

# The Palestinian Agriculture Clusters Strategy: Status and Prospects

## استراتيجية التنمية بالعناقيد الزراعية الفلسطينية: الوضع الحالي والمتوقع

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## Abstract:

The study aims to assess the current situation and the expected impact of the implementation of the strategy of the Palestinian agricultural clusters plan on the agricultural sector by studying the items of the plan, the current status of what has been accomplished from the outputs, the expected impact on development and the actual capabilities available to implement the ambitious clusters plan.

As for the results of the study, based on the responses of the officials, it is difficult to know the impact of the strategy of the agricultural clusters plan before a period of 3-5 years passes, as studying the production of agricultural crops takes time. Additionally, the plan relies on a number of indicators to measure outputs, which can be calculated according to the matrix of the plan's interventions. Moreover, the success of the plans depends on the partnership and integration with the Palestinian Government, the private sector, NGOs, and civil society, and the relationship with funders, especially the European Union. There is no doubt that there are challenges and risks caused by the Israeli occupation policies and settlers in order to impede development.

The most important recommendations of the study are that the development of the agricultural sector in Palestine is an urgent necessity in order to reach results that achieve the strategic goals of the clusters plans, namely the involvement of entrepreneurial youth, farmers, and investors in agricultural and rural businesses of feasibility and sustainability, the access to agricultural production techniques, varieties, and strains used by farmers and producers to improve them, the addition of new land areas cultivated with strategic, high-value crops and livestock farms with a return, and the easy and convenient access of farmers to their lands and water sources in all governorates, in addition to the encouragement of investment in the agricultural sector between the public and private sectors, and the need to secure external financing and external investments to pump money into this sector, specifically to support

clusters development plans.

**Keywords:** Clusters Development, Agricultural sector, Palestinian Economy

## المخلص:

تهدف الدراسة إلى تقييم الوضع الحالي والأثر المتوقع من تنفيذ استراتيجية خطة العناقيد الزراعية الفلسطينية على القطاع الزراعي، وذلك من خلال دراسة بنود خطة الوضع الراهن لما تم إنجازه من مخرجات والأثر المتوقع على التنمية والإمكانات المتاحة فعلياً لتنفيذ الخطة العنقودية الطموحة.

ولمعرفة نتائج استخدام تطوير الخطط العنقودية بالمحافظات ومقارنة الوضع الحالي والمتوقع لاستخدام استراتيجية خطة العناقيد وأثرها على تنمية القطاع الزراعي تم عقد عشرين مقابلة مع مسؤولين ومنفذين لخطط العناقيد الزراعية ولجان العناقيد الزراعية في المحافظات بالإضافة إلى التعاونيات الزراعية.

أما نتائج الدراسة، بناءً على إجابات المسؤولين، فإن هناك صعوبة لمعرفة أثر استراتيجية خطة العناقيد الزراعية في الوقت الحالي وبحاجة لمدة تتراوح ما بين 3-5 سنوات وذلك لأن القطاع الزراعي بحاجة إلى وقت كاف لمعرفة الإنتاج المتعلق بالمحاصيل الزراعية، واعتمدت الخطة على عدد من المؤشرات لقياس المخرجات فيمكن قياسها حسب مصفوفة تدخلات الخطة، كما أنّ عملية إنجاز الخطط تعتمد أيضاً على الشراكة والتكامل مع الحكومة الفلسطينية والقطاع الخاص والمنظمات غير الحكومية والمجتمع المدني، إضافة إلى جسر العلاقة مع الممولين وخاصة الاتحاد الأوروبي، ولا شك أنّ هناك تحديات ومخاطر من سياسات الاحتلال الإسرائيلي والمستوطنين في إعاقة عمليات التنمية.

وأهم التوصيات التي خلصت إليها الدراسة، أنّ تنمية القطاع الزراعي في فلسطين ضرورة ملحة وذلك من أجل الوصول إلى نتائج تحقق الأهداف الاستراتيجية للخطط العنقودية وهي انخراط الشباب الرياديين والنساء والمزارعين و المستثمرين في أعمال زراعية وريفية ذات جدوى واستدامة، والحصول على تقنيات الإنتاج الزراعي والاصناف والسلالات المستخدمة من قبل المزارعين والمنتجين لتحسينها، إضافة مساحات أراض جديدة تزرع بمحاصيل استراتيجية ومحاصيل عالية القيمة ومزارع ثروة حيوانية ذات عائد، وأهمية وصول المزارعين

إلى أراضيهم ومصادرهم المائية في جميع المحافظات بسهولة ويسر، بالإضافة إلى تشجيع الاستثمار في القطاع الزراعي بين القطاع العام والخاص، وضرورة تأمين تمويل خارجي واستثمارات خارجية لضخ الأموال في هذا القطاع وتحديدًا لدعم خطط التنمية العنقودية. الكلمات المفتاحية: خطة العناقيد، القطاع الزراعي، الاقتصاد الفلسطيني.

## Introduction:

The Palestinian people have been suffering since 1948 because the Israeli occupation exploited their natural water and economic resources. By occupying the West Bank and Gaza Strip in 1967 and gaining control over all resources, it led to the destruction of the social and economic structure of the Palestinian society, forcing it to become fully dependent on the economy of the occupation to the point where disintegration is almost impossible.

