South Caucasus Gender Assessment Technical Assistance
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Report

Value Chain Selection

Azerbaijan

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ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

Methodology and Country Context

The value chain selection review was implemented as part of the World Bank-funded South Caucasus Gender Program. The overall objective of the program is to strengthen the knowledge and capacity of the Government of Azerbaijan and the World Bank’s team to design gender-informed policies that promote equality and help reduce poverty. The program focuses on female entrepreneurship in the country through assessing constraints to women’s participation in priority value chains.

As the first step to accomplishing the goal, this assessment will assist in selecting a value chain, which has a potential to contribute to increased women empowerment and gender equality. The report will compare between the subsectors of horticulture, apiculture, and poultry/dairy for this purpose.

Qualitative research methods were used to gather sufficient information and data for analysis, including the following:

- Desk research that encompassed statistical data and existing reports prepared and issued by national and international organizations working on issues related to the identified sectors, gender, and female economic empowerment
- Focus groups with members of three preselected value chains
- Eighteen in-depth interviews with members of three preselected value chains

Value Chain Selection

As the first step to accomplish the project’s goal, a value chain that has the potential to contribute to increased female empowerment and gender equality will be selected.

The latest data on market trends and opportunities according to production, importance for the government, and export dynamics reveal good market prospects for

- Horticulture,
- Poultry and dairy, and
- Apiculture.

Key reasons for selection of these three sectors were as follows:

- Growing volume of production in all three sectors

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1 It is worth noting that interviews with experts, representatives of state bodies, and so on were not conducted at this stage as per the technical proposal.
• Increasing consumption per capita with respect to vegetables and fruits/berries

• Growing export, especially to Russia (Azerbaijan has become a number one exporter of tomatoes to this country, and growth of exports amounted to 60 percent in 2017)

• Increasing number of warehouses

• Increasing number of local plants engaged in processing

• Importance of the sector for the government, which supports the creation of relevant associations: for example, associations of producers and exporters of nuts, fruits and vegetables, and pomegranates

• Improved road system and continuous investment in the system by the government

• Availability of a strategic road map for the sector that, besides other aims, is focused on increasing women’s participation in the economy

• The government supports credits to farmers at considerably lower rates compared to local microfinance organizations

• High share of women active in the sphere of horticulture and the poultry/dairy sector, especially among harvesters and planters; yet the share of women owners or top managers is rather low in all three value chains.

• Several training programs focusing on agriculture and improvement of education in agriculture

• Potential for increase of sales by adding new products, thus extending production

**General Introduction**

In 2016, the gross domestic product (GDP) of Azerbaijan amounted to US$33.9 billion (considering the rate of US$1 = AZN 1.7707 effective as of December 31, 2016).²

About 65.7 percent of GDP in 2016 was generated by the non-oil sector, with agriculture, forestry, and fishing amounting to 5.6 percent (approximately US$1.9 billion).

According to the World Bank’s report, a summary of which was presented by the leading news portal of Azerbaijan,³ the share of agriculture in GDP is expected to grow by 3.4 percent in 2017, 4.2 percent in 2018, and 4.5 percent in 2019.

During the Soviet times, Azerbaijan used to be one of the key suppliers of agricultural products, and despite the collapse of the Soviet Union, agriculture remained Azerbaijan’s largest employer:

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³ [https://ru.oxu.az/economy/191563](https://ru.oxu.az/economy/191563)
in 2016, 36.3 percent of the working population was engaged in it. With the dissolution of the Soviet Union in 1991, Azerbaijan has adopted a policy of deregulation and the overwhelming majority of its agricultural sector was privatized.

According to the ‘Azerbaijan Business and Investment Opportunities Yearbook’, following the privatization of farm properties, agriculture has shifted to producing profit-yielding crops and increasing self-sufficiency. One of the examples cited by the authors of the yearbook was replacement of rice fields with grain fields in the 1990s, which resulted in the rise of grain production by 1.5 million tons per year.

