosystem services such as requiring insect pollinators and predators. In addition, agriculture depends on biodiversity to be used in the development or adaptation of new varieties of plants to keep pace with new plant diseases, insect pests and changing climatic conditions. It is also acknowledged that the pressures exerted by modern farming on the natural environment and wildlife are likely to continue so long as the human population continues to increase. However, in most developed countries the majority of land within agricultural landscapes is privately owned and managed for private gain. Therefore, the sustainability of these systems and the long-term provision of ecological goods and services will need to be within a system of agricultural management not to the exclusion of agriculture.

In many parts of the world traditional low-input low-output farming systems remain. In order to understand the effects of intensive farming practices on the environment, we need to comprehend the changes and advances that have taken place in agricultural practices, which have transformed many of the traditional farming systems to a system of intensive monocultures. While the causal agents of environmental degradation (such as the increased use of fertilizers and pesticides) are very well known and documented, it is difficult to separate the influences of agricultural policy and new technology as the underlying drivers.

Agriculture is known to be a major polluter and as a result has had a huge impact on the natural environment, on the quality, and in some cases quantity, of air, water and soil. One of the important environmental impacts agriculture has on the natural environment is the major contribution it makes to global greenhouse-gas emissions and consequently global warming. In terms of their contribution to relative warming, the three most important greenhouse gases are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) respectively and agriculture is responsible for significant emissions of all three gases. Atmospheric concentrations of all three gases have increased substantially since 1750, with the greatest increase observed in the concentration of methane.

Emissions of carbon dioxide from agriculture are primarily the result of land use change rather than the direct result of agricultural activities. Deforestation and the loss of soil carbon contribute a large proportion of the increase in carbon dioxide to the atmosphere. However, a substantial proportion of the total emissions of methane and nitrous oxide are the result of agricultural activity. Wetland or paddy rice cultivation and ruminant livestock are responsible for significant emissions of methane, while nitrous oxide emissions are largely due to the use of inorganic fertilizers released from the soil through the process of denitrification.In agricultural landscapes, biodiversity loss was attributed to changes in farming practices, habitat loss and fragmentation, and to landscape homogenization (Wilson *et al.,* 1999; Jongman, 2002; Stoate *et al.,* 2002). The concern about biodiversity loss, together with the growing awareness of negative effects of intensive agricultural practices on surface and groundwater quality, were the main reasons for the introduction of agri-environmental schemes (AES) since the mid-1980s (OECD, 2003).

Agri-environmental indicators have to cover positive and negative effects of agriculture and should be sufficiently differentiated to be able to capture regional differences in environmental conditions .The potential application of agri-environmental indicators for assessing progress in the integration of environmental concerns into the Common Agricultural Policy is more limited. This limitation is due to the complex links between policy measures, changes in farming practices and environmental improvements, and other numerous other intervening factors .Measures used to monitor environmental changes within agricultural landscapes (e.g. soil quality, water quality, and biodiversity). Agri-environmental indicators may not be effective in cases where the environmental benefits provided by a policy measure are difficult and/or very expensive to measure.

For example, biodiversity conservation as a policy objective will in some cases be very difficult to measure in a meaningful way across a landscape.

Agri-environmental indicators that meet these criteria have been identified as important tools to help governments understand the type of agri-environmental policy required, as well as whether the existing agri-environmental policy is meeting its stated objectives in an effective and efficient manner. A common framework for agri-environmental indicator development has been identified by the OECD (2001b). Driving force indicators – focus on the causes of change in environmental conditions in agriculture, such as changes in farm management practices and the use of farm inputs.

State indicators – highlighting the effects of agriculture on the environment, for example, impacts on soil (e.g. soil carbon stock), water (e.g. phosphorus loads in surface water) and biodiversity (e.g. species richness). Response indicators – focus on the actions taken to respond to the changes in the state of the environment, such as variations in agri-environmental research expenditure.

Agri-environmental programmers vary markedly between countries in Organisation for Economic Co-operation and Development

Agri-environmental policy

Since the 1980s a wide range of policy measures have been developed to address environmental issues in agriculture. The fundamental motivation for agri-environmental policy is to maintain or enhance social well-being by addressing environmental concerns that are caused by market failures in the agriculture industry. The economic model shows that many ecological goods and services have public good characteristics such that farmers will not have an incentive to provide them to society, resulting in an inefficient allocation of resources from society's perspective.