The agricultural sector is facing many problems caused by the Israeli occupation and its practices, such as the construction of the segregation wall, which lead to the isolation of agricultural lands, destruction of agriculture and infrastructure, and limited natural and environmental sources of water, in addition to soil erosion and low productivity, and the lack of adequate laboratories and equipment causing a weakness in the research infrastructure.

This plan comes within the framework of the 18th government plan to start preparing for the comprehensive economic development program in accordance with the development clusters system, with the aim of contributing to achieving the sustainable competitive advantages of the Palestinian economy in all geographical areas and developing and encouraging investment in all sectors towards complete disengagement from the occupation.

The Palestinian Government launched the "Clusters Development" plan from the Ministry of Agriculture's vision for agricultural development prospects in the West Bank, which is in line with the agricultural sector strategy "Resilience and Sustainable Development 2017-2022" and the National Policy Agenda, which aims to enhance the resilience of citizens on their land and achieve

objectives and excellence, provide opportunities for work, as well as income and food security for the citizen in a sustainable manner, contribute to pushing economic growth by investing natural resources through market opportunities and knowledge that will enhance the resilience of farmers in their lands as a safe way to fight the challenges and enabling the Palestinian economy to rely on domestic production and create a competitive advantage for each province of the Palestinian governorates. ("Agricultural cluster in Qalqilia Development Plan", 2019)

The agricultural sector is the backbone of the Palestinian national economy. The plan is based on all activities and interventions on the basis of strengthening partnership and coordination between various government institutions, the private sector, cooperative societies, farmers, universities, and donors in response to the needs in the selected areas, which will lead to the contribution of all in the implementation of the clusters plan, so that clusters are based on horizontal cooperation and development with other clusters, and vertical development within a single cluster towards a productive sector for the public benefit. (Ishtayeh, 2018)

The plan will contribute to the development and growth of the agricultural sector through the reclamation of agricultural land, which will increase the area of land and the efficiency of production in addition to the construction and rehabilitation of agricultural roads to facilitate access to farmers and serve their lands, and the plan will contribute to increasing the amount of water available for irrigation through the rehabilitation of groundwater wells and through the harvesting of water rain in wells and rainwater collection tanks. (Ministry of Agriculture Palestine, n.d.).

## Research Problem:

The current government plan encourages clusters development in the agricultural sector. The problem is that the Palestinian agricultural sector faces many challenges and obstacles due to the Israeli occupation, its daily practice, and the confiscation of its lands, which limited the development of the Palestinian agricultural sector. Moreover, there is a need to know the results

of using clusters development and compare the current and expected situation for using the clusters plan and its impact on the development of the agricultural sector.

The incentives behind studying the agricultural clusters' plans are the gradual disengagement from the relationship imposed on us by the Israeli occupation, and the strengthening of our national product in order to reduce imports of any agricultural variety from Israel or abroad, and creating job opportunities for the Palestinian citizen and strengthening the national economy.

### Research Objectives:

*Study the current status and future expectations of the Palestinian agricultural clusters plan and its impact on this sector*

- To study the economic dimension and its impact on the agriculture sector.
- To Study the current status of clusters development in the agricultural sector.
- To study the expectations of clusters development in the Agricultural sector
- To study the fund potentials for the agricultural sector.
- To investigate the governmental plan regarding the agricultural sector.
- To measure the clusters impact on the farmers' income

### Scientific Research:

The importance of the study lies in investigating the clusters development plan to achieve economic development in the agricultural sector. Moreover, the scientific importance that the research will contribute to is the cumulative knowledge and the importance of the subject itself.

### Research Questions:

- » Have the agricultural areas increased in the current status?
- » Has the amount of plant production been greater than the current production?
- » Has the amount of irrigation water been

increased?

- » Has the irrigated agricultural area been increased from the current area?
- » Is there support for farmers?
- » Has the plan contributed to developing and encouraging investment and creating job opportunities for citizens?

### Limitations:

The research study covers the Palestinian Government's strategy towards clusters development for the year 2019, and the geographical areas in the West Bank, the plan of agricultural clusters in the Qalqilya, Jenin, Tulkarm, Tubas, and Jericho areas.

### Literature Review

#### Theoretical Framework:

The Palestinian agriculture sector is characterized by its diversity in terms of agricultural production. It benefits from the climatic variations in Palestine, as well as opportunities for expanding irrigated and export cash crops on the one hand, and its ability to keep abreast of agricultural technological development as a result of favorable agricultural patterns on the one hand. These characteristics reflect the agricultural sector's ability to rapidly develop and effectively contribute to employment, as well as economic growth and development.

#### The Concept of Cluster Development:

According to Shtayyeh (2018) in his book entitled "Palestine a New Development Perspective", clusters development could be defined as "Palestinian geography and its economy, institution, education and other activity in clusters horizontally and vertically and intertwined with the rest of the other clusters on the basis of competence in one cluster, and cooperation and integration with other clusters"

The aims of clusters development are for the Palestinian National Authority to adopt a new development perspective in Palestine that can address and meet the challenges and respond

to the basic needs of people and address the accumulation of economic and social problems during the progress of the struggle for freedom.

Authors Bosworth and Broun (1996) provided a simple definition of a cluster that is “the geographical concentration of industries which gain advantages through co-location”. Furthermore, the author Porter (1998) defined a broader definition of a cluster, stating that it is the “geographic concentrations of inter-connected companies and institutions in a particular field.”

