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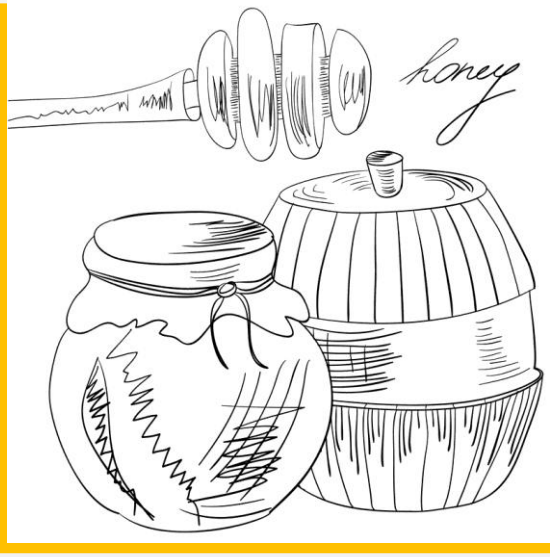
Buckwheat Honey Market Study
Final Report



3R STRATEGY LLC Business & Investment

ENPARD

EUROPEAN NEIGHBOURHOOD PROGRAMME FOR AGRICULTURE AND RURAL DEVELOPMENT

DECEMBER 2015

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INTRODUCTION

Background Information

With funding from the European Union, the European Neighbourhood Programme for Agriculture and Rural Development *(ENPARD)* supports the Ministry of Agriculture of the Republic of Armenia in ensuring an efficient and sustainable agriculture that contributes to better living conditions in rural areas. The recent global financial crisis seriously undermined Armenia's economic growth and increased the poverty rate, leaving 32.4% of the population below the national poverty line (2012), most of who live in rural areas.

Under the framework of ENPARD, the EU Delegation to Armenia has requested UNIDO and UNDP to provide technical assistance for the development of producer groups and selected value-adding chains. The Austrian Development Agency (ADA) has also provided the associated top-up funding for the implementation of this component.

The project is in line with the UN Development Assistance Framework (UNDAF) 2010-2015, the Millennium Development Goals, as well as the 2010-2020 Sustainable Agricultural Development Strategy of the Republic of Armenia[1]. With regard to the latter, the *strengthening of producer groups* makes the case for assisting in the formation of cooperation between farmers and processing entities, assisting smallholders in the establishment of production that can more quickly adapt to changing markets. With respect to rural development, the government aims to create non-agricultural jobs and expand the share of non-agricultural incomes in rural areas. Main targets of government support to agro-processing and other *value addition* include the introduction of advanced technologies and the increased competitiveness of products.

The overall objective of the UNIDO and UNDP complementary support is threefold, namely (1) strengthening and newly establishing producer groups, (2) engaging producer groups effectively in value addition and (3) strengthening value chains that provide improved access to affordable, better quality food.

Aim and Approach of the Project

The project aims to strengthen producer groups, effectively engage producer groups in value addition activities, strengthen value chains that provide improved access to affordable, better quality food, contribute to the development of rural areas, improve access to local and international markets, and ensure the introduction of environmentally-friendly farming and food processing practices. To this end, the project will focus on improving primary production, value addition (to include product development), and marketing. The primary outcome of the project is to increase rural household incomes through increased production and value addition in targeted value chains and marzes.

1Government of Armenia. 2010-2020 Sustainable Agricultural Development Strategy of the Republic of Armenia.

In addition, Armenian consumers will directly benefit as more products will be available nationally of a better quality and price. Furthermore, the project will promote exports which will lead to improved trade balances, a stronger currency, higher incomes, job creation, and resulting multipliers in the targeted components of the value chains.

The target direct beneficiaries of the project are the agricultural producers, members of producer groups and their employees, their families and SMEs along the value chains as well as Armenian consumers. The project also will focus on women, youth, and other vulnerable groups.

In essence, UNIDO will be responsible for capacity strengthening, coaching, and the provision of machinery, equipment, and other inputs as part of pilot projects when producer groups are value addition related, and UNDP when the groups are commodity production and marketing related.

The Government stakeholder of the project is the Ministry of Agriculture. Implementation partners are, amongst others:

- Regional departments of agriculture, local authorities, and extension services;
- Non-governmental and other organizations and providers of advisory services engaged in agricultural, rural and agro-processing development; and
- Input providers and buyers of products of the targeted value chains.

Project coordination is undertaken by the Project Manager in Vienna HQ and a Project Coordinator (PC) in Armenia/ Yerevan.

In the framework of this project a value-chain analysis was conducted which identified buckwheat as a high value crop to be produced by Armenian farmers. In addition to supporting production, the project will develop up to five hulling, packaging and marketing centers for buckwheat. The buckwheat value chain development activities will be closely linked with the honey value chain, as buckwheat plants require bees for pollination. The literature on buckwheat production recommends two to three hives per hectare of buckwheat. With at least 200 ha expected to be cultivated with buckwheat in 2016, the project expects to provide over 600 hives, which will also produce a substantial amount of honey. Buckwheat honey has a specific taste, which reportedly does not appeal to all consumers, and a darker color.

Assignment Purpose and Objectives

The purpose of current study is to analyze the specific production and marketing characteristics of buckwheat honey, elements of the honey value chain, including production costs, market size, and major constraints. It is expected that the analysis will enable a better understanding of the required support to the farmers. The research will also be useful for other honey producing groups applying for the project support.

The objective of this assignment is to conduct an **in depth market study of buckwheat honey** in Armenia, including:

1. **New product testing:** Conduct tasting of buckwheat honey with sample types/blends of honey and packaging provided by the project staff and make conclusions on:
    - What is the consumers' attitude towards buckwheat honey?
    - Are they willing to buy buckwheat honey if it is produced in Armenia?
    - What are the estimated volumes of their consumption?
    - What kind of primary and secondary packaging do the consumers prefer for buckwheat honey?
    - What is the price consumers are willing to pay for buckwheat honey?
    - Where would the consumers like to buy buckwheat honey? What are the most convenient sales channels?

2. **Honey value chain diagnostic:** Conduct a diagnostic study of honey in Armenia, gathering information on the firm and Marz level regarding types of honey, sales, seasonal price fluctuations, technology used, food safety standards applied, marketing constraints, average production costs and net margins. The diagnostic would include a final section on major limitations with regard to procurement, technology and marketing.

3. **Armenian market study:** Develop a market study on honey and related products in Armenia including the information on:
    - The types of honey and related products consumed in the various regions of Armenia,
    - The sales channels of honey in Armenia,
    - An estimation of sales volumes,
    - Origin of honey and related products,
    - Wholesale and retail prices,
    - Purpose of use, e.g. cooking, fresh consumption, etc.,
    - An evaluation of consumer preferences,
    - An overall evaluation of sales potential.

4. **Export market study:** Identify the most promising export markets for honey and related products from Armenia. Conduct a market study of these products targeting Georgia, Russia, the Middle East and any other high potential country/region (Europe, China, etc.) with the information on:
    - The types of honey and related products consumed in the target countries,
    - An estimation of sales volumes,
    - Origin of honey and related products consumed in the countries,
    - Wholesale and retail prices,
    - Purpose of use, e.g. cooking, fresh consumption, medicinal, etc.,

- An evaluation of consumer preferences
- An overall evaluation of sales potential.

Describe the main constrains of honey exports from Armenia to the target countries and the basic requirements for honey imports to those countries.

Product recommendations and marketing plan: Elaborate a set of recommendations on what honey products (pure, blended, etc.) the ENPARD supported cooperatives could produce and design local and export marketing strategy with specific contact and sales points for each market.

Methodology

Data collection sources

Honey Value Chain Diagnostic

To conduct honey value chain diagnostic, the main actors of the value chain were identified and interviewed, using snowball techniques. Honey producers were selected as a start point for identification of other value chain actors and collection of relevant information within the framework of the research. Research team distinguished two major groups of honey producers:

a) *Honey producer farmers*, beekeeping households living in rural communities of Armenia
b) *Companies,* legal entities acting in honey production sphere.

Thus, 41 honey producer farmers were interviewed in 21 communities from 7 marzes of Armenia. As requested by the ENPARD project team, beekeepers were selected from the communities, where the project had created producers' groups for buckwheat and buckwheat honey production. Identification of honey producer farmers was conducted based on the information available at municipalities of target communities. The list of interviewed honey producer farmers with their location and contact information is presented in the *Annex 1*.

To identify honey-producing companies, the information from "yellow pages" and data collected during the market screening were used. In total, 8 major honey producing organizations were identified, 3 of which agreed to participate in interviews and answer the questions (seethe *Annex 2*). Other three organizations (Bzzz honey Armenia, Tamara-Fruit and Multi Agro) provided only some qualitative information. Remaining two companies were not accessible during the research period. The only identified company acting as a honey wholesaler was Mer Sareri Holding Ltd., which was also interviewed within the framework of the research.

In the meantime, expert interviews with sector specialists and representatives of honey value chain supporting organizations were conducted to receive a relevant qualitative data. The list of interviewed specialist is presented in the *Annex 3.*

Honey market study and Marketing experiments with buckwheat honey:

Honey market study was implemented in parallel with the new product testing, as the key informants were almost the same for both researches. Research team distinguished four groups of respondents as key informants for *Honey market study and marketing experiments with buckwheat honey. Those are:*

- Hotels and restaurants,
- Retail trade points,
- Bakeries,
- Population.

The survey was conducted in Yerevan and 7 marzes, namely: Shirak, Lori, Gegharkunik, Aragatsotn, Vayots Dzor, Tavush and Kotayk. The sample and the geography of the researches are presented in the *Annexes 4-7*.

The other important source of information was the screening of major retailers in Yerevan, namely: SAS, Yerevan City, Nor Zovk and Kaiser Supermarkets.

Alongside with primary data received during the research, available secondary data was reviewed, such as official statistics of targeted countries, sector related reports, Armenian legislation, product requirements and quality standards, websites of foreign producers etc.

Data collection methods

The main methods for *primary data collection* were face-to-face semi structured and in-depth interviews with above-mentioned respondents. While interviews with main groups of informants were conducted by direct visits to their site, the survey of Armenian population was conducted in a different way. Special stands were designed and located in retail trade outlets, where consumers were asked to taste the buckwheat honey and answer some questions on their attitude towards that honey, their experience of honey consumption and preferences in general. The sample of the survey included 405 respondents from Yerevan and 7 marzes. The methodology of the survey and its sample size made it possible to get efficient and representative data.

The new product testing among population

In addition, 5 focus group discussions were conducted with 5-6 participants in each to collect more qualitative data. Focus groups included also blind testing of different types of honey (two types of Armenian polyfloral honey and buckwheat honey).

To ensure the accuracy and efficiency of collected data the following actions were undertaken:

- The schedule of fieldwork was designed including human, financial and time resources needed for implementation of the survey.
- The optimal maximum daily quantity of interviews was set per each interviewer to avoid overworking and to reduce the impact of human factor on the quality of the survey.
- All interviewers and supervisors were properly instructed to enable them thoroughly understand the questionnaires and the procedures for completing it.
- Pilot interviews were conducted both: to explore the particular issues that might potentially have a negative impact on the survey results, and to ensure that the questions were understood by the respondents and there were no problems with the wording.

Secondary data collection was conducted using desk research methodology from verified sources of information.

Data collection instruments

Several types of survey tools were designed for this research to enable sufficient primary data collection according to the ToR requirements. Taking into consideration the diversity of data collection sources and information needed for different sections of the research, separate questionnaires and guides were designed for each group of respondents. The list of survey tools used for data collection is presented below:

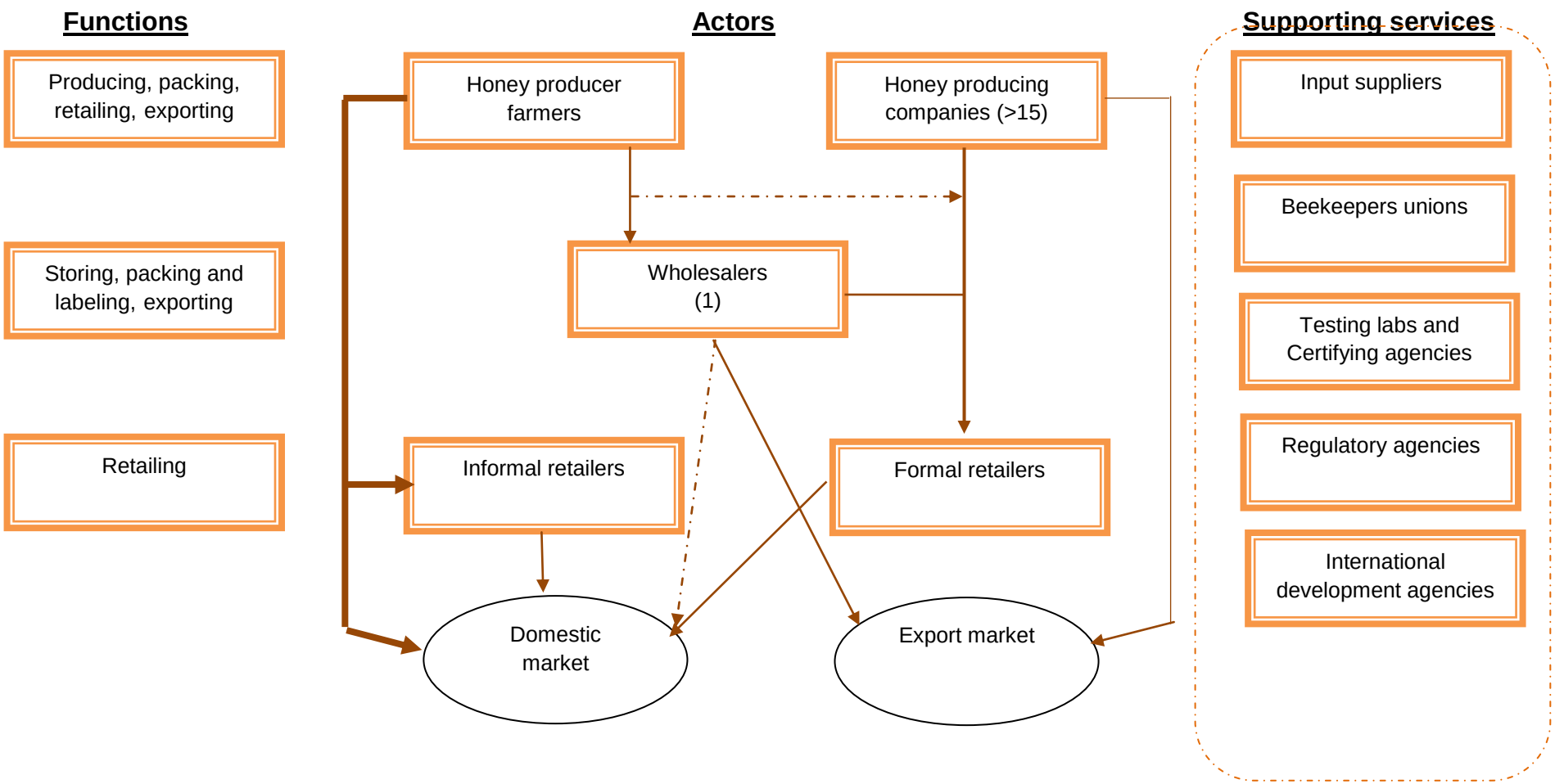
a) Semi-structured questionnaire of population for buckwheat honey tasting and honey market study;
b) Semi-structured questionnaire of hotels and restaurants for buckwheat honey tasting and honey market study;
c) Semi-structured questionnaire of bakeries for buckwheat honey tasting and honey market study;
d) Semi-structured questionnaire of retails trade outlets for honey market study and value chain diagnostics;
e) Semi-structured questionnaire of honey producers and wholesalers for value chain diagnostics;
f) Guide for focus group discussions;
g) Unstructured questionnaires for expert interviews with sector experts and value chain supporting organizations.

Data processing and analysis

Data collected during the research was revised and encoded, whereupon special databases were developed. Taking into consideration the structure of questionnaires and sample sizes of different respondent groups, the results of population survey were processed with SPSS software, while the data collected from other respondent groups (hotels and restaurants, bakeries, retails trade points, honey producers and wholesalers) were combined and analyzed in Microsoft Excel software. To ensure the efficiency of analysis all available primary and secondary data were verified, validated and crosschecked.

HONEY VALUE CHAIN DIAGNOSTICS

Honey Value Chain Map



Value Chain Actors

Honey value chain in Armenia essentially differs from the value chains of other products. The main difference is the absence or little role of some value chain actors common for most of other value chains. In classic chains, the following actors are participating: producers, processors, wholesalers, retailers and exporters.

In Armenia, there is no practice of honey creaming and filtering widely used in many foreign countries. Foreign companies usually filter honey to remove fine particles, pollen grains and air bubbles from the honey. Filtering helps the honey to remain liquid for a much longer period than unfiltered honey. The other method of honey processing is creaming, which is implemented to control the process of honey crystallization. In this process, raw honey is first pasteurized to kill any yeast that may be present in the honey. After pasteurization, previously processed creamed honey is added to the pasteurized honey to produce a mixture of 10% creamed honey and 90% pasteurized honey. The mixture is then allowed to rest at a controlled temperature. Creamed honey contains a large number of small crystals, which prevent the formation of larger crystals that can occur in unprocessed honey. In Armenia, the only technology that honey producers practice is manual filtration of honey with metal mesh or gauze. According to the sector specialists, this is not a proper way of honey filtration.

The second difference is a little role of wholesalers and retailers. In honey value chain in Armenia, end products usually directly flow from producers to final consumers. In fact, honey market is acting in terms of network marketing, where friends and relatives of producers obtain a role of sales agents. In general, this model is effective for both producers and consumers. It allows reducing the costs of marketing and escaping the margins of intermediaries. Thus, the products that go by this channel have lower price than the ones sold through traditional trade channels. The disadvantage of this system is that producers sell honey in small batches and they are being paid by piecemeal.

The next difference is that there is no organized honey export system. In other markets, such as fruit and vegetable market, there are companies specialized in exports. They buy goods from a large number of producers, consolidate those and then export to foreign markets. In honey market, producers export their produce themselves through the foreign partners. Obviously, such an export system cannot be effective, because major foreign importers buy honey in much larger quantities than Armenian producers are able to produce and offer. Actually, a small number of producers is exporting limited volumes of honey on non-regular basis.

Thus, the functions of honey value chain actors are the followings:

Producers → Beekeeping, transferring beehives, honey extracting, storing, packing, retailing, exporting

Wholesalers → Storing, blending, packing and labeling, exporting

Retailers → Selling honey packed and in kilograms

Input Supplying

Beekeeping is a simple technology and all the physical inputs needed for beekeeping can be easily produced at the local level. The main inputs required in beekeeping are bee colonies, hive boxes, equipment, wax foundation, bee forage, water and medicine.

Bee colonies – In fact, bee colonies are the main inputs of honey production. Bee colony usually consists of 1 queen, 100 drones and up to 60,000 worker bees depending on the season. During their activity, beekeepers often need to obtain new colonies to replace collapsed ones or to increase their production capacities. **Most frequently, Armenian beekeepers breed new colonies themselves or sometimes buy from other beekeepers.**

Hive boxes and frames–Beekeepers use different types of beehives in different countries. Langstroth hives are the most popular hives in the world, especially in Europe and USA. Due to its construction and possibility to add additional blocks, it insures maximum productivity. In Armenia, Dadant-Blatt hives prevail followed by Langstroth beehives. Both Dadan-Blatt and Langstroth beehives have simple construction and can easily be produced by any carpenter. **Thus, if beekeepers need new boxes, they simply order nearest carpenter or buy used ones from those who have extra hives for sale**. Usually carpenters ask AMD25000 for new boxes with super. Used beehives cost AMD5000-10000 in the secondary market. There are also several specialized outlets in Yerevan and marzes, which sell hive boxes, but they are not popular due to relatively high prices. Beehives can be exploited for a very long period (many beekeepers use Soviet time beehives). The only requirement is refurbishing these boxes from time to time. Hive frame is a component of hive boxes, but it spoils much faster than boxes do. Thus, beekeepers have to purchase new ones from time to time either from specialized stores in Yerevan or in the nearest city (at AMD150-220 per frame).

