

Measure of Multifunctional Agriculture-Syrian Experts' Perception

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Abstract

Multifunctionality, as a feature of agriculture, is subject to different interpretations, depending on the state and context. The core concept of Multifunctionality of Agriculture (MFA) is that the agricultural sector has multiple roles. These roles are not confined to food and fiber production, but also to the provision of several non-market commodities. In this study, we have interviewed 30 Syrian experts from different fields of sciences so as to examine their understanding of the concept of multifunctional agriculture and its elements and look closely into the importance of the elements of MFA in Syrian agricultural policy context from an expert's point of view. The results show that wider roles of agriculture are highly acknowledged among the chosen experts but few of them are working on it. In its broadest sense, no undivided acceptance of the concept of multifunctionality has been found. The Syrian agriculture policies have elements which support and improve MFA, but it is not clearly recognized as such.

Keywords

Multifunctional Agriculture, Delphi Method, Agricultural Policy, Syrian Arab Republic

1. Introduction

The Syrian Arab Republic lies on the eastern coast of the Mediterranean with an area of 18.5 million ha, of which 6 million ha. are arable land. Syria's population was 21.7 million in 2017. Agriculture is one of the most important sectors of the Syrian economy. In the mid-2000s, it accounted for 25% of the GDP, 20% of exports and 20% of employed workforce [1]. Agriculture also plays a major role in providing raw materials for manufacturing and food industries. Despite over ten years of war in Syria, agriculture remains a key sector of the economy. It still accounts for 39.2% of the GDP at current prices [2] and represents a critical

safety net for the 6.7 million Syrians—including those internally displaced—who remain in rural areas [3].

Considering that agriculture plays multiple roles in the economic life and livelihoods of rural population in Syria.

The basic idea of the concept of multifunctionality of agriculture is that agricultural is multifunctional because besides the key function of providing food and fiber, it provides many other functions or services to our whole society [4]. Basically, the main idea of multifunctionality of agriculture has been acknowledged internationally although a variety of conceptualization of the idea of multifunctionality of agriculture seems to exist as well as some controversies with respect to the content or elements of the concept.

It is, therefore, necessary to identify to which extent the Syrian experts understand multifunctionality of agriculture and to which extent the agricultural policy takes this concept into account. This paper will contribute to consolidating the multifunctionality of agriculture in the Syrian context and providing agricultural policy-makers with information and data on the extent to which experts have understood this concept.

2. Methods

The research used policy Delphi method in interviewing the experts, The Delphi technique is a “method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem”. While most Delphi methodologists use some variation of the traditional type to answer their research questions, a policy Delphi has the ability to produce a rich, meaty, stimulating body of opinion [5].

A Delphi typically consists of one to several rounds of questionnaires providing a group of experts with information and questions. If the experts are interviewed more than once, the results from the previous Delphi rounds are used in designing. The purpose of the policy Delphi method is to find out different opinions, which are due to different interests and background of the experts interviewed [6].

2.1. Design of the Survey and the Interviews

The research used informative and structured questionnaire, which included also open questions. Due to a variation of the level of expertise with respect to multifunctional agriculture, and different backgrounds of the experts interviewed, the same background information was provided to every respondent. The questionnaire was pre-tested and modified after comments and suggestions were received. Interviews were set beforehand, and the questionnaire was sent at least a week before the interview. During the interview, respondents were asked more precise reasoning for their answers and discussed the relevance of multifunctional agriculture [5].

The questionnaire introduced multifunctionality by its broadest definition

and asked experts to agree or disagree with every non-commodity output or element, which is included in the concept of multifunctionality. After defining the concept, interviewees were asked about the importance of different elements and their relevance as policy options.

2.2. Selection of Participants

The concept of multifunctional agriculture and its components was taken into account during the selection of experts so that all dimensions of the multiple functions of agriculture are covered (Table 1).