### **The Concept of Development:**

The term “development” has various meanings to different people and can be explained in different contexts. For example, the development needs of a starving population must be different from those where there is sufficient nutrition Matowanyka, (1991). Development has often been confused with “economic growth as measured solely in terms of annual increases in per-capita income or gross national product, regardless of its distribution and the degree of people’s participation in effective growth” Mahmoud (1991). Seers (1972) asserted that “development means the conditions for realisation of the human personality. Its evaluation must, therefore, take into account three linked criteria: where there has been a reduction in (1) poverty, (2) unemployment, (3) inequality.”

According to Pearson (1992), development involves “An improvement, be it qualitative, quantitative or both - in the use of available resources.” He also asserts that development does not refer to one particular perspective on social, political and economic betterment. Instead, it is a hybrid term for a myriad of strategies adopted for socioeconomic and environmental transformation from current states to desired ones.

### **Strategic Development Planning:**

The author Shakya (2007) defined planning as a proper development path to improve or better the lives of common people. It is an organised process needed to achieve a desired goal in the future or for a specific time range. Moreover, planning has been defined in many ways. Author Mintzberg (1994) defines planning in practice as a

procedure to produce a clear result in the form of an integrated system of decisions. Moreover, the author Litman (2013) states that planning refers to the process of deciding what to do and how to do it.

According to David (2011) the term of strategic planning first originated in the 1950s and was widespread between the mid-1960s and the mid-1970s. After a few decades, strategic planning was vastly believed to be the answer to all problems. The process of strategic planning is widely spread and practiced. Moreover, Strategic planning is referred to for firms or businesses. It could also be used in planning for developing countries. Many countries have used the strategic planning process to enhance the life of their citizens, through an approach called “strategic development planning” Molg (2010).

### **Palestinian Agricultural Sector Strategy “A Shared Vision”:**

Agriculture in Palestine is a major component of the Palestinian national, cultural, economic, and social structure. The Ministry of Agriculture aims to improve agriculture through “A Shared Vision” as it is of high importance to Palestinians.

The arrangement of the Agricultural strategy comes in response to the directives of the Palestinian National Authority (PNA). The PNA decided to prepare a set of sectoral and cross-sectoral strategies as a basic entry point for preparing the general national plan for the years 2011-2013, which was concerned with setting goals and priorities to get rid of the obstacles and effects of the Israeli occupation and working to establish the state.

The vision of the Agricultural sector is “Sustainable agriculture that is feasible and capable of achieving food security and competition, both locally and externally, through the optimal use of resources as part of comprehensive development, and that strengthens the link and sovereignty of the Palestinian people over their land and resources, leading to state building” (Agricultural Strategy 2011-2013).

In his study titled Clustering for Competitiveness in the SME’s in Hebron: A

Structural Equation Modeling Analysis (SEM), Amro (2016) aims first to map the existing cluster in the leather & shoe sector as a tool to improve its competitiveness. Second, the study aimed to identify and determine the factors of competitiveness of the SMEs working in processing the leather & shoe sector in Hebron and determine the factors that need improvements in order to improve the level of competitiveness of these SMEs.

Additionally, the results show a positive and strong relationship between working in a cluster and enhanced competitiveness achieved through this technique. Working in a cluster has been shown to promote productivity, innovation, and competition in a number of ways, e.g., the reduced cost of sharing resources, the critical mass created by having a pool of specialized skills, expertise, and value-added products. The cluster also enhances economic foundations such as a skilled workforce, research, development capacity, and infrastructure, creating assets such as trust, synergy, collaboration, and cooperation, which are all essential for competitiveness and business sustainability.

According to Swei and Daqqa (2014), the paper's objective is to investigate the reality of economic investment and development in Tulkarm Governorate by: a. Identifying positive factors that encourage investment in the region. b. Identifying the negatives factors that discourage investors from coming to the area. c. Recognizing the stimulating role of the Palestinian Authority to support the economy. d. Putting forth suggestions and recommendations to increase investment in the region.

The researchers recommend that the public and private sectors should work side by side to enhance economic growth and encourage investment through:

Establishing industrial clusters (cluster groupings) and/or sectorial incubators.

This paper shows that engorging economic investment by establishing industrial clusters working with the public and private sector enhances economic growth and encourages investment.

## Methodology

### Study Approach and Design:

This research used the qualitative method such as the exploratory study, which will be conducted to investigate the current status of the "clusters development" plan, which will provide insight and understanding and will be aimed at measuring data and using data and information available at the Ministry of Agriculture.

The qualitative measures focus on the building and rehabilitation of agricultural roads, increasing the number of new agricultural areas, achieving a surplus of plant production over current production, increasing the amount of irrigation water and agricultural areas, and creating job opportunities.

This research will use the qualitative method, where data will be collected through direct encounters with individuals as face-to-face interviews.

### Population and Sampling:

The researcher used the sampling technique. A purposive sample will be used, which is suitable in the case of our study from different ministries and organizations related to agriculture, the water sector and land; the data will be collected from;

- Ministry of Agriculture 2 persons.
- Representative of Governorates in the West bank 5 persons.
- Agricultural & cooperative institutions 5 persons.
- Committee of cluster development that was formed by the Government 2 persons.