Log Hive

Top Bar Hive

Dadant Hive

Langstroth Hives

Equipment-Only several types of equipment are used by beekeepers in Armenia. These are:

- Smoker - used to subdue the bees when opening a hive*(price AMD 3500-5000)*
- Hive tool - a metal object, shaped similarly to a crowbar, used to pry apart frames, scrape and clean hive parts, and do many other jobs*(price AMD 1500-2000)*

Smoker

Hive tools

- Knives - used to remove wax capping from the frames*(price AMD 1500-2000)*
- Honey extractor- used to extract honey from the frames *(price AMD 100000-200000*).
- Wax melter- used to melt beeswax. For this purpose, producers usually use simple pans.

Knives

Honey Extractor

Listed equipment has a long depreciation period. Thus, beekeepers need to buy new ones very rarely. Beekeeping equipment is presented at some specialized shops in Yerevan, such as firm shop of Multi Agro, Meghu and Bee City. The last one also has branches in Kotayk, Tavush, Vayots Dzor and Gegharkunik marzes.

Wax foundation - is used to give the bees a foundation on which they can build the honeycomb. Beekeepers in Armenia use both: imported and domestic wax foundations. The main producers of wax foundations are “Multi Agro” and “Nectar” beekeepers’ union in Yerevan. There are also some production facilities in marzes. The price of wax foundations varies from AMD 5000 up to AMD7000 for 1kg.The main raw material for production of wax foundation is beeswax produced by beekeepers, therefore often producers of wax foundations provide beekeepers an opportunity to exchange raw beeswax with wax foundation at some extra fee (up to AMD1000 for 0.9kg).

Medicine- The most common bee disease in Armenia as well as in many other countries is varroatosis. Varroa mites are external honeybee parasites that attack bees. Russian pharmaceuticals named “Bipin-T” and "Fumisan" are widely used against this disease in Armenia. It is so popular due to its’ affordability (AMD 500 for 10 doses). However, many specialists state, that this medicine should not be used because it has chemical basis and does not meet European standards. Beekeepers also use “Nozemat” against nosema disease (price - AMD 700) and “Oxivit” against foulbrood (price AMD2000). All these medicines can be found in many veterinarian pharmacies and specialized beekeeping shops in Yerevan and marzes.

All beekeepers buy and deliver inputs to their place themselves. There are no contractual agreements between beekeepers and input suppliers. However, beekeepers do not concern about it. The only problem they face is lack of finance. Only some of beekeepers in remote regions mentioned the limited access to input market as a problem.

Producing

Product

Honey is being produced almost in every country in the world. The color, flavor, and composition of a particular variety of honey may differ depending on the climatic conditions and flora of the country. Although there are many varieties of honey, all honey types can be divided into 3 general groups: a) polyfloral honeys b) monofloral honeys and c) honeydew honey. Bees using nectar from many different flower sources produce *polyfloral honey* types. Alternatively, bees produce *monofloral honey* mostly from the nectar of one flower species. *Honeydew* is a sugary liquid secreted by insects such as aphids while sucking the plant sap. This sugary liquid is collected by honeybees and converted into strong dark colored honeydew honey, which is also known as *forest honey*, *pine honey*, *fir honey*, etc. In Armenia, mainly polyfloral honey and minor quantities of monofloral honeys (such as linden and acacia honeys) are being produced. The reason is that there is a large variety of plants and flowers growing here. Although polyfloral honey is common for all marzes of Armenia, the honey produced in different regions may differ by its taste and color. According to sector specialists, the main forage sources of "Armenian bees" are the herbs. That is why Armenian honey is considered to be of a high quality. Nevertheless, due to outdated methods of disease control and hive management, Armenian honey does not meet standards of many developed countries.

In foreign countries, there is a practice of honey processing. Many consumers prefer filtered honey, because it is brilliant transparent and remain liquid for a long while. In Armenia, only raw honey is produced and consumed. Neither producers nor consumers know about methods of filtering or creaming. At the same time, they consider that any processing will affect the quality of honey. According to specialists, processing truly has an influence on the quality of honey but doing that precisely enables keeping honey within the standards.

In Armenia, also small quantities of royal jelly, propolis and apitoxin are produced[2]. *Royal jelly* is a milky secretion produced by worker bees. Royal jelly is a healthy food with the highest content of natural hormones. It also helps to improve diabetes, strengthen ovary function, improve woman menopause symptoms and enhances man sexual ability.

Apitoxin, or honeybee venom, is a bitter colorless liquid. It is good against rheumatoid arthritis, nerve pain, multiple sclerosis, allergy (desensitization), them (venom immunotherapy), swollen tendons (tendonitis) and muscle conditions such as fibromyositis and enthesitis.

[2] During the research two producers were identified, who produce small quantity of apitoxin. They are Tevos Sargsyan, a honey-producing farmer from Martiros community and Telman Nazaryan, the head of Nectar union.

Propolis is used for canker sores and infections caused by bacteria, by viruses (including flu, H1N1 "swine" flu, and the common cold), by fungus, and by single-celled organisms. Propolis is also used to treat nose and throat cancer[3].

According to field specialists, production of above listed bee related products is much more profitable than honey production. There is a huge demand abroad especially on royal jelly and apitoxin. These products are also demanded in Armenia. Some of the beekeepers surveyed during this research also produce small quantities of bee related products and they never had any difficulties with sales of the latter. However, in general, beekeepers do not have enough knowledge, relevant technical capacities and finance for production of these products on an industrial scale.

Producers

In Armenia, honey is mainly produced in small and medium farms. Actually, no official statistics is available on the number of beekeepers. According to expert estimations, the number of beekeepers in Armenia is about 10000. Gegharkunik, Tavush, Lori and Vayots Dzor marzes have the most favorable conditions for beekeeping in Armenia. According to field experts, these four marzes account for about 60% of all beekeepers of Armenia. However, beekeeping is popular in other marzes as well.

There are only few (up to 15) officially registered businesses in honey production sector, including Bzzz honey, Multi Agro, Anushak, Natural honey, ERRA, Natural honey from Vardenis, MAG, Tamara, etc. In fact, most of these companies are simple farming households with relatively large quantities of bee colonies. They do not hire personnel and do not use special technologies. They are just legally registered to be able selling their honey through supermarkets in Yerevan or to export. The main peculiarity of those companies is that they are packing and labeling/branding their produce. Taking into consideration differences of sales channels and final product “design”, we separated producers into two major groups: *a) honey producer farmers* and *b) companies*. During the research, 41 honey producer farmers from 7 marzes and 6 companies were interviewed.

Capacities

Honey production volumes mainly depend on two major factors: a) number of bee colonies and b) average honey production/yield per hive. There are different estimations on the number of bee colonies in Armenia. Official statistics again is not available. Thus, the head of “Nectar” union of beekeepers consider that the number of bee colonies is about 200,000-250,000. According to some media publications, there are about 500,000 bee colonies in Armenia. Taking into consideration honey consumption volume in Armenia identified through the countrywide survey (see the section *Sales volumes*), and average honey production per hive during last years, the second figure seems to be more realistic. Thus, average honey producer farmer own about 50 hives in Armenia. The capacities of companies are much higher. Each of them owns 300-1000 bee colonies. The number of

[3] Source: http://www.webmd.com/

bee colonies may change year by year due to colony collapse disorder[4]. The *Table* 1 describes the change dynamics of bee colonies in 2014 and 2015 in comparison with 2013.

Table 1 Dynamics of bee colonies and average productivity per hive*

	2013	2014	2015
Number of beehives	100%	97%	103%
Average production per hive	100%	52%	86%
Production volumes	100%	51%	88%

*Estimation is based on results of producers' survey

Although many beekeepers are concerned by the high-level of colonies collapse, the number of bee colonies remains rather stable during the last three years. It means that beekeepers replace collapsed colonies with the new ones. Usually, beekeepers do not face major constraints while replacing collapsed colonies. They have enough skills to breed new colonies themselves and rarely buy ones.

Production volumes variation is caused by fluctuations of average production per hive due to climatic conditions during the year. During the last 3 years, the highest yield was recorded in 2013, in average 12kg per hive. In 2014, this figure dropped down to 6kg per hive and then rose up to 10kg in 2015.

> ***Interesting citation:*** *I can easily increase the number of my colonies and produce ten times more honey if I am sure I can sell the whole production.*
>
> *Honey producer farmer, Gegharkunik marz*

In general, producers are not planning to increase their production capacities in the nearest future. They are not sure whether they will be able to sell extra volumes of produce. They are ready to enlarge production only if new market opportunities appear. Thus, the beekeepers consider that the main factor hindering the improvement of their capacities is the absence of new markets.

Staff

Both: honey producer farmers and companies do not hire additional workforce for their activities. Most part of honey production processes is carried out by the beekeeper and his family members. In average three persons are engaged in honey production activities in each beekeeping household. Only some processes such as transfer of beehives and honey extraction may require additional workforce. In this case, relatives and friends of beekeepers help them to handle those processes.

There are also some interesting examples of cooperation between beekeepers: some of them help each other to transfer beehives and extract honey. This practice allows escape hiring of additional personnel on one hand and share transportation cost between several

[4] Colony Collapse Disorder is general term used to describe the phenomenon of disappearance of bees. CCD can be caused by many reasons including infections with Varroa mites.

beekeepers on the other hand. The only identified company that hired a workforce is Multi Agro to handle its' production facilities in Meghri region and Kotayk marz.

Technology and production logistics

Technology sub-section: bee keeping

In early spring, beekeepers take the hives out of wintering places (closed space, where hives are kept in wintertime) and move to the open air. The stock of honey within the hives have usually been depleted by the end of this period as the beekeepers very often do not leave sufficient quantity of honey in hives for spring period. Beekeepers should feed bees and implement some treatments and sanitary works to have strong colonies. Beekeepers mostly feed bees by sugar. According to specialists, it is allowed to use sugar as forage in this period and it will not affect the quality of honey produced. In the meantime, they advise using sugar powder mixed with honey instead of sugar, which is much healthier for the bees.

Many beekeepers move there beehives from place to place during the year. Relocation of beehives is the most costly process in beekeeping. Therefore, about 50% of honey producer farmers included in the research just place the hives in their gardens and do not move until the winter period. However, relocation of beehives ensures better sources of nectar for bees, which impacts positively on the productivity of colonies. Most part of those who move colonies have own transportation means. The average movement distance is about 60km.

In winter months, beekeepers keep hives in closed spaces. For this purpose, they use their basements, garages or separate buildings constructed for wintering of bees. Only few of the surveyed beekeepers leave beehives on the open air. Though according to experts, bees can be easily kept on the open air, in this case, colonies will spend more energy for heating of their space and may need more honey for forage. Therefore, most of beekeepers prefer to keep colonies in closed spaces.

Technology sub-section: extraction

Almost in all regions of Armenia, honey extraction period is late July to late August. Honey extraction technology is very simple. Beekeepers take honeycombs to the closed room where bees have no access and place them into honey extractors. There are two types of extractors: manual and electric. Almost all honey producer farmers in Armenia use manual extractors, which are being exploited more than ten years. Though electric extractors are more productive they are much more expensive and beekeepers cannot afford buying those. Besides that, some of them are sure that electric extractors affect the quality of honey produced. Only some of honey producer companies (such as ERRA and MAG) use electric equipment for honey extraction due to large production volumes.

Technology sub-section: filtering, blending and creaming

In Armenia, only raw honey is produced. Honey processing technologies widely used in other countries of the world, such as filtering and creaming, are not common in Armenia. The only **operating** blending facility identified during the research belongs to "Mer Sareri Holding" LLC (*see the section*
Wholesaling). There is also not operating blending facility in Shirak region. "Association of farmers and beekeepers of Artik region" NGO received blending equipment as assistance from an international development project in 2013. Association was planning to process honey produced by its' members. However, due to low yields in 2014 and 2015, blending facility remained unused.

Concerning filtering, the only technology that honey producers practice is putting metal mesh or gauze over the container where honey is being poured. Moreover, most of the producers refuse even this simple filtering method. They just pour the honey into jars and wait a while. The superfluous particles rise to the surface and they simply remove those with the spoon.

Technology sub-section: standards, marz level differences, constraints

According to field specialists, one of the core issues of honey production sector is the week system of honey quality control. Honey of different quality is being produced and sold at approximately the same price. Actually, consumers have no chance to be sure about the quality of honey they buy; therefore, consumers prefer to buy honey only from those producers they personally know. None of honey producer farmers interviewed during this research had any quality control system in place. Moreover, most of them have never made laboratory testing of their produce. They consider that their production does not need any testing and they can ensure the quality without that. Only some farmers from Syunik and Kotayk marzes mentioned that they sometimes took their honey to the laboratory in Yerevan for testing.

On contrary, companies strive to obtain quality certification, especially organic food certification. These companies are looking for opportunities to reach export markets, where organic food is demanded and can be sold at comparatively higher prices. The only institution in Armenia certifying organic food production is Ecoglobe LTD. According to Nune Darbinyan, the head of Ecoglobe LTD, only 2 honey producer companies and 4 honey producer farmers obtained organic certificates.

Some technological issues mentioned by the honey producers are the followings:

- Lack of bee breeding skills and knowledge (mentioned by beginners)
- Difficulties with hive transportation
- Collapse of bee colonies (*beekeepers mentioned that their colonies disappear very often and they do not know the exact reason*)
- Lack of finance to obtain electric extractors

> ***Interesting citation:*** *Honey is being produced by bees. You should interview them about technological issues. We just take a part of what bees produce.*
>
> *Honey producer farmer,*
> *Vayots Dzor marz*

Packaging and labeling

Honey producer farmers and companies use different types of packaging/labeling for the final produce. Honey producer farmers usually keep honey in big 50kg aluminum jars or pour it into 1.5kg (1 litter), 3kg (2 litters) and 4.5kg (3 litters) used glass jars. While selling, they usually ask buyers to come with their own containers. Actually, honey producer farmers have no or very low packaging costs. It is obvious, that none of them labels his produce.

On contrary, companies pack and label about 80% of their produce to sell it through formal sales channels mostly in glass jars.

The only identified company using packaging equipment is ERRA. Others pour the honey into jars and glue labels manually.

Costs and margins

Honey production costs were calculated through in-depth analysis of economic activity of all honey producers involved in the survey. For calculations each expenditure category of all of the interviewed beekeepers were summarized and then divided to the total number of their colonies to get average costs per hive.

The cost structure of both: companies and honey producer farmers is almost the same. The only difference is absence of packaging and labeling component in case of honey producer farmers. As the number of cost components is very limited for honey production, those were not combined into larger groups. The cost structure in details is brought in the *Table 2*.

The biggest cost component for both: companies and honey producer farmers is *"transportation costs",* which include expenditures of colonies' relocation, transportation costs of final produce to consumption markets and costs of truck loading and unloading. As already mentioned, beekeepers periodically move beehives from place to place to ensure best forage for bees. At the same time, producers also spend on transportation of final produce to the consumption market. Transportation costs per hive depend not only on destination distance, but also on number of hives. As bigger the number of beehives, as lower transportation costs per hive.

Table 2 Cost structure of companies and honey producer farmers in 2015

	Costs per hive, /AMD/	Cost per kg (based on 10.4 kg yield) /AMD/	Share in total (companies)	Share in total (honey producer farmers)
Forage	768	73	10.8%	13.2%
Medicine	837	80	11.7%	14.4%
Frames	103	10	1.4%	1.8%
Wax foundations	84	8	1.2%	1.4%
Transportation costs	2121	203	29.8%	36.5%
Utilities	27	3	0.4%	0.5%
Refurbishment and depreciation costs	1396	134	19.6%	24.0%
Jars (farmers)	115	11	-	2.0%
Packaging and labeling (companies)	1432	137	20.1%	-
Other costs	362	35	5.1%	6.2%
Total cost per kg (companies)		**AMD 682**		
Total cost per kg (honey producer farmers)		**AMD 556**		

The second biggest cost component for companies is *"packaging and labeling costs"* and the third one is "*refurbishment and depreciation costs*". For companies, "*packaging and labeling*" category includes costs of jars, caps and labels. In the cost structure of honey produced by farmers, the packaging component is missing. Farmers buy jars very rarely, to replace broken ones. They do not need to buy big quantities of jars, as consumers usually come to buy honey with they own containers. Thus the packaging costs have very little share in the cost structure of honey producer farmers. Here, the second biggest component is "refurbishment and depreciation costs", which includes the renovation costs of bee colonies' "living conditions" and depreciation costs of other equipment used in honey production.

The "*forage*" component mainly consists of the cost of sugar, which is usually given to bees in early spring to strengthen the colonies. According to beekeepers, average volume of sugar used as forage for bees is 2-2.5 kg per hive. It is known that many beekeepers do not leave sufficient quantity of honey in beehives for wintering period and feed colonies with sugar to get more profit. In this case, the cost of forage is much higher, but at the same time, beekeepers get more honey per hive. However, beekeepers prefer to conceal this fact, because it affects the quality of honey.

As we can see, salary costs are missing for both types of producers, because they carry out their activities using only workforce of their family members. It is very difficult to assess how much time they spend on beekeeping and convert it into monetary form. However, the high profit margin compensates the efforts of producers and their family members.

Thus, the average cost per 1kg honey for honey producer farmers is about AMD 556. The same figure is a little bit higher for companies and comprises AMD 682.

Honey prices are not cost-based in Armenia. Usually they depend on local supply and demand. In average, the profit margin of honey producer farmers is about AMD 2400 per kg and about AMD 2700 per kg in case of producer companies.

Prices

Producer prices of honey imperceptibly differ for honey producer farmers and companies. Honey producer farmers sell their produce through informal network of friends and relatives and ask from AMD 3000 to AMD 4000 for 1kg. However, farmers give some quantity of honey as a "gift" to those who help them with sale, which can be obviously considered as a "commission fee'" and should be subtracted from the producer price. Thus, the price of farmers' honey normally varies in the range of AMD 2650 - AMD 3650.

The price of honey produced by the companies is a little bit higher. It varies from AMD 2800 to AMD 4000 subject to individual extra costs of companies.

The seasonality of honey prices is very low. Prices usually do not fluctuate during the year. Possible changes are mainly caused by the economic situation and supply and demand of honey. Honey prices do not vary depending on producers' geography. Price range presented above is approximately the same for all marzes.

Marketing and sales

The main difference between honey producer farmers and companies is their sales channels of final produce. Honey producer farmers either sell the main part of their produce directly to final consumers or through informal network of friends and relatives (*see Table 3*). Part of their produce (13%) goes to friends as a "gift/bonus" (referred above as "commission fee"). It is interesting that the volume of own consumption is more than the volume of honey sold through wholesalers and formal retailers taken together.

Table 3 Sales channels (honey producer farmers)*

	Share of each channel (%)	
	Honey producer farmers	**Companies**
Consumed within the household	8%	3%
Given to friends and relatives	13%	5%
Sold to wholesalers	4%	-
Sold through friends and relatives	35%	8%
Sold through retail trade outlets	2%	61%
Sold directly to final consumers	38%	19%
Exported	-	4%

* Based on results of producer survey

On contrary, almost 67% of companies' produce goes to the retail trade outlets such as shops and supermarkets and only 19% is sold by producers directly to final consumers. Here again wholesale chain is missing.

Overwhelming majority of honey producer famers and companies do not implement any marketing campaigns due to lack of finance, knowledge and skills. Some of producers even consider that personal communication is the only marketing effort they need. However, few quick-witted producers found a way of cheap marketing. They advertise their products via social networks and advertising websites such as Facebook, list.am, eagro.am. The last one is created with the support of United States Agency for International Development (USAID) to promote trade of agricultural products. Currently there are 194 producers promoting their produce with support of eagro.am. However, according to phone interviews with some of the sellers, this promotion channel does not generate somewhat significant sales.

As mentioned, the honey production volumes significantly depend on climatic conditions and can vary from year to year. When the climate is favorable and honey production volumes are high, producers always have difficulties with sales and some stock remains. At the same time, in such "unfavorable" years as 2014 was, producers sell all produced honey without difficulties. According to survey results, 63% of producers sold the whole produce within 3 months in the last two years. About 21% of producers were able to sell their honey within one year and only for 19% of producers, it took longer than one year to sell the whole stock of honey.

Amongst the main constraints for sale and marketing of honey, producers mentioned the following:

- Low income of population in Armenia,
- Absence of wholesale chain,
- Difficulties with transportation of final produce,
- Low access to larger markets,
- High prices of honey in Armenia.