In 2016, there were 101,651 ha of arable land in the country, while total useful land area for agriculture amounts to 215,524 ha. Also, in 2016, more than AZN 325 million (US$183.6 million) was invested in the agricultural sector, while the value of fixed assets belonging to the agriculture sector amounted to AZN 7.1 billion (US$4 billion) or 5.5 percent of all fixed assets.

More than 90 percent of the total output in agriculture is contributed by private owners, and family peasant farms and households, which is a result of privatization processes that took place in the 1990s.

The sector, which also has an influence on reduction of poverty in rural areas, is one of the most important non-oil sectors for the country, even though productivity remains low due to lack of modernization. With the intention of the government to double the volume of GDP per capita by means of non-oil sectors, the agricultural sector’s role is expected to increase according to ‘Azerbaijan - 2020: Outlook for the Future’ large-scale project and the ‘Strategic Roadmap on Production and Processing of Agricultural Products in the Republic of Azerbaijan’.

Yet, the sector has significant barriers to development such as the following:4

- Inherited outdated food processing equipment and rudimentary packaging facilities from the Soviet Union. Actually, the current number of tractors and combines is very small too: in 2016, there were approximately 17,000 tractors and approximately 1,300 grain combines (that is, cereal harvesters);
- Post-Soviet land reforms parceled small land plots (1–3 ha) out to individual farmers;
- Lack of adequate record keeping and titling of land;
- The degradation of Soviet-era irrigation systems has led to the salinization of large areas of farmland;
- Access to finance; and
- Lack of agricultural experts and specialists.

According to the report from export.gov, despite these obstacles, there is potential for further development in the food processing industry. Azerbaijan produces a wide variety of crops, with

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4 https://www.export.gov/article?id=Azerbaijan-Agriculture
excellent climatic conditions and an extended growing season. Fruits (apples, cherries, grapes, olives, lemons, persimmons, melons, watermelons, raspberries, strawberries, currants, plums, peaches, pears, quince, and pomegranates); vegetables (potatoes, carrots, beets, cabbage, tomatoes, cucumbers, onions, and greens); grains (wheat, maize, and barley); tea leaves; and nuts are of high quality, have minimal unit production costs, and have strong brand recognition in post-Soviet markets.

Besides, it is worth mentioning that many of these barriers are expected to decrease due to the governmental intervention. The Strategic Roadmap on the Development of Agriculture\(^5\) envisages the following steps:

- Establishment of an information and monitoring system with respect to food security
- Introduction of food security system that covers all steps of the value chain
- Increase of production potential with respect to agriproducts and processing industry products both in local and foreign markets
- Promotion of production in agriculture and the processing industry to replace imports
- Improvement of public-private partnerships
- Development of infrastructure that will support agribusiness
- Improvement of financing mechanisms in agriculture
- Development of agricultural insurance
- Promotion of investment in agriculture
- Improvement of the land market
- Improvement of irrigation systems
- Improvement of the agricultural service market and provision of equipment to producers
- Improvement of the seeds and seedlings market
- Improvement in providing fertilizers and pesticides
- Provision of mixed fodder to cattle breeders
- Provision of veterinary and phytosanitary services

- Development of science, education, and information consultancy services system
- Improvement of sales infrastructure and easing of access to markets
- Environment protection and sustainable usage of natural resources
- Improvement of business environment
- Improvement of employment and living standards and others

Worth noting is that regarding women’s participation, the road map envisages the following:

- Analysis of income-bringing sectors in agriculture in rural areas and improvement of participation of women and youth in the social life of villages
- Improvement of professional education among women and youth
- Special programs on the increase of employment level among women
- Improvement of women participation in tourism-related traditional service activities (for example, crafting, carpet/rug making, and so on)
- Indicators with respect to effectiveness of activities:
  - Increase in employment in nonagricultural direction in rural areas by 30 percent
  - Increase in the number of women employees in nonagricultural direction in rural areas by 20 percent
  - Threefold increase of special development programs for women and youth living in rural areas

**Key Findings**

**Overarching Gender Framework**

Azerbaijan is ranked 86\(^6\) among 144 countries on the Global Gender Gap with an index of 0.684\(^7\) (data for 2016, according to the World Economic Forum).