The researcher defined sample selection criteria, interviewees from top management and select quota from different ministries, who have experience and are involved, collaborate or develop in this sector. The sample of this research will consist of 14 persons distributed over the selected organizations.

### Tools of Data Collection:

The researcher used a semi-structured

interview method for obtaining data information from the research study sample. The majority of questions that will be asked to the research targeted sample are not the exact same questions, or in a particular order, as part of these questions; they will not be discussed with all the interviewees due to the difference in their position in the institutions. This method is considered the most practical for this study in collecting data, as it is easier to achieve accurate information and immediate feedback. Without the interviews, it would have been difficult to obtain important information for this study, as they are one of the better ways to receive clarification and explanation from the parties involved. Lengthy structured personal interviews will be carried out in this study.

Formal invitations will be made and sent for people who will be interviewed, and the researcher will be distributing 14 invitations.

### **Data Sources:**

The secondary sources: Publications and reports from the Ministry of Agriculture's strategy of "Clusters Development" which will be implemented in the west bank.

Primary sources: A semi-structured questions have been prepared to collect data from respondents/interviewees. The interview questions have been prepared relevant to our study goals.

### **Research Procedures:**

*The research will be carried out according to the following steps:*

- The researcher communicated with the interviewees to inform them of the purpose of the research study, make an appropriate appointment, and coordinate an appropriate meeting place.
- After setting the dates, the researcher asked the interviewees for their oral or written consent to conduct the interviews and audio record them.
- The researcher will prepare questions in advance to interview people from Ministries and the agricultural & cooperative institutions committee of clusters development, so that

the questions are reviewed and practiced.

- The researcher will carry out the interviews and collect data from participants and official documents.
- The researcher will record answers and information in printed form.
- The researcher will send the printed interviews to the participants for revision and possible comments regarding the answers and information they provided.

### **Discussion of the Results:**

The interviews will be analyzed based on the structured or open-ended questions. The interviews will be recorded in text or electronically depending on the person's approval; then, *all the questions will be analyzed as follows:*

- Preparing and organizing the data by printing out the transcripts, gathering the notes, documents, and marking the source or any other information that will help in analyzing the data.
- Reviewing and exploring the data.
- Creating a reference code.
- Reviewing these codes and revising or combining them into themes by identifying similar answers and opinions.
- Presenting the answers in a cohesive manner.

### **Validity:**

The researcher presented the research interview questions to the General Director of Planning and Policy at the Ministry of Agriculture and met on 12/3/2020 for an hour. The researcher also presented them to the General Director of the Palestinian Hydrology Group. After conducting the interviews, the questions were delivered by hand and e-mailed to make the appropriate adjustments according to the Clusters development plans and were answered by e-mail. The notes to the research questions and all the observations were considered.

Additionally, the researcher conducted 14 interviews, face-to-face or over the telephone, and then the research questions were sent by e-mails. As showed in Appendices 3 and 4, 12 of the 14 e-mails were answered.

## Empirical Findings

### Results of the Study:

The secondary sources: Reports and publications were obtained from the Ministry of Agriculture, and are all the agricultural clusters plans approved by the Palestinian Government, where each was chosen as an agricultural cluster as shown in the following Table.

**Table 1**  
**Cluster Development Plans**

No.	Name of Plan	Year of Approval
1	An agricultural cluster development plan in Qalqilya Governorate	July 2019
2	An agricultural cluster development plan in Tubas and the northern Jordan Valley	October 2019
3	An agricultural cluster development plan in Tulkarm	December 2019
4	An agricultural cluster development plan in Jenin Governorate	February 2020

After reviewing and analyzing the plans, it can be concluded that they have one shared vision, which is: “The agricultural sector in the governorate achieves excellence, mastery, quality, provides work opportunities, income, and food security for the citizen in a sustainable manner and contributes to driving economic growth in the governorate by investing natural resources, available market opportunities, and knowledge. This will lead to enhancing the resilience of farmers in their lands as a safe way to meet the challenges of the wall and settlement,” and that the foundations of the plans are almost all the same. ***The following are the foundations of all the agricultural clusters plans:***

1. Addressing the effects of destruction and distortions caused by the occupation to gain access to agricultural lands, water, natural resources, and markets.
2. Increasing investment in the agricultural

sector and strengthening the partnership between the public and private sectors.

3. The ability to find alternatives and solutions to adapt to climate change.
4. Activating the role of agricultural institutions, especially those concerned with small farmers, and improving the role of women and youth in agriculture and rural development.
5. Prioritizing the agricultural sector and providing appropriate budgets and support, whether from the general budget or donor countries and institutions.

All plans have been revised, and their strategic objectives for the agricultural sector in general, were reviewed. ***There are four objectives or goals for the period 2017-2022.***

***The first goal:*** The resilience of male and female farmers and their attachment to the land have been strengthened.

***The second goal:*** Sustainable management of agricultural natural resources adapted to climate change.

***The third goal:*** Increasing agricultural production, productivity and competitiveness in domestic and international markets and its contribution to domestic product and overall food security.

***Fourth Goal:*** The access of male and female farmers and male and female entrepreneurs to specific agricultural services in line with the needs of the value chain in the agricultural sector.

The internal factors and external conditions faced by the agricultural sector were evaluated, and a SWOT analysis (see appendix 1) was done in order to preserve the opportunities and strengths of the agricultural sector in the governorate, and overcome weaknesses and turn them into strengths.

