



MedBEEsinessHubs

MedBEEsinessHubs – C_A.1.2_0035

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WP6 : Strategic dissemination and policy making

06.1 Policy document incorporating the Bee economy concept in European and national policies

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Current policies and policy framework including funding opportunities at regional/ national level

The legislative framework governing the beekeeping sector

Laws related to bees date back to 1929, during the British mandate of historical Palestine. This indicates that this sector was prosperous since the beginnings of the last century and before it as well.

Law No. 9 of 1928 was enacted by the High Commissioner under the name "Bee Diseases Law", which enforces securing bees of diseases. The articles of the law deal with issues such as the mechanism of appointing inspectors, destroying and treating infected bees with foul brood, restricting bees importing, violations, penalties and other issues.¹

Regarding the current legislative system regulating the beekeeping sector, there are several regulating legislations related to this framework. The origin of the law and legislation goes back to the Palestinian Agriculture Law of 2003, which clarifies the responsibility centers and tasks assigned to them by various ministries and local authorities.

The body of the law stated that, after reviewing a set of laws -including Bee Law No. (26) of 1926, in addition to Article 56 of the law under the chapter on organization and development of livestock, that "the Ministry prepares a system for monitoring the health of animals issued by the Council of Ministers, provided that includes: Monitoring the health of animals, poultry, wild birds, fish and bees; and examining, isolating, vaccinating or disinfecting them".²

In Article (60) of the same law, the Ministry must prepare a special system for organizing beekeeping work, to be issued by the Council of Ministers, to include the following:³

- 1) Exceptional measures necessary to protect beehives when epidemiological and disease risks threaten them.
- 2) Conditions for registering beehives, setting conditions and veterinary controls for importing or exporting beehives or queen bees, and fees due for these activities.
- 3) Determine all means to protect the health of the apiary, including diseases diagnosis and conditions for using the treatments and medicines related.
- 4) Establishing veterinary controls for importing bees and queens.
- 5) Measures to protect the vegetation cover and bee pastures, including regulating the use of pesticides to control agricultural pests that have negative effect on beehives.
- 6) Conditions for importing, exporting, and marketing bee honey or its products.

In 2008, Council of Ministers Resolution No. (13) was issued regarding the regulation of honeybee breeding work, which indicated in article number (2) that the beekeepers will be registered officially in the Ministry's records if they meet the following conditions:⁴

¹ Bee Diseases Law No. 9 of 1928. Check the following link: <https://bit.ly/37SvnJM>

² Palestinian Agriculture Law of 2003. Check the following link: <https://bit.ly/3PqDcha>

³ Ibid

⁴ Council of Ministers Resolution No. (13) for the year 2008 AD Regulating Honeybee Breeding Business. Check the following link: <https://bit.ly/3sCTPpK>

- 1) The beekeeper must own three hives or more
- 2) The beekeeper must fill out the form prepared for this regard by the Ministry.
- 3) The commitment of beekeepers to mark and number the hives with the number given by the bee department.
- 4) Beekeepers' commitment to the instructions issued by the Ministry.
- 5) The location of the bees should be in a place that meets the special conditions and specifications mentioned in Article (4) of this regulation.
- 6) Cooperate with specialized employees of the Ministry in implementing the instructions and facilitating their tasks based with the provisions of this system.
- 7) Update the Ministry with locations of the beehives, their numbers, their sale and purchase, their health status and any new developments.
- 8) Record keeping according to the forms prepared by the Ministry.

The law also raised the issue of transferring apiaries and the conditions resulting in Article (3)⁵, as it is based on the epidemiological situation of the place in which they are located, in addition to an official veterinary certificate issued by the official veterinary doctor. Seasonal instructions must issue to fruit and vegetable growers not to spray pesticides during the flowering season with substances toxic to bees.

Article No. (4) made a set of conditions that must be met at the site of bees, including:⁶

- 1) The apiary should be at least 50m away from the roads on which cars are traveling, so that there is calmness for bee colonies to carry out their usual activities
- 2) It is allowed to practice the profession of beekeeping within the boundaries of municipalities or village councils, provided that the bees are of a quiet type and in proportion to the number of hives and the area of the land, with approval of the concerned authority in the Ministry.

In addition, article (5) lists veterinary conditions and standards for import and export of beehives and queens, considering the applicable veterinary quarantine system. Article (6) outlined conditions for the import or manufacture of base wax, which requires the beekeeper to have a prior permit from the ministry. It added that base wax must be manufactured from natural sterilized beeswax, and the substance must be free from any foreign chemical additives and manufactured according to the standard hexagonal size of bees. Shipment must be accompanied by a certificate of origin, and the wax must be 100% natural and does not contain any foreign substances.⁷ In addition, a set of technical laws that govern mechanisms related to work in the beekeeping sector and its derivatives was published.

In instruction No. (4) of 2012⁸ regarding the marketing mechanism for honeybees, Article (2) indicated that the beekeeper must register his apiary with the Department of Agriculture in

⁵- Ibid

⁶- Ibid

⁷- Ibid

⁸- Ministry of Agriculture Instructions No. (4) of 2012 regarding the marketing mechanism of honeybee. Check the following link: <https://bit.ly/3G1RDxx>

his governorate, according to the approved form attached to these instructions. Article (3), specifically concerned with hive transfer from one location to another indicates that the beekeeper is obligated to obtain the following documents from the Department of Agriculture when transferring honey beehives from one location to another:

- A disease-free certificate from the responsible extension agent.
- Internal transport permit (according to the presidential decree).