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\(^7\) On the basis of analysis of gender inequality within four areas: economic participation and opportunities (income amount, the levels of participation, and access to professional employment); educational achievements (literacy and access to primary and higher education levels); political empowerment (presence in the decision-making structures); and health and life expectancy (gender-based expected life span), the gender gap index was created for 130 world countries/economies, with 0 to 1 values where 0 is the lowest possible value and signifies complete inequality of genders, while 1 is the highest possible value and signifies complete equality of genders. The values between these extremes can be interpreted as gender gap percentages that have been ‘resolved’.  
  
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According to the Global Gender Gap Report 2016, “Azerbaijan (86) has achieved a significant improvement in its ranking due to a narrowing gender gap in earned income; wage equality; legislators, senior officials, and managers; and women parliamentarians. However, it remains among the lowest-ranked countries in the world on the Health and Survival subindex.”

### Table 1. Global Gender Gap Index Ranking and Scores with Respect to Azerbaijan in 2016

<table>
<thead>
<tr>
<th></th>
<th>Rank (out of 144)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Gender Gap Index</td>
<td>86</td>
<td>0.684</td>
</tr>
<tr>
<td>Economic participation and opportunity</td>
<td>38</td>
<td>0.728</td>
</tr>
<tr>
<td>Educational attainment</td>
<td>83</td>
<td>0.988</td>
</tr>
<tr>
<td>Health and survival</td>
<td>138</td>
<td>0.950</td>
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<tr>
<td>Political empowerment</td>
<td>124</td>
<td>0.069</td>
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</tbody>
</table>

According to a working paper of the United Nations Development Programme (UNDP), in Azerbaijan:

- Female labor force participation rates remain below male rates
- Women are underrepresented as both wage earners and as employers
- Women earn as little as 50 percent of their male counterparts
- Female labor force participation appears to stem from the notable increase in women’s employment rate, for both working-age women and, since 2008, young women
- Women with tertiary education represent 13 percent of female employment
- Wage workers amount to 32.5 percent among employed women and 40.3 percent among employed men
- Female business ownership amounts to 4.1 percent in 2013
- Share of firms with female top manager amounts to 2.4 percent in 2013
- Females comprise approximately 54 percent of economically active population in agriculture
- Women’s work hours are about 44 percent of men’s work hours

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Besides, according to the UNDP’s Human Development Report on Azerbaijan (2016)⁹:

- **Gender Development Index** is defined as the ratio of female Human Development Index (HDI) to the male HDI. With respect to Azerbaijan, it amounts to 0.940, which is lower than the average for Europe and Central Asia (that is, 0.951).

- **Gender Inequality Index (GII)** reflects reproductive health, empowerment, and economic activity. Azerbaijan has a GII value of 0.326, which ranks it at 68 out of 159 countries in 2015.

**Horticulture**

The analysis of the information on the economy of Azerbaijan shows that efforts have increased in the agricultural sector in recent years. The investments directed toward this sector have quadrupled, but there is still high potential for investment, especially foreign investors in agriculture. According to the State Statistics Committee (SSC),¹⁰ horticulture products account for more than 57 percent of the agricultural export of the country. The limited sources of financing for these groups leave fewer opportunities for investments in innovation, infrastructure, and renewing technology.

The increasing population and demand for food supply leaves high rates of growth potential for horticulture products, because the local supply does not meet the volume demanded. There are more favorable conditions for the farmers to concentrate on extending their production areas because construction of facilities such as warehouses has resolved the problem of storage of products.