Throughout the last century agriculture has been an important industry to most developed countries, and, as a result, agriculture has been an important policy priority. The objectives of agricultural policy have changed over the years from production enhancement, income support and stabilization and, lately, through agri-environmental policy programmes, the provision of environmental benefits and/or decreasing environmental costs. The nature of the agri-environmental programmes has been influenced by the types of environmental benefits (or environmental costs) that are deemed a priority by society and the government, the characterization of the agricultural industry, including the presence of multifunctionality and moistness, the rules associated with international trade and environmental agreements. Finally, it is apparent that the level of commitment to agri-environmental programmes given by governments is dependent on the budget priorities and the relative importance of environmental issues compared with other rural development and industry initiatives.

The European model (A multifunctional agricultural industry) for developing agri-environmental policy is strongly influenced by the characterization of agriculture as a multifunctional industry. A multifunctional agriculture is one that produces not only food and fibre commodities, but also a range of non-market goods and services. These non-market goods and services include the impacts that agriculture has on environmental quality including rural landscape amenities, biodiversity and water quality as well as socioeconomic viability of the countryside, food safety, animal welfare and cultural and historical heritage (Lehtonen *et al.,* 2005).

The nature of agri-environmental policy in Europe is somewhat different to what has developed in other regions. To some degree the difference can be attributed to the characterization of agriculture, including multifunctionality that underlies the policy framework. For example, North American policy makers have tended to not characterize agriculture as a multifunctional industry. In the absence of multifunctionality, with respect to environmental goods and services, it is not necessary to support agriculture to meet environmental objectives. It has been stated that US agri-environmental policy has traditionally treated agricultural production and the environment as substitutes, such that there is a conflict between the goals of maintaining or expanding agricultural production and preserving the environment (Baylis *et al.,* 2003).

A common agri-environmental policy tool involves the offering of payments to farmers to encourage actions that provide ecological goods and services. The OECD (2003b) identifies the three main types of payment programmes as: (1) payments based on farming practices; (2) payments based on resource retirement; and (3) payments based on fixed farm assets.

Payments based on farming practices provide annual payments to farmers who adopt more environmentally beneficial management strategies. In essence these payments increase the likelihood that farmers will adopt the environmentally desirable practice by reducing the net cost of doing so (Claasen *et al.,* 2001).

Problems, Disadvantages and limitations of Agri-Environmental

Environmental farm plans are being used to identify environmental problems and focus environmental risk management as well as helping to mitigate liability over environmental damage. Problems in the delivery of policy include poor spatial targeting and a lack of clarity between environmental and income support objectives. Various changes will be required in order to increase the environmental effectiveness and efficiency of agri-environmental mechanisms. Agri-environmental problems have proven to be quite complex and very heterogeneous across a landscape and over time. In addition the agricultural industry is highly heterogeneous with farms, even within a region, having very different socioeconomic and biophysical characteristics. As a result a diverse range of agri-environmental policy measures have been developed and implemented. Generally, these measures are aimed at correcting or overcoming the market failure discussed above and thereby has the explicit or implicit objective of providing ecological goods and services at levels that are closer to a socially efficient level.

MATERIALS AND METHODS

Some of the existing extensive literatures on World Agri-environmental were reviewed for this study. Uses of Agri-environmental in south-Khorasan were collected. Available references or reports on the Agri-environmental were consulted from published scientific journals, books, reports from national, regional and international organizations, theses, conference papers and other grey materials. Literature was searched on international online databases such as ISI Web of Science, MEDLINE, Science Direct, Scopus and Google Scholar using specific search terms such as "Agri-environmental", "environmental "south-Khorasan" and "Iran".

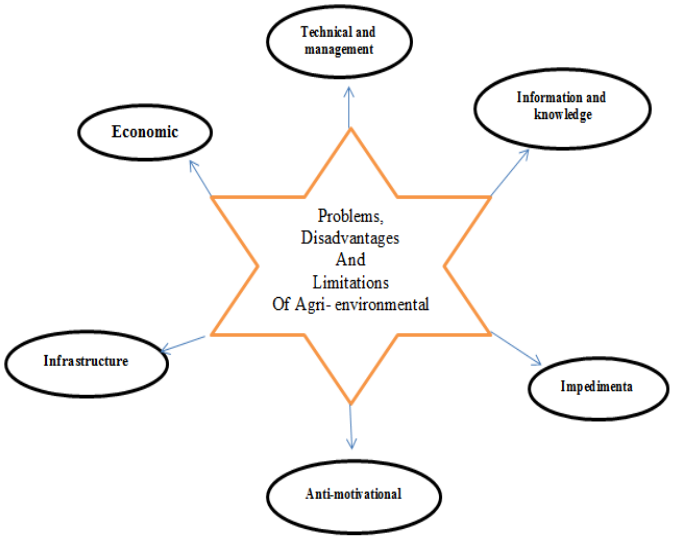
RESULTS AND DISCUSSION

Our results in Iran indicate that there is a pressing need for a scientifically sound evaluation of agri-environmental schemes (Fig 3).