Article (4), from the same instructions, states that the beekeeper must report the harvest of honey two days before the date of harvesting to estimate production. In Article (5), it is stated that the locations of the beehives are specified and their movement monitored as follows: honeybee extension agent takes honey sample for testing from the beekeeper's store. After testing, a report is submitted as follows:⁹

- a. The quantities of honey present in the apiary
- b. Honey production history.
- c. The source of honey (the name of the beekeeper and the location of the apiary).
- d. Theoretical evaluation of honey.

Since article (6) of the instructions is concerned with examining the honey sample, it states that the beekeeper sends the honey sample for testing, closed and sealed by the Department of Agriculture, to an accredited laboratory. The farmer will pay the costs of the tests. Article (7) is concerned with product display in the market; it says that before displaying products in the market, the beekeeper must do the listed tests.¹⁰

Table No. (7): Tests for beekeepers before displaying honey in the market

Number	The test
1	% Of ash
2	Converted sugar
3	Formol number
4	Glucose
5	Humidity
6	Acidity
7	HMF Furfural
8	Sucrose

Article (8) of the decision states that the beekeeper is obligated to bring the test results in a closed, sealed envelope from the accredited laboratory.¹¹ With the obligation to place the identification label on each product in accordance with Article (10) of the decision ¹². Importing honey in any way from any external sources is prohibited according to the Minister of Agriculture, Riyadh al-Atari. This was enforced in a decision issued in July 2021, in order to protect the local product of honey from competition and increase the profitability of the Palestinian farmer. (Check Annex No. 2).

⁹- Ibid

¹⁰- Ibid

¹¹- Ibid

¹²- Ibid

Amendments to the Agriculture Law No. (11) of 2005, state that the formation of agricultural councils, and the councils themselves, will refer to the Minister of Agriculture, and have full capacity to achieve their objectives under public monitoring. The objectives of forming the councils are¹³:

- Participating with the Ministry and other concerned parties in setting laws, policies, strategies, plans, general procedures and programs for development of the targeted sector.
- Contributing to the development, encouragement, building of sectors, and increasing profitability for developing all related processes.
- Encouraging scientific research, developing information and regulating work conditions.
- Arranging work conditions according to market mechanisms to ensure balanced prices for all stakeholders, and to organize, protect and defend sectors.

The structure of the agricultural councils was organized in four main sectors:¹⁴

- 1- Specialized councils' sector.
- 2- Agricultural service institutions sector,
- 3- Non-governmental institutions services sector,
- 4- The Ministry services sector.

Within the specialized councils' sector, ten councils were related to the main animals and produced crops, namely:¹⁵

- Olive council
- Grape and fruits council
- Palm dates council
- Vegetable council
- Grain council
- Milk and cow council
- Poultry council
- Horse council
- Sheep council
- Honeybee council.

Palestinian Honeybee Council

Despite the amendment that took place in 2005, for the formation of specialized councils, mentioned earlier, they are still pending until issuing a presidential decision to identify a clear budget for the councils, including the Palestinian Bee Council. Some informal information said that the law of councils has passed first and second readings, but not the third reading.¹⁶

¹³- Palestinian News and Information Agency - Wafa. Agricultural councils. Check the following link: <https://bit.ly/3lAPqj8>

¹⁴- Ibid

¹⁵- Ibid

¹⁶- From an interview with Tahseen Odeh, mentioned before.

In 2016, The Mediterranean Beekeepers' Forum was held in the West Bank, and hosted in the Red Crescent Society building in Al-Bireh, the Forum highlighted the importance of activating the Palestinian Honeybee Council.¹⁷

Due to the absence of law, no budget was allocated to The Honeybee Council, thus the council is unable to be able to operate actively and to open a bank account. This council represents most beekeepers, males and females, in the West Bank.¹⁸

The Minister of Agriculture (at that time was Shawki Al-Eissa*), gave the council good support. Mr. Tahseen Odeh was elected at that time to be the first chairperson of the Honeybee Council, in 2016, but without any authority, no budget and no legitimacy. Thus, the work of the Honeybee Council depends on the individuals who are running the council. Official stamp and papers were issued.¹⁹ They conduct regular meetings through members' relationships with the existing institutions, who donate halls to the Council to conduct meetings. The council launched a series of annual exhibitions of bee products, the last was the fifth annual bee exhibition conducted in 2021.²⁰

One of the main objectives of the Palestinian Honeybee Council is to promote the culture of honey consumption in Palestinian society. This objective is based on a study by the World Health Organization, which estimates that the individual body needs 500 grams of honey per year. The Palestinian individual consumption of honey does not exceed 175 grams per year.²¹ Thus, the Palestinian Honeybee Council adopted an idea of organizing honey consumption campaigns in Palestinian schools. The Honeybee Council has worked on these campaigns for a period of four years. Financial coverage of campaign expenses came from members' own contributions.²² In terms of membership, each Palestinian beekeeper who owns at least 10 hives is a member of the general assembly of the council, but this has not been applied until now.²³

Quality Charter of Palestinian honey

Within the framework of the Palestinian Standards Institution,* a set of tasks was assigned to the institution in terms of preparing mandatory technical instructions, in cooperation

¹⁷- Ibid

¹⁸- Ibid

* A former minister, he held the portfolios of the Ministry of Social Affairs and the Ministry of Agriculture during Rami Ramallah's third government. He continued his position as Minister of Agriculture until the first Council of Ministers reshuffle in July 2015, while retaining his position as Minister of Social Affairs until his resignation in October 2015.

¹⁹- From an interview with Tahseen Odeh, mentioned before.

