



Palestine Economic Policy Research Institute (MAS)

Irrigated Agriculture as Business Enterprise in Palestine

Fathi Srouji

2009



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The Palestine Economic Policy Research Institute (MAS)

Founded in Jerusalem in 1994 as an independent, non-profit institution to contribute to the policy-making process by conducting economic and social policy research. MAS is governed by a Board of Trustees consisting of prominent academics, businessmen and distinguished personalities from Palestine and the Arab Countries.

Mission

MAS is dedicated to producing sound and innovative policy research, relevant to economic and social development in Palestine, with the aim of assisting policy-makers and fostering public participation in the formulation of economic and social policies.

Strategic Objectives

- ◆ Promoting knowledge-based policy formulation by conducting economic and social policy research in accordance with the expressed priorities and needs of decision-makers.
- ◆ Evaluating economic and social policies and their impact at different levels for correction and review of existing policies.
- ◆ Providing a forum for free, open and democratic public debate among all stakeholders on the socio-economic policy-making process.
- ◆ Disseminating up-to-date socio-economic information and research results.
- ◆ Providing technical support and expert advice to PNA bodies, the private sector, and NGOs to enhance their engagement and participation in policy formulation.
- ◆ Strengthening economic and social policy research capabilities and resources in Palestine.

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Palestine Economic Policy Research Institute (MAS)
Jerusalem and Ramallah

Foreword

In October 2008, the Palestine Economic Policy Research Institute (MAS), in conjunction with the International Development Research Center-Canada (IRDC), began a two year Research Programme on Micro, Small, Medium Enterprises (MSMEs) in the Palestinian Territories. The programme aims to examine the state of MSMEs and evaluate their role in the Palestinian economy in terms of valued added, employment and export. In doing so, the Programme seeks to highlight possible problems confronting MSMEs and to recommend measures that would create a more enabling environment for development.

At the beginning of 2009, MAS produced three studies in connection with this programme: “Evaluation of the Legal Environment of Micro, Small, and Medium Enterprises in Palestine”, “International Experiences in Supporting MSMEs: Lessons for Palestine”, and "Problems of Micro, Small, and Medium Enterprises in Palestine”.

In this intermediary phase of the programme, MAS is publishing four additional studies: “Enabling Palestinian Micro, Small and Medium Enterprises to Meet International Product Standards”, “Irrigated Agriculture as Business Enterprise in Palestine”, “Marketing Products of Palestinian Micro, Small and Medium Enterprises”, and “Review of Draft Law of Micro, Small and Medium Enterprises”.

MAS’s interest in MSMEs is based on an understanding that they are the foundation of the Palestinian private sector, as reflected by their contribution to employment, output and export. The future of MSMEs remains inextricably linked to the quality of life in the Palestinian Territories. Research into this sector and analysis of current problems will aide policymakers in their efforts to help foster a more conducive environment for MSMEs to flourish and stimulate further growth.

I, on behalf of MAS, would like to express my gratitude to the IDRC-Canada for funding this Research Programme.

Numan Kanafani
Director General

Executive Summary

This study aims to describe the small and medium irrigated agricultural sector in the West Bank. The study explores the problems facing this sector and suggests some policies that may contribute to solving them and in turn lead to the growth and development of this sector. The study concentrates on this sub-sector due to its significance in terms of productivity. In fact, the productivity of one irrigated dunum is known to be equal to about 28 times that of a rain-fed dunum.

In view of the Israeli siege on the Gaza Strip which created problems specific to Gaza unlike the agricultural problems in the West Bank, this study will examine the small and medium agricultural enterprises in the West Bank only.

Employment in agriculture is characterized by family, seasonal, and part-time employment, making it difficult to classify agricultural holdings into small and medium according to the number of workers. The classification instead was made according to the area of the holdings: the small agricultural enterprise with 10 dunums or less and medium agricultural enterprise with 11-40 dunums. Holdings of more than 40 dunums were classified as large agricultural enterprises.

To achieve the objectives of the study, a sample of holdings from the West Bank governorates, characterized by irrigated agriculture, has been chosen. These governorates are Jericho, Jenin, Tubas, Tulkarm, Nablus, Qalqilia and Hebron. The sample has been chosen according to the relative importance of each of the governorates to the total irrigated agricultural land within them. 388 questionnaires have been distributed in all governorates as follows: 131 in Jericho, 60 in Jenin, 58 in Tubas, 48 in Tulkarm, and 30 in each of Nablus, Qalqilia, and Hebron. The study used only 377 completed questionnaires for the analysis due to two reasons; some questionnaires were not returned and some were invalid for analysis due to missing data.

The results of the analysis indicate that most of the land tenures are classified as small scale agriculture (10 dunums or less). Small scale holdings accounted for 65% of the total tenures of the sample, while the medium sized holdings constituted 25% and the large scale holdings 10% of the sample tenures.

The distance between the land tenure and the tenant residence ranges between zero (living on the farm) to 25 km (living in different town). Most of land tenures, however, are closely located to their tenants with an average of 2.2 km. Being close to the farm tenure may facilitates the tenant's management operations in planning, monitoring, controlling, and follow-up. It may also reduce many of the costs especially those related to mobility and transportation expenses.