Respondents included people involved in agriculture research, administration, political parties, and interest groups (Table 2). The total sample of experts interviewed was 30.

Considering that the concept of agriculture multifunctionality is one of the concepts that are viewed from many sides, and it is a new concept, the interviewees were asked about the extent of their understanding of this concept. Nine of them thought that they are aware of multifunctionality of agriculture (Table 3). However, sixteen of the interviewees said that they are familiar to some degree with multifunctionality, but they had not had enough exposure. Five of the experts stated that they are unfamiliar with the concept.

3. Results and Discussion

3.1. Understanding Multifunctionality as a Concept

Results of data analysis showed that there is an interest in the concept of multiple functions of agriculture, but a very small percentage of experts have worked on this field, despite the varying attitudes towards this concept.

Table 1. Background of respondent.

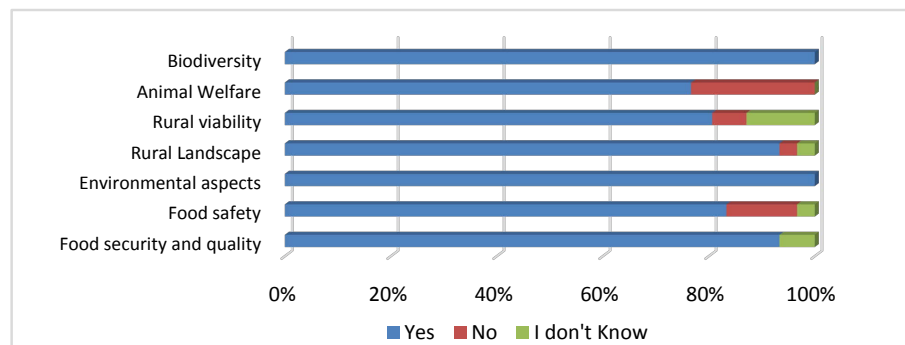
	Number	Percentage
Agriculture	15	50%
Rural	4	13%
Environment	3	10%
Animal welfare	2	7%
Agriculture policy	6	20%
Total	30	100%

Table 2. Substance of respondent.

	Number	Percentage
Research	17	57%
Administration	7	23%
Political parties	3	10%
Interest groups	3	10%
Total	30	100%

Table 3. Familiarity with the concept of multifunctional agriculture.

	Number	Percentage
Familiar	9	30%
Familiar to a certain extent	16	53%
Not Familiar	5	17%
Total	30	100%

**Figure 1.** Can non-commodity (non-market) output be considered one of the multiple functions of agriculture?

There was debate about the importance of considering that agriculture provides non-tangible services or non-market services and goods, and the answers were generally yes (**Figure 1**).

The questionnaire design, besides applying comparison table, also included open questions, which aimed to ask respondents to give some reasons when they regarded certain elements as the most important ones. Furthermore, because of a variation of the level of expertise in multifunctionality, some background knowledge and information were provided in the questionnaire introduction. However, data were processed, managed, and analyzed on the base of each of the thirty Syrian experts and their answers to the open questions. The whole investigation results figured out that regarding the importance of various elements of multifunctionality of agriculture, food security and quality, food safety, and biodiversity are very important in the opinion of the majority of Syrian experts, while rural landscape is somewhat important. However, an issue of clear measurement of these elements arises as illustrated in (**Figure 2**).

The extent of the importance of continuing to produce these non-commodity materials (outputs) was discussed. Experts had different opinions about ensuring the continuation of the production of these commodities. Most of the workers in the field of agricultural research and rural development supported the importance of ensuring continued production of non-market goods as illustrated in (**Figure 3**).

3.2. Joint Production of Multifunctionality

There was a consensus of experts of all categories that commodity and non-market

agricultural products are produced jointly, but opinions differed if they are produced as a whole or partially. It was agreed that the products to preserve biodiversity are produced collectively with the rest of the agricultural commodity products as shown in **Figure 4**.