> ***Interesting citation:*** *The price is very high. I can suggest lower price to sell more honey, but I am worried that consumers will consider my honey to be of low quality.*
>
> *Honey producer farmer, Aragatsotn marz*

Wholesaling

The only identified wholesaler in Armenian market collecting honey from beekeepers on regular basis is "Mer Sareri Holding" Ltd. The other two companies, i.e. Multi Agro and MAG, collect honey from producer farmers occasionally, when they have an extra need for that.

"MerSareri Holding" started operating in early 2014. Company collaborates with 16 beekeepers fromsixareas (Berkaber and Chinari communities in Tavush marz, Haytagh community in Armavir marz, Karvajar in Nagorno-Karabakh, Lake Arpi in Shirak marz and Urtsasar in Kotayk marz). Mer Sareri Holding has written contracts with all suppliers. In

early spring, company estimates how much honey should be purchased for the current year and makes orders to beekeepers. In 2015, the company stored and sold approximately 5 tons of honey. It is interesting, that the company pays quite high price for honey they collect (AMD 4,000 in 2015). According to George Tabakian, the director of Mer Sareri Holding, the company demonstrates a corporate social responsibility aimed at improving livelihoods in remote and bordering rural communities of Armenia.

The assortment of Mer Sareri Holding consists of six products differing by their origin (Berkaber, Chinari, Haytagh, Karvachar, Lake Arpi and Urcasar). All these products go under the general brand *Honey.am*. As the company has several suppliers from each community, it blends stored honey before packing to get homogeneous produce. For this purpose, company use blending equipment with 1.5 tons of holding capacity.

Honey.am is presented in some supermarkets and shops, such as “Parma”, “SAS”, and “Hayr&Vordi Yeritsyanner” in Yerevan and “Gntuniq” Supermarket in Aparan. The honey is sold mostly in glass jars of 485 grams, as well as in kilograms at Carrefour supermarket. Company sells also to some cafes and restaurants such as Caffe Molinari Mall, Caffè Vergnano Armenia and Tea Art Yerevan. However, the company is not satisfied with collaboration with supermarkets due to delayed payments against the produce supplied. In the coming year, Mer Sareri Holding is planning to stop cooperation with many retailers in Armenia and concentrate mainly on the export markets.

Currently the company exports its produce to Lebanon, Saudi Arabia, United Arab Emirates, USA and Russia. In those countries, the company is collaborating with small-scale retailers. Approximate price of Honey.am abroad is about USD 10 for 1kg. There is no information about export volumes of the company in 2015. However, according to George Tabakian they plan to export about 70% of their produce in 2016.

Mer Sareri Holding is planning to increase its’ assortment. Particularly, they will produce creamed honey, honey blended with chocolate and honey blended with chestnut in the coming year.

Honey.am is one of few identified companies implementing some marketing activities. In particular, they present their products on social media platforms, taking part in different exhibitions both in Armenia and abroad, such as Exhibition in Mergelyan Centre (November 6-8, 2015), Iran-Eurasia Exhibition (IEEX 2015) in Yerevan, ProdExpo 2015 in Moscow, etc. Honey.am also participates in different mini bazaars both: in Armenia and abroad (Christmas BAZAAR in Armenia Marriott Hotel Yerevan, Christmas Market in Armenia, Western avenue, Gulf food Show in Dubai).

Retail Trade

Retail traders can be divided into 2 major groups within the honey value chain:

a) Formal retailers, such as shops and supermarkets
b) Informal retailers, i.e. friends and relatives of honey producers.

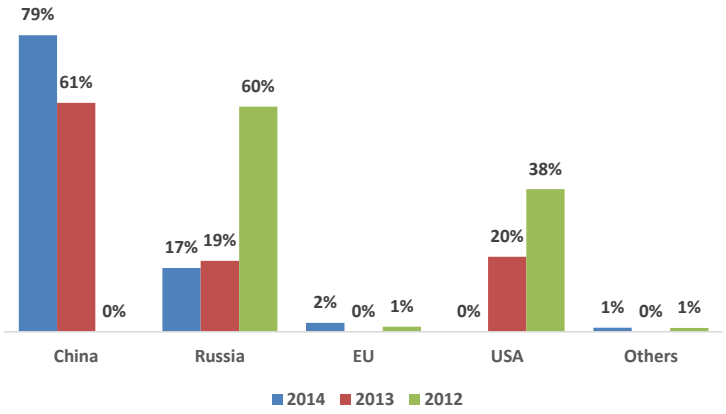
Formal retailers of honey are mainly located in Yerevan, where consumers have lower direct access to honey producers. Only few of shops and supermarkets in marzes sell honey. Formal retailers process or pack the honey before selling. They sell final products as they are provided by producers. Approximate margins of formal retailers are about 21% in average. Cooperation between producers and big supermarkets is mainly regulated by formal written contracts. On contrary, there are mainly oral informal agreements between producers and small shops in Yerevan and marzes. The main formal retailers are “SAS”, “Hayr&Vordi Yeritsyanner”, “Carrefour” and “Yerevan City” supermarkets

The role of informal traders is quite substantial in honey value chain. Almost 90% of final products’ flow is accounted for informal market. Producers usually deliver honey to retailers in big aluminum jars. Informal retailers pour it into containers of consumers while selling. Margins of informal retailers are about 13% (mainly in form of honey).

Export

Armenia exports very little volumes of honey. Moreover, export volumes are dropping during the last years. Armenia exported only 4.3 tons of honey of USD 75,752total value (in average at USD 17.6 per 1 kg)in 2014 against 6.7 tons in 2013. There is no bulk exporter in honey value chain. Honey is exported by individual efforts of certain producers. China was the main export destination of Armenian honey in 2013-2014 organized by "Anushak" Armenian-Chinese CJSC established in 2013. Anushak obtained different certificates of organic production from the following institutions: Organic Armenia (2014), USDA Organic (2014), Ecoglobe LLC (2015).

Figure 1 Honey export directions in 2012-2014



The second direction of honey export is Russia. Three companies currently export honey to Russia, namely: Bzzz honey Armenia, Honey.am and Tamara. The share of exports to Russian market was higher in 2012, when Bzzz honey started its’ activity. The company developed very presentable brand design and got access to Russian market through the business linkages of its’ owners. However, due to devaluation of Russian ruble, this market became less and less attractive for exporters in the last two years.

Thus, the main exporters of honey and their export directions are the following:

Table 4 The main honey exporters in Armenia

Exporter	Export directions
Anushak Armenian-Chinese CJSC	China
Bzzz honey Armenia	Russia, Denmark, France
Mer Sareri Holding LLC	Lebanon, UAE, Saudi Arabia, Russia, USA
Tamara-Fruit CJSC	Russia, USA

In 2012-2013, some quantity of honey was exported also to United States by the efforts of Armenian Diaspora representatives in the USA. One of the exporters currently living in USA shared his practice of selling Armenian honey in USA:

> ***Interesting citation:*** *We imported honey from Armenia and distributed that to retailers, but we were able to sell only small quantities for a long time. After several months, a Jew came and suggested to buy all remaining stock with low prices. Of course, we agreed. Then after a while, we sow our honey in supermarket marked as "K product" The letter "K" indicates that the food is Kosher. It means that it complies with Jewish dietary laws and it has been processed under the direction of a rabbi. The Hebrew word "Kosher" means permitted according to Torah Law. They sold all quantities in very short time.*

Most of producers and field experts consider that in terms of quality Armenian honey has a very high potential to achieve foreign markets. However, export volumes remain low due to the following reasons:

- The price of Armenian honey is very high.
- Producers do not have enough quantities to be interesting for international bulk buyers.
- Disease control system of bee colonies is out of date in Armenia. Some medicines used by Armenian beekeepers do not meet European standards.
- There are no wide-scale wholesalers collecting honey from different producers for exporting.
- Russian market lost its' attractiveness due to devaluation of Russian ruble.

Supporting Services

There are different service providers involved in honey value chain in Armenia, such as input providers, transportation service providers, certification agencies and extension service providers. The analysis of honey production inputs and input suppliers is presented inthe begging of the section. The other supporting service providers are the following:

- "Nectar" Beekeepers Union – the largest beekeeper union in Armenia with branches in all marzes. The number of union members is about 7500. Union provides mainly

professional consultancy/extension to its' members. The head of the Union is Telman Nazaryan.

- Federation of beekeepers in Armenia – Provides professional consultancy/extension and sells inputs for beekeeping in all marzes in Armenia. The head of the federation is Roza Tsarukyan owning largest beekeeping facilities in Armenia.
- Ecoglobe Ltd. – the only organization in Armenia certifying organic production. The head of Ecoglobe Ltd. is Nune Darbinyan.
- Food testing laboratories, such as "Republican Veterinary-Sanitary and Phytosanitary Laboratory Services Center" SNCO (RVSPCLS), Standard Dialog LLC and Laboratory of State Institute of Standards. Though all mentioned organizations provide food laboratory testing services, the demand for such services is still low amongst honey producers. Producers mainly apply for testing their produce while exporting. However, it is supposed that the role of RVSPLC laboratory in honey will increase in the nearest future. In 2013, Armenia was included in the list of countries eligible to export honey to European Union (EU) countries. During the last years, RVSPLC has been participating in EU monitoring program. RVSPLC has successfully passed through all stages of monitoring program and in the end of 2015, the administration of laboratory announced that now they are eligible to test honey in accordance with European standards and certify Armenian exporters.
- Agricultural support republican center (ASRC) –Provides professional consultancy/extension in all spheres of agriculture including beekeeping. ASRC has regional unites in all marzes of Armenia.
- Regulatory agencies such as the State Service for Food Safety with its Veterinary inspection department, which is eligible for prevention and control of infectious animal diseases and control of production, import and export of animal products. However, according to experts and honey producers, the state regulation in honey production sector is not at sufficient level. The main diseases of bee colonies remain not addressed by state agencies and there is not a designed policy for prevention of those diseases.
- International development agencies implementing different projects to improve capacities and skills of beekeepers and to increase access to new markets.

HONEY MARKET STUDY
Overview of Armenian Honey Market

Types and origin of honey

Armenian honey market is very specific with its own rules and peculiarities. The main difference from other goods' markets is the highest level of informal trade. Retail trade outlets play a very little role in honey sales system. Producers either sell honey directly to consumers, or do it informally via friends and relatives living in the nearest city or in Yerevan. Thus, friends and relatives of producers play a role of a salesperson in the honey sales system.

SAS Supermarket - Honigmayr (Austrian brand)

The second feature of Armenian honey market is the domination of local produce over imported honey, which is represented in Armenia rather weakly. According to official statistics, only 915kg honey with of USD 11,500 total value was imported into Armenia in 2014[5]. Due to low demand of foreign brands amongst Armenian consumers, there are no bulk importers of honey. Only few big supermarket chains import honey to have an assortment of imported brands on the shelves (most of them are presented in SAS supermarkets).

MAG and Multi Agro (Armenian brands)

The third feature is a low level of recognition and popularity of honey brands. In Armenian market, **honey is usually packed in glass jars without any labels and considered to be a high-quality "home-made" product.** Consumer survey carried out during the market study shows that only 4% of interviewed 405 consumers know at least one local brand of honey. They named "Multi agro" and "Tamara". The lion part of consumers refers to the origin of honey rather than the brand (honey from Goris region, Yeghegnadzor region, etc.). The same situation is observed with foreign brands: none of interviewed consumers mentioned any foreign brand of honey.

In spite of low level of brand recognition, currently quite a large assortment of brands is represented in the market unlike several years ago. The "oldest" brands of Armenian honey market are "Multi Agro", "MAG", "ERRA", "Natural Honey" and "Natural Honey from Vardenis".

[5]Source- NSS/Foreign trade of the republic of Armenia by commodity subgroups for 2014

Another brand that is relatively new in Armenian market is “Honey.am”, which includes several types of polyfloral honey differing by their origin. This brand has quite a pretty design. The honey is packed in glass jars of 0.48kg weight. Honey.am is presented at SAS, Carrefour, Hayr & Vordi Yeritsyanner supermarkets.

Honey.am (Armenian brand)

The most prevalent product in Armenian market is raw polyfloral honey produced locally by individual farmers. Though Armenia is a small country, the honey produced in different regions differs by flavor, color and composition due to climatic conditions and flora of the regions. The only monofloral honey produced in Armenia is linden honey. Above-mentioned supermarkets also sell some types of imported raw and creamed monofloral honey, such as acacia honey, linden honey, beech honey, etc.

During the market observation, **only one brand of buckwheat honey was identified,** namely: Russian brand Zolotoy Naliv produced by Stoev food processing company. The company offersa large assortment of produce such as tomato paste, different souses, juices, vegetable oil, etc. being imported to Armenia by “Gndapet Kamo Atanesyan” LLC. Honey Zolotoy Naliv is packed in 0.25kg glass jars. It is presented in "Hayr & Vordi Yeritsyanner" supermarket and few other retail trade outlets in Yerevan.

Zolotoy Naliv (Russian Brand)

Production of Multi Agro

- Honeycombs
- Pollen tablets with honey

Honey related products are also mainly sold in Armenia informally. As mentioned previously, some beekeepers produce small quantities of beeswax, royal jelly and apitoxin. The first product is designed for own consumption. Producers usually exchange that with honeycombs. The other two products are usually sold directly to consumers.

The only identified retailer selling honey related products is the firm shop of "Multi Agro" scientific and production center. The following products are available in the shop:

- Pollen
- Solution of propolis
- Propolis ointment

All these products are being produced by Multi Agro and further processed by “Yerevan chemical-pharmaceutical firm” OJSC.

Prices

The price of honey differs depending on origin and sales channel. For convenience of calculations, we distinguished three groups of products:

- Armenian honey being sold informally,
- Armenian honey being sold through retail chain,
- Imported honey.

The retail price range of the first group is AMD 3000 - 4000 for 1kg and the average price is AMD 3600. This is the lowest price range available in Armenian market. This is quite natural given that there are no packaging costs, taxes and margins of resellers. The honey is being packed in glass jars and sold directly to the final consumers through informal network of relatives and friends. Usually these kind of “resellers” add no margins to producer prices. They receive some honey from producers as gratitude for their services. Deducting the value of the “gift honey” from the producer price, **the wholesale price (producer price) range varies from AMD 2650 to AMD 3650 and the retail price range is AMD 3000 - 4000 for 1kg of informally sold honey.**

In the second group, several brands of Armenian honey are included (presented in the below Table 5). The price varies depending on the producer and the retailer. Thus, the most expensive Armenian honey is the one of “Honey.am” with the retail price of 1 jar (0.48 kg) of AMD 3500. The cheapest one is offered under ERRA brand at AMD 3500 for 1kg in retail chain. The average retail price of other brands is about AMD 4500 for 1kg. Retail trade outlets usually add 20-22% margin to producer price. Thus, **the retail price range of these products varies from AMD 3500 to AMD 7300 for 1kg and wholesale price from AMD 2800 to AMD 6000.**

Table 5 Armenian main honey brands and their prices

Brand	Producer	Packaging type	Weight (kg)	Retail price (AMD)	Comparable price for 1kg
MAG	G. Hyusyan P/E	Plastic container	0.14	630	4500
			0.25	1100	4400
			0.3	1470	4900
			0.4	1920	4800
		Glass jar	0.14	700	5000
			0.46	2000	4348
			0.75	3000	4000
			1.0	3850	3850
ERRA	A.	Plastic container	0.15	550	3667

	Hovhannisyan P/E		0.2	880	4400
		Glass jar	0.3	1100	3667
			0.45	1600	3556
			0.85	2950	3471
Tamara	Tamara Fruit CJSC	Glass jar	0.25	1600	6400
			0.5	2200	4400
			0.70	2970	4243
Natural Honey	A. Mkhitaryan P/E	Plastic container	0.15	700	4667
			0.2	900	4500
			0.45	1920	4267
			0.75	3120	4160
		Glass jar	0.45	1900	4222
			0.7	3000	4286
			0.75	3300	4400
Natural Honey from Vardenis	H. Hayruni P/E	Plastic container	0.18	750	4167
			0.45	2200	4889
		Glass jar	0.3	1320	4400
			0.5	2180	4360
			0.65	2780	4277
			0.75	3150	4200
			1.0	4000	4000
Honey.am	Mer Sareri Holding LLC	Glass jars	0.48	3500	7292

The price of imported honey is the highest in Armenian market. As already mentioned, only few foreign brands were identified during the market screening. Some of them are imported directly by retailers, the others by wholesalers. Unfortunately, neither retailers, nor wholesalers agreed to provide information about producer prices of the products they import. Therefore, we took the retail prices in the countries of origin of those products for comparison. Thus, the price of Austrian honey Honigmayr is AMD 7,950 for 0.4kg in SAS supermarkets. The price of the same brand in Austrian retail market is EUR 6.59 (AMD 3,500 equivalent).Retail price of buckwheat honey Zolotoy Naliv, imported by wholesaler, is about AMD 2,000 for 0,25kg. The wholesale price is AMD1600. The price of the same product in Russian retail market is about RUB 130 (AMD 900 equivalent). **Thus, the prices of imported honey are 2-3 times higher than the prices of locally produced honey.** However, this difference does not affect retail prices in Armenia due to negligent share of foreign produce in total consumption.

Standards

Unlabeled Honey (Yerevan City Supermarket)

Actually, the only state standard for producing and selling honey in the local market is Armenian Standard 228-2003, which was developed on the basis of Russian GOST standard and entered into force in 2003. However, most of the producers do not match these standards. They produce honey by traditional technology and never carry out laboratory tests to check whether their produce meets national standards. Moreover, even through formal retail chain, honey is usually sold without any certificates and often even without any labeling. Thus, the only possible way for consumers to check the quality of honey they buy is traditional methods like spreading it on paper and burning. If the flame goes out when it reaches the honey then the honey is pure, otherwise it contains sugar. That is why, consumers usually buy honey directly from producers they know personally and trust. Otherwise, they cannot be sure about the quality of honey. Only some export-oriented companies test their produce in laboratories to get quality certificates required in foreign markets.

Sales volumes

There is no official statistics on honey production and sales volumes in Armenia. National Statistical Service or RA keep some records but do not publish them. They are not sure about accuracy of their data. However, the survey team made some estimation based on consumer survey results. According to it, the consumption volumes of honey is equal to 1.74kg per capita in Yerevan and 1,48kg in marzes Based on official statistics on population of Armenia **the annual consumption of honey in Armenia is equal to 4450 tons** of **AMD16 billion (USD33 million) value.**

Almost 58% of total consumption is accounted for marzes and 42% for Yerevan. According to the survey results, in marzes 97% of honey is sold informally and only 3% - through formal trade channels. The share of formal trade is higher in Yerevan comprising about 14%. **Thus, about 400 tons of honey is sold annually through shops and supermarkets in Armenia. According to rough calculations, annual honey sales volume of formal traders is equal to AMD 1.8 billion.**

According to consumers' responses, the volume of their consumption has not changed significantly over past years. It means that the market size is relatively stable. However, the same cannot be said for honey production volumes. The annual production volume of honey mostly depends on the climatic conditions. In years of favorable climate conditions more than 7000 tons of honey is produced, whereas in less favorable years, production volumes can drop down more than twice (and be less than 3000 tons). In the year when the production volume is large, there is an oversupply and producers keep surplus honey for selling during the next year. Thus, **in long-term perspective supply and demand of honey are rather balanced.**

Consumer Analysis

Consumer types

Initially four groups of respondents were distinguished to conduct analysis of consumer preferences. These are a) hotels and restaurants, b) bakeries, c) beauty salons and body care centers and d) population of Armenia.

Hotels and restaurants - Service sector is one of the most perspective sectors of Armenian economy. Though Armenia is a small country, there are many hotels, B&B-s and entertainment entities in Armenia. Most of the hotels serve breakfast to its clients and consume honey on regular basis unlike restaurants and cafes.

Bakeries - Raw honey is one of the best sweeteners available for use in baking. It is much better than processed sugar. However, honey is very expensive in Armenia; therefore, many bakeries use sugar or artificial honey for baking. During the research, only few bakeries using natural honey for production purposes were identified and interviewed.