²⁰- Ibid

²¹- Ibid

²²- Ibid

²³- Ibid

* Palestinian Standards Institution (PSI) :was established in 1994 by a decision of President Yasser Arafat, and began its work in 1997 according to the Standards Law No. 6/2000, with financial and administrative independence, as it is considered the national body for standards in Palestine and the point of contact with the global infrastructure for quality, the role of the institution is to Seeking to insure high competitive ability for the Palestinian product, facilitating trade, contributing to protect the health and safety of the consumer and the environment, and representing Palestine in the international system of standards through preparing internationally harmonized Palestinian specifications and providing inspection and measurement services (metrology) and the granting of certificates and conformity marks and labels.

with various regulatory authorities. The Compulsory Technical Instructions Committee prepared Palestinian standards through permanent technical committees, consisting of representatives from all sectors of commerce and industry, scientific institutions, consumer and environmental protection associations, governmental bodies, in addition to the Palestinian quality mark, supervision mark, conformity certificates, and halal certificates in accordance with the certification systems approved by the institution.²⁴

Palestinian Standard Institute (PSI) is the official body issuing certificates of safe products, quality management certificates and individual service providers, in addition to a set of quality charters that are a reference guide for the food production process, such as the Quality Charter for olive oil and the Quality Charter for honey.

The beekeeping sector is completely and fundamentally subject to follow-up by the Palestinian Ministry of Agriculture, but PSI is a legislative body, which provide services to the sector. PSI has prepared the technical specifications for honey.²⁵ In addition, it participates in providing mandatory technical characters for honey. Systems have been established for honey in two forms: Quality Charter Certificate, or/and Honey Quality Certificate.*

The difference between them is that for the Honey Quality Certificate, the beekeeper must apply administrative systems based on administrative specification No. 15 with the Palestinian specification for honey.²⁶ While in the Quality Charter Certificate, more strict conditions are required by the Palestinian specification. The charter means a “premium” quality, not only first class, but also higher than that.²⁷

Those who want to obtain the Quality Charter Certificate must show some cooperation with the Ministry of Agriculture. MOA & PSI representatives will visit the pastures and hives and the environment that surrounds the apiary. If any pests or diseases are identified, the mechanism of the treatment used must be clarified. Visiting the place of honey extraction, and taking samples of honey for testing as a final product are implemented.²⁸

The plan is to establish a honey-tasting team that meets requirements to obtain the Charter Certificate. The final draft of the Quality Charter of Honey has been approved since 25 November 2018 by the committee of representatives of several bodies, which are the Palestinian Standards Institution, the Ministry of National Economy, the Ministry of Health, the Ministry of Agriculture, the Palestinian Honey Council and the Federation of Food Industries.

Quality Charter goals are producing Palestinian honey of high quality, which increases the production capacity of beekeepers, and increases the competitiveness of Palestinian honey in the local and foreign markets.²⁹ The Honey Quality Charter sets the conditions for the registration and general instructions about beekeeping and honey production, such as conditions for apiaries, hives, importing bees, queens and wax, as well as procedures for

²⁴- Palestinian Standards institution (PSI). About the institution. Check the following link: <https://bit.ly/3PssJvn>

²⁵- From Taghreed Shehadeh's interview, mentioned before.

* The technical specification for honey is older than the charter, and its number is 216

²⁶- From Taghreed Shehadeh's interview, mentioned before.

²⁷- Ibid

²⁸- Ibid

²⁹- Palestinian Standards Institution. "Honeybee Quality Charter". Palestine, Ramallah, first edition; 2018, Page 1. Check the following link: <https://bit.ly/3jLZUez>

protecting apiaries and pastures, and methods for managing diseases and pests.³⁰ The Charter also describes honey as the product of the nectar of flowers of wild or field plants, or tree flowers.

Article (4) of the Charter, sets general requirements, while Article (5) sets conditions of breeding stages, extraction, production, packaging, transportation, storage and marketing. Beekeepers geographically (region, village, governorate) determine the amount of hives. The Honey Quality Charter sets out a set of instructions that must be considered. The Charter also sets conditions for apiaries, and importing bees, queens and wax.³¹ In addition to everything mentioned, the Honey Quality Charter deals with a set of measures to protect beehives and pastures, methods of controlling diseases and pests, in addition to beekeeping management, identifying diseases, pests and enemies of bees, and the mechanism of honey extraction³².

Two years ago, PSI decided to issue quality certificates for a period of two years, except for agricultural products because they need intensive monitoring.

For honey in particular, the certificate is given on harvest bases and institution test samples of each harvest. Test fees cost approximately about 700 shekels (about \$220) for each harvest, and the annual cost of the certificate about 1,300 shekels (about \$338) annually.³³ As mentioned earlier, the Charter is strict and needs more requirements, because it not only testing the production sample, but also tests the quality of the entire environment and the entire production chain. In addition, some tests are not required for the honey certificate. For example, "Distaze enzyme test", which indicates whether, the honey is fresh or not, is required by the Honey Quality Charter, and the percentage of "hydroxymethyl fural", which must not exceed 15, is also required. These tests have an effect on the safety and quality of honey.³⁴

The Honey Quality Charter is three years old; currently, it is in process of revision for updating and adding some missed points, such as honey moisture, where humidity must not exceed 18 %. While mandatory technical characters for honey allow humidity up to 22%. The Charter is unique at a worldwide level.³⁵ The Charter as a document that is renewed whenever there is a need or trend setting more strict conditions. The standard of the Palestinian Charter is stricter than others around the world. Which gives Palestinian honey that was made through applying the charter specifications a high competition potential in international markets.³⁶

Palestinian Standards institute (PSI) was also able to adopt some international standards for beeswax specifications that beekeepers can benefit from. It has been translated from French into Arabic, and the Institution is in the process of adopting it through a specialized committee as a Palestinian standard.³⁷

³⁰- Ibid, Page 7

³¹- Ibid Page 7-8

³²- Ibid, page 9

³³- From Taghreed Shehadeh's interview, mentioned before.