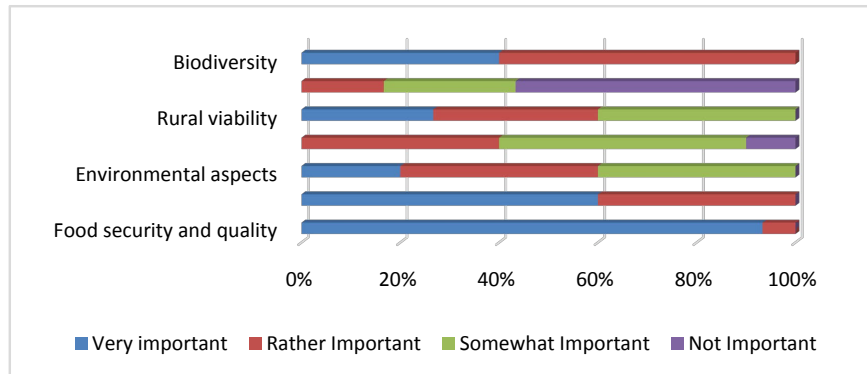


Figure 2. How important are the various elements of multifunctionality of agriculture according to experts' opinions?

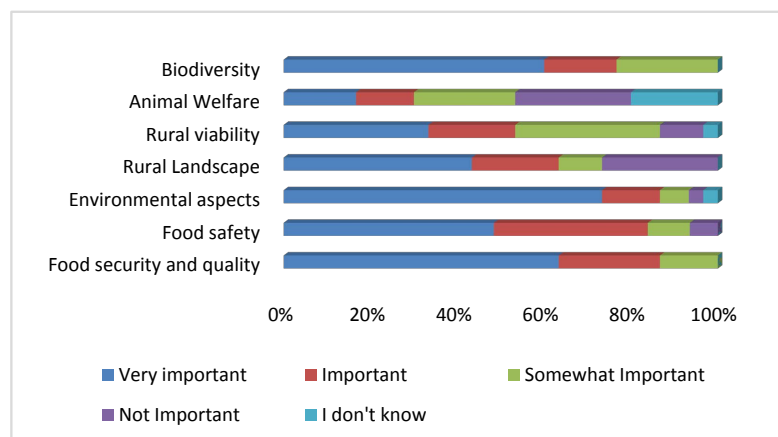


Figure 3. How important is it to ensure that these non-commodity productions (outputs) continue to be produced?

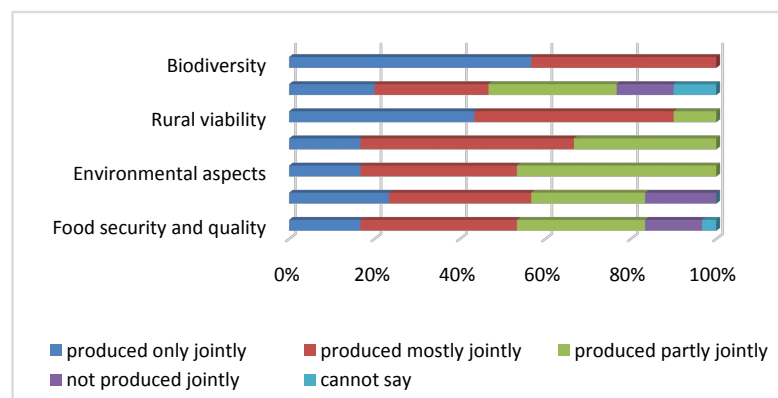


Figure 4. MFA elements produced jointly with agricultural production.

3.3. Family Farm and Rurality

Three questions were tailored to measure the extent of the experts' approval about the concept of family farms and their importance in their opinion in the context of the multiple functions of agriculture, as they measured the extent of their agreement considering family farms as part of the region's cultural heritage so that it is important for preserving the cultural identity of the region. The answers were yes. An additional question was also put forward to determine the extent of the importance of obtaining food stocks in exchange for preserving family farms. The answers were converging on the importance of obtaining food versus maintaining family farms. The opinion of the experts was that it is necessary to develop policies for family farms in Syria in order to protect agricultural lands as shown in the below (Figure 5).

