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Palestine Economic Policy Research Institute (MAS)

آفاق استخدام الزراعة غير التقليدية في فلسطين مع التركيز على الزراعة العضوية

فتحي سروجي

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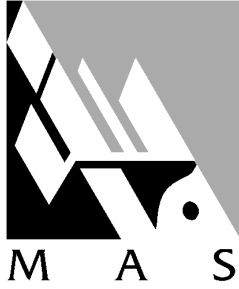
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Prospects for Nonconventional Agriculture in Palestine with Special Focus on Organic Farming

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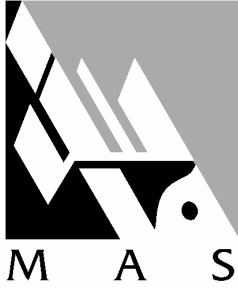
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- ◆ Evaluating economic and social policies and their impact at different levels for correction and review of existing policies.
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Foreword

Palestinian agricultural sector endures a number of impediments and challenges that have, over the past decades, shaped its entire development map horizontally and vertically. The Israeli occupation and its detrimental policies have systematically and consistently expropriated agricultural area; substantially depleted irrigation water; and excluded the Palestinian farmers' from this agricultural lands as a result of the settlement activities and the separation apartheid wall. Many obstacles were placed on internal marketing especially between the West Bank and Gaza. Furthermore many constrains were imposed on the import of agricultural inputs and hamper the export of products to international markets.

The agricultural sector is also at disadvantage due to global warming and the resulting droughts. Further, it languishes in poor investment climate occasioned by a lag in productivity compared with other sectors. Finally, it still lacks an effective safety net that would protect investors and small farmers.

However, the Palestinian agricultural sector is blessed with comparative advantages by virtue of biological and climate diversity, which helps in the production of multiple crops and for several cycles during the year. Side by side, the Palestinian farmers tend to be morally attached to their land, and some crops constitute an integral part of their lifestyle. This is quite manifested in the household's reliance on agriculture as a secondary source of income and consumption.

This study aims to develop new modes of production that can help Palestinian farmers increase their agricultural income. It primarily examines opportunities of expanding organic farming in light of the increased demand for organic products which have surged in popularity as a result of an increased awareness of the dangers of the use of fertilizers and chemical products. The high prices of agricultural products, especially the organic, in recent years have increased the attractiveness of the agricultural sector and driven investors to acquire a stake in this industry.

With the release of this study, MAS team would like to congratulate the researcher for this important contribution to the field. We would also like to thank researchers, reviewers and panelists whose comments, thoughtfulness and annotations contributed to the development of the

study. Finally, we are especially indebted to the Arab Bank for Development in Africa and the Islamic Development Bank - Al-Aqsa Fund for sponsoring and funding the research program Research Priorities of the Palestinian National Authority, which this study is part of.

Dr. Samir Abdullah
Director General

Executive Summary

This study seeks to identify the history, principles and practices of organic farming, as well as its diffusion globally, regionally and locally. It further draws a comparison between the economic implications (such as employment; costs; production; and total and net returns) of producing both traditional and non-traditional products using non-conventional methods. The study then spots the Palestinian individual awareness about the health benefits of organic products. The study also aims to identify the extent to which good agricultural practices are proliferated in the occupied Palestinian territory (oPt); detect the newly introduced crops in the (oPt); and estimate the economic impact of good economic practices and the newly introduced crops on farmers and their returns.

The results of the study are expected to be serviceable for the Palestinian farmers, consumers and economy, as well as for decision-makers. The results are also expected to contribute to improving the use of productive farming resources, particularly farmland, in addition to increasing income and profits. Through exploring the health worthiness of organic products, the study helps consumers be aware of the health benefits of opting for organic products. The study also highlights the expected implications on both employment and the use of capital. Finally, it helps decision-makers take sound decisions in terms of production and consumption.

The term 'non-conventional agriculture' involves, among other things, the use of artificial environments, such as the use of straw or small gravel to grow plants, instead of traditional agricultural soil, as well as the use of processed sewage and gray water to irrigate some agricultural products. The results of exploratory interviews with officials in the Palestinian Ministry of Agriculture show that the application of these methods in the (oPt) is still marginal. Therefore, the study focuses on organic farming and good agricultural practices for growing conventional and unconventional crops, in addition to the newly introduced agricultural crops.

