

BEEKEEPING ASSESSMENT

Core Competency:	Livelihood and Food Security in North West Syria
Activity:	Beekeeping Assessment
Location:	Aleppo/ Albab, Bzaa and Qabassin /
Data collection staff and cleaning data:	IACO & MHEurope Team
# of interviewees:	40 beekeepers
Data collection date:	5, 6 & 7 October 2020
Reporting date:	12 October 2020



Photo 1: Apiaries in Bzaa region

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1. Introduction:

Beekeeping used to be a traditional industry in Syria before the crisis, producing honey, royal jelly, natural wax and propolis. The beekeeper could live off his production if he owned at least 100 hives. Transhumant hives could produce an average of 20 to 25 kg of honey per annum per hive. Compared to the international market prices, the local honey selling price is very high, up to an average of SYP 8000/kg in 2018 and is reported to have been above international prices also in the past. Prior to the crisis, there were about 700 000 beehives in the country producing on average 3200 tons of honey. Some 20 percent of the hives were traditional and 80 percent modern. The reports indicate that during the crisis bee colonies were destroyed or neglected, with a decrease of 86 percent in many places from rural areas. Bombs have contaminated the environment and polluted the air, and many beekeepers have fled their land. Current annual honey production is estimated to be between 1.5 and 2 000 tones (FAO, 2019).

In addition to these difficulties, there are concerns about mortality resulting from pesticide misuse and the prevalence of external parasitic mites (Varroa mite) that attack and feed on the honey bee colonies. Given the lack of marketing channels, beekeeping at this point does not have the potential to serve as a main livelihood option for beekeepers. Rather, it could be seen as a supplement to other livelihoods and the importance of beekeeping should be seen through an environmental lens as contributing to pollination.

➤ Purpose:

According to IACO's plans to support the beekeepers inside Syria in cooperation with Mercy Hands Europe organization, IACO Team has conducted Beekeeping Assessment to catch capture of beekeeping reality in this region, and identify persist problems and difficulties facing beekeepers.

The Beekeeping Assessment has conducted during the first week of October, and continued three days 5, 6 & 7 October 2020, and it included 3 communities (Albab, Bzaa and Qabassin) in Aleppo governorate.

➤ Methodology:

40 beekeeper were interviewed from the 3 communities (Albab, Bzaa and Qabassin) for the purpose of Beekeeping Assessment in those communities.

The data was collected over 3 days, by using a KoBo tool which is developed especially for Beekeeping Assessment purpose. The enumerator team included one staff from IACO field team.

2. Assessment Sample and respondent Details:

IACO field team has conducted 40 survey, 17 out of them in Qabassin, 12 in Bzaa & 11 in Albab. The interviewees were from host and IDP community and all of them were **Male**, as shown in chart 1:

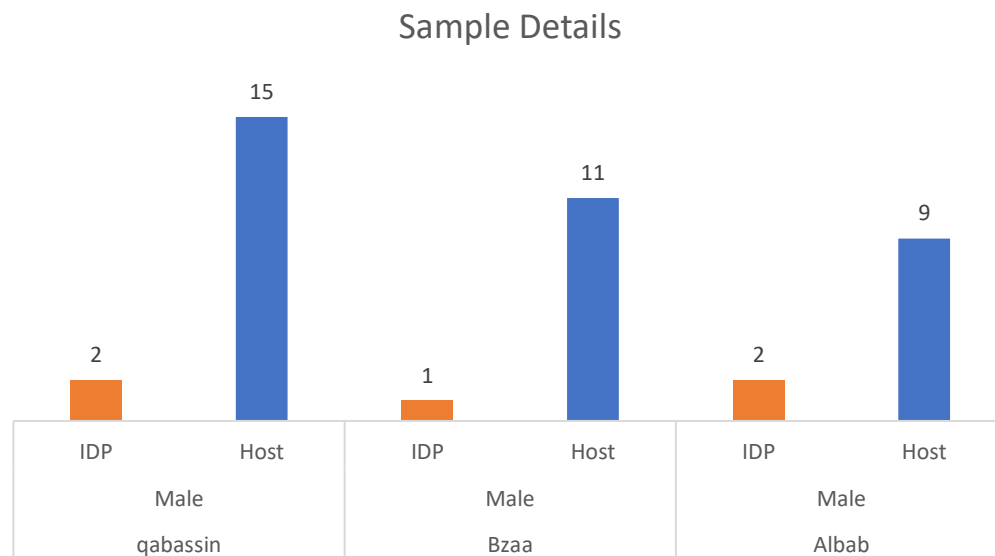


Chart 1: Sample details

3. Key Findings:

➤ Consent:

All of interviewees (40) approved on conducting the survey, as shown in chart 2:

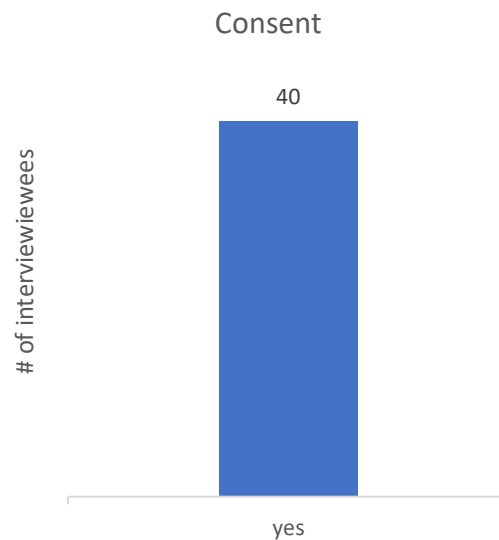


Chart 2: consent

➤ Interviewee's education level:

The interviewees' education level included 4 levels, elementary, middle school, high school and graduated, and 4 of them were illiterate, as shown in chart 3:

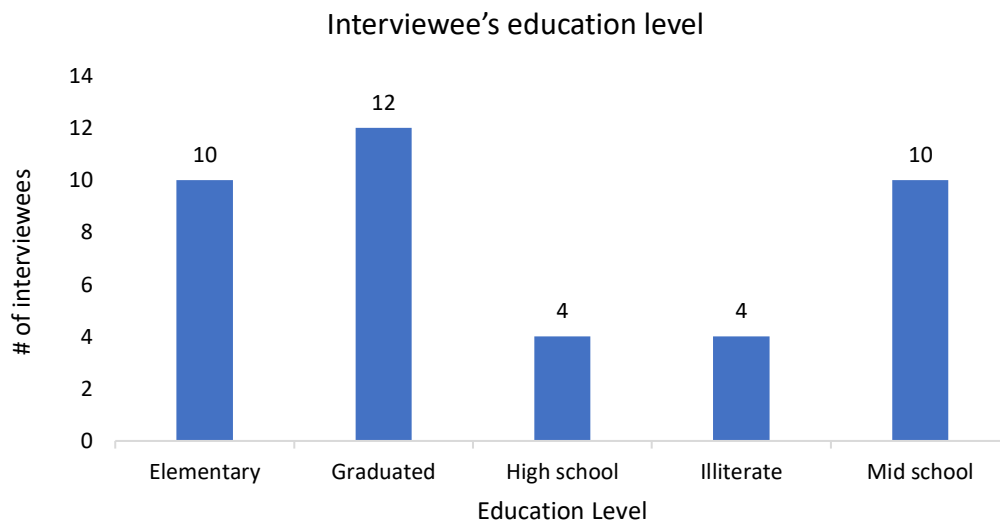


Chart 3: Interviewee's education level

➤ Interviewee's career:

58% of interviewees the beekeeping was their original career, while 42% of them wasn't, as shown in chart 4:

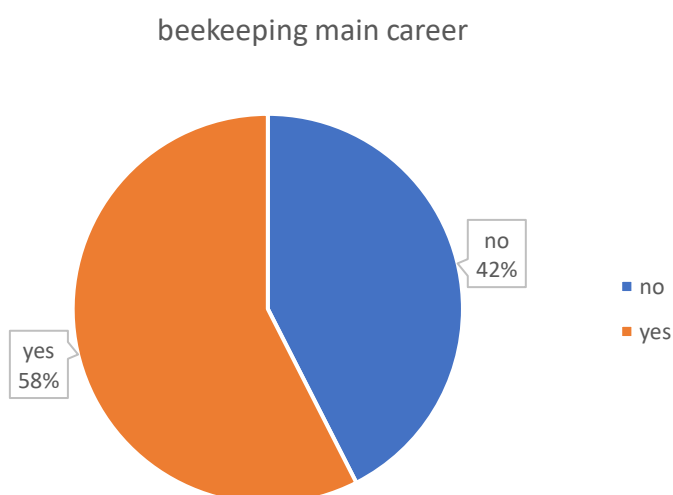


Chart 4: Interviewee's main career

➤ **The Period that interviewees has worked in beekeeping:**

26 of interviewees (65%) have worked in this career for more than 7 years, and 7 of them (17.5%) have done that from 4-7 years, while the last 7 (17.5%) have worked from 1-4 years, as shown in chart 5:

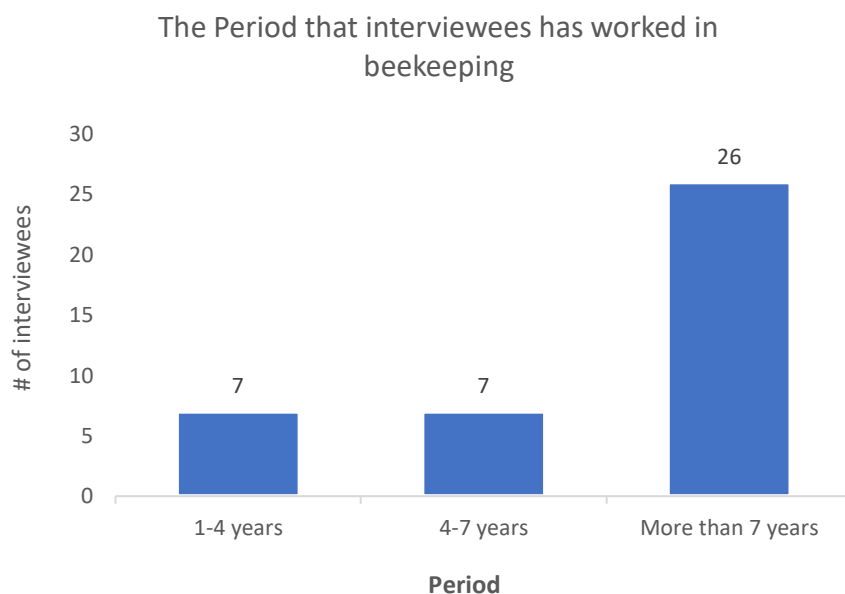


Chart 5: The Period that interviewees has worked in beekeeping

➤ **Interviewee beekeepers' hive types:**

62% of Interviewee beekeepers' hive types were from modern type, while 33% of them were using the both types (modern and traditional), in addition to 5% were using the traditional type, as shown in chart 6:

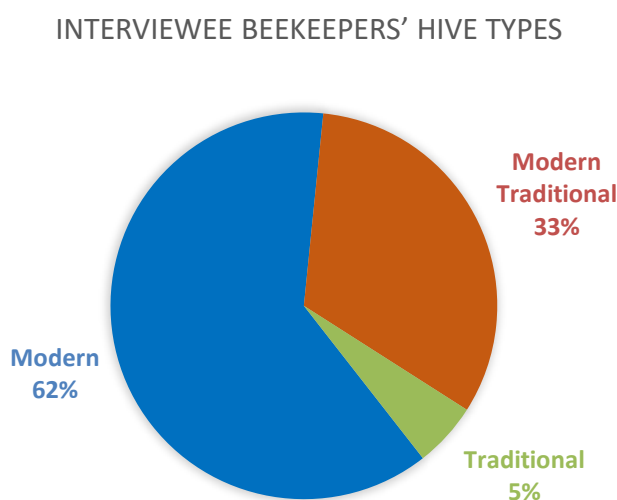


Chart 6: Interviewee beekeepers' hive types

➤ Number Modern hives per beekeeper:

35 out of interviewees' beekeepers were using the modern hives, but its numbers ranged from 1 - 85 hives at each, as shown in chart 7:

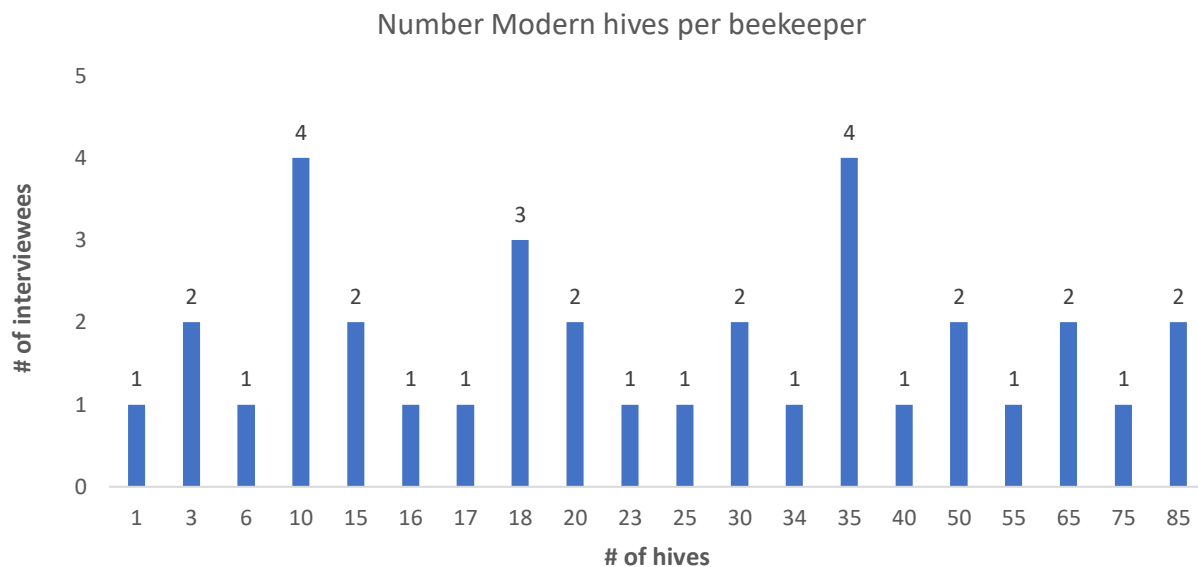


Chart 7: Number Modern hives per beekeeper

➤ Number Traditional hives:

14 out of interviewees' beekeepers were using the traditional hives, but its numbers ranged from 2 - 30 hives at each, as shown in chart 8:

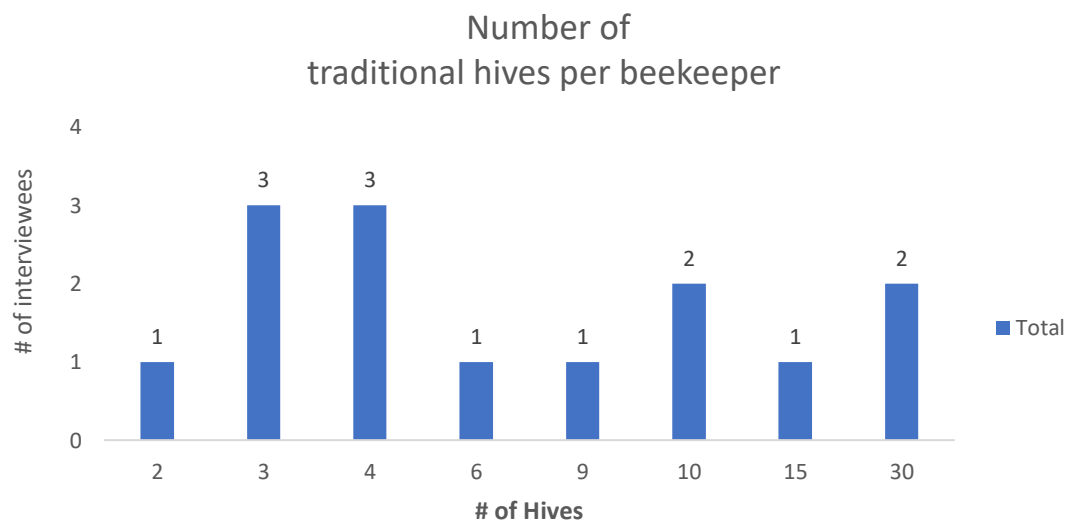


Chart 8: Number Traditional hives per beekeeper

➤ Bee pastures availability:

75% of interviewee's beekeepers said that the bee pastures are available in the region, while 25% mentioned that they are unavailable, as shown in chart 9:

Bee pastures available in the region

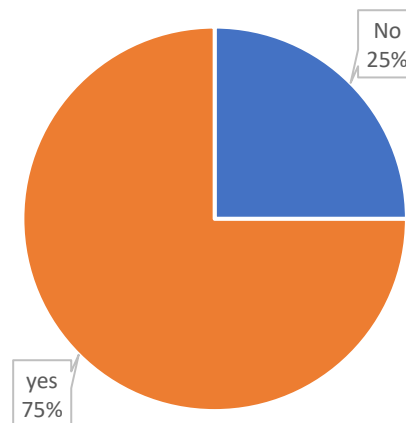


Chart 9: Bee pastures availability

➤ Bee pasture's types:

Based on interviewees answers the pasture's types available in the region are herbaceous plants, nectar crops and nectar trees and shrubs, as shown in chart 9:

Types of bee pastures that are available in region

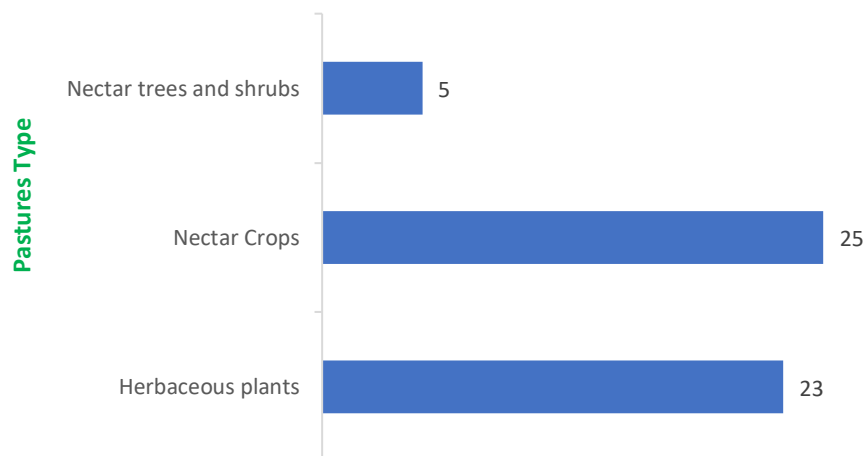


Chart 9: Bee pastures availability

Period of pastures availability:

The interviewees answers varied about period of pastures availability in the year, but the larger number of them mentioned that it available from 3 to 4 months a year, as shown in chart 10:

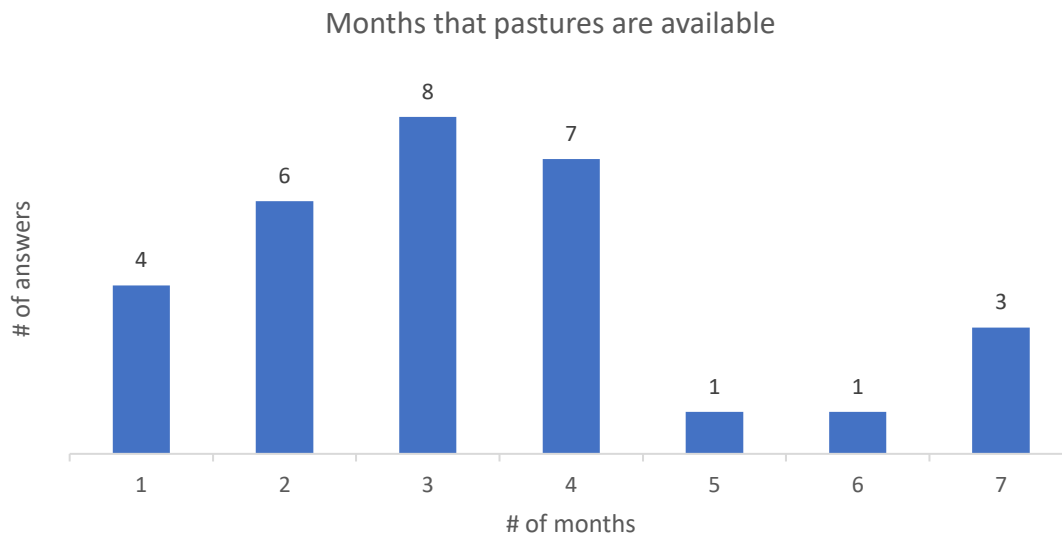


Chart 10: Period of pastures availability

➤ Bee types that available in region:

18 of interviewee beekeepers have a hybrid bees, while 11 of them are keeping the local type and the other 11 have the two types, as shown in chart 11:

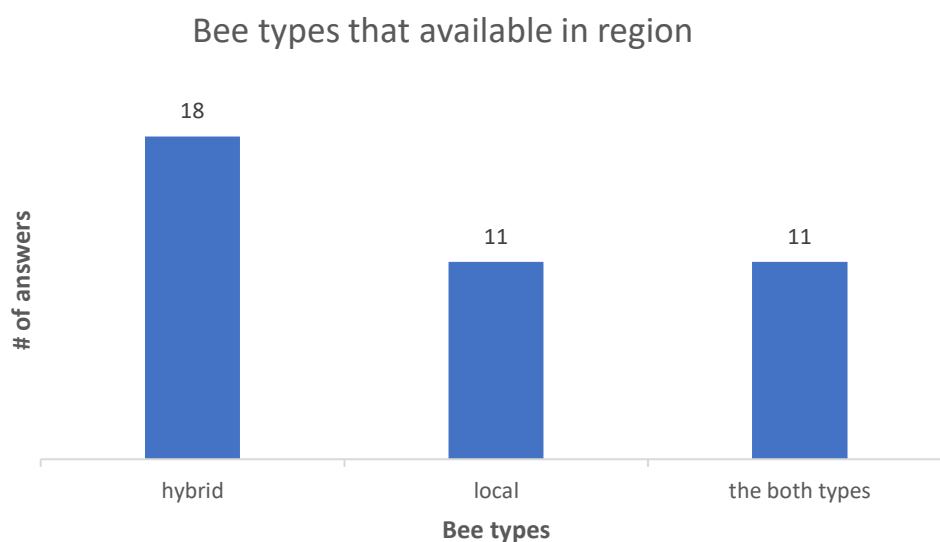


Chart 11: Bee types that available in region

➤ Splitting bee types:

Most of interviewee beekeepers (29) said that the artificial type of splitting occurs in their hives, while 7 of them mentioned that it occurs by itself in their hives, other hand 3 of them the splitting doesn't occur in their hives, as shown in chart below:

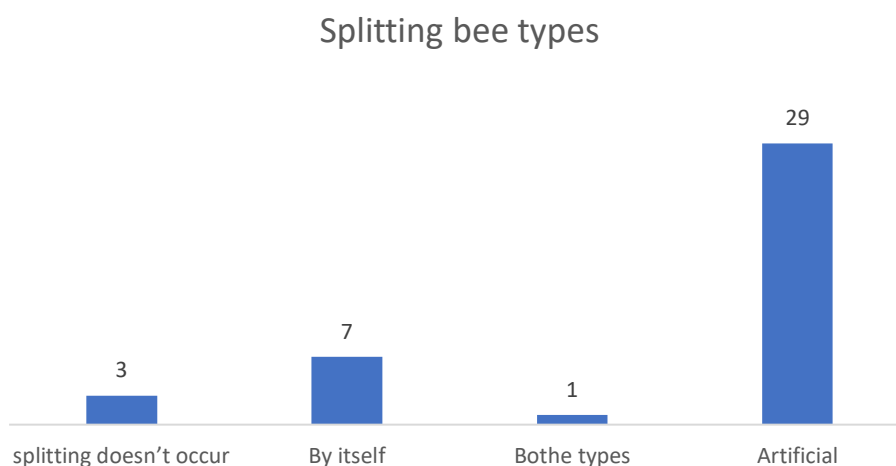


Chart 12: Splitting bee types

➤ Breeding bee queens:

35 % of interviewees have been breeding bee queens, while 65% of them haven't. Moreover, 26 of them insert the bee queens to the hives, as shown in charts 13 and 14:

Inserting of queens

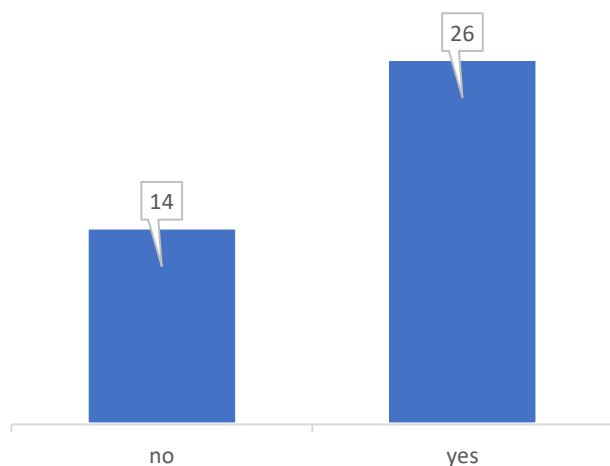


Chart 13: inserting bee queens

Keeping bee queens

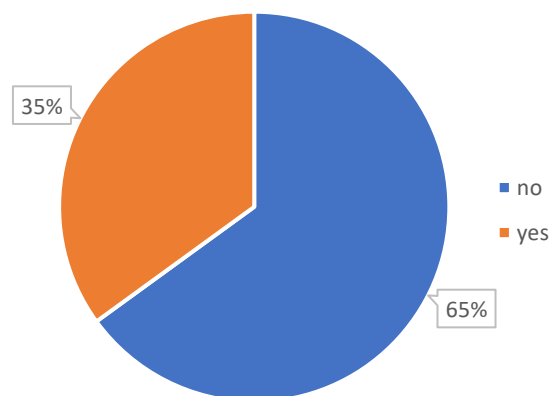


Chart 14: Keeping bee queens

➤ Queens Insemination devices availability:

Most of interviewees said that this devices are unavailable, but one of them said it is available, as shown in charts 15:

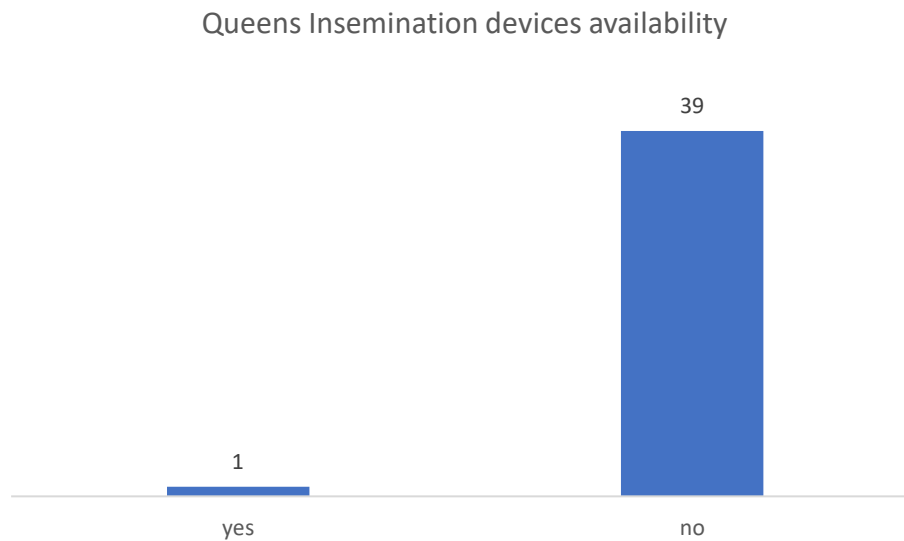


Chart 15: Queens Insemination devices availability

Generation of hybrid bee queens availability:

Based on interviewees answers the F0 queens, F1 queens and the queens which are breed from f1 queens are available, as shown in chart 16:

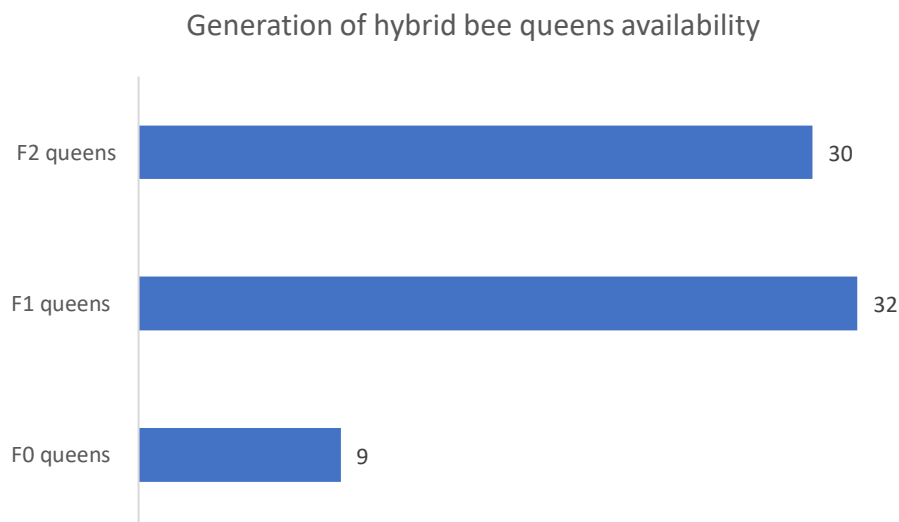


Chart 16: Generation of hybrid bee queens availability

➤ Bees feeding in winter:

39 of interviewee beekeepers (97%) feed their bees by sugar in the winter, while 33 of them (82%) use the pollen alternatives in feeding, and one of them uses the honey, as shown in chart 17:

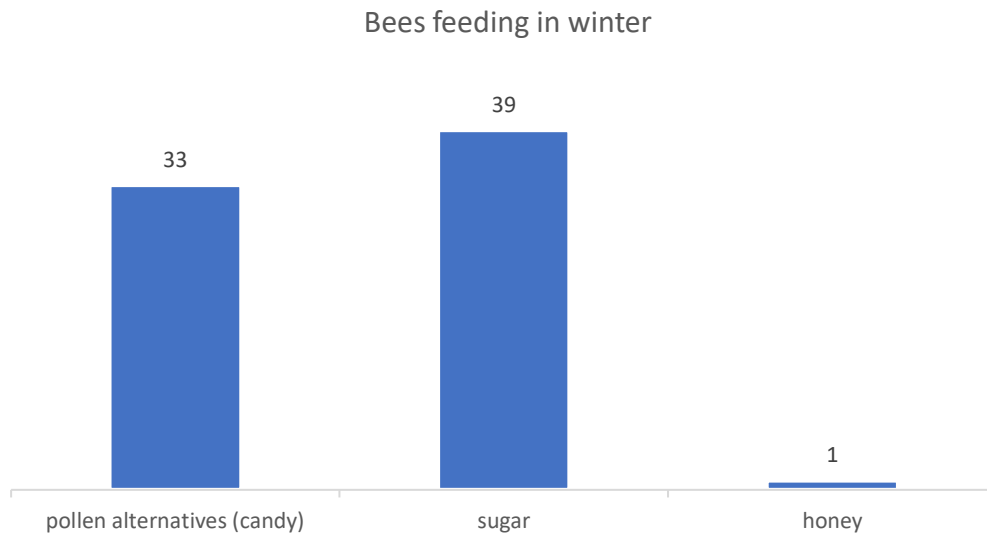


Chart 17: Bees feeding in winter

➤ Beekeeping equipment availability:

Most of interviewees (88%) said that beekeeping supplies are available, while 12% of them said it isn't, as shown in chart 18:

Beekeeping equipment availability

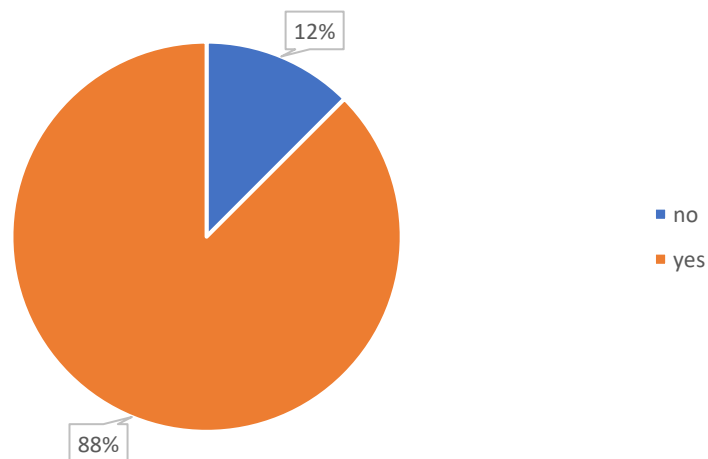


Chart 18: Beekeeping equipment availability

➤ Average bee equipment cost in dollar:

The average bee supplies cost in dollar are as in chart below which shows that the separator is the highest cost.

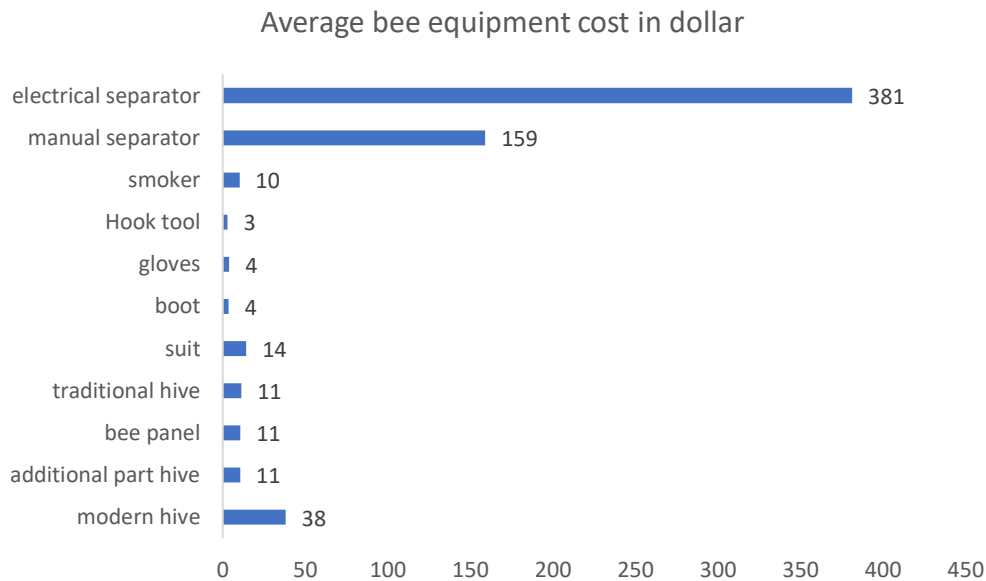


Chart 19: Average bee equipment cost in dollar

➤ Number of hives at the beginning and end season:

The results showed increasing in hives' number at the end season comparing with its number at the beginning of season, as shown in chart 20:

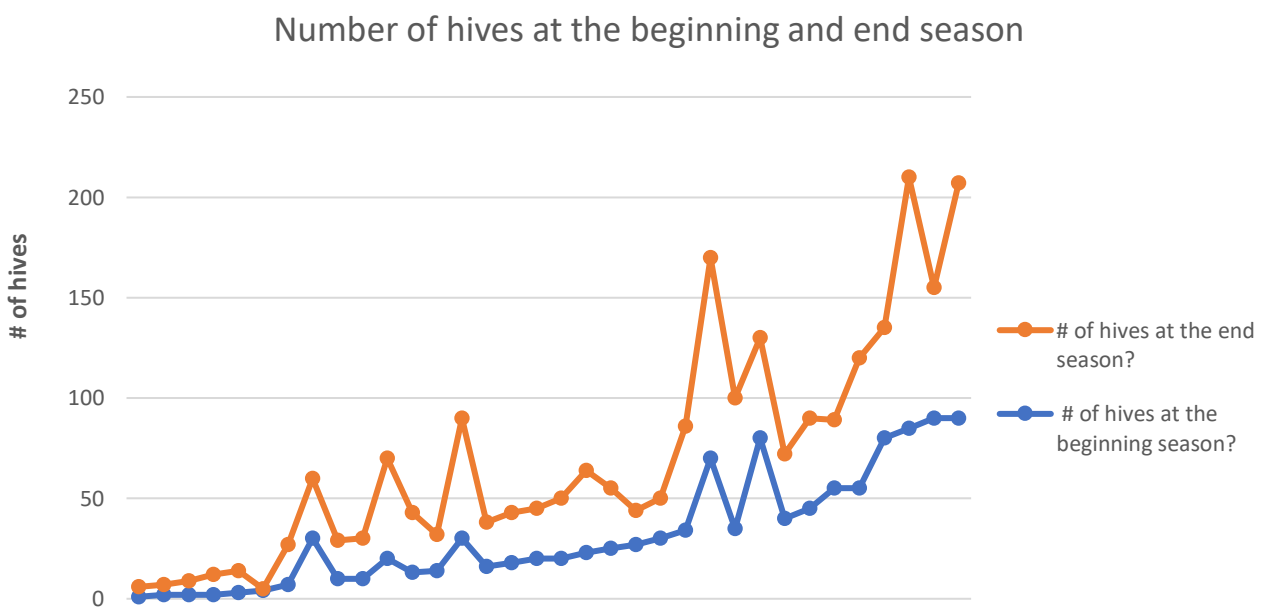


Chart 20: Number of hives at the beginning and end season

➤ Honey separator availability:

75 % (30) of interviewees haven't a honey separator, but 25% (10) of them have (chart 21), 9 of them use electrical separator and the last one uses manual separator (chart 22).