³⁴- Ibid

³⁵- Ibid

³⁶- Ibid

³⁷- Ibid

Many producers used beeswax and re-cycled it into candles for lighting or other uses. As there is a recommendation for wax processing to have a center specialized in collecting wax and recycling it, an example that implemented this was the Jenin cooperative, which has an assembly line for wax refining, which needs to be expanded.

Bee sector and Tourism

Regarding tourism and Bee sector in the West Bank, The tourism sector in West Bank is considered a new sector. Before the Oslo agreement, there was no tourism sector, because the West Bank was under the control of the occupation's civil administration until 1996.

The first Palestinian government was formed on May 20 1994, and continued until May 16, 1996. The Ministry of Tourism and Antiquities was one of the state ministries that had been established at that time with the phase of building the institutions of the Palestinian Authority.³⁸

In 2018, the allocated budget for the Ministry of Tourism was 26,058,000 million Shekels, but this did not exceed 0.16% of the total general budget.³⁹ The budget was not approved during the years 2019-2021 due to the aforementioned reasons.* However, after reviewing the expenditure statements published by the Palestinian Ministry of Finance for the same years, a difference in the level of expenditure was seen. This does not affect much investment in this sector.

The Ministry of Tourism's share of total spending over the years 2019 to 2021.⁴⁰

year	Spending for the Ministry of Tourism Expenditure	Total expenditure of the general budget	%
2019	58,890 million ILS	16,423 billion ILS	0.35%
2020	32,326 million ILS	15,944 billion ILS	0.20%
2021*	25,590 million ILS	16,120 billion ILS	0.16%

Before the COVID-19 pandemic, indicators showed that the number of tourists who visited the West Bank during 2019 reached about 3.5 million, and in 2018, about 3.1, while in 2017, the number of tourists reached about 2.75 million.⁴¹

³⁸- Palestinian News and Information Agency - Wafa. "Seventeen Palestinian Governments Since 1994". Published on March 11, 2019. Check the following link: <https://bit.ly/3LcPvnt>

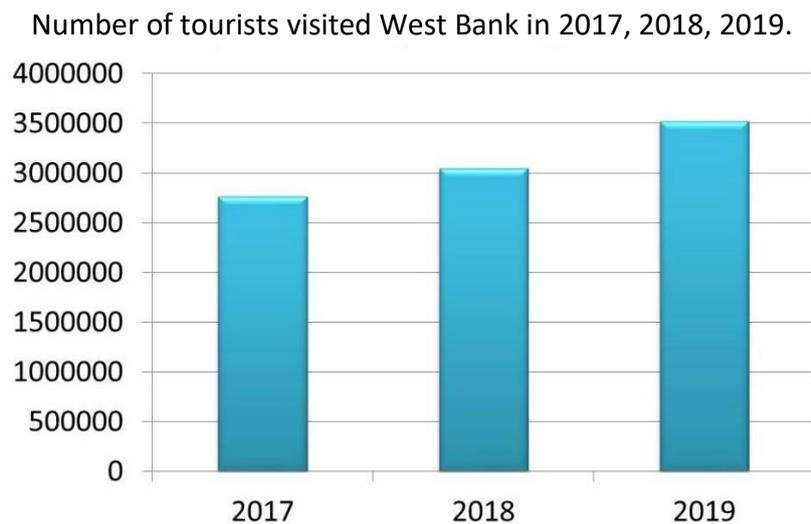
³⁹- Palestinian Ministry of Finance and Planning. "General Budget Law for the Year 2018". Palestine: Ramallah - General Administration of the General Budget. p. 30

* Check the title of the budget of the Ministry of Agriculture in this study.

⁴⁰- Annual reports of government expenditure for the years 2019, 2020, 2021 published on the Ministry of Finance website.

* Until November 2021

⁴¹- Palestinian Ministry of Tourism. Tourism statistics. Check the following link: <https://bit.ly/3LexZzo>



In 1998, Decree Law No. (1) was issued regarding implementation of temporary Jordanian Tourism Law No. 45 of 1965,⁴² published in the Jordanian Official journal in 1965, as West Bank was under Jordanian rule (Jordanian state) at that time, until 1967. The law defines the tourism industries in Article (2) as tourism offices and companies, travel and tourism transport, antique stores and manufactures of the Holy Land, hotels, hostels restaurants and rest houses, guide services for tourists, and any other activity that the Council decides, and was announced in the Official Journal.⁴³

Palestinians are still working according to that law. Jordanian Tourism Law, affects any improvement and development in the tourism sector in the West Bank and Gaza Strip. There is currently a draft law in the Council of Ministers where the new tourism law will be approved with new standards that address new types of tourism patterns. Great development in the tourism sector has been happening worldwide since 1965. The Community Tourism and Ecotourism proposed law is trying to focus on the revenues of the sector in favor of the largest sectors and local communities regarding tourism, especially rural, poor, or marginalized communities.