The study needed to collect data on a number of variables: organic products, the area of land planted with each of the organic crops, the use of resources other than agricultural land, and the volume of production, income and exports. To date, however, there are no macro-level data available on organic farming; thus, the study builds on data available on the status of organic farming in various countries around the world (developed and developing). Additionally, the study conducted a number of personal interviews with different concerned groups, most notably

officials from the Ministry of Agriculture; supervisors on organic projects and those supervising similar projects (especially Global Gap); farmers who apply this type of agriculture; people from agricultural societies already involved in this type of farming, and executives in agricultural companies adopting and accrediting this form of farming.

Organic farming is a holistic production management system which promotes and enhances agro-ecosystem, including biodiversity, biological cycles, and soil biological activity. This type of agriculture is intended to maintain soil health and productivity, and thus the health of plants, animals and human beings. Organic farming can also be defined as a form of agriculture that avoids the use of chemical fertilizers and pesticides, and rather relies on biological pest control and the natural plant's resistance. It relies on a number of techniques, including crop rotations, diversifying crops, choosing times suitable for agriculture, using proper tillage farming methods, using and managing compost, and managing irrigation water properly.

Organic production is widespread in different regions and countries, developed and developing alike. The organic farming production in the developed world accounts for 80% of the global production, while the share of the developing world is barely 20%. As the developed countries are aware of the health benefits of organic food and because these countries enjoy high standards of living, the demand for organic products in these countries is quite higher than their production; thus they seek to meet this demand through imports. By contrast, the low awareness of such health benefits and the low standards of living in the developing countries have reduced the demand for organic food; and thus these countries tend to export organic products to the developed world. The developing nations, including some Arab states, capitalize on these facts to export organic food to the developed world, especially Europe.

The results of most studies reveal that the yields per unit area cultivated organically are higher than the productivity of a unit area cultivated conventionally. One study found that the global productivity of a unit area cultivated organically is nearly 33% higher than the productivity of a unit area cultivated conventionally. The results also indicate that the pattern of organic farming increases employment, in the sense that the organic cultivation needs more labor, and thus it helps in reducing unemployment rates. Another study found that organic farming increases the agricultural employment by 15-75%, depending on the nature of the crop. The results also suggest that the cost of the transition from conventional farming to

organic farming within three years can be expensive, and that the cost of producing most of the organic products is less than the cost of production using the conventional methods. The results also indicate that due to the scarcity of organic products on the market and because of their high nutritional value, prices of such products are 120-130% higher than the prices of some products grown conventionally (this might be higher with some products). The results reveal that the total and net returns of organically cultivated farmland are 135% higher than the traditionally cultivated farmland (this might fall to 90% with some products).

The organic production in the Arab world is still insignificant— a scant 1% of the world's production. Worse still, the consumption of organic products is minimal in many Arab countries. There are two explanations for this: either because people cannot yet identify the advantages of organic food versus traditionally grown food (along with the frequent use of chemicals, fertilizers and pesticides); or because of the poor per capita incomes in many Arab countries, and thus the low demand for organic products that are often expensive. Therefore, the organic production in some Arab countries does not meet their needs because of effective demand (e.g. the Gulf States), while in some other Arab countries (e.g. Arab States in Africa and the Levant) there is a surplus of organic production occasioned by a lack of effective demand. These facts allow for opportunities to increase inter-Arab trade in this area.

Evidently though, many of the Arab countries (such as Tunisia, Egypt and Morocco) have made quantum leaps in the production of organic food. They also have special institutions for regulating and certifying organic products in accordance with international standards, especially European and American. Three Arab countries (Tunisia, the United Arab Emirates and Syria) have gone far beyond other Arab countries, enacting organic farming laws. Jordan and Lebanon have yet to pass organic farming bills.

The Palestinian Ministry of Agriculture, in cooperation with national and civil institutions, particularly the Palestinian Agricultural Relief and the Arab Agronomists Association, is developing organic agriculture in the (oPt). Some institutions, such as the Company for Organic Agriculture in Palestine (COAP), the Palestine Fair Trade, the Palestinian Fair Trade, the Canaan Fair Trade) follow-up, monitor and provide the necessary certification for organic products according to European and American standards. Presently, the certification process is still done through Arab and regional mediators, particularly the Egyptian Center for Organic Agriculture. The focus is on the production of organic olives and olive oil.

The institutions mentioned above issue the necessary certification for several olive groves and olive oil presses. Due to poor health awareness and, most importantly, owing to low per capita income, there are no markets for organic products in the (oPt), and thus Palestinian organic products are exported to international markets.