Beauty salons and body care centers – Many of beauty salons and body care centers suggest different procedures with honey and beeswax. 20 such entities were interviewed to find out what practice of honey consumption they have. It turned out, that none of interviewed salons buys honey. They mentioned that this kind of procedures have low demand in Armenia. The second reason is that salons do not trust the quality of honey available in the market and ask their clients to bring own honey for procedures shifting this responsibility to the customers. This group of respondents further on was excluded from the study.

Population – Finally, the largest and most important group of respondents is population of Armenia. According to official statistics, current population in Armenia comprises about 3 million people. During the survey, it was found out that almost 90% of population of Armenia consumes honey regularly.

Consumers preferences

The only type of honey consumed in Armenia is polyfloral raw honey. **Almost 99% of respondents in all three groups mentioned, that they consume only this type of honey on regular basis.** Moreover, most of them have never heard about other types of honey, such as monofloral, creamed, etc.

Imported honey is not demanded in Armenia. Less than 1% of population consumes imported honey. Bakeries and hotels/restaurants also prefer Armenian honey. Only some hotels, which are the part of international hotel chains, use foreign brands.

There are only several companies acting in honey production sector in Armenia. Honey produced by farmers is considered as a primary agricultural product and enjoys tax-free

regime. Only 10% of population buys produce of companies, whereas 90% buys honey from those suppliers they know personally and trust. As for the hotels and restaurants, the share of those who prefer produce of companies is approximately 40%, which prefer to cooperate with legally registered organizations. Bakeries also prefer to buy honey produced by the farmers. The reasons are the same as in case of population.

For many years, farmers have been packing their produce in glass jars and sell without any marks and labels. Moreover, very often consumers come to buy honey with their own containers. Thus, 97% of population prefers the honey to be packed in glass jar. They mentioned that honey maintains its' characteristics in glass containers. About 70% of interviewed respondents also mentioned that they do not need honey to be labeled, because they know about the quality of the honey they consume without any labels. Only 30% of respondents consider that producers should label their produce. The situation is the same with the bakeries. On contrary, about 60% of hotels and restaurants would like to buy properly packed and labeled products.

Table 6 Frequency of honey purchase

	Population	Hotels and restaurants	Bakeries
1-2 times aweek	0,3%	3,3%	9,1%
1-2 times a month	3,1%	23,3%	27,3%
Several times a year	36,2%	36,7%	27,3%
Once a year	56,8%	36,7%	36,4%
Lessthan once an year	3,6%	0,0%	0,0%

Most part of population buys honey once or several times a year (see *Table 6*). As honey does not spoil, people buy it once to use it throughout the year. The largest quantity of honey is being sold in autumn and winter, right after honey extraction period. "New" honey, while it has not yet crystallized, is more demanded amongst consumers. Bakeries and hotels also prefer to buy honey for the whole year use, but sometimes they have to buy additional quantities.

Table 7 Annual consumption of honey per household

	Yerevan	Marzes
1-5kg	57,3%	61,6%
6-10kg	21,1%	18,6%
11-20kg	5,0%	8,3%
More than 21kg	5,5%	1,7%
Do not consume	9,2%	9,9%

In average, the annual consumption of honey per household is 6.4kg in Yerevan and 5.3kg in marzes. Overwhelming majority of households consume honey on regular basis. Average annual consumption of honey per capita is equal to 1.48kg in Armenia. This figure is higher than in many countries in Europe, where annual consumption per capita usually does not exceed 1kg. It is natural, because in Armenia honey consumed not only as a food, but also as a medicine. That is why there are some similarities between honey market and market of pharmaceuticals. Particularly, the price of honey does not affect consumers' choice. They are ready to pay high price for quality product. The most important factors for population are the quality, taste and smell of honey. Only for those, who consume honey for business purposes (hotels and bakeries) the price is a critical factor. The *Table 8* describes the importance of different factors for consumers when purchasing honey.

Table 8 Importance of factors affecting consumers' choice (5-high importance, 1-low importance)

	Population	Hotels and restaurants	Bakeries
Quality (purity)*	5,0	4,9	5,0
Tried/tested	4,5	4,6	4,5
Origin	4,0	4,1	4,5
Producer	4,2	3,9	4,5
Taste	4,8	4,8	5,0
Smell	4,7	4,7	4,7
Price	3,7	4,6	4,7
Brand	2,3	3,3	3,7
Container type	3,1	4,4	3,5
Design	2,0	2,6	2,9
Labeling	2,4	3,2	3,5
Color	4,4	4,6	4,0
Appearance	4,5	4,5	4,4
Density	4,4	4,7	4,2

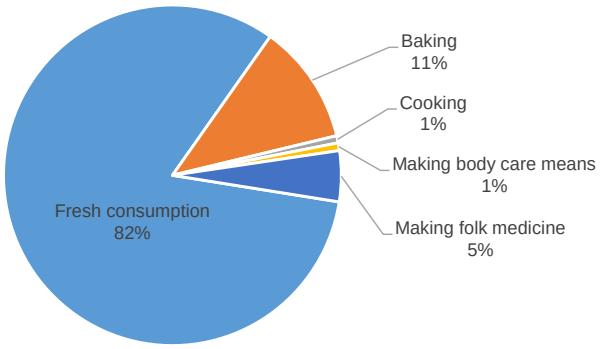
* The main quality criterion for the consumers is the purity of honey.

Consumption directions

Honey can be consumed in different directions. One can eat honey directly, put it on bread like a jam, mix it with juice or any drink instead of sugar, or mix it with different herbs to make a medicine. Honey is also good for cooking and baking.

However, Armenian population mostly prefers to consume honey freshly. Because of the high price, only 12% of the whole quantity of honey consumed within the households is used for cooking and baking.

Figure 2 Directions of honey consumption within the households



Through hotels and restaurants, honey also mainly goes for fresh consumption. The share of freshly consumed honey is about 85%. The other 11% goes for baking and 4% for cooking. The most common types of honey cookies in Armenia are Pakhlava, Anthill and Flaky cake.

Key findings:

Armenian population prefers to buy only Armenian raw polyfloral honey.

They buy honey directly from the producers or those whom they know and trust.

Armenians pay little attention to packaging and labeling of honey. In general, they buy honey in used glass jar without marks and labels.

Annual sales volume of honey is about 4500 tons in Armenia.

About 400 tons of honey is sold annually through formal trade channels. Remaining part goes through the informal network of friend and relatives.

The average price of informally sold honey is AMD 3600 and the average price of honey sold through formal trade channels is AMD 4500.

In long-term perspective supply and demand of honey are rather balanced.

MARKETING EXPERIMENTS WITH BUCKWHEAT HONEY

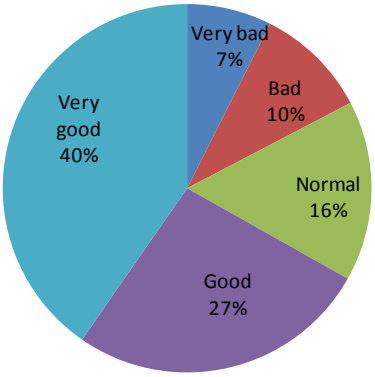
Consumers' Opinion on Buckwheat Honey

During the marketing experiments, all groups of respondents were asked to assess the **taste**, **smell** and **appearance** of buckwheat honey. They had not been informed what type of honey they were trying. The results are presented below.

Population

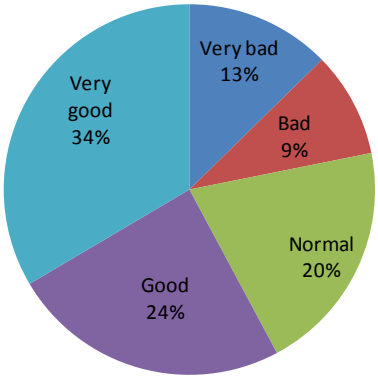
People, in general, liked the taste, smell and appearance of buckwheat honey. They mentioned that the honey they had tried has a specific pleasant taste and smell and looks like natural clear honey. Initially it was supposed that the specific taste and dark color may not appeal to consumers, but in fact, 67% of interviewed respondents marked the taste of buckwheat honey as **"good"** and **"very good"**.

Figure 3Opinion of people about taste of buckwheat honey



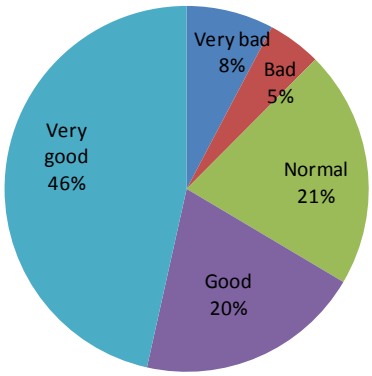
Average rating: 3.8 (Good)

Figure 4 Opinion of people about smell of buckwheat honey



Average rating: 3.6 (Good)

Figure 5 Opinion of people about appearance of buckwheat honey



Average rating: 3.9 (Good)

Some of those who gave negative feedback to buckwheat honey mentioned that it have a "burnt" taste and pungent odor. The other displeased respondents told that it has a taste of melt sugar and they think the honey is not natural.

However, the results of focus groups discussions differ from the survey results. After blind tasting of different types of honey, respondents in general expressed negative reaction to buckwheat honey characteristics.

In general, most of the respondents were concerned about sharp and unpleasant smell of buckwheat honey. Others mentioned that it smells like tobacco. It is interesting, that many participants considered that such odor might be peculiar to pure 100% natural honey.

The taste of buckwheat honey also did not appeal to most of the participants of focus group discussions. They mentioned that the honey had a bitter taste and would not be good for fresh consumption as a food. At the same time, they told that the honey probably

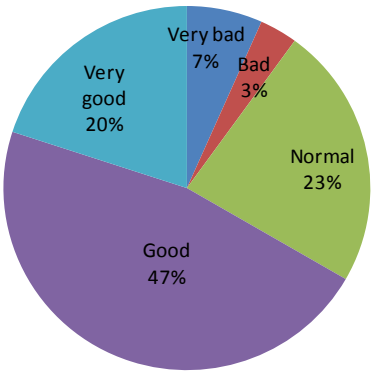
must have high healthy features and can be consumed in little quantities with the purpose of health improvement.

Concerning to honey appearance, the opinions of participants divided: half of them considered that the honey had a very pleasant color and sufficient density, peculiar to natural honey. The others mentioned that the honey did not look good. According to them, the honey seems to be heat-treated, which could mean that the honey had lost its healthy qualities.

Hotels and restaurants

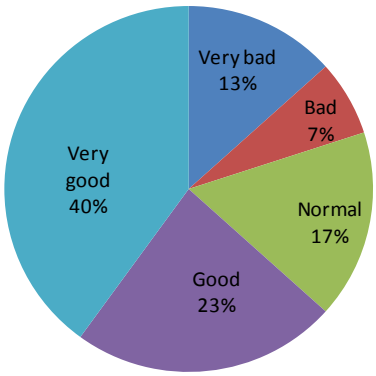
The majority of representatives of hotels and restaurants also expressed positive impression on buckwheat honey. The most common response was “this is unusual, but we like it”.

Figure 6Opinion of representatives of hotels and restaurants about taste of buckwheat honey



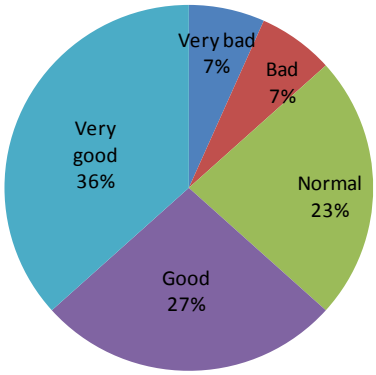
Average rating: 3.7 (Good)

Figure 7 Opinion of representatives of hotels and restaurants about smell of buckwheat honey



Average rating: 3.7 (Good)

Figure 8 Opinion of representatives of hotels and restaurants about appearance of buckwheat honey



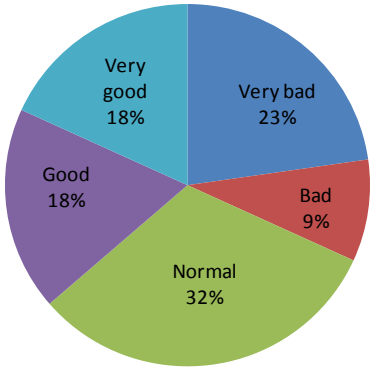
Average rating: 3.8 (Good)

Only few of respondents disliked buckwheat honey. They mentioned that it was too sweet, had a strange appearance and unpleasant smell.

Retail trade outlets

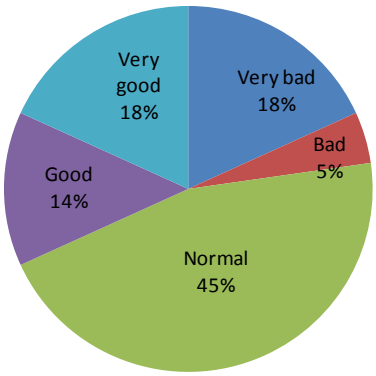
The perception of representatives of retail trade outlets differs from previous two groups. In general, retailers gave middle scores to all three characteristics of buckwheat honey. Most of "neutral" respondents just told that the honey had unusual taste and appearance.

Figure 9Opinion of representatives of retail trade outlets about taste of buckwheat honey



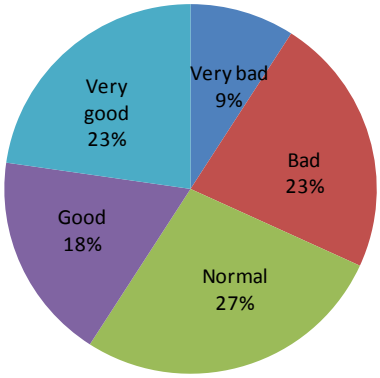
Average rating: 3.0 (Normal)

Figure 10 Opinion of representatives of retail trade outlets about smell of buckwheat honey



Average rating: 3.1 (Normal)

Figure 11 Opinion of representatives of retail trade outlets about appearance of buckwheat honey



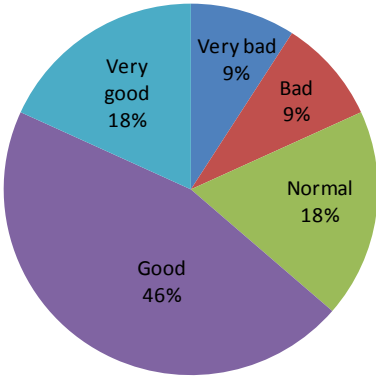
Average rating: 3.2 (Normal)

Displeased respondents mainly mentioned that the honey was too sweet. The others told that the honey had a "burnt" taste and smell.

Bakeries

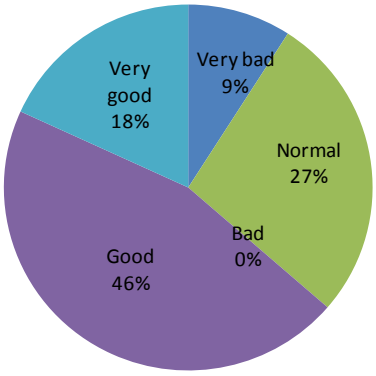
Representatives of bakeries in general reacted positively on buckwheat honey (see *Figure 12-Figure 14*). The average rating of all three characteristics is 3.5, i.e. something between "Normal" and "Good". However, the positive response of respondents does not mean that they will use buckwheat honey for their production purposes. By their opinion, buckwheat honey is good for fresh consumption but it does not match their production needs. Here again a few displeased respondents mentioned the "burnt" taste and smell of buckwheat honey.

Figure 12Opinion of representatives of bakeries about taste of buckwheat honey



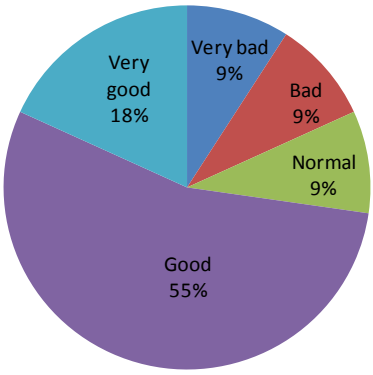
Average rating: 3.5 (Good)

Figure 13 Opinion of representatives of bakeries about smell of buckwheat honey



Average rating: 3.5 (Good)

Figure 14 Opinion of representatives of bakeries about appearance of buckwheat honey

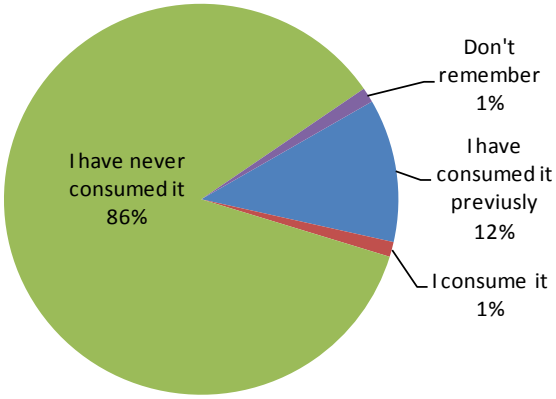


Average rating: 3.6 (Good)

Acquaintance with Buckwheat Honey

As it was mentioned, the participants of marketing experiments had not been informed what type of honey they tasted. After assessment of characteristics of buckwheat honey, we asked them to guess what type of honey it was. **Only 10% of interviewed respondents recognized buckwheat honey.** The overwhelming majority of them (59%) found it difficult to give any answer. The others thought they had tasted polyfloral honey, chamomile honey or tobacco honey, etc.

Figure 15Experience of buckwheat honey consumption



The reason of respondents' non-acquaintance is that buckwheat honey is not common product for Armenian market. As presented on *Figure 15*, **only 12% of respondents have consumed buckwheat honey previously.** They mentioned that they bought buckwheat honey while being in Russia or Ukraine. The vast majority (86%) of respondents has never consumed buckwheat honey. Even more, 75% of respondents have not heard about such type of honey before.

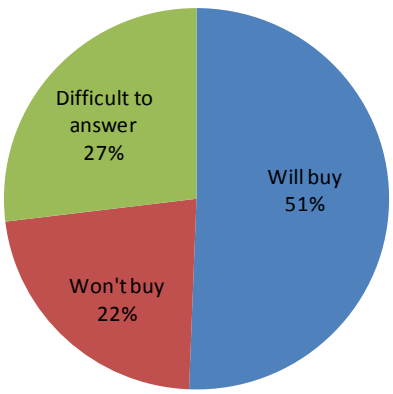
Approximately 25% of interviewed respondents know that the buckwheat honey is very healthy. They mentioned that it improves the immune system, regulate blood pressure and it is good for diabetics and those with stomach or pancreas diseases. Some respondents also mentioned that they know nothing about buckwheat honey, but they guess it must be very healthy, as buckwheat itself is good for health.

Willingness to buy buckwheat honey

Population

As mentioned above, people in general had a positive feedback on buckwheat honey. This statement is also proven by the following statistics: **more than half of interviewed respondents are willing to buy buckwheat honey** if it is produced in Armenia (*see Figure 16*). The share of those who are willing to buy buckwheat honey is approximately as twice bigger in Yerevan as in marzes. It is natural, because population of Yerevan is more apt to changes than population of marzes. As presented in previous sections, consumers buy honey directly from producers in marzes. They know the producers personally, trust them and will not consume any other products. Even more, some of respondents had own

Figure 16 Willingness of population to buy buckwheat honey



production of honey. That is why, only 38% of interviewed respondents in marzes are willing to buy buckwheat honey against 67% in Yerevan.

The most common requirements of eager consumers to buckwheat honey are the following:

- First of all, the honey must be natural and high-quality;
- It should be produced in hygienic conditions;
- It must be affordable.

The share of undecided consumers is also big enough. **Almost 35% of interviewed respondents in marzes and 17% in Yerevan were not able to define whether they would buy buckwheat honey or not.** It is interesting, that the big part of undecided respondents gave high points to the buckwheat honey characteristics (see *Table 9*). Thus, we can consider that most of them will probably consume buckwheat honey under certain conditions.

Table 9Opinion of undecided respondents on buckwheat honey

	Taste	Smell	Appearance
Very bad	12%	17%	11%
Bad	12%	10%	6%
Normal	17%	28%	21%
Good	34%	18%	26%
Very good	25%	28%	36%

Finally, only 22% of interviewed respondents refused to buy buckwheat honey. Some of them have their own production and do not want to spend money on other type of honey. The others just did not like the taste and smell of buckwheat honey.