3.4. Government Intervention in the Agricultural Sector

Experts generally believe that the state's intervention in the agricultural sector is always positive for small farmers, as agricultural inputs are secured, as well as agricultural support for natural disasters and a minimum pricing system, but for large farms of an investment and a profitable nature that depends on modern technology in production, the state intervention system in the agricultural markets hinders the launch of the foreign markets and the finding of outside sales outlets.

3.5. Environmental Issues

Natural resource investing has a broad scope that covers anything mined or collected in raw form. Starting with their raw form, natural resources may go through further processing for different reasons such as:

- **Rising incomes:** the demand for precious metals, building materials, and other natural resources tends to increase as well. Although a supply shock is still a potential risk with many resources, such as oil, rising demand generally leads to rising prices;
- **Political buying:** a number of nations have begun buying up natural resources to ensure a consistent supply of crucial raw materials. This buying sometimes takes the form of political agreements and sometimes outright open market orders or foreign acquisitions, making governments another driver of demand;
- **Store of value:** many natural resources act as a store of value, particularly the metals. These resources become more attractive when inflation threatens investors.

Interviewed experts were questioned regarding their belief whether the land contains many resources and natural resources if the best investment in them was? Most answers (93%) strongly support these expressions that the land contains many resources if it is properly invested, as shown in the following (Figure 6).

Experts' opinions about the individual's right to exploit and invest natural resources and make the necessary changes in proportion to the individual's needs

were measured by formulating a direct question that contains multiple answers. Most of the experts (65%) supported the right of individual to modify the environment and nature in proportion to his needs (40% strongly agree, 10% partially agree, and 15% agree), as shown in the following (Figure 7).

The questionnaire also included a question about the global environmental crisis and the extent of its confrontation with mankind; for this question, experts strongly agreed that environmental crisis facing the human race is greatly amplified (70% of interviewees) as shown in the following (Figure 8).

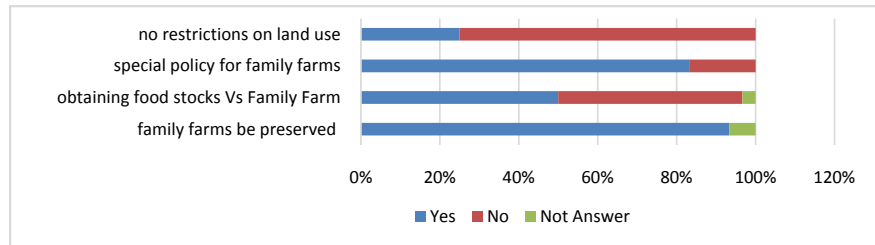


Figure 5. How it is important family farms, food stocks, and protect agriculture land.

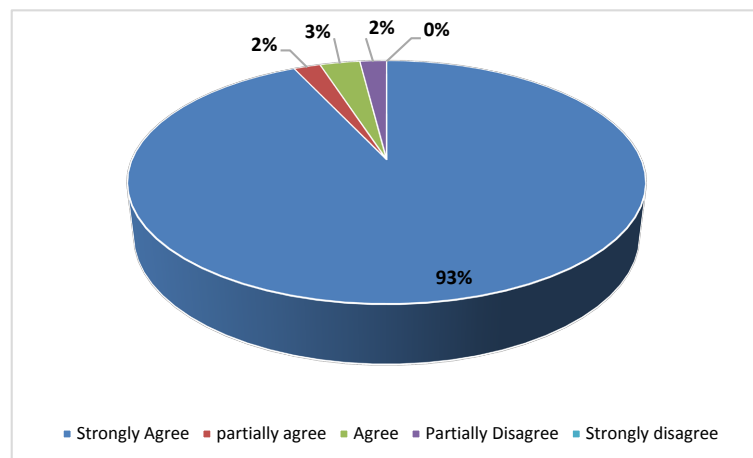


Figure 6. Does the land contain a lot of natural resources if we know how to invest them?