### Appendix 1: SWOT Analysis

Weaknesses	Strengths
<ul style="list-style-type: none"> <li>Lack of irrigation water, urban expansion at the expense of agricultural lands</li> <li>Weak internal market structure and weak marketing mechanisms</li> <li>Weak or absence of applied agricultural research and experimentation</li> <li>Weak infrastructure for staging, packing and cold storage</li> <li>Small agricultural tenure and fragmentation of ownership</li> <li>Weak technical and financial capabilities provided for agricultural extension</li> <li>Weak understanding of cooperative work and its importance to farmers</li> <li>The Wall, the Occupation's Practices, and its Control of the Crossings</li> <li>Inefficient use of water, pesticides, and fertilizers</li> <li>The lack of rangelands and the deterioration of available rangelands</li> <li>The weak legal structure and its effectiveness in dealing with the agricultural legal aspects</li> <li>Poor budget for the agricultural sector</li> </ul> <p>A weakness of the agricultural input industry and almost total dependence on imported production inputs</p>	<ul style="list-style-type: none"> <li>Availability of fertile agricultural lands</li> <li>Provides farmers with good agricultural experience</li> <li>High ability of farmers to adopt modernization and renewal in agriculture</li> <li>Availability of formal and informal guidance personnel</li> <li>Provides the basic infrastructure for applied agricultural research and experimentation</li> <li>Availability of agricultural investment financing institutions</li> <li>The diversity of agricultural environments in the governorate</li> <li>The presence of several active agricultural societies</li> <li>Availability of a positive relationship and interaction between partners in the agricultural sector</li> </ul>
Threats	Opportunities
<ul style="list-style-type: none"> <li>The Political Climate</li> <li>Occupation procedures</li> <li>Decline in water resources and random individual investment</li> <li>Climate change</li> <li>Low availability of funding from donors and investors</li> </ul>	<ul style="list-style-type: none"> <li>The farmer keeps his land</li> <li>The possibility of expanding irrigated and non-irrigated agriculture</li> <li>Availability of external markets for agricultural products</li> <li>Ease of introducing</li> <li>The government and international institutions are directed to support the agricultural sector</li> </ul>

By looking at the information on the budgets of the plans that were put in place by the Palestinian Government, it is apparent that these plans need \$ 195,371,785 to implement them by adding the budgets for agricultural plans in the governorates, according to the Table below. The Government will bridge the financing gap through the development projects for the years 2020, 2021, and 2022 and communicate with potential funders, specifically the European Union, to implement a set of interventions in the plan and in the areas of

land and water. (See Table 2)

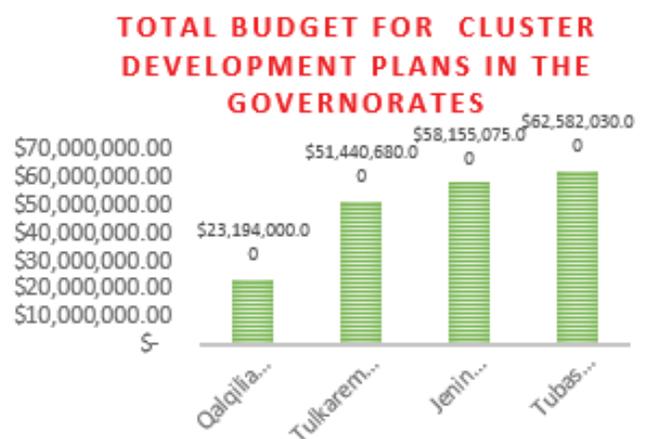
**Table 2**  
**Budgets of Cluster Development Plans in Governorates**

Name of Governorates	Budget
Qalqilia Governorate	\$ 23,194,000.00
Tulkarem Governorate	\$ 51,440,680.00
Jenin Governorate	\$ 58,155,075.00
Tubas Governorate	\$ 62,582,030.00
<b>Total</b>	<b>\$ 195,371,785.00</b>

We note that budgeting for the Qalqilya plan began in 2019 before the approval of the other plans, and it had the lowest budget.

After holding the interviews, there is an urgent need to work hard with the Palestinian Government in order to provide the necessary funds and coordinate partnerships between the private sector, NGOs, and donors. (See Chart 1)

**Chart 1**  
**Budget for Cluster Development Plans**



Also, based on the analysis of the clusters plan in the Qalqilya governorate in the period between September to December 2019 (see Appendix 2: Achievements of Qalqilya cluster 2020 Matrix), we worked out strategic goals and several dimensions within the agricultural clusters' timeline. We will analyze the plan, which has some of its goals and dimensions achieved. We worked on the first dimension by encouraging

industrial, agricultural and tourism production (strengthening and establishing industrial cities and creating pioneering and development projects) that relate to the strategic goal of production, productivity, and competitiveness of agriculture in the domestic and international markets and their contribution to local production and overall food security, as 73% of the activities have been accomplished, and 774,400 ILS were spent.

In relation to the third dimension, 75% has been achieved: Strengthening the role of women, youth, and marginalized groups, which relates to the strategic goal of the resilience of farmers and their ability to stick to their land, which has been strengthened. The sub-activity entitled Entrepreneurial Youth, Women, Farmers and Investors involved in agricultural and rural businesses has been implemented with feasibility and sustainability. The spending from external financing was 34,634 NIS.