The respondents were also asked to predict their annual consumption volumes of buckwheat honey. Thus, **supposed consumption volume of buckwheat honey per capita in Yerevan is approximately 1.1 kg (amongst those who are willing to buy buckwheat honey)**. **In marzes, this figure is equal to 1.0 kg.**

Therefore, according to the survey results we have the following situation:

- Almost 10% of Armenians does not consume honey.
- 67% of those who consume honey in Yerevan and 37% in marzes might buy buckwheat honey.
- According to data of National Statistical Service of Armenia, the population of the country is 1.07 million people living in Yerevan and 1.93 million in marzes.
- Supposed consumption volume of buckwheat honey per capita (of those who assume to buy it) is equal to 1.1kg in Yerevan and 1.0kg in marzes.

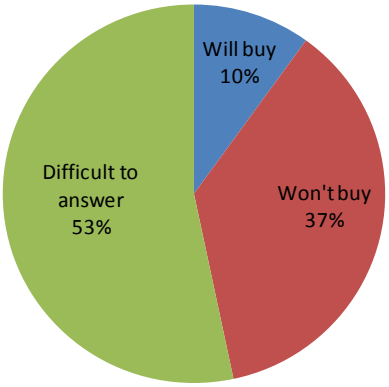
Thus, by making simple calculations we can see that **estimated potential annual demand of buckwheat honey is equal to 695tons in Yerevan and 631 tons in marzes.**

Hotels and restaurants

Representatives of hotels and restaurants in general found it difficult to answer whether they would buy buckwheat honey or not. It is logical, because it is new product for Armenian market and they do not know consumers' reaction to that.

About 37% of respondents told that they would not buy buckwheat honey, mainly because they consume a little quantity of honey and prefer Armenian polyfloral honey.

Figure 17 Willingness of representatives of hotels and restaurants to buy buckwheat honey

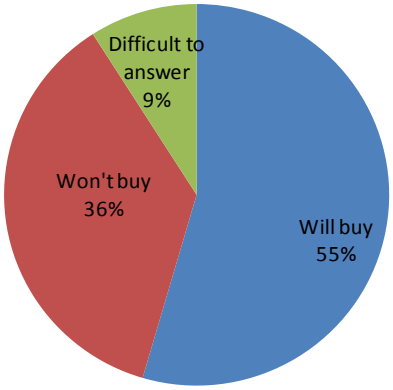


Finally, only 10% of respondents are willing to buy buckwheat honey, if the producers ensure the high quality and affordable price. They assume to buy in average 20kg buckwheat honey annually.

Retail trade outlets

More than half of managers of retail trade outlets (55%) are ready to sell buckwheat honey, though they gave lowest points to buckwheat honey comparing with other groups of respondents. The reason is that almost all retail trade outlets, except supermarket chains, usually agree to sell any product, **if the supplier provides it on credit and with possibility to return**. Supposed sales volumes of buckwheat honey through retail trade outlets are very low. By retailers' opinion, one trade outlet will sell in average 34kg in Yerevan and 20kg in marzes annually.

Figure 18 Willingness of representatives of retail trade outlets to buy buckwheat honey



36% of respondents did not find it advisable to sell buckwheat honey. They also consider that buckwheat honey will not be demanded in Armenia due to its specific taste and color.

Figure 19 Willingness of representatives of bakeries to buy buckwheat honey

Bakeries

Nearly half (46%) of representatives of bakeries also did not demonstrate willingness to use buckwheat honey for their production purposes. They consider that the taste and smell of buckwheat honey will not be in harmony with the pastry they produce.

27% of interviewed respondents found it difficult to answer whether they would buy buckwheat honey or not. They had never used buckwheat honey for production purposes before and would need to test it in production to make final decision.

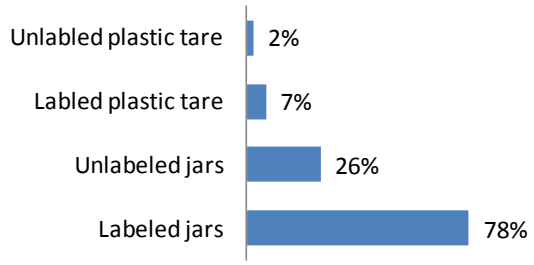
Only 27% of representatives of bakeries responded positively. They will use buckwheat honey in their production if it has high quality and affordable price. Supposed annual consumption volume is 52kg in average.

Consumers' Preferences on Buckwheat Honey

Packaging

Overwhelming majority of those who assume to buy buckwheat honey would prefer it to be packed in jars (see *Figure 20*). By their opinion, honey remains safe, when it is kept in glass tare. Most of them also want the jars to be labeled, so that they can get information on production dates and composition of honey. Those who prefer unlabeled jars mentioned that they would buy honey only from producers they know and trust. Thus, there is no need for labeling: they will get needed information directly from producers. **Almost 44% of the consumers would like to buy buckwheat honey in 1.0kg jars. The other 35% prefer 0.5kg jars**. Finally, only some of consumers also assume to buy honey in 0.25kg (7.3%), 2kg (9.8%) and 3kg jars (8.8%).[6]

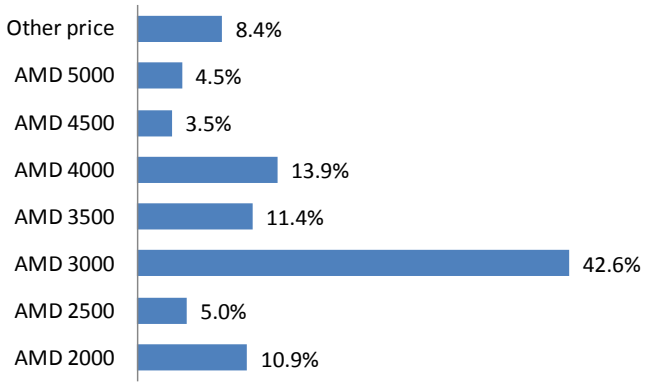
Figure 20Preferable packaging for buckwheat honey



Prices

The respondents were also asked to estimate what is the maximum price they are ready to pay for 1 kg of buckwheat honey. The most popular answer is AMD 3.000(see *Figure 21)*. Of course, while answering the question, consumers took the current prices of polyfloral honey in Armenia as a basis. It means that consumers will change their perception on buckwheat honey if the price of Armenian polyfloral honey changes.

Figure 21Maximum price consumers ready to pay for 1kg buckwheat honey



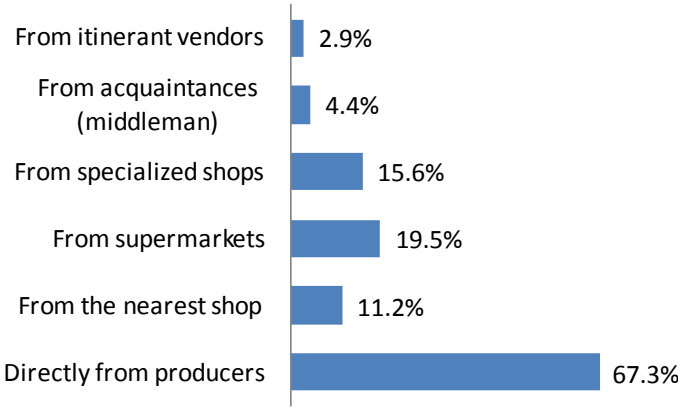
It is interesting that almost half of consumers consider that price of buckwheat honey should be higher or equal to price of Armenian polyfloral honey. This is very interesting finding, because in the eyes of such consumers buckwheat honey is not less valuable product that the honey they currently use.

[6] The sum is more than 100%, because some consumer have more than one preferable packaging

Sales channels

It was also very important to know where the consumers would prefer to buy buckwheat honey. In most cases, the respondents tend to buy buckwheat honey via the same traditional channels as in case of Armenian polyfloral honey. Thus, most of the respondents answered that they would prefer to buy buckwheat honey directly from producers (see *Figure 22*). Only in this case they can be sure they are buying pure high-quality product. The second advantage of this sales channel is the lowest price.

Figure 22 Preferable sales channels for buckwheat honey



Those who prefer to buy buckwheat honey from supermarkets and nearest shops mainly reasoned their choice by the convenience and reliability of this channel.

The others who prefer specialized stores mentioned that there is a large assortment of honey presented in such outlets. They also think that specialized stores are more reliable than other retail trade outlets.

Key findings:

Armenian population has a positive reaction on buckwheat honey. They are willing to buy it directly from the producers in 0.5kg and 1.0 kg jars and are ready to pay up to AMD 3000 for 1kg.

Retail trade outlets are ready to sell buckwheat honey if it is provided on credit and with possibility to return.

Hotels and restaurant **will not buy** buckwheat honey. They have low consumption volumes and do not want to experiment with new type of honey.

Bakeries **will not consume** buckwheat honey. They are not sure the taste and smell of buckwheat honey will be in harmony with their production.

EXPORT MARKET ANALYSIS

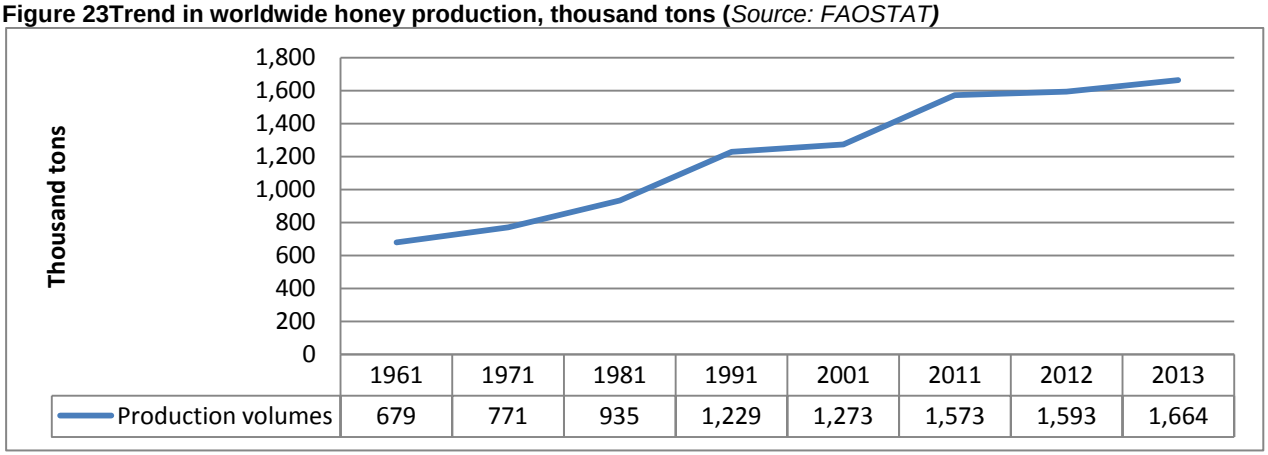
Overview of Global Honey Market

Today international honey market is drastically influenced by geo-political and macroeconomic factors. The market is formulating by immersing the currency and zero interest rates, in which depositors in Europe pay “interest” to banks to hold their deposits, an unstable global market economy, military conflicts, and climatic volatility. Nowadays, the more tendencies for production of pure honey is increasing, the more producers in the international market raise investments for exporting to US market, which is the most preferred consuming market for international honey exporters. This favorable situation is a reflection of both: the perception of relative economic stability and USD.

Production and Consumption

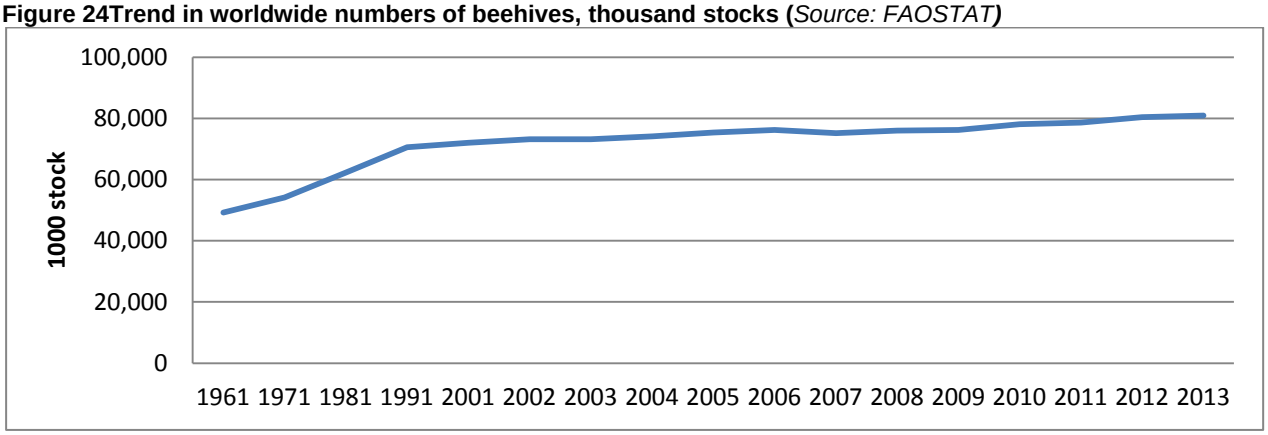
The worldwide production of honey has globally increased to amount of over 1.6 million tons in 2013. Despite the challenges faced by the global honey sector during the past decade, worldwide honey production volumes grown by 2% in average during 2008 and 2013 years. The financial crisis has affected the interests of many parties of beekeeping industry. For large farms and honey companies, it became more difficult to obtain credit. The drop in demand for some products and minimization of production (including almonds in the United States and Australia) have led to a decrease in revenues from bee pollination. By the beginning of 2010 the price of sugar reached its peak in the last 30 years. Great damage to the industry caused mass death of bees from a variety of diseases, pests and other "evils". Honeybee losses represent one of the major challenges encountered by honey sector worldwide. Honeybees are also susceptible to threats such as environmental stress, pests and diseases, among others. Colony Collapse Disorder (CCD) leading to death and disappearance of bees is another key challenge faced by the global honey sector. These and other factors have contributed to the growth of the world prices for honey. According to the International Organization of honey exporters (Maugham (IHEO), since 2005. "Composite" honey prices increased from 1.2 to 3 thousand dollars per 1 metric ton. The world market is no longer in the 'excess' of honey.

Figure 23Trend in worldwide honey production, thousand tons (*Source: FAOSTAT*)



	1961	1971	1981	1991	2001	2011	2012	2013
Production volumes	679	771	935	1,229	1,273	1,573	1,593	1,664

Figure 24Trend in worldwide numbers of beehives, thousand stocks (*Source: FAOSTAT*)



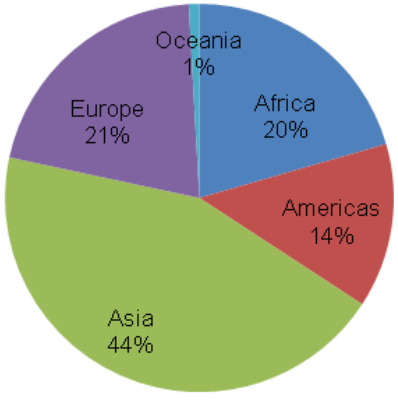
During the past decade, decrease in beehives was registered in all continents except Asia. Thus, the numbers of beehives decreased in Africa (3%), Europe (2%) and Oceania (1%) in 2009 compared with 2008. The second wave of Honeybee losses occurred in 2011 in Oceania (10%), Americas (1%) and Africa (1%). It should be mentioned, that up to 2013 year that the numbers of beehives stock has recovered in all continents except Oceania (-7%), *see Table 10.*

Table 10Changes in numbers of beehives per continent, 2008-2013 years

	2009	2010	2011	2012	2013	2013 vs 2008
Africa	-3%	1%	-1%	3%	1%	2%
Americas	2%	2%	-1%	0%	0%	4%
Asia	2%	4%	1%	2%	1%	10%
Europe	-2%	2%	3%	4%	0%	6%
Oceania	-1%	0%	-10%	3%	0%	-7%
World (Total)	**0%**	**2%**	**1%**	**2%**	**1%**	**7%**

The *Figure 25* and *Figure 26* show the latest data on distribution of beehives and honey production volumes per continent. Thus, Asia is the major honey supplier, which counts for 46% of the global production and for 44% of beehives stocks. As shown in the *Table 11*, the increase in production is especially significant in Asia and comprised 15% in 2013 as compared with 2008 year.

Figure 25 Distribution of beehives per continent, 2013



Following Asia, Europe is the second major global producer of honey providing 22% of the global production and keeping 20% of beehives stock. Both numbers of beehives and honey production volumes have been recovered after the decrease in 2009. American continent supplies 20% of honey produced and owns 14% of beehives available in the world. Correlation between numbers of beehives and honey production volumes shows that the highest yield per beehive is registered in countries of American continent. Honey production volumes in American continent have also been recovered during 2010-2013 years after 6% decrease in 2009 year.

Africa contributed 10% to global honey production in 2013, during the period of 2008-2013 the production volumes decreased twice: in 2009 year (-3%) and 2011 years (-7%), because of losses of honeybees and unfavorable climate conditions. However, in general, the production trend during 2008-2013 years is positive with 7% of total increase. The share of Oceania in honey global production volumes is the smallest and comprises 2% only. At the same time, Oceania is the only continent where the honey production volumes trend was negative during the 2008-2013 years (-6% in 2013 as compared with 2008) resulting from decrease in beehives (-7% in 2013 as compared with 2008).

Figure 26 Honey production volumes per continent, 2013

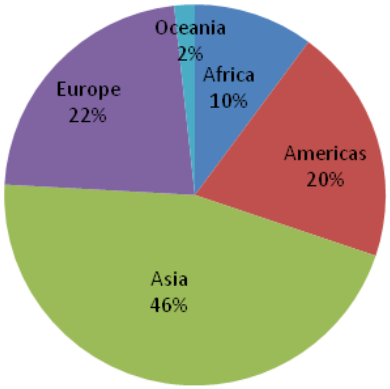


Table 11Changes in honey production volumes per continents, 2008 – 2013 years

Region	2008 (tons)	2013 (tons)	Changes in production volumes, %
Africa	158,414	169,306	7%
Americas	319,682	332,310	4%
Asia	664,391	760,797	15%
Europe	351,809	372,123	6%
Oceania	31,169	29,263	-6%
World (Total)	1,525,465	1,663,799	9%

The 10 biggest producers of honey are presented in the *Table 12*, which shows honey production volumes per country during 2008-2013, as well as the average annual production volumes and market share of each country over the mentioned period. The biggest honey producer in the world is China with 27% of total market share and over 433,000 tons of honey produced per annum over the 2008-2013 period. The rest 9 top producers' total production volumes accounts for 36% of global production, particularly: on the second place is Turkey with 5.5% of market share (or with a yearly average of 87,000 tones), followed by Ukraine (4.6%), Argentina (4.5%) and USA (4.4%) with a yearly average of 70,000-72,000 tons. Russian Federation, Mexico and India contribute 3.6% - 3.8% to the global production volumes and supplied in average 57,000 -59,000 tons of honey per annum over the 2008-2013 period. The last countries in the list of the top 10 producers are Iran and Ethiopia with 2.8% - 2.9% share in global production and about 45,000 tons of honey production per annum.