The results of analysis of data obtained from the Palestinian Company for Organic Agriculture and the Palestinian Fair Trade through Canaan Fair Trade show that acreage devoted to organic olives and those in the process of transformation to organic farming constitute only 4.5% of the total acreage of fruitful rain-fed olives planted in the West Bank. The results also indicate that the vast majority of this acreage are located in the northern West Bank, where the percentage of acreage devoted to organic olives and those in the process of transformation in this region constitute 91% of the total acreage of them, while such acreage in central and southern West Bank constitute only 8%, and 1%, respectively. The results also show that the acreage devoted to organic olives and in the process of transformation fluctuates from season to season. This phenomenon was explained by the withdrawal of some farmers, communities and associations of from organic cultivation after they have engaged for a period of time. These withdrawals mostly rise for three reasons. First, the high cost of continuing practicing organic farming and the cost associated with fees of renewing the required licenses and certifications; second, the lack of internal efficient markets for organic olives and olive oil and inability of small farmers to access international markets; third, the adoption of many farmers of organic agriculture is encouraged by grants provided by organic farming projects, where they withdraw from organic practices as the project came to its end.

Based on results and findings, the study provides key general recommendations: 1. appropriating the agricultural calendar for off-season growing of crops. The (oPt) enjoys climate and soil diversity in various agricultural environments: coastal, semi-coastal, highlands, the eastern slopes and valleys. 2. Focusing on growing crops that have a production comparative advantage in the (oPt), especially olives, olive oil, dates, tomatoes, paprika, aromatic herbs and medicinal herbs. These products are quite marketable in Europe and some Arab countries in the Gulf. 3. Seeking sources to fund farmers as they shift from traditional to organic farming, a process which studies found expensive. 4. Urging Palestinian farmers, communities and association the central and southern regions of the West Bank to engage in organic farming of olives and olive oil, as the results of the study show that the acreage devoted to organic olives is too small.

The study also provides specific recommendations for different stakeholders, groups and institutions:

- ✧ Farmers: 1. Engaging in organic farming, which is characterized by low costs and high productivity, and thus higher total and net returns. According to some studies conducted in the (oPt), organic products also have a competitive advantage. 2. Focusing on export-oriented products (mentioned above). 3. Avoiding excessive use of chemicals (fertilizers and pesticides) so as to first materialize good agricultural practices, and second to actualize organic farming. This will help farmers obtain the required certification from competent institutions in the (oPt). 4. Identifying the requirements for obtaining certification and recognizing specifications and standards required by the institutions that grant these certificates. 5. Attending awareness training courses held by the Ministry of Agriculture or NGOs on good agricultural practices and organic agriculture.
- ✧ Consumers: 1. Encouraging Palestinian consumers to consume organic agricultural products which contain lower toxic chemical residue levels (which, in turn, reduce health risks). 2. Urging the Palestinian consumer to opt for organic food, this is rich with vitamins and minerals and even proteins and sugars that spare consumers many diseases. 3. Identifying the specifications and features of agricultural products (especially those that have obtained certification) as well as the posters that mark these products as organic.
- ✧ The Ministry of Agriculture: 1. Sensitizing farmers on organic agriculture, especially with regard to differentiating between good agricultural practices and organic farming. This can be done at the individual level of counseling or through holding meetings in different governorates. 2. The Farming Law must explicitly provide for good agricultural practices and organic farming, as the articles and the paragraphs of the current law do not explicitly mention them (the articles of the law refer to them implicitly, especially to good agricultural practices). 3. The strategies and the plans of the agricultural sector should explicitly acknowledge these two forms of agriculture and identify specific goals to be achieved within a specified timeframe. 4. In order to facilitate exports, farmers should be informed about the crops that enjoy a competitive advantage and that could be grown using these two styles of agriculture. This could be carried out at the individual or collective levels of counseling or even via various media outlets. 5. Through cooperation with the media and relevant institutions (particularly the Ministry of Health), the Ministry

of Agriculture should sensitize citizens on consuming organic agricultural products if they can afford them.

- ✧ Civil Institutions: 1. Counseling and spreading awareness among farmers, specifically with regard to the differences between good agricultural practices and organic farming. This could be undertaken at the individual level of counseling or through holding meetings in different governorates. 2. Creating awareness among farmers on the requirements for obtaining certification regarding good agricultural practices and organic farming. 3. It is imperative that organic products be certified by local institutions- a move that will reduce additional certification costs that farmers incur, and might cut down the expenses of the institutions, and thus increase their profits. 4. It is important to these institutions to expand their activities to the central and southern regions of the West Bank, as the organic activities there are too small.