The approach to sales is diversified based on the geographic location of the fields and plants, spanning from local bazaars to export. Interest from the buyers’ side is continuously high, despite reduction in consumers’ disposable incomes in 2017 after currency devaluations during the last two years. The bargaining power of producers remains relatively high due to the positive image of local products among the citizens.

Even though the demand and growth opportunities are high, respondents expressed concerns related to growing their business because they cannot afford the necessary investment. High interest rates, inadequate collateral, and small amounts of loans offered by the banks are adding up to hesitations of the farmers that they might not be able to repay the loan due to an unstable forecasted harvest being a key factor.

The presence of men is considered to be an important factor in establishing the business and there are relatively high cultural barriers for women entrepreneurs in this value chain.

**Poultry Breeding and Dairy**

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⁹ [http://hdr.undp.org/sites/all/themes hdr_theme/country-notes/AZE.pdf](http://hdr.undp.org/sites/all/themes hdr_theme/country-notes/AZE.pdf)

¹⁰ [https://www.stat.gov.az/](https://www.stat.gov.az/)
Poultry breeding and dairy production is one of the most traditional fields of agriculture in Azerbaijan. According to SSC\textsuperscript{11} statistics and surveyed farmers, the growth potential is quite high because of a growing demand for food supply inside the country. Local producers have strengthened the image of their products as natural, high quality, and healthy, over several years, enhancing their reputation among consumers. Because of economic trends, increasing production and raw material costs led to a slow increase of the prices of end products. Nevertheless, local products are still less expensive than imported products.

The competition is mainly among private farms/households rather than agricultural enterprises. The key issues that the producers are facing include limited access to hygiene and veterinary services, lack of water and irrigation services, especially experienced in the northern and northwestern mountainous areas of the country, lack of application of modern technologies in production, and the need for marketing and promotion services to support the merchandising capacity of regional farmers. Lack of available financing in rural areas and knowledge gaps were also indicated as barriers for expansion of business.

\textbf{Apiculture}

Beekeeping is one of the oldest forms of agriculture in Azerbaijan, which has demonstrated significant growth in recent years, creating an estimate for high demand for the future. The end product has its own market inside the country due to its valuable healing and calorific specifics.

Despite the high demand and sufficient number of beekeepers in the country to meet this demand, producers list difficulties in reaching their markets as a main obstacle to establishing the business. Marketing and promotional activities such as fairs were mentioned as useful; however, some of the respondents refrain from these due to factors such as low prices set at these fairs and unreasonable timing. However, it must be noted that the field is still considered to be profitable, with the main difficulty lying in increasing the volume of production and expanding the business.

Expanding the product line is associated with a certain degree of risk for beekeepers, because they have doubts about the potential demand for the new products, such as beeswax, bee milk, bee venom, and other apiculture products. Considering that these require additional investment, which is in low availability, the producers refrain from them. The respondents also mentioned obstacles in obtaining financial support and lack of knowledge about existing financial services.

This value chain is one of the most affected because of the lack of vocational training and educational institutions that prepare specialized personnel or contribute to their professional development.

The presence of women in the sector is the lowest due to the difficulty of working conditions, as well as lack of skills and knowledge specific to the area. However, the respondents acknowledged the possibility of having a woman as an owner of the business or as a potential investor.

\footnotesize{\textsuperscript{11} https://www.stat.gov.az/}
CHAPTER 1. HORTICULTURE

Short Introduction to the Sector

In 2016, the total sown area for agricultural crops amounted to 1,628,300 ha, and their distribution was as follows:

- **Cereals and dried pulses**: 997,500 ha (or 61 percent)
- **Fodder crops**: 394,100 ha (or 24 percent)
- **Potatoes, vegetables, watermelons, and melons**: 163,100 ha (or 10 percent)
- **Industrial crops**: 73,600 ha (or 5 percent)

Gross harvest in cereals and dried pulses mainly occurs during winter and spring: wheat (more than 1,850,000 tons or 60 percent of all cereals and dried pulses) and winter and spring barley (more than 950,000 tons, or 31 percent).