Regarding the location of tenure in areas administratively classified as 'A', 'B' and 'C', the results of the analysis refer to the domination of small and medium scale agriculture over the large scale in terms of numbers and in all areas.

The proportion of those who own their tenures amounts to 49% of the total sample, whilst tenants who obtain land holdings by means of quota or lease is 32% and 23% respectively. It should be noted that both the quote or leasing methods are more common in small scale agriculture.

All of the respondents to the questionnaire were male, due to the low proportion of female tenants, the inability to reach them, and the lack of cooperation from those who could be reached. Among these males, 95% are married, placing a heavier burden on the tenant in sustaining himself and his dependents.

70% of the respondents are in the over 40 age group which gives an indication about the high experience of the tenants. Actually, 71% of the sample members have over 20 years of experience. Nevertheless, this long experience may have a dual effect; it may lead to raising the productivity and marketing capacity on one hand, but may also embody a technological stagnation on the other, especially when the reliance on experience overcomes a tendency to keep up with technological advancements.

With regard to the tenants level of education, the results show that 56% are below the secondary level while 44% are holders of general secondary certificate or higher. High level of education could lead to rapid acquisition and better utilization of technology.

71% of the sample tenants use regular crop rotation cycles (sequencing) and most of them use the biennial cycle that extends for two years. The use of crop rotation cycles increases land fertility and improves biological pest control.

Most tenants (65%), irrespective of the size of land tenure, buy water for irrigation from owners of water resources. The tenant ownership of water resources is directly proportionate with the size of tenure. We realize that only 7% of small tenants own their water resource in comparison with 9% of medium scale tenants and 30% of large scale tenants.

In addition, 49% of the tenants own their heavy capital equipment. Another 49% rent this type of equipment from their owners. The proportion of equipment rental through cooperative societies does not exceed 2% which reveals the weakness of cooperative work in this respect. Apparently, the proportion of equipment owners among large scale tenants exceeds that among small and medium scale tenants.

79% of tenants work on their agricultural lands and they employ workers from their families, both males and females, paid or not paid, in addition to employing male and female workers from the market. The maximum number of male paid labor reaches 15 workers with an average of 2.09 workers per holding. This type of employment from outside the family increases in large scale agriculture compared to small and medium scales with the average of workers reaching to 3.42 males and 2.67 females.

There are several ways available for financing the purchasing of agricultural production inputs. Most tenants finance these purchases in two main methods; the most prominent is to buy on credit from agricultural inputs merchants with 53% of tenants doing so. Second in importance is the cash payment method by landowners with 45% tenants using it. Other methods are also used to finance the purchase of these inputs, but are less popular than the previous two. These methods are: buying in cash through the lease holder, and, on credit from the agricultural materials merchant in return of supplying him with the crop at the time of harvest. The results also reveal that the necessity for loans differs by the size of the land tenure. So while small tenants regularly require loans, the need reduces as the area of the holding becomes larger.

The results highlight that 95% of the tenants have not resorted to loans in the past despite their need. It should also be noted that this percentage increases in correlation with the increase in the size of the land tenure. In other words, large scale farmers showed less inclination to resort to loans. The main reasons behind this, arranged by their relative importance, are religious causes, the inability to provide guarantees, and the high cost of loans.

The results of the study point out that 66% of the respondents are aware that there are agricultural insurance systems in other countries but 84% of them have no idea that there is an intention to apply such a system in the Palestinian Territories. At the same time, 61% of them declared their intention to participate in the proposed insurance system and 28% said they had not made up their minds yet. In addition, 64% affirmed their willingness to contribute 1% of their sales to the insurance fund. This percentage rises to 84% among those who expressed their desire to participate in the system.

The results demonstrate that the most common method for products' marketing is through a dealer who buys the products and sells them in the local central vegetable market (86%) or in Israeli vegetable markets (58%). Another method is selling to truck drivers who transport products to local markets (57%). There are other less popular methods such as the ownership of a private vehicle or renting public transportation.

The high fees of the central market, the competition of Israeli products, the high transportation costs, and the large number of middlemen, are among the most prominent marketing problems that tenants are suffering from. In addition to these problems, the lack of a law to regulate the vegetable market, Israeli military checkpoints, and the lack of export or classification and calibration companies in nearby areas, further complicates matters.

Finally, the tenants also reported other problems they are suffering from, the most important of which include the lack of chemical fertilizers, the high cost of agricultural production inputs including irrigation water, the limited agricultural extension programs, and the inability of farmers to export their production, especially for small scale tenants.

In light of these results, the study proposes a number of recommendations, the most important of which are:

- ✧ To expedite the application of an agricultural insurance system.
- ✧ To encourage and help owners of wells to transform to electricity instead of fuel.
- ✧ To solve the problem of the unavailability of chemical fertilizers with the Israeli side.
- ✧ To promote cooperatives in the field of purchasing agricultural production inputs and marketing of crops.

- ❖ To encourage small-credit financing institutions to deal with small farmers, especially in offering loans using an Islamic basis, reducing demands for guarantees, and lowering their rate of interest.
- ❖ To activate extension services, especially technology diffusion to small farmers.
- ❖ To encourage small farmers using agricultural crop rotation cycle.