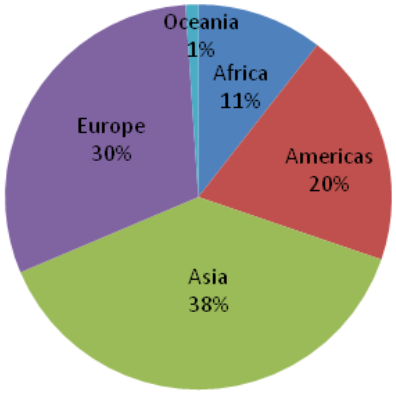
Table 12Production volumes (in tons) of natural honey per top 10 producer countries, 2008-2013 years

Countries	2008	2009	2010	2011	2012	2013	Average for 2008-2013	Market share,%
China	407,219	407,367	409,149	446,089	462,203	466,300	433,055	27.4%
Turkey	81,364	82,003	81,115	94,245	89,162	94,694	87,097	5.5%
Ukraine	74,900	74,100	70,873	70,300	70,134	73,713	72,337	4.6%
Argentina	72,000	62,000	59,000	76,000	80,000	80,000	71,500	4.5%

United States of America	74,293	66,413	80,042	67,294	64,544	67,812	70,066	4.4%
Russian Federation	57,440	53,598	51,535	60,010	64,898	68,446	59,321	3.8%
India	55,000	55,000	60,000	60,000	60,000	61,000	58,500	3.7%
Mexico	59,682	56,071	55,684	57,783	58,602	56,907	57,455	3.6%
Iran (Islamic Republic of)	41,000	46,000	47,000	47,500	45,000	44,000	45,083	2.9%
Ethiopia	42,000	41,525	53,675	39,892	45,905	45,000	44,666	2.8%
World (Total)	**1,525,465**	**1,511,059**	**1,546,711**	**1,614,022**	**1,616,819**	**1,663,798**	**1,579,646**	100%

Consumption: According to the U.S. Company Global Industry Analyst (GIA), the global market for honey is projected to exceed 1.9 million tons by the end of year 2015. This is primarily driven by increasing awareness levels and health consciousness amongst consumers, leading to increasing demand for healthy and natural food products. In line with the trend, several honey producers are launching new products and varieties at regular intervals. The increasing trend of organic and healthy spreads is expected to continue giving rise to new varieties and flavors in the global honey market. Increasing preference amongst consumers for honey-based products, is leading to a boost in the variety and assortment of honey based food products, baby products, yogurts and drinks. Moreover, honey contains antioxidants, minerals, vitamins and proteins, making itself an appealing ingredient as compared to artificial sweeteners. However, the GIA experts stress that this forecast is realized only if we can stop the mass death of bees.

Figure 27Honey consumption per continents, 2013



Asia is the major honey consumer with 38% of global consumption, followed by Europe continent (30%) and Americas (20%). Africa is consuming about 11% of honey consumed in the world, and the smallest market is Oceania with 1% of market share.

Over 2008-2013 time period the rapid growth of honey consumption was registered in American countries (24% growth during the mention period), followed by African countries with 8% growth of honey consumption in 2013 as compared with 2008. Asia and Europe showed modest growth of 4% over the same period, and decrease in honey consumption volumes was registered in Oceania.

Table 13Honey consumption trends, 2008-2013

Continent	2008 (tons)	Increased/decreased compared with previous year, %					2013 vs 2008
		2009	2010	2011	2012	2013	
Africa	162,082	-2%	9%	-7%	8%	1%	8%
Americas	256,345	-3%	14%	5%	2%	7%	27%
Asia	611,518	2%	-2%	6%	2%	-4%	4%
Europe	480,302	-1%	2%	6%	-7%	5%	4%
Oceania	23,394	-24%	13%	-32%	-2%	31%	-24%

When looking at the worldwide honey consumption patterns, one can see that the three major consumers are the EU (21% of global consumption or 349,000 tons per annum), China (approximately 21% or 350,000 tons) and the US (approximately 13% or 214,000 tons). The trends of honey consumption are presented in table below and show a rather significant increase in US (24%). It should be mentioned that EU and US are the major producers and net importers in global honey market, while China is the biggest honey producer country in the world (27% in global production) and logically has a negative net importing balance (more details on honey exports and imports are provided in the next section).

Figure 28Major Honey Consumers in the world

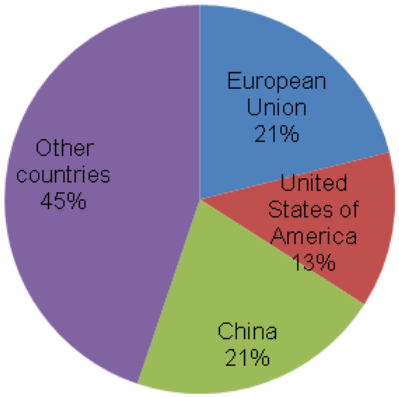


Table 14Honey consumption trends per major consumers

Countries	2008 (tons)	Increased/decreased compared with previous year, %					2013 vs 2008
		2009	2010	2011	2012	2013	
European Union	324,463	0%	2%	7%	-10%	8%	8%
United States of America	173,529	-9%	17%	4%	4%	7%	24%
China	324,078	4%	-7%	12%	2%	-2%	8%
Other countries	711,571	-1%	5%	-1%	2%	0%	4%

World Trade

In 2014, natural honey exports by country totaled US$2.3 billion up by an overall 54.1% for all natural honey shippers over the five-year period starting in 2010. The value of global natural honey exports gained 10.8% from 2013 to 2014. Among continents, European countries accounted for the highest dollar value worth of natural honey exports during 2014 with shipments amounting to $879.2 million or 38.3% of worldwide exported honey sales. This percentage compares with 25.4% from Asia and 24.4% from Latin America and the Caribbean.

Table 15 Honey export volumes by country in 2014

Countries	Trade value, US$	Growth rate %	World share %	World rank
China	260 262 506	5,56	11,4	1
Argentina	204 437 553	-3,86	8,9	2
New Zealand	168 190 611	19,99	7,3	3
Germany	150 310 042	11,91	6,6	4
Mexico	147 037 416	30,87	6,4	5
Vietnam	127 832 518	43,13	5,6	6
Spain	120 427 861	31,64	5,3	7
Brazil	98 576 057	82,13	4,3	8

Hungary	95 791 298	5,89	4,2	9
Ukraine	93 198 180	75,94	4,1	10
Armenia	75 752	-22,98	0	73

http://data.trendeconomy.com/

Among the above countries, the fastest-growing natural honey exporters since 2010 were: Ukraine (up 367.1%), Vietnam (up 150.9%), New Zealand (up 140.4%) and Brazil (up 79.2%).Bucking the upbeat trend was Canada, which posted an 18.2% decline in the value of its natural honey shipments from 2010 to 2014 (*see Table 15*).

As mentioned above, the most preferable market for honey exporters is U.S. market, which posted the highest negative net exports for natural honey during 2014 (-USD 540 million), followed by three EU countries with import amounting USD603 million or 27.4%of worldwide imported honey sales. Next come Japan with import volumes of USD 120 million (*see Table 16*).

Table 16 Honey import volumes by country in 2014

Countries	Trade value, US$	Growth rate %	World share %	World rank
USA	581 636 414	16,82	26,44	1
Germany	316 172 237	-1,81	14,37	2
France	153 619 194	35,66	6,98	3
United Kingdom	132 779 730	5,03	6,04	4
Japan	120 196 038	3,38	5,46	5
Italy	91 182 475	21,27	4,15	6
Belgium	77 640 862	14,1	3,53	7
Spain	61 181 244	15,33	2,78	8
China	58 612 373	36,52	2,66	9
Netherlands	57 567 504	7,1	2,62	10
Armenia	11 572	-54,83	0	105

http://data.trendeconomy.com/

International market for honey has some new developments that reflect the strategic aim for horizontal and vertical integration. One of the examples is emerge of Chinese acquisition of foreign companies directly and through surrogates. For quality and duty reasons, legal imports of Chinese honey are presently absent from the US honey market. As part of the negotiated conditions for US support of China's entry into the World Trade Organization, China agreed to allow its dumping cases to be resolved and judged by Third Country Surrogate Analysis. It is the treatment of China as non-market economy that underlies both a) the huge number of anti-dumping petitions against all kinds of Chinese products such as honey, solar panels and shrimp, and b) the prohibitively high anti-dumping duty rates resulting from Third Country Surrogate Analysis. If China is treated as a market economy in anti-dumping cases, then it will become much more difficult to win

high and prohibitive anti-dumping duty margins. This issue is due to be reviewed no later than 2016, which is around the corner. American honey packers are already thinking about how to regain access to Chinese honey. It is interesting to note that Chinese companies are being encouraged to make overseas direct investments. They have already tried and succeeded to some degree in buying into the U.S. honey industry. They have been active in Brazil and Argentina. In Germany, they are encountering some resistance as they try to buy medium-sized companies considered the backbone of the German economy. Just a few years ago, Chinese companies made a large purchase of highly fertile lands in California for which there are unrestricted water rights from the Colorado River. Thus, it is very likely we will see serious permutations on global honey market at nearest future.

Potential Markets for Armenian Buckwheat Honey

One of the core tasks of current assignment was to analyze the global market demand for buckwheat honey and identify potential markets for buckwheat honey export. During the secondary data analysis, different sector related reports and available relevant statistics were reviewed. Unfortunately, only statistics on honey in general is available, not divided into types, categories and sub-categories.

From data received through field visits and expert interviews, we identified five markets as possible export markets for Armenian buckwheat honey, which are Russian, Georgian, U.S., EU and Japan markets. All listed markets were assessed in terms of possibility for future export and only EU market was highlighted as a potential market for Armenian buckwheat honey.

Why not Russia

Of course, while talking about exports, the first that comes to mind is Russia, which is the major export market for Armenian produce. However, we consider that Armenian buckwheat honey has low chances to succeed in the Russian market due to several reasons.

1) First of all, Russia imports honey in very little volumes. *Table 17* describes the dynamics of import and export of honey in 2011-2014. Import volumes has been dropping since 2011 and reached the lowest point in 2014. At the same time, Russia recorded continuous growth of export volumes during the last years. It is obvious that Russia is a self-sufficient country in terms of honey.

Table 17 Russian import and export of honey in 2011-2014, USD

	2014	2013	2012	2011
Import	2 422 366	4 168 402	8 378 933	16 219 062
Export	3 360 361	1 672 780	919 009	497 353

2) The second reason is rather small volumes of honey consumption per capita in Russia. Average Russian consumes 0.3-0.4kg honey annually, which is approximately 3 times less than consumption in European countries.

3) Russia is one of the major producers of buckwheat honey. Bulk price of Russian buckwheat honey is about RUB 130, which is equal to AMD 900. Armenian honey costs much higher and it is obvious, that it will be almost impossible to compete with low-price Russian honey in the Russian market.

4) The next reason is the low level of state regulation of honey market in Russia. Even if one makes lot efforts for promoting Armenian honey and developing competitive high-price brand, there is a risk of repeating the situation with the most famous honey brands in Russia: Bashkirian and Altay honeys that are currently falsified at mass scale.

5) Like Armenians, consumers in Russia also prefer to buy honey directly from producers. They do not trust the quality of honey sold by formal trade channels. Thus, it will be difficult to find effective sales channels for Armenian buckwheat honey in Russia.

6) Finally, the last reason is instability of Russian ruble globally affecting all export commodities from Armenia and honey amongst them. Many exporters significantly revisited their contracts with Russian counterparts and further devaluation of Russian ruble makes exports there much less attractive.

Why not Georgia

Georgia is geographically the closest foreign market to Armenia. That is why many field specialists consider it as a potential export market for Armenian honey. However, there is a single major reason that led the survey team not to consider Georgian market as an export opportunity for Armenian honey. The matter is that Georgians think they produce the “best honey in the world”. Like Armenians, they do not consume imported honey. In 2014, Georgian imports of natural honey comprised only USD 109 387(less than 1% of total consumption). In general, Armenian and Georgian markets of honey are rather similar. Both Armenians and Georgian beekeepers produce honey in quantities sufficient for domestic demand simultaneously looking for opportunities to get access to export markets. Both countries have a potential to produce more than currently they do if new markets are available.

Why not USA

United States is the major importer of honey in the world. In 2014, U.S. produced about 81,000 tons and imported about 166 000 tons. The annual consumption of honey in U.S. is approximately 226 000 tons. The main suppliers for U.S. are Argentina, Vietnam, Brazil, India and Mexico (*see Table 18*). Average bulk price U.S. pays for 1kg honey is USD 3.4.

Table 18US honey import in 2014

Country	Quantity (kg)	Value (USD)	Kg price (USD)
White			
Argentina	5 242 363	20 615 869	3,9
Canada	5 154 738	24 359 495	4,7
India	5 164 266	16 960 571	3,3
Mexico	1 280 866	5 083 049	4,0
Thailand	127 120	281 800	2,2
Extra Light Amber			
Argentina	26 106 818	106 459 567	4,1
India	10 565 785	33 197 179	3,1
Ukraine	7 879 583	24 244 867	3,1
Thailand	1 150 552	2 833 412	2,5
Organic Honey			
Brazil	11 040 367		0,0
Others	566 368		0,0
Total	11 606 735		0,0
Light Amber Americas			
Argentina	5 374 610	23 075 278	4,3
Brazil	4 988 295	19 201 924	3,8
Canada	27 131	138 261	5,1
Mexico	860 717	3 268 725	3,8
Uruguay	3 195 649	11 392 664	3,6
Asia			
India	4 028 835	12 532 644	3,1
Pakistan	26 211	82 983	3,2
Taiwan	404 065	1 023 330	2,5
Thailand	2 178 363	5 679 025	2,6
Vietnam	40 511 306	112 149 403	2,8
Others			
Ukraine	880 111	2 848 979	3,2
Turkey	2 462 287	7 077 103	2,9

Here comes the most interesting. As we can see, China, which is the biggest exporter in the world, is not included in the list of exporters to USA due to anti-dumping sanctions. However, most likely China will regain access to US market in 2016, which will lead to essential permutations. Particularly, cheap Chinese honey will affect the prices in US market to decrease. Obviously, not the best time for Armenian buckwheat honey to try his luck in United States. American bulk buyers are waiting for cheap Chinese honey.

Why not Japan

Japan is fifth major importer of honey in the world with the USD 120 million annual import volumes. During the last 40 years, Chinese honey keeps top share in Japan market. In 2014, China's export volumes to Japan comprised about USD 64 million, which is 53% of Japanese total import. The first reason of Chinese honey success in Japan is price-competitiveness and the second one is that Chinese honey have similar floral origin to Japanese light-colored honey like acacia and milkvetch. Japanese consumers mostly prefer light honeys. Moreover, for those, who prefer to buy darker monofloral honeys, again Chinese buckwheat honey is available on very low bulk price ranges (USD1.5-USD2.5 for 1kg). That is why we consider that Japan is not of high potential as a market for Armenian buckwheat honey.

Why EU is the best opportunity for Armenian honey

The EU is the second largest global producer of honey. However, it is not self-sufficient and is dependent on honey imports from other countries. In fact, around 40% of Europe's consumption needs are met through honey imports. European imports of honey increased considerably between 2010 and 2014, amounting to more than 315 thousand tons (€ 861 million) in 2014. The continuous increase in European honey imports is mostly attributed to the substantial decline of the European beekeeping sector, but also to diverse problems in major honey countries of origin, such as droughts. Germany is the largest honey importer, representing a share of 26% of the total volume of European imports or more than 83 thousand tons in 2014. The UK (12% of total imports), France (11% of total imports), Belgium (9% of total imports) and Spain (8% of total imports) are the other main European importers. Honey importers in these countries process the honey and sell it both domestically and abroad. The German, French and UK markets account for around 50% of total European honey imports. Germany is the leading market, absorbing 26% of total imports. It is interesting to note that imports are also increasingly directed to countries in Central and Eastern Europe. This development is mostly attributed to the shift of Ukrainian honey exports from Russia to the EU. In fact, due to recent developments in relations between Ukraine and Russia, the EU will import five thousand tons of Ukrainian honey on a duty-free basis. Considerations of geographical proximity mean that Ukrainian exports are largely directed to countries such as Poland, Romania and Bulgaria.

Below are some trends of European honey market, which led us to consideration that EU market is the best opportunity for exports of Armenian buckwheat honey.

1) Honey imports are expected to increase further over the next five years, in order to compensate for the continuing decline in European production, which creates many opportunities for honey exporters in developing countries.

2) Consumers in the EU are increasingly concerned about suppliers at the other end of the production chain. Consumers' purchasing behavior is increasingly influenced by social factors, such as the working conditions of beekeepers. Some European consumers respond to this by switching to locally produced honey. However, many consumers

have recently become aware of their responsibility to help make the trade in honey fairer for beekeepers in the poorest parts of the world. The most popular certification related to the working conditions of beekeepers is currently Fairtrade. Following the Fairtrade Labeling Organization (FLO) standards, this certification scheme aims to improve trade conditions for developing country (DC) suppliers to the international market. Armenia is also included in the list of countries allowed to apply for Fairtrade certification.

The Fairtrade Standard for Honey covers the requirements, which are specific to honey producers and traders. Fairtrade Honey producers must comply with both the Fairtrade Small Producer Organization Standard and the Fairtrade Honey Standard. The Fairtrade Standard for Honey covers the purchase and sale of honey. This standard also covers secondary products and their derivatives. A secondary product can be a byproduct, a co-product or a residue produced in the country of origin. By-products of honey production are for example propolis and beeswax. The definition of secondary products is included in the Fairtrade Trader Standard.

According to quality requirements of Fairtrade Standard, certified honey should:

a) not have any objectionable flavor, aroma or taint absorbed from foreign matter during the processing and storage;
b) not have begun to ferment or be effervescent;
c) be free of any residues caused by medical application against bee illness (e.g. varroasis, foulbrood, etc.);
d) not contain any foreign sugar; and
e) be free of foreign matters such as mould, insects, insect debris, sand, etc. Eventual feeding of sugar should be limited strictly to the non-productive season and in addition should be kept at the absolute minimum necessary.

The core principles for Fairtrade Small Producer Organizations to be certified by Fairtrade are the following:

a) *Members must be small-scale producers:* The majority of the members of the organization must be smallholders who do not depend on hired workers all the time, but run their farm mainly by using their own and their family's labor.
b) *Democracy:* Profits should be equally distributed amongst producers. All members have a voice and vote in the decision-making process of the organization[7].

These requirements totally comply with ENPARD project policy and objectives. Thus, we consider that project should exert every effort to support their beneficiaries for obtaining Fairtrade certification.

3) European consumers are increasingly concerned with the impact of agricultural activities on the environment, and are willing to pay more for products that have a lower

[7] http://www.fairtrade.net/

environmental impact. This trend has boosted the market for organic products. The organic market in Europe is becoming increasingly a mainstream and is highly developed in Western European countries such as Germany, France and the UK. The EU has been actively promoting organic production by establishing a legal framework (Council Regulation (EC) No 834/2007) which improves access to the organic market and supports the promotion of organic products.

4) Monofloral varieties are gaining popularity, especially in the leading EU honey markets. The consumption of these products is expected to grow, relative to blended honeys. These varieties are mainly sold in specialty shops, health stores and delicatessens. However, there are differences between consumer preferences in different EU countries. For example, the European honey markets with the highest interest in monofloral honeys are those in the United Kingdom, Germany and France. In these countries, even supermarket chains focusing on mainstream products offer a range of monofloral honeys.

5) In 2013, Armenia has been included in the list of countries that are eligible to export honey to EU. In late 2015, RVSPLC laboratory received the authority to test honey in accordance with European standards and certify Armenian exporters.

Taking into consideration mentioned trends, EU market seems to be the best potential export direction for Armenian buckwheat honey. However, there are also some restrictions that project should focus on:

a) *Strict quality requirements of European buyers:* The EU has established food hygiene and safety regulations that are stricter than in other regions. Moreover, European buyers often apply even stricter requirements of their own. These can vary from composition specifications to color and taste preferences and organic/Fairtrade certifications. Hence, DC exporters who only comply with EU legal requirements may find it difficult to enter the market and target specific buyers. In addition to a HACCP-based food safety risks management system, buyers often require a certificate for a more stringent food safety management system, such us ISO 22000, BRC and IFS.

b) *European buyers need detailed documentation:* EU requirements on European retailers in matters of transparency and accountability place a huge administrative burden on honey importers. To minimize this burden, European importers increasingly require suppliers to provide detailed information on their products. These overhead administrative costs make the import of small quantities of honey less attractive, thus making it more difficult for smaller DC exporters to enter this market.