The situation with other crops is certainly different, and the main crops are vegetables (more than 1,270,000 tons or 33 percent of other crops), fruits and berries (more than 882,000 tons or 23 percent), and potatoes (more than 902,000 tons or 24 percent).

The usage of fertilizers is increasing significantly in horticulture. Usage per hectare of cultivated land has almost doubled in 2016 and share of fertilized area during this year has reached the level of 70 percent\(^\text{12}\).

\[\text{Figure 1. Application of mineral fertilizers, on the basis of 100 % active substance}\]


\(^{12}\)
Growth Potential

Positive growth trend of the value chain, unmet market demand. In horticulture, the growth potential is very high, and the main reason (as in other sectors) is an increasing population size and increasing consumption.

Thus, according to the State Statistics Committee (SSC), change of per capita consumption (in kilograms, per year) of horticulture products has been constantly increasing since 2014.

<table>
<thead>
<tr>
<th>Table 2. Change in Per Capita Consumption (kilograms per year)</th>
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<tbody>
<tr>
<td>Potato</td>
</tr>
<tr>
<td>71.3</td>
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<tr>
<td>Vegetables</td>
</tr>
<tr>
<td>Fruits and berries</td>
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</table>

Besides, it is also highly shaped by the increasing volume of exports to other countries.

Russia is the main importer of basically all types of fruits and vegetables, but there are other countries too, for example, Italy with respect to hazelnuts.

Thus, according to the State Customs Committee of Azerbaijan Republic, in the first 9 months of 2017 (in comparison with the similar period of 2016), export of cotton increased by 2.2 times and amounted to US$43.4 million, export of fruits and vegetables increased by 38.6 percent and amounted to US$375.3 million.

Meanwhile, Russian customs report that dynamics of import of apples and tomatoes from Azerbaijan in 2015–2017 were as given in table 3.

<table>
<thead>
<tr>
<th>Table 3. Import of Apples and Tomatoes in 2015–2017 (tons, thousands)</th>
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<tbody>
<tr>
<td>Apples</td>
</tr>
<tr>
<td>35.5</td>
</tr>
<tr>
<td>Tomatoes</td>
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</table>

Another factor contributing to the growth is the construction of local plants, which are engaged in processing: juice plants, wineries, and so on.

It is also very much important to note that the increase in the number of warehouses, where farmers may keep their products in proper conditions, leads to farmers not having to be concerned about the availability of places for keeping their products and focusing on increasing their production territories.

The farmers are selling all their products, but certainly the market demand is not fully met by local products: import of fruits and vegetables takes place quite heavily.

Available sales outlet, high interest of buyers in the product. The sales approach that is applied strongly depends on the product and geographic area:

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• Hazelnuts producers in the north and northwestern regions (e.g. covered Sheki) submit their products to the nut collection centers

• Apple producers in the northern part of the country are mainly exporting to Russia themselves

• Grain, corn, and seeds producers on the west mainly work with intermediaries

• Tomato and cucumber producers sell both through wholesalers and directly in bazaars

Buyers’ interest is persistently high, and they do not have an issue about not selling any part of their products, even though purchasing power has decreased after two devaluations.

**Scope for expanding production and/or scope for value addition through processing or product improvement (new products for which there is a market).** Some respondents (engaged in tomato and cucumber cultivation) invest their own finance in construction of greenhouses to increase production output.

Respondents from the northern part (engaged in tomato and pepper/sweet pepper) decided to produce seedlings instead of buying them.

A respondent from Shamakhy (central part of the country), who is engaged in the production of grapes and potato decided to replace potato with corn. Also, they sell leaves of corn as silage and corn as food for chicken and other animals. Besides, they invested in the production of wine (previously they used to sell grapes in the natural form to other producers of wine).