Responsible authorities are currently working on building a joint framework between the Palestinian Ministry of Tourism and all the associations working in tourism to support initiatives. The orientation of the Ministry of Tourism focuses on encouraging community

⁴²- Decree-Law No. (1) of 1998 regarding the application of Tourism Law No. 45 of 1965 on all Palestinian territories. Check the following link: <https://bit.ly/3wkBFLH>

⁴³- Jordanian Temporary Tourism Law No. 45 of 1965. Check the following link: <https://bit.ly/3PrB9TM>

tourism and initiatives in parallel with traditional (religious) Christian and Islamic tourism. Focus has become more on community and environmental tourism and walking paths (hiking), some of which focus on the rehabilitation of ruins and cultural heritage.⁴⁴

Recently, the private sector and civil society showed increased interest in this sector, the Ministry would develop a common framework with all actors, which will support all initiatives that encourage local and handicraft products. Specialists in the Ministry believe that the best way is to promote products directly to local or foreign tourists.⁴⁵

The Palestinian Ministry of Tourism does not market directly, but it promotes local and traditional products such as, olive wood, seashells, Hebron glass, pottery, ceramics and Palestinian embroidery. Palestinian honey is not considered a tourist product, because, according to Laws (45) and (65) the law clarifies what oriental antiques mean. The law identifies 12 products as oriental antique products, or tourism products.⁴⁶

According to the law, everyone who wants to sell these products must obtain a license from the Ministry of Tourism and Antiquities. Any other product that is not classified as a tourist product, but is marketed to tourists, or comes within sales in the tourism sector, can be marketed without obtaining a license from the Ministry of Tourism and Antiquities. Buying honey from the main source directly will have an impact on trust between the consumer and the beekeeper (where the tourist buys honey directly from the source).

It is recommended by the Ministry of Tourism to not list honey as a tourist product, because this will cause complications for smallholder beekeepers, and request them to obtain licenses from the Ministry of Tourism and pay license fees.⁴⁷ In addition, annual bank guarantee of about 7,500 JD (10,700 US dollars) is required. Beekeepers must also obtain licenses from other related ministries and authorities.⁴⁸

Organizing visits of tourist groups to apiaries, restaurants, or any commercial establishment, gives a wide scope for individuals to promote local products and increase commercial activity. Therefore, it is important to invest in promotion of bee products rather than to focus on listing and licensing these products as tourist products.

It is worth mentioning that the Ministry of Tourism organized an event as part of its activities in the Ministry, by launching an activity called “Nablus Week.” When the Palestinian tourists from 1948 areas passed through a group of apiaries around Sabastia, tourists asked to stop and buy honey, this incident occurred at a time when honey sales were not within the framework of the tourism plan. This means that including such activities in domestic and foreign tourism plans might increase the volume of sales. This might apply not only to Bethlehem, but to Jericho as well. Where many tourists visit Jericho from foreign and domestic areas.⁴⁹

⁴⁴- From an interview with Majid Ishaq - Director of the Marketing Department at the Ministry of Tourism - conducted on April 14, 2022.

⁴⁵- Interview with Majed Ishaq, Director of the Marketing Department at the Ministry of Tourism - conducted on April 14, 2022

⁴⁶- Ibid

⁴⁷- Ibid

⁴⁸- Ibid

⁴⁹- Ibid

Many opportunities that may serve the beekeeping sector and marketing its products were recommended in the following points:

- There are many geographically identified (GI) product initiatives of handicrafts that are specific to each region. Locality (village or city), enhances possibility to promote these products through walking (hiking) paths or organized trips, in terms of domestic tourism or even tourism that attracts tourists from abroad. Therefore, it is possible for Palestinian apiaries to become part of the stations for tourist tracks or trips, which contributes significantly to the marketing of apiaries' products directly to tourists.
- Focus on apiaries, and its products of honey, and derivatives of the beekeeping sector, as products to be highlighted within media materials that promote tourism in West Bank.
- Most hotels offer a small box of honey as part of their breakfast meal, most of which is imported. It is possible that the Ministry of Tourism can encourage using Palestinian honey in hotels and promote it through their services. This also applies to candles used in hotels, or products that contain beeswax.
- The greatest opportunity is to introduce lighting candles made with beeswax. Even then, it is not possible to replace paraffin wax completely with beeswax in the market, because paraffin wax has a lower price than beeswax.

Experiences gained and lessons learned from the project suggestions on new policies.

Beekeeping training

Through the MedBEEsinessHubs project, ASALA was able to carry out a series of training sessions related to enhancing beekeepers' skills in producing secondary derivatives in the beekeeping sector, in addition to artisanal and natural products in this field. The advantage of these training sessions is that they encompassed both theoretical and practical aspects, as well as the democratic experience in training the S.D.D. (Structured Democratic Dialogue) which represented a model for achieving a comprehensive understanding of prioritizing major issues in the beekeeping sector and how to handle them through networking.

Almost 18 beneficiaries on average, from the West Bank, with a female majority, were able to enhance their capabilities in producing candle wax from beeswax, as well as manufacturing creams and natural soap by incorporating beeswax. This training opened up new horizons for the beneficiaries to think beyond merely discussing bees and their production. There are many other products that can also be produced, which they hadn't previously considered.

This type of training was extremely important, as in some sectors, production relies solely on the primary product of the sector. Therefore, it is necessary to adopt economic agricultural policies based on the concept of product diversification and finding a mechanism for marketing them.

Minor grants to improve business capabilities.

What distinguishes the grants within the project framework is their flexibility in terms of embracing ideas. All available ideas for secondary beekeeping products were accommodated, in addition to a focus on environmentally friendly community-based bee trail tourism.

Numerous fantastic ideas emerged within the context of the call for project grants. Projects ranged from those centered around eco-tourism for bee trails to child-friendly initiatives aimed at raising awareness about the importance of consuming honey and beekeeping derivatives. These ideas emerged after the vocational and technical training sessions provided within the project, which enhanced the beneficiaries' understanding and skills.

The only drawback concerning the grants lies in the complexity of the application process. The funding entity did not consider the contextual differences among various countries, and there were knowledge gaps in how applications were submitted by beneficiaries from different nations.

Once the projects under the grant umbrella are implemented, they will contribute to the development of the beekeeping sector. This will increase awareness about beekeeping and consequently enhance overall production in the beekeeping sector.