As for the sixth dimension: The infrastructure sector worked on promoting investment in clean energy, interest in providing clean and sound water sources, and concern with the environment. In relation to the strategic goal: Sustainable management of agricultural natural resources that is adapted to climate changes, which is related to the implementation of sub-activities, which are:

Providing the amount of conventional and unconventional water that is available to farmers, increasing livestock breeders, improving management efficiency, and providing support from associations and active frameworks that bring together farmers and producers. The completion rate was 78% for the amount of 218,200 ILS.

**The types of water resources:**

**Conventional water resources:  
(Water Authority, 2020)**

1. Groundwater Three groundwater basins (Western, Eastern and Northeastern)

represent the groundwater aquifer system in the West Bank. Part of Coastal Aquifer exists in Gaza Strip. GW represents 95% of Palestinian water supply.

2. surface Water (Jordan River, flood Wadis & Dead Sea)

**Non-conventional resources**

- Reuse of treated wastewater
- Desalination of seawater
- Desalination of brackish groundwater

Table 3

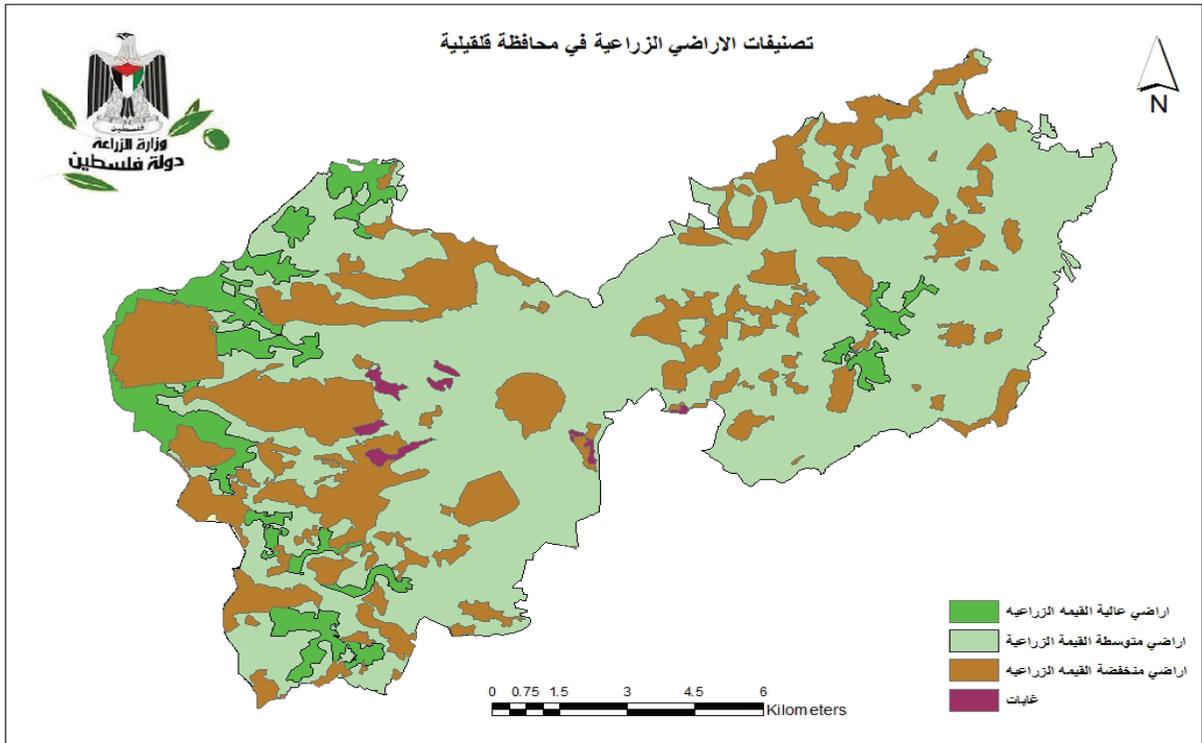
**Conventional & Non-Conventional Resources Totals (The National Water and Sanitation Strategy for Palestine, 2014)**

Conventional water resources		Non-conventional water resources
Groundwater	Surface Water	Total water resources
0,785 Billion cubic meters	0,052 Billion cubic meters	3,737 Billion cubic meters

Based on the research objectives, and with regard to the analysis of the Government’s plan to implement the agricultural clusters plans, it is possible to implement the agricultural clusters plan within the available capacities, and to support the agricultural sector by donors. Moreover, the Ministry of Agriculture and institutions working in agriculture have signed 7 cooperation agreements.

There are also expectations of finding permanent and temporary opportunities for graduates, as 3 agreements have been signed to support graduates with bee, sheep, cow, and fish breeding projects, in addition to greenhouse, food processing, and fattening sheep projects.

Based on the information provided by officials of the Ministry of Agriculture, it was indicated that the completion rate of the entire plan is 30% of the total plan of agricultural clusters for the time period of September - December 2019.



Referring to the SWOT, the Palestinian Government developed and focused on a risk plan that was previously mentioned, that can very well threaten the implementation of the plans' activities and is mainly represented in the policies of the Israeli occupation and settlers in obstructing development operations, which are the following things according to the Table3.