Yet, expanding production or product improvement and switching to production of processed products mainly depends on the availability of financing. Respondents were mentioning high interest rates, absence of government-supported business credits, and so on. Besides, respondents mentioned risks with break of sales:

“I could start making pickled cucumbers, which would bring me more income per kilo. However, I am afraid of starting it because people are buying less pickled products recently because they are afraid about diseases and so on”

“I once thought of buying a tractor but then realized that staying with the rental is more expedient at the current stage”

**Low costs of the value chain compared to competitors.** Decrease of prices does take place when the farmers understand that at a higher price, the product will not be sold and will get spoiled. However, mostly they were saying that they follow the price established in the market and do not sell at lower prices.

For hazelnuts, the price is established by the hazelnut collection centers and it is several times higher than the investment per kilogram.

Apple exporters mentioned that often the price they receive is even higher than their expectations (an important role in this is played by the relations with the Russian Federation and openness of customs).
Grain and seeds producers said that intermediaries already offer minimal prices and thus they are urged to search for other potential buyers.

Mostly respondents said that even in cases when the price of imported products is lower, they do not have difficulties with buyers because of the positive image of local products inside the country (as opposed to, for example, Chinese products).

According to the data from the SSC, the main competitors are China, Turkey, and Iran, which export their fruits and vegetables to Azerbaijan. Although the prices of imported products might be lower due to economies of scale, the better quality of local products allows farmers to remain competitive and maintain their market share.

**Other competitive advantage of the value chain compared to competitors (unique product/local specialty).** The main competitive advantage is the quality of a product, which stems from usage of lower volume of fertilizers and pesticides. Other local specialties were not mentioned. According to respondents, this was due to the preferences of the end consumers of the products.

**Potential for collaboration and coordination between actors for value chain upgrading.** Horticulture producers are mainly using the following suppliers (in the order of importance):

- Suppliers of manure
- Pharmacies - suppliers of fertilizers and pesticides
- Sellers of seedlings
- Providers of all types of equipment (for example, tractors, soil cultivators, planting equipment, equipment for fertilizing and pest control, and equipment for harvesting)
- Water unions, which help with irrigation on a schedule basis
- Wholesalers and intermediaries as well as other large farmers (that is, buyers)
- Consultants (especially in wine production)
- Transportation (own transport and individual transporters)
- Outsourced harvesting services (that is, individuals, who are invited during harvesting of fruits, where harvesting is manual, for example, apples, nuts, and grapes)

There is a potential for marketing and promotion services that could help increase sales for regional farmers or avoid working with intermediaries. Further, there may appear a need for outsourced packaging for seeds, and so on. However, all these are subject to availability of finances.

Worth noting is that the key agency involved in the support of exports is Azerbaijan Export & Investment Promotion Foundation (AZPROMO, [www.azpromo.az](http://www.azpromo.az)), and with their help, the following associations have been established in Azerbaijan:
- Association of honey producers (more than 2,000 members; www.baa.az)
- Association of nuts producers and exporters (52 members; www.afiia.az)
- Association of producers and exporters of fruits and vegetables (60 members; www.amta.az)
- Association of producers and exporters of pomegranate (20 members; www.pomegranate.az)
- Association of producers and exporters of wine

**Sufficient technological and managerial level of enterprises in the sector for upgrading and innovation.** In horticulture, technology is very expensive, and therefore, farmers are mainly renting equipment for use. However, the number of available equipment is very small and sometimes they have to wait for a long time until the equipment becomes available to them. Some respondents however do buy processing technologies and switch from sales of fruits to sales of processed fruits (for example, sales of grapes to production and sale of wine).

Therefore, there is no strong gap because of the lack of need to purchase additional technologies and because most of the products require human power during harvesting.

Worth mentioning is that there is a strong gap in terms of knowledge and skills too; except modern plants, farmers are mainly applying traditional approaches to production.

**Access to infrastructure, qualified labor force, raw material, and inputs.** As mentioned above, there is limited access to equipment, but there is a small number of equipment available and thus the farmers are losing time while waiting for it.

Labor force is available at any time, and there are no issues with access to them.