MARKETING PLAN

This section contains basic recommendations on general marketing approaches for buckwheat honey producers and ENPARD project as supporting and facilitating institution. Current recommendations are based on the results of Armenian and foreign honey market studies and analysis of consumers' preferences. Particularly, the following findings were taken into consideration:

- In Armenia, honey is produced mainly by small-scale beekeepers (honey producer farmers). There are only few companies in honey production sector.
- Production of other bee related products is not common in Armenia. Beekeepers produce only small quantities of royal jelly, propolis and apitoxin mainly for non-commercial purposes.
- In Armenia, annually about 4500 tons of honey is being consumed. Honey consumption volumes are relatively stable. However, production volumes differ from year to year depending on climatic conditions.
- In long-term perspective (4-5 years), supply and demand of honey are rather balanced in Armenia.
- Honey is mainly sold through informal trade channels in Armenia. Shops and supermarkets play a very little role in honey sales system.
- Domestic honey prevails in Armenian market over few foreign brands presented in some supermarkets.
- There are not famous honey brands in Armenia. Consumers usually buy unpacked and unlabeled honey from farmers they know and trust.
- Only raw honey is being produced and sold in Armenia. Processed products are not common for the local market.
- Due to absence of large crop areas, mainly polyfloral honey is being produced in Armenia.
- Armenians pay little attention to packaging and labeling of honey. In general, they buy honey in glass jar without marks and labels.
- The average price of informally sold honey is AMD 3600 and the average price of honey sold through formal trade channels is AMD 4500.
- There are only 4-5 producers exporting their honey to foreign markets. Armenian honey is low competitive in international market because of high prices, insufficient quantities and outdated disease control system of bee colonies.
- Buckwheat honey is a new product for Armenian market;
- According to tasting results, Armenian population in general has a positive reaction to buckwheat honey and supposes to buy it.

- Armenians are willing to buy buckwheat honey directly from the producers
- Preferred weights of buckwheat honey of one-time purchase are 0.5kg and 1.0 kg.
- Consumers find AMD 3000 is an affordable price for buckwheat honey.
- Armenians pay little attention to packaging and labeling of honey.
- Retail trade outlets are ready to sell buckwheat honey if it is provided on credit and with possibility to return.
- Hotels and restaurant will not buy buckwheat honey. They have low consumption volumes and do not want to experiment with new type of honey.
- Bakeries will not consume buckwheat honey. They are not sure the taste and smell of buckwheat honey will be in harmony with their production.
- In Russian, Georgian, US and Japanese markets there are unfavorable conditions for Armenian buckwheat honey to succeed.
- European market seems to be perspective for Armenian buckwheat honey due to increasing demand on honey, consumer preferences and special standards designed for products from poor and developing countries.

Taking into consideration above listed, we suggest two potential markets for Armenian buckwheat honey: domestic and European markets.

Strategy for Armenian Market

According to buckwheat honey tasting results, it has all chances to succeed in Armenian market. Moreover, only domestic market will be available for buckwheat honey producers in the first years of their activity. Usually, long preparatory works are required for exports, especially to European market. Thus, the project should target Armenian market in the coming year, at the same time keeping in mind the general purpose of exporting to Europe. It means that beekeepers should start production in line with European requirements even while selling in the local market.

Taking into consideration preferences of Armenian consumers, the most relevant product for the local market is raw unprocessed buckwheat honey**.** Processed types of honey are not common in Armenian and it is difficult to assume what attitude will be towards these products. Thus, we suggest mostly produce raw honey and some experimental quantities of blended honey. Of course, for establishment of blending facilities serious investments are required and idea of experimental quantities may seem to be undue risk. However, blending will be required for exports. Furthermore, there is unused blending facility in Shirak region, which can be an opportunity for production of experimental stock.

According to data provided by ENPARD project, there will be 43 farmer groups consisting from 752 members engaged in buckwheat honey production. It is itself a good network for realization of raw buckwheat honey. In Armenia, the network of friends and relatives is the most effective sales channel for honey. In the meantime, it would be better to sell

experimental blended buckwheat honey through formal trade channels in Yerevan since consumers are more apt to changes in Yerevan than in marzes. Targeting small supermarkets is reasoned by possible difficulties for entering big supermarket chains. Because of low sales volumes of honey through formal trade channels, managers of big chains prefer not to occupy shelves with new types or brands of honey.

Concerning packaging, it would be better to move on according to the existing practice of Armenian polyfloral honey. It means that producers should keep raw buckwheat honey in bulk jars and pour it into glass jars while selling. Blended honey, which supposed to go through formal trade channels, should be properly packed and labeled. According to the results of analysis of consumers' preferences, 0.5kg and 1kg glass containers is the best option.

Suggested price for raw buckwheat honey is AMD 3,000. However, producer should always keep an eye on the price of polyfloral honey. In case of fluctuations of polyfloral honey, the price of buckwheat honey should be revised accordingly. According to estimations, production costs of buckwheat honey will be much lower than the costs of polyfloral honey. First, buckwheat is better forage for bees and experts assume that in average 30kg buckwheat honey will be produced per hive. The second reason is that, most likely, beekeepers will not need to relocate their hives, which will decrease transportation costs. However, despite of low production costs, the price of buckwheat honey should not significantly differ from the price of polyfloral honey. Cheap honey is considered to be of low quality or artificial in Armenian market. Thus, we suggest not to sell raw buckwheat honey at much cheaper price than the price of polyfloral honey. May be 15-20% lower price is the best range.

No possible directions of industrial use of buckwheat honey were identified during the research. Buckwheat honey is mainly supposed to go for fresh consumption. Buckwheat honey is a strong source of antioxidants, more than other types of honey. Antioxidants may help protect against many lifestyle diseases. Taking into consideration the health features of honey in general and buckwheat honey in particular, a certain segment of population with health issues should be targeted as well.

Concerning to bee related products, it was mentioned that production of these products could be more profitable than honey production. In the meantime, there is a certain demand for bee related products such as royal jelly and apitoxin. However, we consider that at this stage there are no enough capacities to produce these products at industrial scale. For that purpose, significant investments should be made to create production facilities and to improve the skills and knowledge of producers.

Strategy for European Market

Considering the large number of producers involved in buckwheat honey production and their geographical distribution, it will be almost impossible for them to produce honey with the same composition. Buckwheat honey produced in different regions may differ even by

color and taste. Exporting of different types of buckwheat honey may cause some difficulties with finding bulk buyers and additional costs for cortication of so many producers. Thus, for honey export to European market blending facilities would be required. That is why, we suggest creating such facility during the first year of producers activity.

While selling in the local market, all producers should set aside some quantity of honey (may be 10% of total production). Separated honey should be collected from all the producers and blended to get the experimental unified product. Further, main part of blended honey must be packed and sent for sales through shops and supermarkets. The other part is for sending as sample to potential partners (buyers) in Europe, also for laboratory testing in Armenia and abroad, to get certificates for exports.

Fairtrade certification is the best opportunity for Armenian buckwheat honey for entering European market. Fairtrade is not only a mark, which certifies the quality of product for buyers. Fairtrade also provides specific market to producers from developing companies.

There are five steps to becoming Fairtrade certified. The certification process (which follows ISO 17065 guidelines) is very thorough but relatively simple to complete.

Step 1: Application	Organization must fill in his contact details on the website of FLOCERT (www.flocert.net). Then FLOCERT will send an application form and all the rules and requirements for Fairtrade certification.
Step 2: Audit	Once the organization completed and returned his application, FLOCERT will reply within 30 days if the proceeding to the next stage is possible. FLOCERT will need to carry out audits to check whether the organization complies with the relevant Fairtrade Standards. With traders, it is possible for FLOCERT to issue a temporary permission to trade before the first audit. This 'permission to trade' (PTT) option was introduced to allow organizations to participate earlier in the Fairtrade system and benefit from it as quickly as possible. For producers, a PTT is issued if no major issues are identified at the first audit, and is replaced by a certificate after successful conclusion of the audit follow-up. The audits themselves vary in length and complexity, depending on the size and structure of the organization, and the number of products the organization wants to certify. Audit process usually works in the following way: • The auditor will contact the organization in advance and provide an individualized checklist, specifying particular documents organization will need to provide. • The auditor will arrange a series of site visits, face-to-face meetings and interviews with farmers, workers unions, managers and committees, as well as checking financial and other documents. • At a final closing meeting, the auditor will share the findings of the audit with the organization – pointing out any areas where the organization is

	not conforming to Fairtrade Standards, and giving an opportunity to discuss possible corrective measures
Step 3: Analysis and evaluation	After the audit, the auditor sends a report to one of FLOCERT's certification analysts to evaluate the results. If areas are identified where operation of the organization is not conforming to Fairtrade Standards, it will be given a chance to correct these non-conformities at this stage.
Step 4: Certification or ask for more changes	Once the non-conformities have been corrected, FLOCERT will either approve or reject the certification. FLOCERT only issues a certificate when all non-conformities have been resolved – but at this stage, if the non-conformities are not major, the organization may be granted a permission to trade until the changes are all made.
Step 5: Follow up	After the initial certification there's a three-year 'certification cycle', during which FLOCERT carries out at least two more audits – one 'surveillance audit' and one 'renewal audit'. If the first certification cycle is concluded successfully, FLOCERT can issue a new certificate. If FLOCERT classifies the organization as 'high risk' – perhaps because of the complexity of its trade chains or high volume of trade – more audits may be needed. FLOCERT also widely carries out unannounced audits.

The detailed information related to application, audit and certification procedures is presented in the documents attached below.

Standard procedures on application.pdf Standard procedures on audits.pdf Standard procedures on certification.pdf

(*Double-click on items to open the documents*)

Within the Europe, we suggest United Kingdom, Germany and France to be targeted, as these countries have the highest interest to monfloral honeys. In these countries, even supermarket chains offer a range of monofloral honeys. At the same time, these countries account for around 50% of total European honey imports. Germany and United Kingdom are also the largest markets for Fairtrade honey. There are 14 certified companies in Germany and 7 ones in United Kingdom importing Fairtrade honey from developing countries. Some of them import honey for industrial use (bakeries, chocolate factories) and the others are bulk importers and processers. The full list of Fairtrade certified companies in Europe is presented in the *Table 19*.

Table 19 Fairtrade certified companies in Europe and their requirements on honey quality

Organization	Country	Quality	URL	Activity
Lemberona Handels GmbH	Austria	A	www.lemberona.com	Wholesaler of agricultural products
PEZ International GmbH	Austria	A	www.pez.com	Candy manufacturer
COMPAGNIE APICOLE	France	A	www.compagnieapicole.com	Honey producer and processor
F. W. Praum GmbH & Co. KG	Germany	A	www.praum-zwieback.de	Bakery
Fürsten-Reform GmbH & Co KG	Germany	A	www.fuersten-reform.de	Honey producer and processor
Ludwig Weinrich GmbH & Co. KG	Germany	A	www.weinrich-chocolates.com	Chocolate manufacturer

Wilhelm Reuss GmbH & Co. KG Lebensmittelwerk	Germany	A	www.wilhelmreuss.de	Producer of semi-finished products for the food industry
Pietro Masini SRL	Italy	A	www.masinibiscotti.it	Bakery
Scapigliati Dolciaria Srl	Italy	A	www.scapigliati.it	Bakery
SERVICEPAN S.r.L.	Italy	A	www.veggetti.it	Bakery
Ben & Jerry's Hellendoorn	Netherlands	A	www.benjerry.com	Ice-cream producer
Sackeus AB	Sweden	A	www.sackeus.se	Chocolate manufacturer
Chocolat Schönenberger AG	Switzerland	A	www.schoenenberger-choco.ch	Chocolate manufacturer
Chocolat Stella Bernrain AG	Switzerland	A	www.swisschocolate.ch	Chocolate manufacturer
Chocolats Halba - Division der Coop Genossenschaft	Switzerland	A	www.chocolatshalba.ch	Chocolate manufacturer
Claro Fair Trade AG	Switzerland	A	https://www.claro.ch	Importer and wholesaler of Fairtrade products
Hero	Switzerland	A	www.hero-group.ch	Manufacturer of fruit and vegetable based products
Azelis UK Life Sciences Ltd	UK	A	www.azelis.com	Distributor of food and health products
Favols SA	France	B	www.favols.fr	Jam manufacturer
Léa Nature	France	B	www.moulindesmoines.com	Distributor of food products
Fürsten-Reform GmbH & Co KG	Germany	B	www.fuersten-reform.de	Honey producer and processor
LemonAid Beverages GmbH	Germany	B	www.lemon-aid.de	Drink manufacturer
Ludwig Weinrich GmbH &Co. KG	Germany	B	www.weinrich-chocolates.com	Chocolate manufacturer
Wikana Keks und Nahrungsmittel GmbH	Germany	B	www.meinliebsingskeks.de	Bakery
Hero	Switzerland	B	www.hero-group.ch	Manufacturer of fruit and vegetable based products
EZA Fairer Handel GmbH	Austria	N/S*	www.eza.cc	Importer and wholesaler of Fairtrade products
Honigmayr Handelsgesellschaft mbH	Austria	N/S	www.honigmayr.at	Honey producer and processor
CHOC AND CO nv	Belgium	N/S	www.chocandco.com	Chocolate manufacturer
Maya Fair Trade	Belgium	N/S	www.maya-ft.be	Importer and wholesaler of Fairtrade products
Meli N.V.	Belgium	N/S	www.meli.be	Honey processor and bottler
Oxfam Fair Trade cbva	Belgium	N/S	www.oxfamfairtrade.be	Importer and wholesaler of Fairtrade products
SanoRice Belgium	Belgium	N/S	www.sanorice.nl	Food manufacturer
Jakobsen A/S	Denmark	N/S	www.jakobsens.com	Honey producer and processor
Urtekram International A/S	Denmark	N/S	www.urtekram.com	Food and body care product manufacturer
Ethic Design Oy	Finland	N/S	www.louis.fi	Importer and wholesaler of organic and Fairtrade products
Ethiquable	France	N/S	www.ethiquable.coop	Importer and wholesaler of organic and Fairtrade products
Famille Michaud Apiculteurs	France	N/S	www.famillemichaud.com	Honey producer and processor
FILET BLEU	France	N/S	www.filet-bleu.com	Bakery
Les Apiculteurs Associés	France	N/S	n/a	Honey processor and bottler
MIEL VILLENEUVE	France	N/S	www.culturemiel.com	Honey producer and processor
Moulin Meckert-Diemer	France	N/S	www.moulindesmoines.com	Distributor of food products
Naturalim France Miel	France	N/S	www.naturalim.fr	Honey processor and bottler
Sageco	France	N/S	www.planet-sageco.com	Producer of honey and other food

				products
A & V Kosmetik Vertriebs GmbH	Germany	N/S	www.av-kosmetik.de	Cosmetic manufacturer
Breitsamer & Ulrich GmbH & Co. KG	Germany	N/S	www.breitsamer.de	Honey processor and bottler
Dreyer Bienenhonig GmbH	Germany	N/S	www.dreyer-bienenhonig.de	Honey processor and bottler
El Puente Import und Vertrieb GmbH	Germany	N/S	www.el-puente.de	Importer and wholesaler of Fairtrade products
GEPA mbH	Germany	N/S	www.gepa.de	Importer and wholesaler of Fairtrade products
Walter Lang GmbH/ Atrium Import GmbH	Germany	N/S	www.biohonig.eu	Honey wholesaler, processor and bottler
Kerry Ingredients and Flavours Ltd.	Ireland	N/S	www.kerrygroup.com	Food manufacturer
Conapi S.c.r.l.	Italy	N/S	www.conapi.it	Honey producer and processor
Matrunita Mediterranea SRL	Italy	N/S	www.matrunita.com	Honey wholesaler and processor
Fair Trade Original	Netherlands	N/S	www.fairtrade.nl	Food manufacturer
HISPAMIEL , S.A.	Spain	N/S	www.honeygreen.es	Honey wholesaler
GYSI AG Chocolatier Suisse	Switzerland	N/S	www.gysi.com	Chocolate manufacturer
Narimpex AG	Switzerland	N/S	www.narimpex.ch	Food manufacturer
Schenk Konfitüren+Sirup GmbH	Switzerland	N/S	www.schenkkonfi.ch	Food manufacturer
VARISTOR AG	Switzerland	N/S	www.varistor.ch	Supplier of raw materials for the Swiss food industry
Blue Sky Botanics Ltd	UK	N/S	www.blueskybotanics.com	Manufacturer of botanical extracts
Fuerst Day Lawson Ltd.	UK	N/S	www.fdlworld.com	Supplier of ingredients for food industry
Fullwell Mill Ltd.	UK	N/S	www.fullwellmill.com	Manufacturer of organic, Fairtrade and healthy foods
Kerry Ingredients (UK) Ltd (Petersborough)	UK	N/S	www.kerrygroup.com	Food manufacturer
Sarant Ltd.	UK	N/S	www.sarant.co.uk	Honey wholesaler and processor
Traidcraft PLC	UK	N/S	www.traidcraft.co.uk	Importer and retailer of Fairtrade products

N/S*-Not specified

Fairtrade certified honey is classified into two categories, according to its quality, which is defined by two criteria, namely the Hydroxymethylfurfural (HMF) content and the water content. For each category, points are given according to the following schemes as presented in *Table 20* and *Table 21*. Minimum scores are given to products, which only meet minimum legal requirements. More points are given to products, which meet higher requirements.

Table 20 Water content in honey

Water content (%)	Points	Factor	Max. Points
16.9% or less	5	4	20
17.0-17.5%	4	4	16
17.6-18.5%	3	4	12
18.6-19%	2	4	8
19.1-19.5%	0.5	4	2
19.6% or more	0	4	0

Table 21 HMF content in honey

HMF content (ppm)	Points	Factor	Max. Points
5.0 or less	5	3	15
5.1-9.9	4	3	12
10.0-12.0	3	3	9
12.1-15.0	2	3	6
15.1-20.0	1	3	3
20 and over	0	3	0

The quality of the honey is determined by calculating the points given for the quality criteria above. The resulting scores determine whether the honey is in the category “A” quality (18 point or more) or in the category “B” quality (17 points or less). Honey of quality “A” will receive a higher price than the quality “B” honey.

Fairtrade honey must comply with the following EU regulations:

- Directive 110/2001, which establishes basic quality requirements for honey in EU;
- EU General Food Law (Regulation (EC) 178/2002), which introduces general principles for food production, such as traceability, risk analysis and a precautionary approach. The legislation also sets out responsibilities and requirements for food business operators.

- EU legislation on hygiene of foodstuffs (Regulation (EC) 852/2004), which establishes general hygiene requirements, such as a clean production environment and personnel trained in hygienic handling of honey.


Council Directive 2001_110_EC.pdf


Regulation EC 178_2002.pdf


Regulation EC 852_2004.pdf

(*Double-click on items to open the documents*)

There are two options for honey packaging: bulk drums (mainly 290kg) and retail packaging. Both types are acceptable for European market, depending on partner and quantities. Many bulk buyers, such as Breitsamer & Ulrich, one of the leading honey packers in Germany with a turnover exceeding 22,000 tons per annum, buy honey only in drums of 290 kg. The minimum order volume of Breitsamer & Ulrich is about 40 tons. Other importers, who buy fewer quantities, may require honey in retail packaging. While choosing retail-packaging type, we should always remember that convenience is an important selling point for European consumers, who want to enjoy products with minimum effort. This trend is also applicable to honey. Honey in a “squeeze bottle” is becoming steadily more popular, even though it has been around for many years. Hence, there is a growing industry demand for honey with a higher fructose/glucose ratio, which stays liquid for a longer time.

The price of honey is always a subject for negotiations. It can vary depending on honey origin, quality and quantities. Having no information on quality of Armenian buckwheat honey, we can only make some approximate assumptions on possible exporting prices of Armenian buckwheat honey based on average bulk prices of honey in EU (see *Table 22*).

Table 22 Honey import volumes and prices by country

Country	Quantity, tons (2013)	Value, USD (2013)	Price per 1 ton USD (2013)	Estimated price per 1 ton USD (2015)*
Germany	88,200	313,458,000	3,554	3,909
UK	38,140	125,974,000	3,303	3,633
France	28,667	112,616,000	3,928	4,321
Italy	18,489	75,207,000	4,068	4,474
Spain	22,095	53,047,000	2,401	2,641
Poland	20,156	48,224,000	2,393	2,632
Netherlands	12,639	46,433,000	3,674	4,041
Austria	8,619	34,845,000	4,043	4,447
Sweden	4,770	21,429,000	4,492	4,942
Ireland	3,695	19,946,000	5,398	5,938
Denmark	4,885	16,233,000	3,323	3,655
Slovakia	2,612	12,430,000	4,759	5,235
Greece	3,439	12,356,000	3,593	3,952
Czech Republic	2,083	8,125,000	3,901	4,291
Finland	1,469	7,920,000	5,391	5,931
Portugal	1,943	7,568,000	3,895	4,285
Romania	2,967	5,506,000	1,856	2,041
Slovenia	982	4,364,000	4,444	4,888
Bulgaria	1,806	3,751,000	2,077	2,285
Lithuania	994	2,730,000	2,746	3,021
Cyprus	334	1,501,000	4,494	4,943
Croatia	331	1,063,000	3,211	3,533
Estonia	196	931,000	4,750	5,225
Latvia	327	878,000	2,685	2,954
Malta	106	559,000	5,274	5,801
Hungary	45	266,000	5,911	6,502

*The latest statistics for EU is available for 2013 only. The prices for 2015 are estimated considering the growth rate of honey international bulk prices in 2013-2015.