Export potential

In general, the Palestinian trade balance shows an overall annual deficit of around 5 billion dollars on average during the years 2019-2021 for each year. In 2019, the cost of imports from or through the occupying government amounted to approximately 6.54 billion dollars, while exports were around 1.155 billion dollars. In 2020, the cost of imports was about 6.613 billion dollars, and exports were approximately 1.104 billion dollars. In 2021, imports reached 6.063 billion dollars, and exports were around 1.055 billion dollars.

This is naturally linked to the economic and political context of the Palestinian reality, which is governed by the occupation government in terms of controlling resources, crossings, and borders, in addition to the Paris Protocol that subordinates the Palestinian economy to the benefit of Israeli occupation.

Regarding Bee sector and its economy, export opportunities are almost non-existent, especially considering that the beekeeping sector in the West Bank is an unorganized sector primarily catering to local needs.

There are a variety of goods related to beekeeping that fall under the category of imports, and very rarely do we find them entering the realm of exports. This is also attributed to the restrictions imposed on Palestinians in terms of the export and trade process.

Exports and imports related to the beekeeping sector for the years 2018, 2019, 2020 (amount in thousand dollars)⁵⁰.

⁵⁰- From the data of the Palestinian Central Bureau of Statistics - a list of exports and imports of goods for the years 2019, 2020, 2021

	Imports			Exports		
	2018	2019	2020	2018	2019	2020
Natural Honey	533	869	1,289	99	289	279
Polysaccharides in solid form, incl. Chemically pure invert sugar and maltose, and sugar-syrup and sugar-syrup mixtures containing in the dry state 50% by weight of fructose, unflavored or colored, artificial honey, whether or not mixed with natural honey and caramel	210	172	181	25	27	82
Agricultural machinery, gardening, forestry or beekeeping machinery, not included or specified elsewhere	528	241	691	-	0	9
Parts of agricultural, horticultural, forestry or beekeeping machinery, not included or specified elsewhere	44	262	69	-	-	-
Beeswax and other insect waxes and spermaceti, whether refined or colored	-	6	26	-	-	0
Live Bees	66	250	85	-	-	-

The table reflects a huge gap in terms of import and export regarding the basic products related to Palestinian honeybee sector, mostly natural honey. While the value of imported honey during 2018 was about 533,000 dollars, exports were \$ 99,000 only. In the year 2019, the imports reached 869,000 dollars, compared to 289,000 dollars in exports, and for the year 2020, the value of imports of honey reached about 1,289 million dollars, compared to 279,000 dollars in exports.

The value of importing live bees reached its peak in 2019, reaching \$250,000, compared to \$66,000 in 2018, and \$85,000 in 2020, without any export.

Regarding beeswax, no data was mentioned on the level of import for the year 2018, while it reached 6,000 dollars in 2019 and 26,000 dollars in 2020, without any export.

Even for sugars and industrial honey, even mixed with natural honey and caramel, there is an average gap of 125,000 dollars between import and export over the years.

These figures reflect a deficit in the trade balance at the level of import and export in the bee sector and its derivatives, and even confirm the needs to revise the Paris Economic Protocol with the occupation. While taking into consideration the focus on investment on local consumption in addition to export. The proposition is made as a result of noting that the quantities produced in the sector indicate self-sufficiency in many of the items mentioned in the above table.

Palestinian Minister of Agriculture, Riad Al-Atari, issued a decision, in accordance with the powers conferred upon him, in July of the year 2021, prohibiting importing honey from any external source to protect the local product and maintain the profitability of the Palestinian farmer. (Check Annex No. 2)

However, there are many challenges facing beekeepers, which will be discussed in detail under the title of “Challenges Facing Beekeepers” in this study, which greatly hinder and

impede the issue of marketing products of the beekeeping sector relative to policies and general culture.

Unfortunately, the market remains chaotic due to the influx of honey from external markets, particularly from settlements, which poses the most significant threat to Palestinian products. In a decision considered favorable to the Ministry of Agriculture and in support of Palestinian beekeepers, the Minister of Agriculture, Riad Al-Atari, issued a decision in July 2021, using his authorized powers, to prohibit the import of honey from any external establishments. This measure aims to protect local honey products and enhance the profitability of Palestinian farms by ensuring a greater flow of locally produced honey.

What we can do to To enhance marketing opportunities for beekeeping sector products, the initial step would involve international pressure and advocacy to lift the restrictions imposed by the Israeli occupation on overall trade, including agricultural production related to beekeeping and its secondary derivatives. Currently, the project's online platform presents an excellent opportunity for beekeepers and beneficiaries in the Mediterranean basin to become acquainted with Palestinian beekeeping sector products from the West Bank, adding value to the project.

Additionally, governmental bodies such as the Ministry of National Economy and the Ministry of Agriculture should work towards opening doors for export opportunities with partner and friendly countries to occupied Palestine.

Regional cluster formation on the honeybee

The opportunity within the project's Clustering framework was excellent. The opportunity allowed beekeepers to explore the potential intersections of various sectors under the umbrella of the beekeeping industry, economically, environmentally, and even socially. The underlying concept on these front calls for a comprehensive view towards integrating the elements of sales, marketing, and consumption related to beekeeping products, not just honey but also secondary derivatives. Beekeepers in occupied Palestine now recognize their significance in markets and the opportunities for their success. With the presence of agricultural engineers and veterinarians in the training, we were able to emphasize the importance of beekeeping in increasing agricultural production and preserving biodiversity. These opportunities would be even stronger if organized at the regional level, as the environment is shared and biodiversity encompasses the entire region. The issue of pollination through bees remains a matter that requires increased attention, especially in light of the global shift towards food security.

The combination of eco-routes path, By the methodology that adopts Organic practices favourable for the bee flora, Aromatic trails of endemic bee flora, Honeybee branding options, Storytelling and interactive approaches in unique experiences. All of these components will increase the effectiveness and efficiency of Regional cluster.