Table 4:

Risk Management Plan in the Clusters Development Plan in the Governorates

Description	Risk	Mitigation of risk
Occupation practices	-Seizure and confiscation of agricultural and heavy machinery of the government and contractors during the implementation of construction activities for the project activities -Imposing obtaining prior licenses from the Israeli side in the construction work for activities and the plan, especially in the areas of water and energy -Obstructing the access of individuals, project implementation teams, and contractors to the areas of implementation of the plan activities, especially in the areas named C and next to the settlements.	-We must work to neutralize the potential risks by the Israeli occupation by developing coordination mechanisms and involving the international community in the implementation of project activities, especially the European Union. - An emergency committee led by the governorate works with the security services and the activities implementation team to facilitate implementation procedures.

Description	Risk	Mitigation of risk
Funding Capabilities	The financial situation of the Palestinian implementation of the plan, which must be addressed at the level of the Palestinian Cabinet	Allocating the necessary funds to implement the plan, whether from domestic financing or through mobilizing funding from donor countries.
The necessity of strengthening human and material capabilities	Weak human and material capabilities plan.	Strengthening the capabilities of the work team in the governorates and governmental institutions in the governorates that work to implement the activities of the plan, by providing staff and technicians to supervise the implementation

The tool used to collect information from secondary sources included holding a number of interviews, based on the structure that was approved in the plans of agricultural clusters with people, according to the levels in Table 4. A number of relevant people who manage the implementation of the plan were chosen:

## Interviews Results:

The researcher conducted 14 interviews, face to face or over the telephone, and then the research questions were sent by e-mails. As in appendices 3 and 4, 12 of the 14 e-mails were answered.

Interviews were held with officials from the Ministry of Agriculture, officials in different governorates, committees of clusters, and some institutions working in the field of agriculture. The 14 questions were answered according to Appendices 3 and 4. The researcher developed three main dimensions of the questions, *with the first dimension talking about expectations from the implementation of the clusters plan in the agricultural sector and containing 3 questions (1, 2, 3).*

Based on the answers of the interviews for the first question, all the answers were similar, and there are challenges facing agricultural development in the governorates, the most important of which is the occupation and its practices on the Palestinian lands.

In the second question, interviewees 1, 2, 3, and 8 answered that they do not expect the effect of the plan starting to reach the level of the goals before the third year of the plan's execution.

In the third question, interviewees 1, 2, 8, and 11's response was that there is limited funding in terms of investment. As for the rest of the interviewees from 12 interviews, they confirmed that there is no investment in the agricultural sector and that the plan will create job opportunities in the agricultural and marketing field, with most of them being seasonal, linked to rain and seasonal agricultural products, and the rest being permanent jobs.

*The second dimension is the study of the Government's plan to implement the agricultural clusters plan, which contained eight questions*

*(4,5,7,8,9,10,11).*

In the fourth question, Interviewees (1, 2, 3, 8) answered that agricultural roads were built and rehabilitated, while the others answered that the information is from the Ministry of Agriculture.

In the fifth question, interviewees 1 and 3 answered that agricultural areas were increased, as nearly 200 dunums of mountainous lands were reclaimed and 7 km of agricultural roads were built. Interviewees 8 and 11 answered that agricultural areas were increased, and interviewees 4, 5, 6, 7, and 12 answered that no agricultural areas had been increased yet.

In the sixth question, interviewees 1 and 2 replied that about 70 thousand fruit trees were planted in all governorates, and the rest of the interviewees confirmed that fruit seedlings were planted.

In the seventh question, interviewees 1, 2, 3, 8, and 11 answered that the amount of irrigation water was not increased, but activities were carried out to deliver water to new areas and increase the efficiency of its use. As for the rest of the interviewees, they confirmed that the quantities of irrigation water were not increased.

In the eighth question, interviewees 1 and 2 answered that the irrigated agricultural area was increased from the current area by around 120 dunums, and the rest of the interviewees did not have an answer.

Questions 9 and 10 were answered by all interviewees, saying that there is a committee formed by the Palestinian Government that is playing an effective role in implementing clusters plans, in addition to a specialized unit to verify, monitor, and implement the clusters plans in all the governorates.

In question eleven, all interviewees emphasized that international agreements and treaties are being exploited to develop agriculture.

*As for the third dimension, containing questions 12, 13, and 14, it talks about the expected capabilities of the clusters plan.*

In question 12, interviewees 1 and 2 answered that there is limited investment in the agricultural

sector, interviewee 7 answered that the Israeli occupation is the reason behind investment limitation in the agricultural sector, and the rest answered that there is no investment in the agricultural sector.

In question 13, interviewees 1, 2, 3, 8, 9, and 10 answered that there already is support for farmers, and the rest of the interviewees answered that agricultural plans would support farmers.

In question 14, all interviewees answered that there is a role for the start-up agricultural institutions, and there is a partnership with all civil and civil society institutions working in agriculture to implement clusters and private-sector plans.