Recent trends seem to indicate that agri-environmental policy will remain as an important force in many developed countries. Agri-environmental indicators are main tools for evaluation of the impact of agriculture to environment. They have been developed on international level.

- Agri-environment schemes are the most effective method we have at present for conserving biodiversity on farmland
- Monitoring crucial –experience has enabled improvements leading to better outcomes and value for money
- Work best when based on well researched options, and targeted appropriately
- Need more consideration of landscape context in future
- Much farmland wildlife now dependent on AES –need to find ways of ensuring sustainability in the long-term.

Agri-environment policy is needed because of a market failure to take account of the environmental consequences of farming.



Environmental barriers on agricultural development results obtained. The results of the survey showed that all farmers surveyed were from rural areas. Very few of them along with agriculture in other occupations, were involved. Moderate to poor economic condition. They were aged between 35 and 50. Also, the results showed that the majority of farmers in the study were high school graduates and low literate.

1-Poor knowledge of farmers on agricultural environmental programs in Iran

The results show it's such an agent; weakness and environmental awareness of farmers towards agricultural programs, low education level of farmers and their illiteracy, lack of awareness of how agricultural and environmental programs ... Was located. The importance of information and knowledge in technology development or adoption of new technologies is an obvious lack of knowledge as a major obstacle to agricultural development and environmental constraints.

2-Technical issues and management of agricultural environmental programs in Iran

The results showed that the cause of such increased chemicals (nitrates), problems controlling weeds, diseases and pest among farmers, lack of attention to biodiversity, lack of skills and technical knowledge to implement environmental programs in agriculture, unavailability of fertile land suitable for agricultural implement environmental programs in the region, rather than a shortage of skilled labor in this field.

3-LEGAL barriers to environmental issues in agricultural support programs:

The results showed that, the factors such as: lack of support from government farm programs, environmental advocates and experts not familiar with agricultural environmental programs to educate farmers have not classes training Dyer held, and the -Promoting the farming the environment.Promoting environmental issues in agriculture.

4-Agriculture, infrastructure issues on environmental programs in Iran

The operating from the perspective of farmers, lack of authority or organization of such programs ecological agriculture, ecological agriculture is not a good place to run programs, accessible, and factors allocated to running programs Agri-environment insufficient study was carried.

5-Economic problems of agriculture on environmental programs in Iran

The results showed that some economic issues , such as loss of income and not capital required for the implementation of environmental farm programs, farmers' lack of interest in implementing cost Agri-environment programs and to avoid paying Agri-environment, the as one of the most important barriers is the development of Agri-environment programs.

6-Anti- Motivational factors that influence the implementation of environmental programs in agriculture

The results showed there are farmers who see them as motivational and attitudinal barriers to farmers for agricultural development, environmental programs put.

Thus, we can resolve the problems of the past in the field of education and enforcement programs, agriculture and ecological agriculture programs in farmers' attitudes and interests in a positive environment created.

Thus, we can resolve the problems of the past in the field of education and enforcement programs, agriculture and ecological agriculture programs in farmers 'attitudes and interests in a positive environment created.

The research tries challenges, issues, problems, and solutions tailored to different sectors of agriculture, environmental programs and strategies identified in each stage of the process shall be determined in accordance with each of them.

Conclusions and Recommendations

Can be six aspects of infrastructure, economic problems, lack of knowledge of farmers, technical and administrative support and motivational and attitudinal barriers examined.

Accordingly, given the importance of agriculture and environmental benefits for the healthy production of a general strategy for agricultural development, environmental offered that include:

1 - Assessment of the current situation and status of ecological agriculture and recognizing opportunities and threats, strengths and weaknesses, 2 - for agricultural development must be based on "rural development" was focused on 3 - to identify areas of the country in terms of agriculture, the environment, 4 - Membership Iran in the fund agricultural guidance and guarantee Europe, 5 - providing space for basic and applied research on ecological agriculture, 6 - Preventing invasive species of plants and animals, 7 - to gather local knowledge on farming as agricultural development and ecological construction, 8 - subsidies paid to farmers for the production of safe products, 9 - Creation of green belts around cities, 10 - education and extension programs for farmers to increase agricultural-related environmental knowledge, 11 - Protection of Wildlife, 12 - Development of Organic Agriculture, 13 - and promoting educational programs to raise consumer awareness of the importance of ecological agriculture, 14 - environmentally vulnerable areas are identified, the 15 - to minimize the use of fertilizers chemical pesticides and agricultural inputs, 16 - the preparation of environmental management plans for agricultural farms look.

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