Development of the bee economy concept as a holistic approach to regional development

Policy limitations and constraints for new policy tools

If we want to discuss the obstacles related to developing specific policies for the beekeeping sector or adopting new policies, it can be said that there are two main areas of focus: the Israeli occupation and national local policies.

Regarding the Israeli occupation, this requires international, local, and national pressure to change the agreements stipulated in trade operations through or with the occupying government. Additionally, there should be an increase in import opportunities from European countries for Palestinian beekeeping products.

Through field interviews and focus groups conducted with groups of beekeepers (males and females), in addition to the respondents' opinions through the questionnaires that were distributed, several outputs that can be considered as challenges facing the beekeeping sector in the West Bank, in addition to a set of opportunities for future development of the sector. The challenges were categorized collectively under several titles, while opportunities were categorized under different headings, which can be considered as recommendations for future work.

Main Challenges and Obstacles

- Obtaining data related to the beekeeping sector in the West Bank. Lack of studies dealing with this sector, in addition to the lack of data regularity from official sources such as the Palestinian Ministry of Agriculture and the Palestinian Central Bureau of Statistics.
- Intensive usage of pesticides: Honeybees, as an insect, are sensitive to pesticides used for agriculture and sanitation. Because of these pesticides, hundreds of beehives are damaged every year.
- Biodiversity and the relationship of both sectors to each other.
- High cost of production inputs.
- Pests and diseases, especially those related to honey quality charter.
- Lack of experience.
- Shortage in pastures: the areas of pastures for bees - the open spaces, which are suitable for pastures for bees, in recent years have been declining, while the need for beehives for pollination and the consumption of honey is increasing
- Occupation restrictions and violence.
- Unfair competition of smuggled Israeli honey.
- Lack, and/or absence of official supportive services to this sector (breeding and queen centers, national laboratories for pest diagnosis, and quality laboratory tests with reasonable prices).

Beekeepers' Awareness and Biodiversity

Insufficient awareness among the Palestinian policy makers and farmers about the distribution of bees in the pastures is prevalent, which is considered more important than the number of beehives, as the pasture have limited capacity, which is reflected on productivity.

The capacity of each area must be studied well, and the process of hive distribution and transferring them between areas should proceed according to the capacity of each area, not in random manners as happens. It should also be studied based on the relationships between individuals, which negatively affects apiaries, such as diseases transfer and competition between beekeepers and low productivity due to overcrowded hives. In addition to economic and social problems, hives must be checked carefully before transportation to avoid diseases transition.

There is a problem related to farmers in general regarding the low knowledge and awareness of bees' importance in nature, especially in plant flowers' pollination. This increases the production of fruits, improves agricultural production, and increases yield. In addition to cross-pollination which leads to genetic diversity which leads to genetic improvement in plants. Bees are directly responsible for pollinating 70 species of plants, and many others indirectly.⁵¹ On the other hand, the settler farmers of the colonial settlements, realizing this, distribute the hives among their crops and pay beekeepers for putting their hives in the fields, in contrast to Palestinian farmers.

Unfair Competition of Settlements*/Smuggled /Imported Bee Products in Palestinian Markets

Marketing is one of the biggest problems facing beekeepers - men and women. Despite the fact that the Ministry of Agriculture issued a decision prohibiting importing honey from abroad; there still are loopholes that enable importers to import honey to the West Bank as "sweeteners". This leads to dumping in the local market with many types of cheap sweetening liquids, [one Kilo is sold at a rate of 30 shekels (8.9 US dollars), while production cost of Palestinian honey ranges between 45 -55 shekels (about 17 US dollars)]. Beekeepers sell the Kilo of honey at the rate of at least 80 shekels (about 24 US dollars), which makes the competition very difficult for the Palestinian beekeeper.

Honey consumption culture is not well developed for Palestinian families, which makes honey marketing difficult and increases competitiveness within Palestinian honey production.

Palestinian beekeepers produce high quality honey that competes in foreign markets, but according to the interviews,

There are many operations that are out of control in the market. For example, syrups, sweeteners or jams are imported and re-sold in the market as honey, with very low prices; this will affect the Palestinian bee market.

⁵¹- From the interview with Islam Douglas, mentioned before.

In addition, importing sweeteners and reselling them as honey is out of the control of PSI, the Ministry of Agriculture, Customs Police, the Ministry of Economy and the Ministry of Agriculture.

Even though the Palestinian Standards institute does not test the imported products, follow-ups after the entry of these products to West Bank is highly needed, (how they are packaged and where).⁵²

Many samples of honey were entered illegally and were destroyed, because they are not suitable for human consumption, and their toxicity is very high. In 2020, the agricultural control and the customs officer confiscated a shipment that was found unfit for human consumption.⁵³

There are bee products that are smuggled from settlements or from Israel with the facilitation of the occupation government, without any tests, so it is not possible to know the nature of the honey and the materials introduced to the market (due to the absence of laboratory testing). Those are sold at a very low price. This is one of the most prominent problems, as 4 kilos of these products are sold for 100 shekels (about 30 US dollars), while, as mentioned earlier, each kg of honey produced by Palestinian beekeepers costs NIS (50-60) and sold at 100 shekels per kilo (depending on the type). The competition will become very difficult for Palestinian beekeepers.⁵⁴

Mechanism of Hives Transfer

In addition to the absence of a scientific study for hives transfer and distributing hives to different pastures, transportation in car is still considered a traditional transportation mechanism. The majority of beekeepers use traditional methods, preparing the hives in a primitive way by closing the boxes with wood and screws, and placing a cloth bag on the tops for ventilation. They then transport hives, taking into account the transportation fee that varies from one region to another.