Possession of honey separator

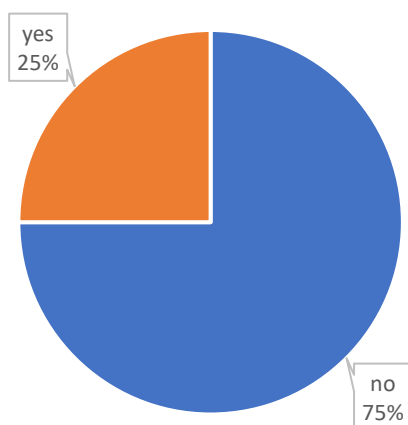


Chart 21: Possession of honey separator

Types of honey separator

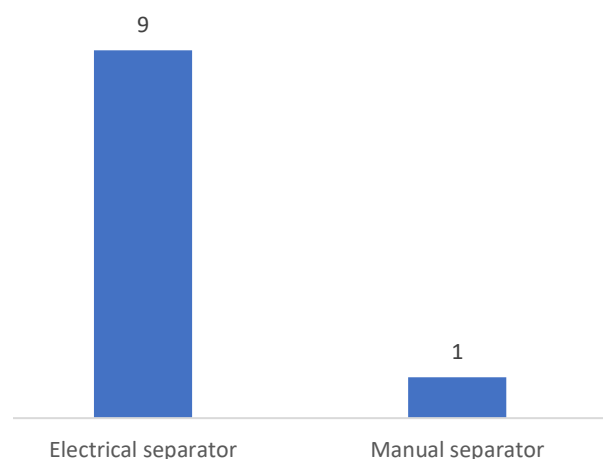


Chart 22: Types of honey separator

➤ Average hive's production of honey last year:

The results showed that the average modern hive production is 16 kg honey last year, while the traditional hive production was 5 kg, as shown in chart 23:

Average hive production of honey last year

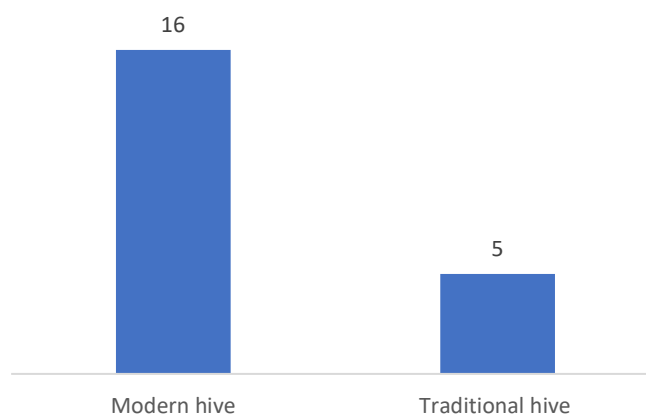


Chart 23: Average hive's production of honey last year

➤ **Other products than honey the beekeepers produce:**

These products included the wax, pollen and royal jelly, as shown in chart 24:

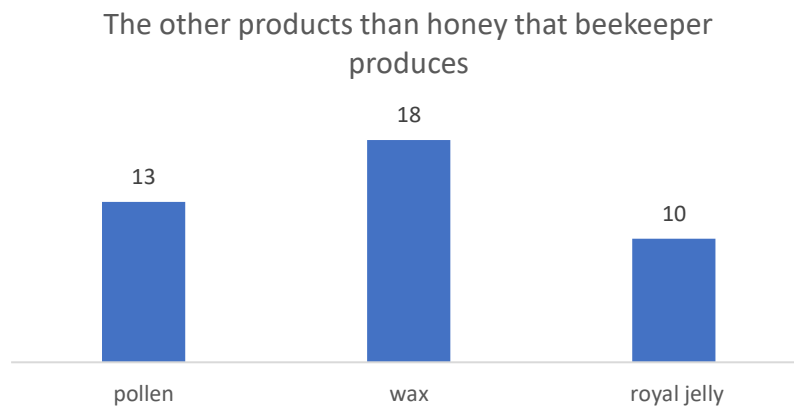


Chart 24: Other products than honey the beekeepers produces

➤ **Average price of beekeeping products dollar per kg:**

The results showed that the honey is the highest price among the hive products with price 9\$, secondly the wax of both types (6\$ and 8\$), then the royal jelly(1\$ per 1 gram),as shown in chart 25:

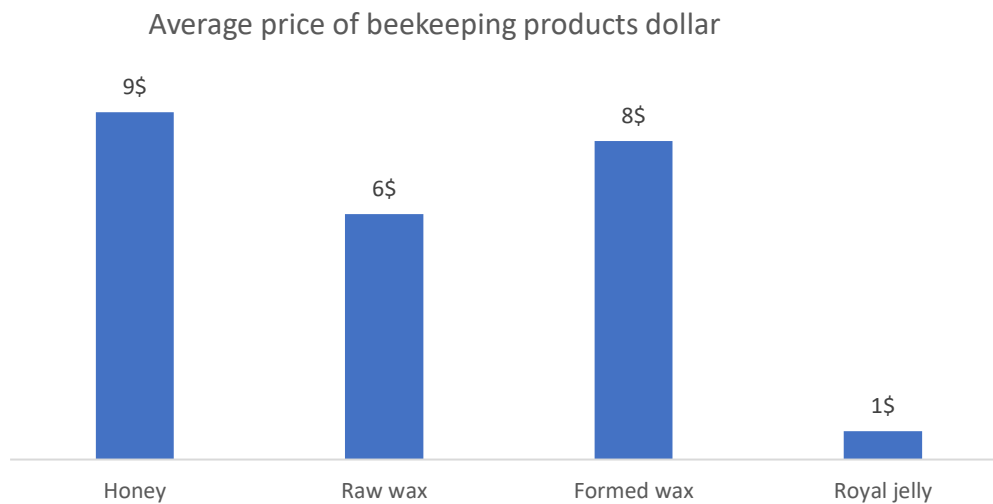


Chart 25: Average price of beekeeping products

➤ Honey marketing:

83% of interviewee beekeepers market their honey production by themselves, while 17 % of them sell it to traders, as shown in chart 26:

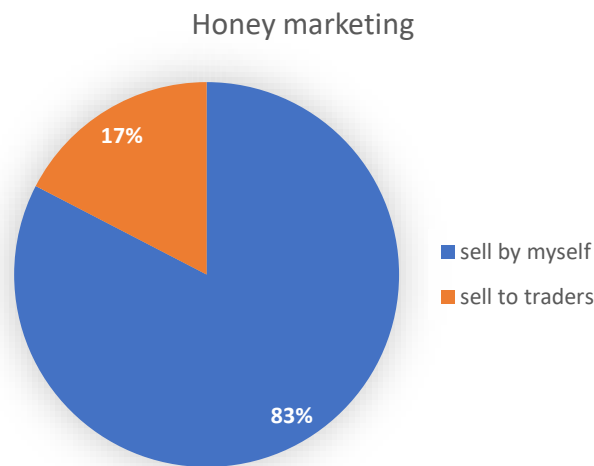


Chart 26: Honey marketing

- The average price of F1 bee queen is 21\$.
- The average cost of harvesting and separating is 4\$ per hive.
- The average cost of moving apiary is 32\$.
- The average cost of feeding is 8\$ per hive.
- The average cost of pests control is 6\$ per hive

As shown in chart 27:

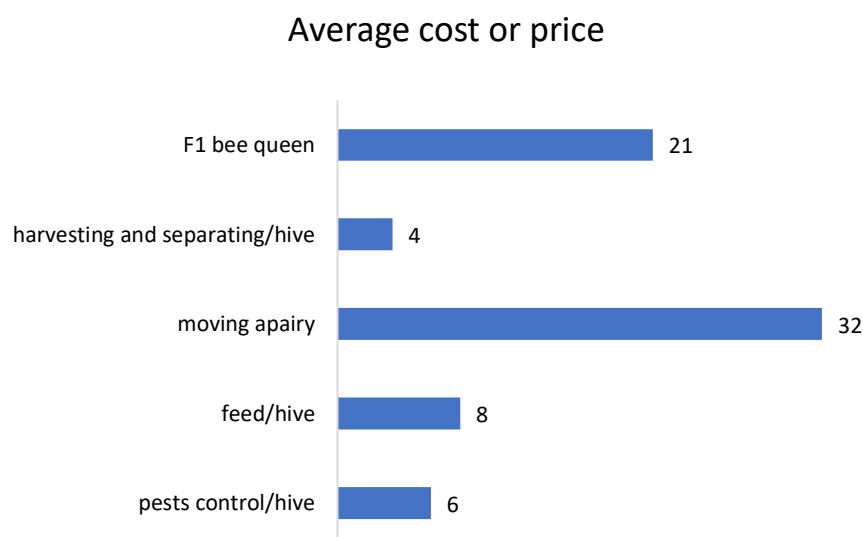


Chart 27: Average cost or price

➤ Beekeeping experiences:

the interviewees beekeeping experiences are as shown in chart 28:

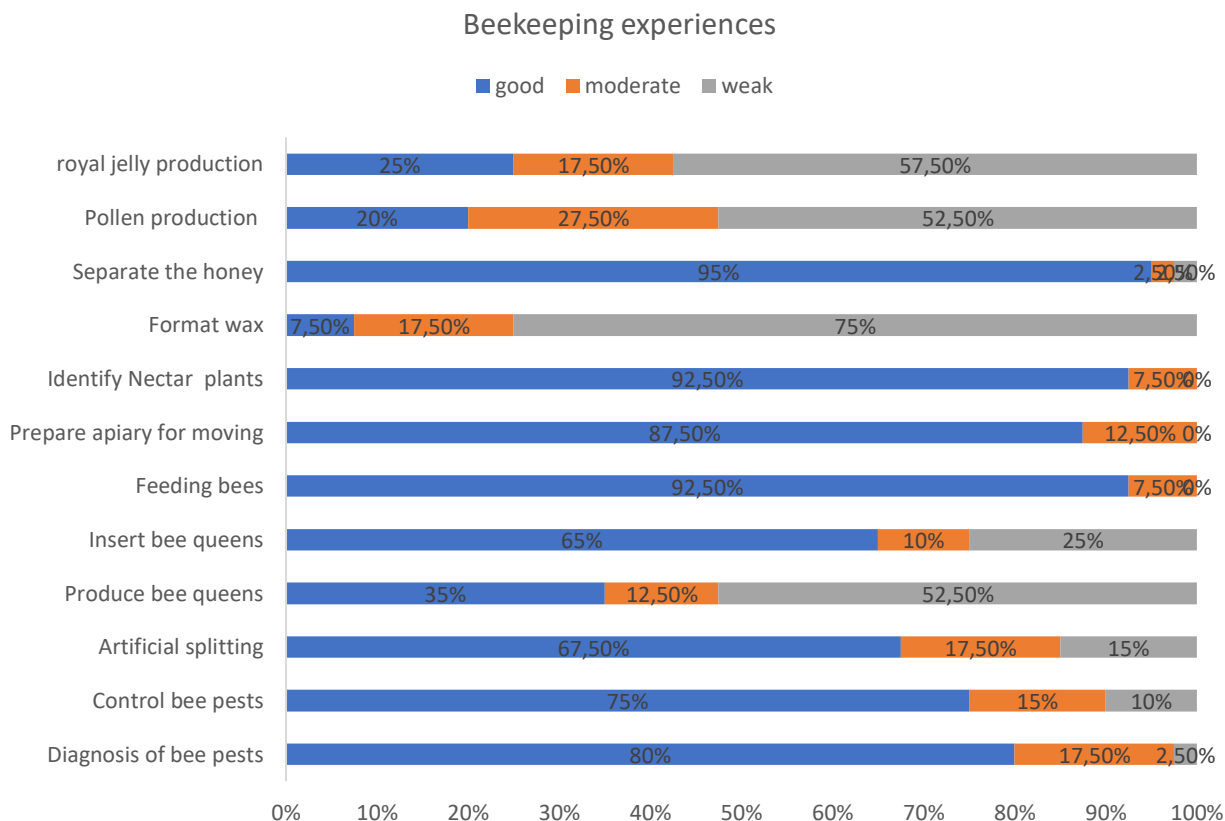


Chart 28: Beekeeping experiences

➤ Bee Pests:

Based on interviewees answers, the most important pest is the Varroa, in addition to brood calcification, larvae rot, dysentery, amebiasis, paralysis, nosema, hornets, birds and ants, as shown in chart 29:

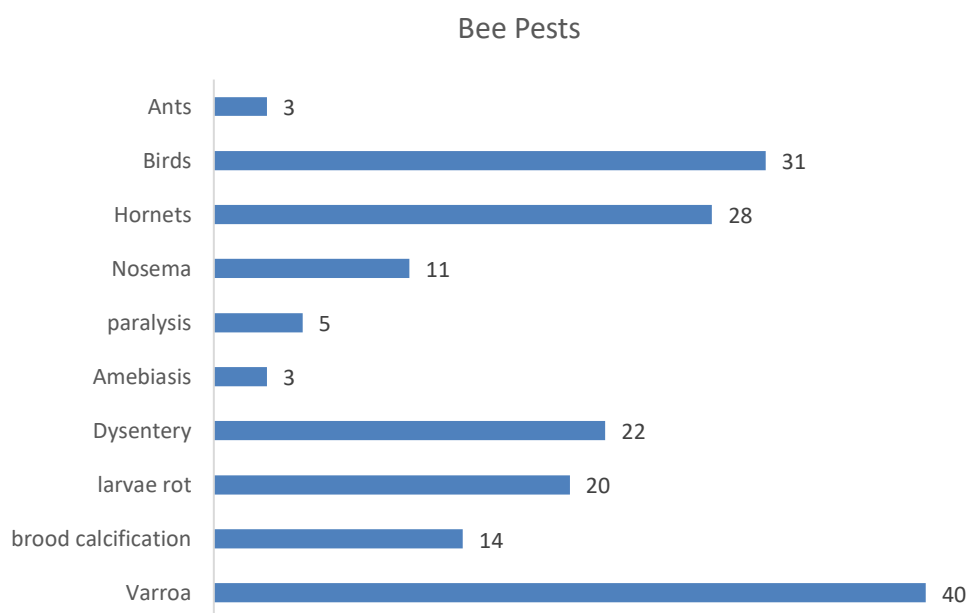


Chart 29: Bee pests

➤ Bee pesticides availability:

95 % of interviewees said that the bee pesticides are available, but 5% said isn't (chart 30). Moreover, 12 out of them mentioned that it is medium available and 14 of them said it is low available, while 3 of them said it is good availability, as shown in charts 31:

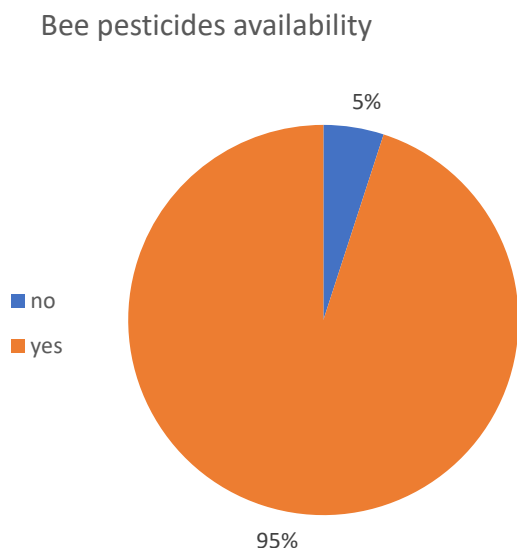


Chart 30: Bee pesticides availability

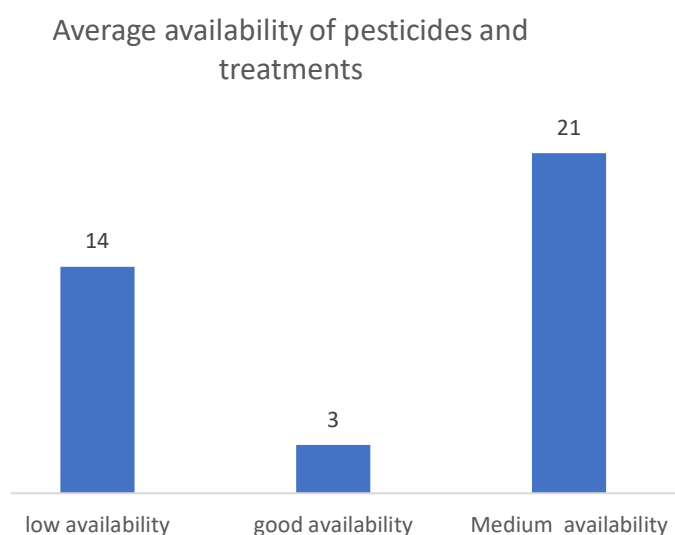


Chart 31: Average availability of pesticides

➤ Bee pesticides effectiveness:

58% of interviewees said that pesticides are rather effective and 29% of them said it is effective, but 13% of them mentioned that it is not effective, as shown in chart 32:

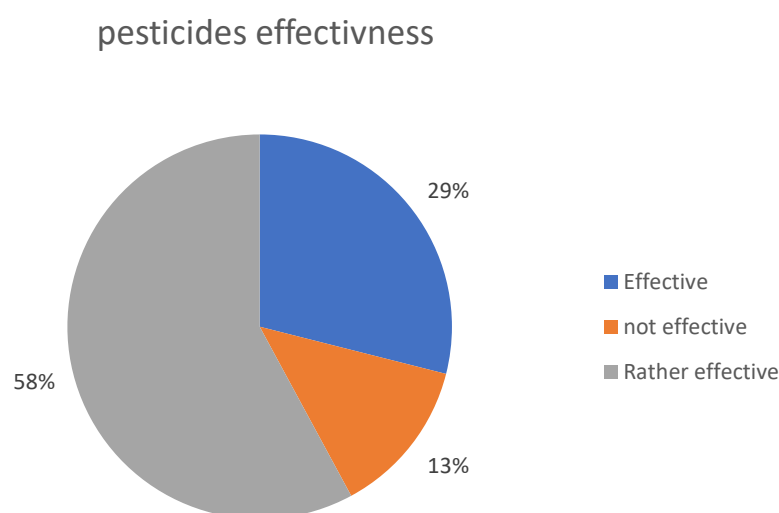


Chart 32: Bee pesticides effectiveness

➤ Beekeeping problems and difficulties:

The results showed that there are a lot of problems and difficulties affect on beekeeping, and based of the larger number of interviewees answers, the pasture scarcity and using pesticides randomly wich lead to death of bees are the most important problems facing beekeepers, in addition to marketing difficulty, expensive beekeeping suplies, stealing the hives and fake honey competition, beside to other problems less important, as shown in chart 33:

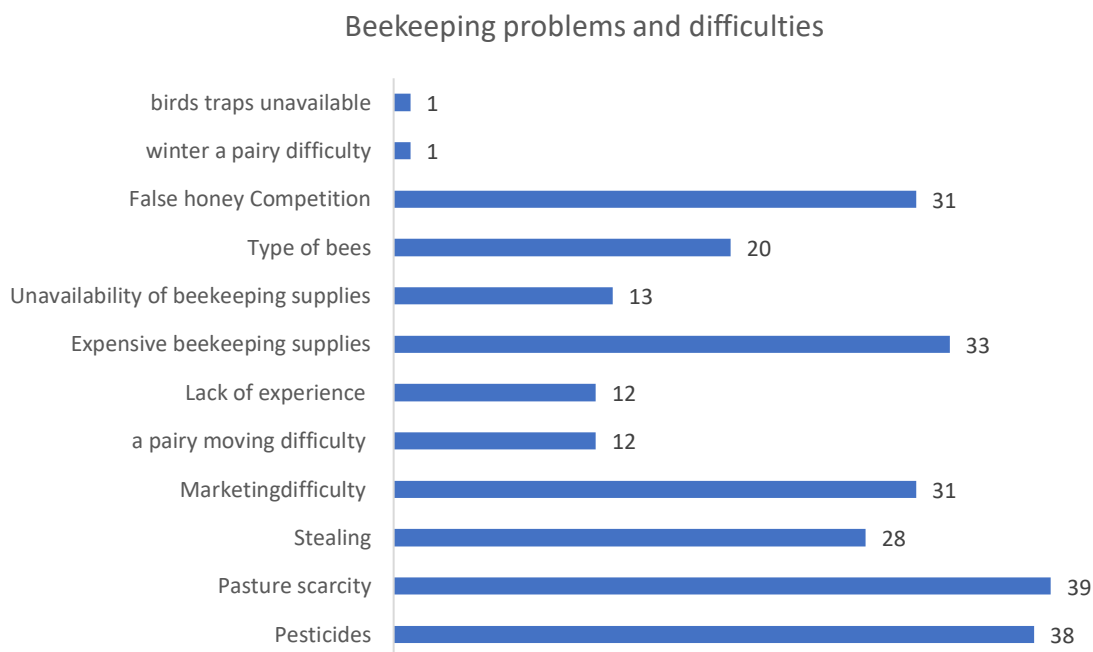


Chart 33: Beekeeping problems and difficulties

➤ Effect of crisis on beekeeping:

98% of interviewees said that the crisis has affected on beekeeping career, but 3% said it hasn't, as shown in chart 34:

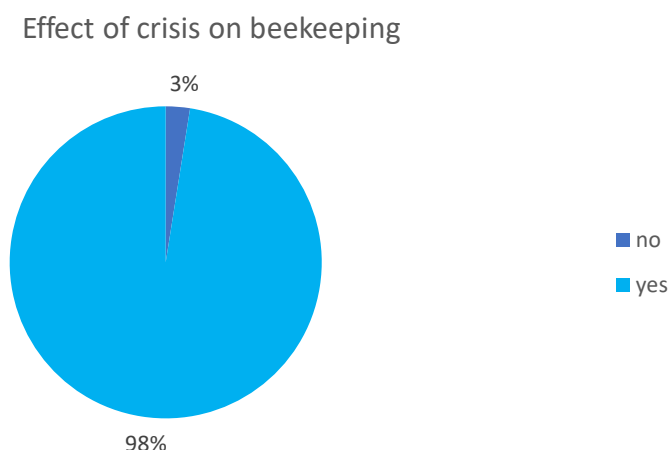


Chart 34: Effect of crisis on beekeeping

➤ The way of effect war on beekeeping:

The war affected on beekeeping career in many sides as unavailability beekeepers' supplies, prevent the moving of apiaries to different regions, expensive beekeepers' supplies, decline in the number of hives, low quality of honey, reduce honey marketing and Leave the career, as shown in chart 35:

The way of effect war on beekeeping

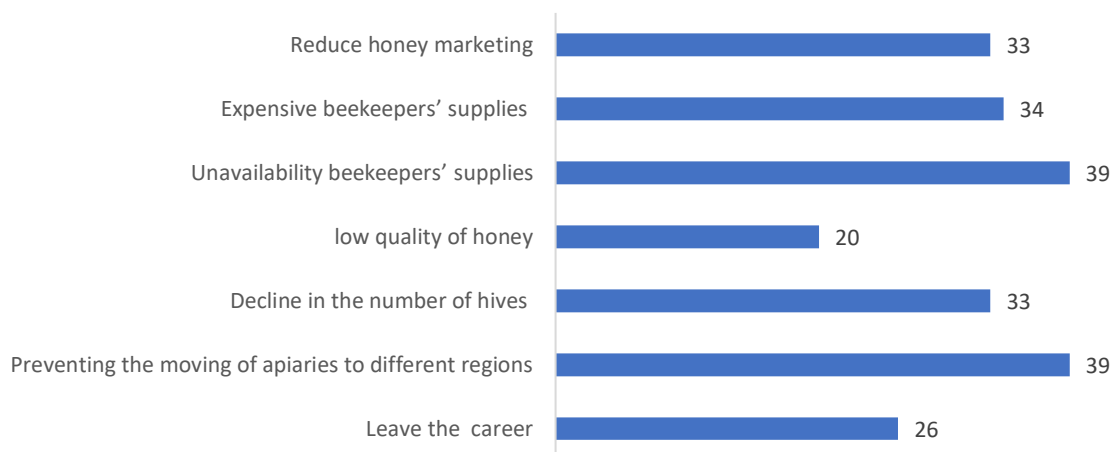


Chart 35: The way of effect war on beekeeping

➤ Honey analysis laboratory availability:

All of interviewees said that the honey analysis laboratory is unavailable (chart 36). other hand 85% of them said the availability this laboratory is important, as shown in chart 37:

Availability of honey analysis laboratory

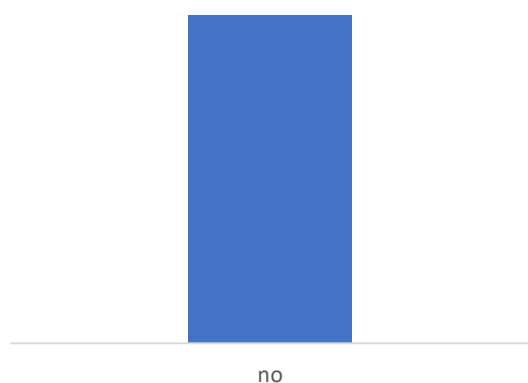


Chart 36: Availability of honey analysis laboratory

Importance of laboratory

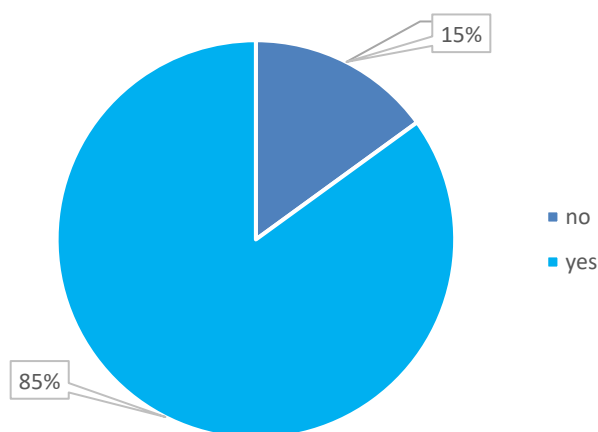


Chart 37: Importance of laboratory

➤ **Effect of COVID- 19 on honey production and marketing:**

38% of interviewees said that COVID- 19 has affected negatively on the honey production and marketing, but 62% of them said hasn't, as shown in chart 38:

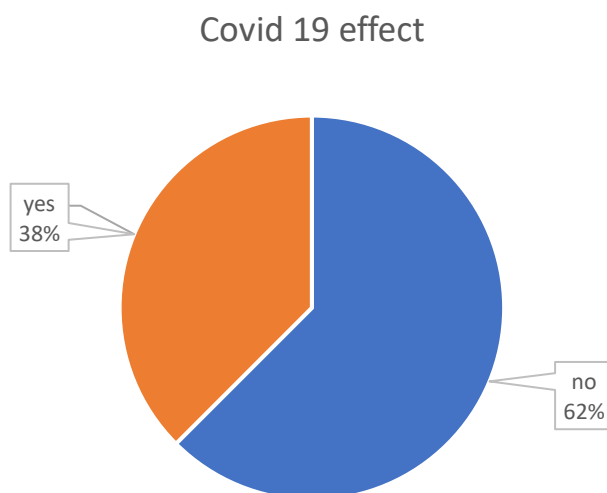


Chart 38: Effect of COVID- 19 on honey production and marketing

➤ **Receiving aids:**

53% of interviewees have received aids in terms of beekeeping, while 48% of them havnt, as shown in chart 39:

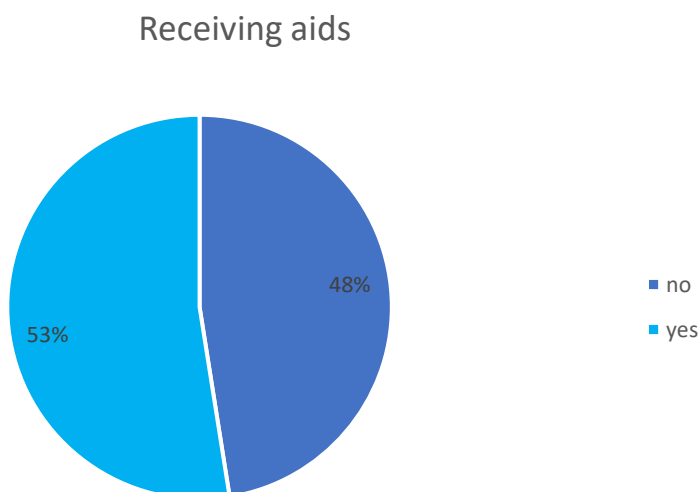


Chart 39: Receiving aids

➤ Type of received aids:

The type of received aids is as in the chart below:

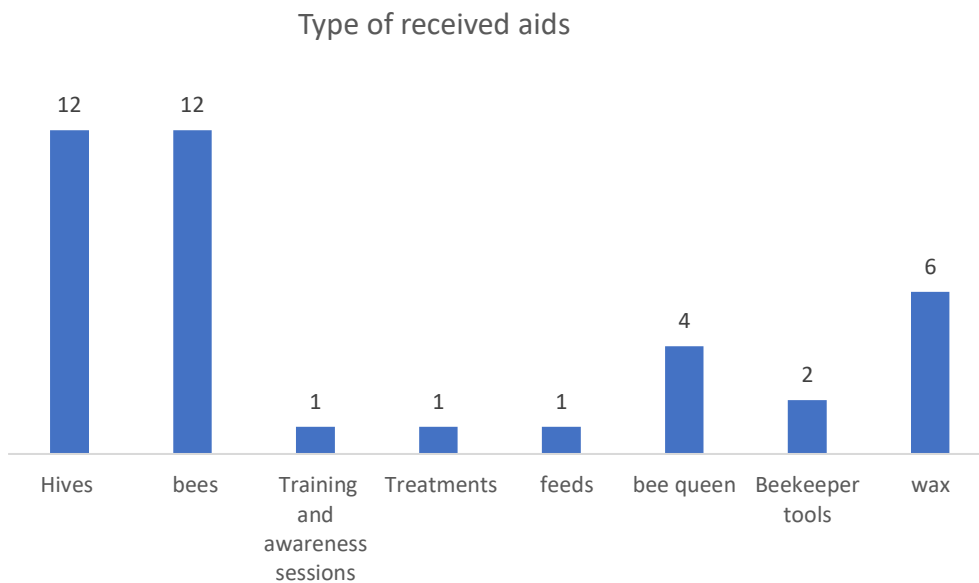


Chart 39: Type of received aids

➤ Beekeepers' association available in the region:

27 out of interviewees said that there are a beekeepers' association available in the region, while 13 of them said it isn't (chart40). Moreover, 22% of them said that this association provide aids to beekeepers, but 78% of them said it didn't, as shown in chart 41:

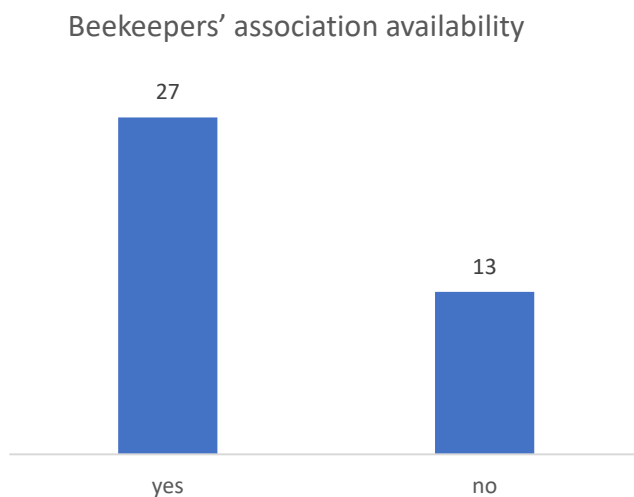


Chart 40: Beekeepers' association availability

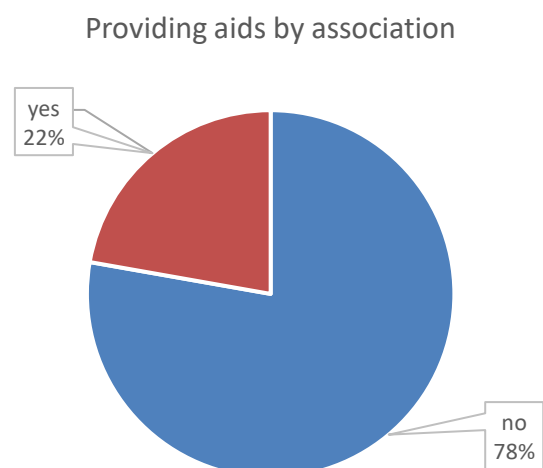


Chart 41: Providing aids by association

➤ Interviewee's observations:

The Interviewee's observations are as in chart 42:



Chart 42: Interviewee's observations

4. CONCLUSIONS:

- The beekeepers' hive types were from modern and traditional type, and most of them have worked in this career for more than 7 years.
- 75% of interviewee's beekeepers said that the bee pastures are available in the region, and its available types are herbaceous plants, nectar crops and nectar trees and shrubs. Moreover, it is available 3 or 4 months a year.
- The beekeepers have two types of bees, hybrid and local types.
- Most of interviewee beekeepers the artificial type of splitting occurs in their hives.
- 35 % of interviewees has been breeding bee queens.
- Most of interviewees said that queens Insemination devices are unavailable.
- The F0 queens, F1 queens and F2 queens are available.
- The beekeepers feed their bees in the winter by sugar(97%) and pollen alternatives(82%) and honey(2%).
- Most of interviewees (88%) said that beekeeping equipment are available, and the separator device is the highest cost among them (381\$).
- The average modern hive production is 16 kg honey last year, while the traditional hive production was 5 kg.
- The beekeeping products included the wax, pollen and royal jelly beside the honey production.
- honey is the highest price among the hive products with price 9\$, secondly the wax of both types (6\$ and 8\$) for each kg, then the royal jelly(1\$ per gram).
- 83% of beekeepers market their honey production by themselves, while 17 % of them sell it to traders.
- Generally, beekeepers experiences are is good , but it weak in some sides as production pollen and bee queens and format wax .
- The most important pest is the Varroa, in addition to brood calcification, larvae rot, dysentery, amebiasis, paralysis, nosema, Hornets, Birds and ants.
- 95 % of interviewees said that the bee pesticides are available, but 5% said isn't.
- Regarding the problems and difficulties affecting on beekeeping, the pasture scarcity and using pesticides randomly are the most important problems, in addition to marketing difficulty, expensive beekeeping supplies, stealing the hives and fake honey competition, beside to other problems less important.
- The war has been affecting on beekeeping career in many sides as unavailability beekeepers' equipment, prevent the moving of apiaries to different regions, expensive beekeepers' supplies, decline in the number of hives, low quality of honey, reduce honey marketing and Leave the career.
- Most of interviewees said that there are a Beekeepers' association available in the region, and it provide aids to beekeepers.
- The interviewee's observations are summarized in: honey marketing help, Providing F0 hybrid queens, support nectar crops, providing queen insemination devices, providing pasture through supporting nectar crops, production requirements and training courses.

5. RECOMMENDATIONS:

- Support the beekeepers with beekeeping supplies and equipment, especially separator device, F0 hybrid queens and queens Insemination device because it is very expensive, in addition to established honey analysis laboratory to overcome of fake honey problem.
- Support beekeepers in term of honey marketing to be able to market their production with reasonable price.
- Support beekeepers with needed training to develop their experience in this field.
- Support planting the bee pastures, especially nectar crops.

6. PHOTO:



Photo 2: shows beekeeper's apiary in Bzaa region



Photo 3: shows a model of modern hive used in Bzaa region



Photo 4: shows the hive specialized to breed queens in Bzaa



Photo 5: shows bee panel during the checking in Qabassin



Photo 6: shows the poleen produced by beekeeper in Bzaa



Photo 7: shows pollen produced by a beekeeper in Albab



Photo 8: shows brood panel during regular check in Qabassin



Photo 9: shows checking of modern hive in Albab



Photo 10: shows the regular check for hive in Bzaa



Photo 11: shows producing honey prepared for sell in Abab