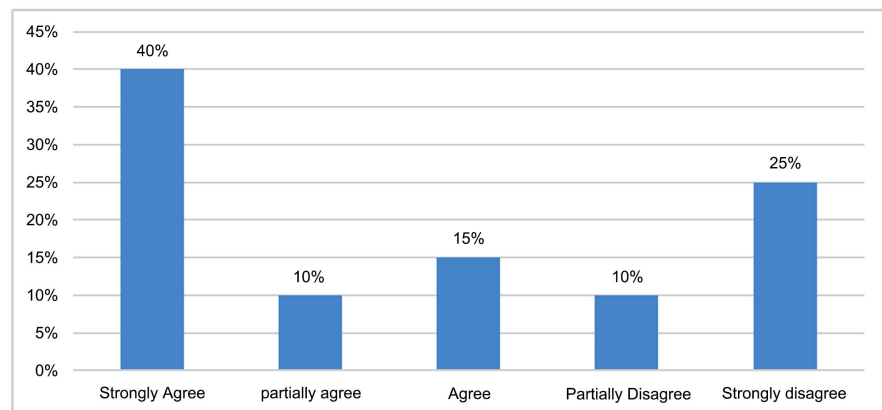


Figure 7. Does a person have the right to modify the environment and nature to suit his or her needs?

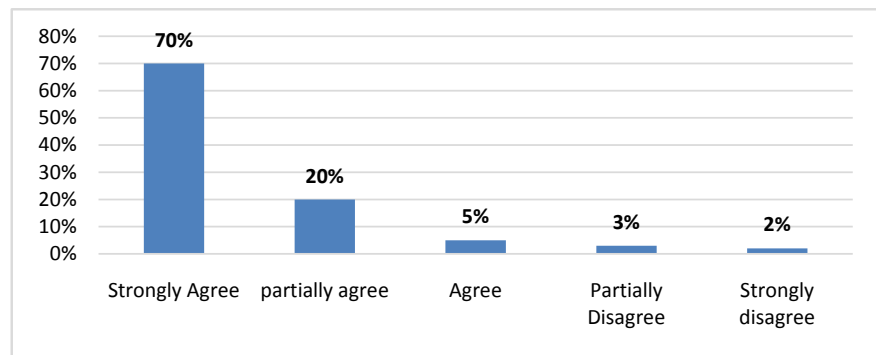


Figure 8. Is the so-called environmental crisis facing the human race greatly amplified?

4. Conclusions

Survey results showed that multifunctionality of agriculture is a new concept that can be viewed from many sides (30% of interviewees are familiar with it, and 53% are familiar to some degree). Furthermore, there is an interest in the concept, but only a small portion of experts have had the practical application. However, agricultural multifunction is very important for future policies regarding the element of food security, quality, food safety, and biodiversity, but regarding rural landscape, it is somewhat important. In addition, there was a consensus of experts that commodity and non-market agricultural products are produced jointly, but opinions differed if they are produced wholly or partially.

Moreover, respondents assured the importance of family farming in multifunction of agriculture as family farms are part of the region's cultural heritage. Moreover, experts agreed that land contains many valuable resources if properly invested, and people have the right to modify environment and nature due to their needs, but environmental aspects of multifunctionality are more an issue in agri-environmental policies. However, environmental crisis facing humanity is greatly amplified as described by interviewees. Finally, the state's intervention in the agricultural sector is a positive and necessary action for small poor farmers.

There can not be found clear correlations between experts' answers and opinions with their background and substance. Moreover, respondents' opinions seem to arise from personal interests, rather than the interests of their organizations.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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