Absence of Laboratories and Tests

With the presence of laboratories accredited by Palestinian Standards Institute "PSI", such as Birzeit University's laboratory, the Scientific Center, An-Najah University laboratory, and the Ministry of Health laboratory. When the institution believes that the laboratories do not meet the demand, they send samples to the laboratories of Royal Scientific Society in Jordan.⁵⁵

Despite the presence of this number of laboratories, there are many comments from beekeepers about the absence of laboratories, which is one of the biggest challenges facing the beekeeping sector, as the available laboratories are not sufficient to test agricultural products, and pesticides that are sprayed. The quantity of pesticides used is very high,

⁵²- From the interview of Taghreed Sheathe, mentioned before.

⁵³- From an interview with Walid al-LaHood, mentioned before.

⁵⁴- From the interview of Islam Douglas, mentioned before.

⁵⁵- From the interview of Taghreed Shehadeh, mentioned before.

pesticides used are highly toxic to bees, and to humans; some of them have been banned from use in their country of origin, but still are used in West Bank.⁵⁶ In addition, there is a lack, or weakness, of awareness by farmers about these pesticides, their hazards, and the method of using them in safe way.

Adding to all of that, the testing mechanisms and procedures, and the fees of tests, are high when taking into consideration that most beekeepers are small-scale farmers.

Lack of Coordination between the Centers of Responsibility

It was revealed that coordination between the Ministry of Agriculture and the Environmental Quality Authority are very weak or absent regarding biodiversity, and the distribution of hives as well as in their role in preserving biodiversity. Additionally, there is an absence of clear data from the Ministry of Economy on the production related to the bee sector.

The United Nations launched a convention for the duration of 4 years to restore degraded ecosystems through identifying vulnerable ecosystem areas, using various methods, including bees, to help restore/rehabilitate these systems to their original status. The Environment Authority and the Ministry of Agriculture will be the main national representatives in this project, so, including the bee sector in interventions is particularly important. The project will start soon to look at the sites and determine the required interventions.

Strategic proposals for cross border development of the bee economy concept and cluster cooperation approaches for regional development

It is very clear that the beekeeping sector is promising, but it needs institutionalization that can contribute to increasing the local national production through honey as a primary product, and many other secondary products in this sector. Doing this may generate millions of dollars if they invested correctly and directed in accordance with tight policies and enforceable legislative framework.

In addition, the biodiversity in the West Bank is considered one of the best in the region, in terms of vegetation cover, pollinators, and diversity per unit area.

However, Palestinians face challenges in terms of occupation, land confiscation and misuse and destroying natural biodiversity. On the other hand, the wrong practices in bee management, involve the absence of management and coordination in hives transfer between different and diverse agricultural lands, which is necessary to increase the environmental balance and productivity.

All these obstacles can turn into opportunities, and their solutions can be a breakthrough in the establishment of a prosperous sector in the future. Decision-makers can overcome the obstacles that may face this sector in the future.

A set of general recommendations for the study's main aspects:

⁵⁶- From the interview of Islam Douglas, mentioned before.

- Increase the coordination and interactions between various bodies and ministries, to integrate the beekeeping sector within the strategic plans related to biodiversity in West Bank for better utilization of honeybees in pollination and nectar harvesting.
- Increase the allocated budget for the responsible centers (Ministry of Agriculture, Environmental Quality Authority), and allocate clear percentages within the general budget to focus on investing in the beekeeping sector, for developing it in the future.
- Institutionalization the work of the beekeeping sector to be effective in terms of the mechanisms to protect the sector; by reviewing the process of transferring hives and studying the important ecological areas and developing plans for protection and development.
- Addressing the gaps that allow importers to manipulate products as sweeteners and market them in the market as honey, which creates unfair competition with Palestinian honey.
- Activating the Palestinian Honeybee Council and passing a law that stipulates a budget allocation to the council so that it can work more effectively.
- Promotion of honeybee products in regional specialized products that are specific to each region, (GI) village or city, through hiking routes or trips organized in terms of domestic tourism or even tourism that attracts tourists from abroad. Therefore, Palestinian apiaries will become part of the stations of tourist tracks or trips, which contributes significantly to the marketing of apiaries products directly to tourists.
- Shed light on apiary products, such as honey and derivatives of the beekeeping sector as products to be highlighted within media materials that promote tourism in West Bank.
- Since The Environment Authority and the Ministry of Agriculture are main Palestinian bodies that contracted with The United Nations for the Ecological Restoration project, they are main bodies related to the honeybee sector, so it is important to focus on the importance of their role in this project.
- Most hotels offer a small box of honey during the breakfast period, most of which is imported. It is recommended to substitute this with Palestinian honey and promote other local bee products, like candles used in hotels, or products that contain beeswax.
- Introduce beeswax lighting candles, taking in consideration that it is not possible to replace paraffin wax candles completely, because the cost of beeswax is high, compared to paraffin wax.
- Focus on processing national natural beeswax, as there are local experts in this field, and vast quantities of wax in West Bank that can be used in other products.
- Increase farmers' and beekeepers' awareness on the importance of bees in the farming system, pollination, increasing productivity and preserving biodiversity strategically, as well as seasonally.
- It is important to organize and govern the data related to this sector, so that there are clear national reference data, as it is not possible to rely on the agricultural census alone if it is conducted every 10 years.
- Conduct more research and studies related to sector development, and give more priority in capacity building, extension and training related to production, and allocating more budgets in the sector.

- Providing and strengthening the supporting factors for the sector, such as scientific research, national breed improvement stations and queen production centers, national pest and disease diagnosis laboratories and national quality testing laboratories; with affordable costs.