## Findings:

Within the limits of the goals, questions, and sample of the research, and by analyzing the data from the agricultural cluster plans, the researcher arrived at the following:

After analyzing the primary and secondary sources, there is no doubt that the agricultural sector is of great importance to the Palestinian people, so these clusters plans were called “resilience and development”, and that the eighteenth Government’s efforts focus on the agricultural sector, which is considered one of its most important priorities, to induce economic change and development in it, and based on the problem statement of the study, there is a need to know the results of using cluster plans and to compare the current and expected situation after using the clusters plan and its impact on the development of the agricultural sector. Based on the analysis of the study questions, the main focus was on three dimensions related to the research objectives, so the results were as follows:

### ***The first dimension: Expectations of the implementation of the clusters plan in the agricultural sector.***

Firstly, there are challenges and risks caused by the policies of the Israeli occupation and the settlers in order to hinder development operations in the agricultural sector, especially during the implementation of clusters plans, and knowing the impact of the strategy of the agricultural

clusters plan at the present time is also a challenge by itself, due to the specificity of the agricultural sector and the need for time to grow crops, which could it 3-5 years, depending on the type of the crop.

Secondly, it is possible to know the extent of the plan’ success, using a number of indicators to measure the outputs, as it can be calculated according to the matrix of the plan’ interventions from those in charge of implementing it in the various governorates. It was noted that the Clusters Plan in Qalqilya Governorate had achieved 30% of its outputs since its approval in July 2019, being the first clusters plan that was approved by the Palestinian Government.

Thirdly, regarding clusters plans in the rest of the governorates, there is difficulty in measuring the extent to which they achieve the outputs, as these plans began to be implemented in December 2019 and February 2020, and work will be undertaken in the coming period on tourism clusters such as Bethlehem and Jericho and industrial clusters such as Hebron and Nablus.

Fourthly, although there is limited investment in the agricultural sector, the clusters plan will create job opportunities in the agricultural and marketing field, with most of them being seasonal, linked to rain and seasonal agricultural products, and the rest being permanent jobs.

### ***The second dimension: The Government’s plan to implement the agricultural clusters plan.***

Firstly, the implementation of the clusters plan was only in Qalqilya Governorate, where agricultural roads were built and rehabilitated, agricultural areas were increased, nearly 200 dunums of mountainous lands were reclaimed, 7 km of agricultural roads were built, and close to 70,000 fruit trees and seedlings were planted in all provinces.

Secondly, the amount of irrigation water has not been increased, but activities have been carried out to deliver water to new areas and increase the efficiency of its use. Moreover, the irrigated agricultural area has been increased from the current area which was 120 dunums.

Thirdly, there is a committee formed by the

Palestinian Government that plays an effective role in implementing clusters plans, in addition to specialized units in each governorate to implement and monitor the clusters plan.

Fourthly, the Palestinian Government works with the Ministry of Agriculture to bridge the relationship with financiers, especially the European Union, in addition to taking advantage of international agreements and treaties to develop agriculture.

The third dimension: The expected capabilities of the clusters plan.

Firstly, there is limited investment in the agricultural sector, one of the reasons behind it being the existence of the Israeli occupation. However, there is still potential for investment in the future.

Secondly, clusters plans support farmers through cooperation with private sector institutions, farmers' organizations, and individual farmers, who have a major role in the agricultural production chain, as well as providing different business services that farmers need in the production and post-harvest stages.

Thirdly, start-up agricultural institutions play a role in the success of the plans, relying on partnership and integration between the Palestinian Government, the private sector and non-governmental organizations, due to the comparative advantages they share, their long experience that enables them to deal with the variables, and their ability to provide technical services and contribute to the implementation of development project activities, such as land reclamation, agricultural road construction, and water harvesting activities.

## Conclusions & Recommendations

The Palestinian, official, and international institutions concerned with achieving sustainable development seek to establish all institutional measures and provide the political, social, and economic environment necessary to transform agriculture into a sustainable activity that provides income and profit that meets all requirements for decent living, and that enables farmers in the governorates to overcome the negative effects

of Israeli practices and distortions, and stick by their lands, and that helps them to develop their agriculture, income, and standard of living.

The development of the agricultural sector in Palestine is an urgent necessity, especially since the agricultural sector has opportunities for agricultural development and the threats facing the agricultural sector in light of the Israeli occupation and its control of all water resources and confiscation of agricultural lands causes a hindrance in the agricultural development process.

The plans for agricultural clusters are the first of their kind adopted by the eighth Palestinian Government and are given as their first priorities in order to enhance the resilience of farmers in their land.

The plan of agricultural clusters was analyzed in the Qalqilila region, and from there, we find that the impact of these plans needs a period ranging between 3- 5 years to be clear because the agricultural sector needs time to study the production of agricultural crops. We also must focus on the importance of fundraising and providing the necessary support to the agricultural sector for the success of the plans in addition to the importance of partnership and integration with the Palestinian Government, the private sector, NGOs, and civil society, and improving the role of women and youth in agriculture and rural development.

## Recommendations:

- In light of the study objectives and results, the researcher recommends the following:
- - The need for permanent coordination and partnership between the Palestinian Government, the private sector, NGOs, and civil society in order to unify efforts in businesses.
- - Giving the agricultural sector an advanced priority and providing appropriate budgets and support, whether from the general budget or donor countries and institutions.
- - Activating the role of agricultural institutions, especially those concerned with small farmers, and improving the role of women and youth in agriculture and rural

- development.
- - Increasing investment in the agricultural sector and strengthening the partnership between the public and private sectors.
- - Easy access to agricultural lands, water and natural resources and markets in all governorates.
- - The ability to find alternatives and solutions to adapt to climate change.
- - The possibility of exploiting the state's lands in some areas and making them available for agricultural investment within easy lease contracts.

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