Chinese buckwheat honey is the cheapest available honey in the international market. It starts from USD 1500 for 1 ton of honey. The price of Ukrainian buckwheat honey varies from USD 3500 to USD 5000 for 1ton. **Probably, we should take USD 4000 as possible bulk exporting price for Armenian buckwheat honey.** The best way to sell honey at higher price ranges in Europe is to obtain organic food certification. However, it seems to be very difficult for buckwheat honey producers in Armenia to obtain organic food certificate, because one of the conditions for organic honey production is the absence of chemical contamination within a 3km radius from the beehives. We should also consider that Fairtrade establishes minimum prices and premiums for all certified products. When the market price is higher than the Fairtrade minimum price, producers should receive the

current market price or the price negotiated at contract signing. Fairtrade minimum prices of honey are presented in the table below.

Table 23Fairtrade minimum prices of honey per 1kg

Organic, A Quality	Organic, B Quality	Conventional, A Quality	Conventional, A Quality
USD 2.95	USD 2.66	USD 2.55	USD 2.30

Suggested Interventions for ENPARD project

It is obvious that producer groups engaged in buckwheat and buckwheat honey production will not be able to achieve foreign market without external support. Thus, ENPARD project can undertake some activities towards facilitation of producer groups. Particularly, the following interventions are recommended:

1) **Awareness rising of consumers**- Production of buckwheat is a new practice for Armenia and population is not aware about the initiative of its cultivation. It means that consumers may suspect the origin and quality of buckwheat honey suggested them. Thus, ENPARD project might design an awareness-raising program on buckwheat and buckwheat honey production in Armenia by which healthy qualities of buckwheat honey can be introduced and promoted. Probably, participation in thematic telecasts and descriptive articles in printed media may be the best options.

2) **Establishment of administrative unit**-To make it possible that all farmer groups produce honey with the same quality and in line with European requirements, an administrative unit controlling and regulating the activities of all producer groups should be created. In line with the requirements of Fairtrade standards, the best option can be the Association of Producers with the following functions:

a. Examine the European standards and requirements of beekeeping, honey production, packaging and labeling (particularly, Fairtrade standard)
b. Develop a guide for producer groups on basic principles of advanced beekeeping and disease control systems according to European standards
c. Organize trainings to improve professional skills and knowledge of producer groups
d. Control activity of groups in terms of compliance with determined principles of beekeeping and honey production
e. Establish blending facility and produce experimental blended honey
f. Organize the sales of produced blended honey through retail chain
g. Apply for certification for exporting to European market
h. Contact with potential buyers, identify their demand, negotiate and make agreements.
i. Control financial and product flows.

ANNEXES

1) List of interviewed honey producer farmers

Marz	Community	Name	Phone
Aragatsotn	Zarinja	Mkrtich Hakobyan	+374 91188760
Aragatsotn	Zarinja	Ogsen Ghazaryan	+374 94535392
Aragatsotn	Tatul	Norik Avagyan	+374 77542243
Aragatsotn	Tatul	Mushegh Karapetyan	n/a
Aragatsotn	Suser	Gora Mkhitaryan	+374 93435189
Aragatsotn	Suser	Taronik Hakobyan	+374 93441318
Gegharkunik	Tsovagyugh	Misha	+374 98467036
Gegharkunik	Tsovagyugh	Paylak Grigoryan	+374 93340144
Gegharkunik	Kakhakn	Armen Shirvanyan	+374 94430147
Gegharkunik	Kakhakn	Khachik Lalayan	+374 93847340
Gegharkunik	Shatvan	Sayat Harutyunyan	+374 93232650
Gegharkunik	Shatvan	Artash Papanyan	+374 93717569
Lori	Lernantsk	Vardan Arakelyan	+374 77715558
Lori	Lernantsk	Levon Vardanyan	+374 94023563
Lori	Katnajur	Siranush Rshoyan	+374 91195769
Lori	Katnajur	Samvel Manukyan	+374 77637177
Lori	Mets Parni	Vahan Nazaryan	+374 41799799
Lori	Mets Parni	Albert Palyan	+374 77408099
Kotayk	Lernanist	Albert Harutyunyan	+374 91101489
Kotayk	Lernanist	Artyom Hayrapetyan	+374 94553304
Kotayk	Solak	Mayis Hayrapetyan	+374 77051953
Kotayk	Solak	Armen Sargsyan	+374 98888710
Kotayk	Kaghsi	Armenak Hambardzumyan	+374 93506745
Kotayk	Kaghsi	Jonik Manukyan	+374 99008909
Shirak	Azatan	Karapet Mkhoyan	+374 93323017
Shirak	Azatan	Sos Sahakyan	+374 98460283
Shirak	Akhuryan	Garnik Simonyan	+374 94161513
Shirak	Akhuryan	Jivan Aslanyan	+374 94343235
Shirak	Jrarpi	Gegham Grigoryan	+374 93847374
Shirak	Jrarpi	Hripsime Petrosyan	+374 94134319
Syunik	Brnakot	Avag Grigoryan	+374 98397383
Syunik	Brnakot	Argam Barsamyan	+374 94003827
Syunik	Shaghat	Papin Eghyan	+374 94548890
Syunik	Shaghat	Sasun Stepanyan	+374 98631837
Syunik	Shaki	Slavik Babayan	+374 94819916
Syunik	Shaki	Gurgen Harutyunyan	+374 98566899
Vayots Dzor	Gndevaz	Armen Hambardzumyan	+374 94040569
Vayots Dzor	Zaritap	Gohar Safaryan	+374 94752018
Vayots Dzor	Zaritap	Artak Taroyan	+374 98066634
Vayots Dzor	Martiros	Tevos Sargsyan	+374 77297788
Vayots Dzor	Martiros	Khachik Sahakyan	+374 28296282

2) List of interviewed companies

Company/Brand	Role in VC	Name	Position	Phone
ERRA honey A. Hovhannisyan P/E	Producer	Ashot Hovhannisyan	Director	+374 91484402
MAG honey G. Hyusyan P/E	Producer Exporter	Gurgen Hyusyan	Director	+374 93350134
Natural honey from Vardenis H. Hayruni P/E	Producer	Hakob Hayruni	Director	+374 93819022
Bzzz honey Armenia	Producer Exporter	Shura Aslanyan	Manager	
Tamara-Fruit CJSC	Producer Exporter	AlfredSargsyan	Marketing specialist	+374 95 995000
Multi Agro	Producer Input supplier	Karen Araqelyan	Deputy Director	+374 91185751
Honey.am Mer Sareri Holding Ltd	Wholesaler Exporter	George Tabakyan	Director	+374 94526984

3) List of interviewed honey sector experts and representatives of supporting organizations

Organization	Name	Position	Phone
Nectar beekeepers union NGO	Telman Nazaryan	President	+374 91484402
Association of farmers and beekeepers of Artik region NGO	Jivan Aslanyan	President of NGO and head of Shirak Agricultural support marz center	+374 94343235
Ecoglobe LLC	Eliza Petrosyan	Administrator	+374 10221295
UNDP Project	Karen Avetisyan	Consultant in apiculture	+374 91185751
Dilijan branchof Beecity specialized shop	Norik Davtyan	Director	+374 93333851
National Statistical Service of RA	Arsen Avagyan	Head of agriculture statistics division	+374 11564672

4) Sample and geography of honey market study and marketing experiments with buckwheat honey

	Population	Hotels and restaurants	Retail trade points	Bakeries
Yerevan	186	13	10	5
Shirak	30	2	3	1
Lori	40	2	1	1
Gegharkunik	40	3	1	1
Aragatsotn	21	2	2	1
Vayots Dzor	25	2	1	1
Tavush	23	2	2	0
Kotayk	40	4	2	1
Total	**405**	**30**	**22**	**11**

5) List of interviewed retail trade points

Organization	Type	Marz	Community	Address	Phone
Hayr&Vordi Yeritsyanner	Supermarket	Yerevan	Yerevan	21 Papazyan str.	+374 91378940
Ham&Dav	Supermarket	Yerevan	Yerevan	28 Artsaxi str.	+374 77926651
Nona	Supermarket	Yerevan	Yerevan	7 Alek Manukyan str.	+374 10555930
Tsiran	Supermarket	Yerevan	Yerevan	5 Kilikia str.	+374 91857353
Eva & Syuzi LLC	Supermarket	Yerevan	Yerevan	5 Avan Arinj str.	+374 55552200

Pekin	Shop	Yerevan	Yerevan	39/77 Komitas str.	+374 10201625
Elena Sargsyan P/E	Shop	Yerevan	Yerevan	63 Komitas str.	+374 10234384
Vaz2	Shop	Yerevan	Yerevan	4 Moldovakan str.	n/a
Punj	Supermarket	Yerevan	Yerevan	5 Davit Balyan str.	+374 99099710
Aygedzor	Supermarket	Yerevan	Yerevan	2/1 Proshyan str.	n/a
Norik Aslikyan P/E	Supermarket	Gegharkunik	Gavar	4 Nalbandyan str.	+374 99140199
Pegas	Shop	Shirak	Gyumri	169 Myasnikyan str.	+374 98654490
Korona	Supermarket	Shirak	Gyumri	56 Gorki str.	+374 93200185
Krpak	Supermarket	Shirak	Gyumri	143/15 Khorenatsi str.	+374 94222077
Davit	Supermarket	Tavush	Ijevan	n/a	+374 91373060
Beecity	Specialized shop	Tavush	Dilijan	49 Gorki str.	+374 93333851
Margar Hakobyan P/E	Shop	Ararat	Artashat	23 Ogostos str.	+374 77705026
Serob-Arman LLC	Shop	Vayots Dzor	Vayk	n/a	+374 94403020
Daniel-ash LLC	Shop	Aragatsotn	Ashtarak	n/a	+374 94902100
Artavazd Petrosyan LLC	Supermarket	Armavir	Armavir	3 Nalbandyan str.	+374 91239554
Msheci Khoren	Supermarket	Armavir	Armavir	8/6 Charents str.	+374 91418360
Levon Chakhoyan P/E	Shop	Lori	Vanadzor	122 Vardanants str.	+374 55665515

6) List of interviewed hotels and restaurants

Organization	Type	Marz	Community	Address	Phone
Tomas Smoke	Restaurant cafe	Yerevan	Yerevan	58 Hanrapetutyan str.	+374 98761111
Charentsi 28	Restaurant	Yerevan	Yerevan	28 Charents str.	+374 95570175
Aquatek Complex	Restaurant	Yerevan	Yerevan	40/2 Myasnikyan str.	+374 98922296
Ararat	Hotel	Yerevan	Yerevan	7 G. Lusavorich str.	+374 93271960
Metropol	Hotel	Yerevan	Yerevan	2/2 Mashtots avenue	+374 93355868
Nork Residence	Hotel	Yerevan	Yerevan	56/1 Moldovakan str.	+374 93539992
Amira Palace	Hotel	Yerevan	Yerevan	55/7 Myasnikyan str.	+374 93574488
Regine	Hotel - Restaurant	Yerevan	Yerevan	88 Bagrevand str.	+374 96922752
Mush-Sasun	Hotel - Restaurant	Yerevan	Yerevan	1/7 Bagrevand str.	+374 98743831
Park Avenue	Hotel	Yerevan	Yerevan	21/5 Tevosyan str.	+374 93666148
Anarik Kaghzvan	Restaurant	Yerevan	Yerevan	24/1 Hovhannisyan str.	+374 96624551
Firzhi	Hotel - Restaurant	Yerevan	Yerevan	286/7 Davit Bek str.	+374 93204033
Armine Harutyunyan P/E	Restaurant	Yerevan	Yerevan	11/1 Gyulikevkhyan str.	+374 94388873
Masis	Hotel - Restaurant	Kotayk	Yerevan	Block A	+374 91828826
Adam	Hotel	Kotayk	Jrvezh	21 Jrvezh str.	+374 93820149
KAH	Restaurant	Kotayk	Tsaghkadzor	n/a	+374 94301706
Best Western Aghveran	Hotel	Kotayk	Aghveran	n/a	+374 95433211
Vayk	Hotel	Vayots Dzor	Jermuk	10 a Jermuk roadway	+374 93289326
Lchak	Restaurant	Vayots Dzor	Eghegnadzor	Yerevanyan roadway	+374 93998990
Mosh	Hotel	Tavush	Ijevan	3 Yerevanyan str.	+374 94031102
Dok Raz	Restaurant	Tavush	Ijevan	40 Ankakhutyan str.	+374 91301905
Ashtaraki dzor	Restaurant	Aragatsotn	Ashtarak	n/a	+374 98272829
Ureni	Hotel	Aragatsotn	Ashtarak	2 Ashtarak roadway	+374 91017484
Narine Toplaghatsyan P/E	Restaurant	Gegharkunik	Gavar	20 Zoravar Andranik str.	+374 93721541
Alik	Hotel	Gegharkunik	Gavar	1 Zoravar Andranik str.	+374 94449878
Berlin Art Hotel	Hotel	Shirak	Gyumri	25 Haghtanaki str.	+374 55377573
Vanatur	Restaurant	Shirak	Gyumri	70 Gorki str.	+374 94084099
Kristine Antonyan P/E	Restaurant	Armavir	Armavir	17 Hanrapetutyan str.	+374 237 29992
Oasis	Restaurant	Lori	Vanadzor	42 Tigran Mets str.	+374 98709912
Markosyan Mushegh P/E	Restaurant	Lori	Vanadzor	2b Tigran Mets str.	+374 91008028

7) List of interviewed bakeries

Organization	Marz	Community	Address	Phone
Alina Sujoyan P/E	Yerevan	Yerevan	2/2 Bakunts str.	+374 91111692
Antik Baghdasaryan P/E	Yerevan	Yerevan	28/5 Badal Muradyan str.	+374 98276959
Hayr&Vordi Yeritsyanner	Yerevan	Yerevan	21/92 Papazyan str.	n/a
Lucy dessert	Yerevan	Yerevan	27 Rubinyants str.	+374 93334080
Lord Bakery	Yerevan	Yerevan	Artsakhyan str.	+374 77349070
Hekiat	Kotayk	Charentsavan	4 Proshyan str.	+374 22644408
Gohar Asatryan P/E	Aragatsotn	Ashtarajk	4/2 Tigran Mets str.	+374 98403890
Karine Karapetyan P/E	Gegharkunik	v. Gandzak	n/a	+374 77305306
Tigran Shirinyan P/E	Vayots Dzor	Eghegnadzor	2/25 Kamo str.	+374 77770066
Camellia/ Art-HustleLLC	Shirak	Gyumri	14/4 Alek Manukyan str.	+374 94219730
Araksya Hovhannisyan P/E	Lori	Vanadzor	4/9 Myasnikyan str.	+374 32245370

8) Opinion of population of Yerevan and marzes on buckwheat honey characteristics

Assessment	Taste		Smell		Appearance	
	Yerevan	Marz	Yerevan	Marz	Yerevan	Marz
Very bad	5.5%	9.0%	12.2%	13.1%	6.1%	9.0%
Bad	8.3%	11.2%	7.7%	10.4%	5.0%	4.5%
Normal	17.1%	14.8%	19.9%	20.7%	20.1%	21.7%
Good	25.4%	27.4%	30.9%	18.9%	18.4%	21.3%
Very good	43.6%	37.7%	29.3%	36.9%	50.3%	43.4%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

9) Please mention what type of honey you tasted.

Type	Share
Buckwheat honey	**10.1%**
Multifloral honey	**8.4%**
Comomile honey	**4.0%**
Tobacco honey	**4.0%**
Linden Honey	**2.0%**
Thyme Honey	**1.2%**
Poppy Honey	**1.0%**
Rose Honey	**0.7%**
Acacia Honey	**0.7%**
Fir tree honey	**0.7%**
Molten sugar	**0.7%**
Onobrychis honey	**0.7%**
Fruit honey	**0.5%**
Not natural honey	**0.5%**
Mustard honey	**0.5%**
Apricot honey	**0.5%**

Type	Share
Cloves honey	**0.2%**
Rotten honey	**0.2%**
Sunflower honey	**0.2%**
Nectar honey	**0.2%**
Pear honey	**0.2%**
Linseed honey	**0.2%**
Not a flower honey	**0.2%**
Bee honey	**0.2%**
Dapple honey	**0.2%**
Mint and clove honey	**0.2%**
Herbal honey	**0.2%**
Coniferous trees honey	**0.2%**
Honey from Goris marz	**0.2%**
Honey from Tsovagyugh community	**0.2%**
Wild flower honey	**0.2%**
Difficult to answer	**59.0%**

Mint honey	**0.5%**
Chestnuts honey	**0.5%**

Total	**100.0%**

10) Healthy options of buckwheat honey according to population

Options	Share
It is healthy	6.9%
I guess it should be good for stomach and pancreas	3.7%
It is good for memory/mind	2.5%
The buckwheat is healthy, thus buckwheat honey also should be healthy	2.0%
Honey improves immune system and buckwheat is good for blood, thus their combination should be very healthy	1.2%
It is good for digestion	1.2%
It regulates blood pressure	1.2%
It helps when you is sick	1.0%
It is good for stomach	1.0%
It is good for hearth	0.7%
It helps against diabetes	0.5%
It is good for blood	0.5%
It is good against inflammation	0.5%
It is good against cough	0.5%
It is good for bowels	0.5%
It is good against fecal impaction	0.2%
It is good for bones	0.2%
It is good against dizziness	0.2%
It is good for deep sleep	0.2%
It is good for eyes	0.2%
It is nourishing	0.2%
Difficult to answer	74.6%
Total	**100.0%**

11) Will the population buy buckwheat honey if it is produced in Armenia

Will buy, if…	**Yerevan - 66.9% Marz - 37.5%**	**Will not buy, because…**	**Yerevan - 16.0% Marz - 27.7%**
the quality is high	40.0%	Do not like it	40.2%
the price is affordable	27.3%	Produces honey himself	13.0%
if it is pure	23.9%	It is unknown honey	8.7%
if it is produce in hygienic conditions	10.2%	There are better honeys	9.8%
if it has appropriate taste, smell, color and density	10.2%	Prefers polyfloral honey	7.6%
it is properly packed	3.4%	Do not like buckwheat	6.5%
it is packed in glass jars	2.4%	Buys only tried honey	5.4%
it does not contain sugar	2.0%	Consumes only small quantities	2.2%
information about its healthy options is provided	2.0%	Difficult to answer	6.5%
it is reliable	1.5%	Total	100.0%
it is produced by farmers	1.5%	**Difficult to answer**	**Yerevan - 17.1% Marz - 34.8%**

it is presented at retail trade points	1.0%
it is sold with combs	0.5%
they know producer personally	0.5%
there is an possibility to test it	0.5%
it helps against diabetes	0.5%
Total	100.0%

12) Where does the population buy honey

	Yerevan	Marzes
Directly from producers	62.4%	88.4%
From acquaintances (middleman)	30.9%	4.9%
From supermarkets	9.4%	4.5%
From itinerant vendors	4.4%	3.6%
Produce himself	1.7%	0.9%
From specialized shops	5.0%	0.9%
From the nearest shop	0.0%	0.9%
Imported from Russia	0.0%	0.4%

13) Preferences of population on honey packaging

	Yerevan	Marzes
Labeled glass jars	70.7%	71.4%
Unlabeled glass jars	32.6%	25.5%
Labeled plastic containers	2.8%	1.8%
Unlabeled plastic containers	3.3%	0.9%
Aluminum containers	0.6%	0.5%
Total	**100.0%**	**100.0%**

14) Honey related products consumed by the population

	Yerevan	Marzes
Honey with combs	44.2%	62.1%
Propolis	6.6%	18.8%
Royal Jelly	1.1%	4.9%
Apitoxin	0.0%	4.5%
Honey capping	1.1%	0.4%