Raw materials/inputs are also accessible. For example, farmers can easily acquire seedlings and manure or fertilizers. However, the prices are very high.

The government invests heavily (also with the help of multilateral agencies, for example, the World Bank, the European Bank for Reconstruction and Development [EBRD], and Asian Development Bank [ADB]) in improvement of the roads system in the country. Thus, according to the report from the state agency on road construction (Azeravtoyol), during 2016, 355.6 km of republican roads, 463.6 km of local roads, and 92.9 km of roads in the city of Baku were constructed. Besides, 515 km of roads between settlements/villages were constructed. During the same year, the agency was ordered to start preparatory works for construction of more than 700 km of roads.

It is also worth noting that roads from Baku to Georgia, Iran, and Russia were also reconstructed.

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**Access to financial services.** Agricultural loans are offered through the National Fund of Support to Entrepreneurship, which has three specific programs, where interest rates start from 6–7 percent per year, and the period is up to 10 years.\(^{17}\)

Besides, there are non-bank commercial organizations engaged in provision of microcredits, and according to the Azerbaijan Microfinance Association,\(^{18}\) until October 2017, approximately 5 million people have received microcredits in the value of about MZN 20 billion (that is, approximately US$230 per credit, on average).

Certainly, these credits are granted at higher rates than the government-supported ones mentioned in the previous paragraph. An example is Kredaqro,\(^{19}\) which provides credits in the amount of US$1,176 to US$29,400 at the rate of 23–26 percent per year or 1.91–2.16 percent per month. Aqrarkredit,\(^{20}\) in turn, offers credits starting from US$300 at rates such as 21 percent, 24 percent, and 27 percent per year.

Horticulture farmers are aware of special agriculture credits, but they are afraid of high interest rates and inadequate collateral; besides, their business is strongly reliant on weather conditions, and there is persistent concern that they would not be able to promptly pay back the credit. It was also mentioned that banks tend to give very small amounts of credit.

It is worth mentioning that in the regions there used to be a credit organization engaged in provision of agricultural credits (Seba, active in the northern part of the country, where covered region was Khachmaz) in small amounts at low interest rates, but its license was cancelled at some time by the Central Bank of Azerbaijan.

Religion is another barrier for usage of credits though for a small part of respondents: because Islam prohibits usage and issue of credits, some respondents were denying their application.

**Access to business development services for quality improvement of the production process.** No associations were mentioned by the respondents, which would be active in the sphere of business development. Respondents are unaware about business development services, trainings, and consultancy in their respective fields. Yet, they would be interested in taking part in them to increase knowledge about production optimization.

Also, they mentioned that they would be interested in

- Government-supported development projects;
- Producing products, where the harvest is completely bought out by the Government;
- Government-supported product collection centers, which would ensure that farmers would definitely sell all their products; and


\(^{18}\) [http://news.day.az/economy/938617.html](http://news.day.az/economy/938617.html)

\(^{19}\) [http://www.kredaqro.com/az/credit-view/1](http://www.kredaqro.com/az/credit-view/1)

Renting equipment at smaller prices that may be possible in case of governmental support and so on.

**Women’s Empowerment and Gender Equality**

**High share of women employed in the value chain as compared to the economy at large.**
Women are employed in horticulture, mostly in manual harvesting, because their work is gentler than that of men; in puddling, in serving the seedlings, breaking the grapes’ branches, and so on.

The share of women differs with respect to the products:

- **Grapes.** 90–100 percent of harvesters are women.
- **Tomato, cucumber, and pepper.** 70–80 percent of harvesters and those who serve seedlings are women and 50 percent of planters are women.
- **Hazelnuts and apple.** Approximately 50 percent of harvesters are women, while almost all planters are men.
- **Corn, grain, and seeds.** Almost no women are employed because most of the work is done by equipment, operated by men.

In terms of inputs, most of the people employed are men. This is happening in almost all categories: provision of fertilizers and pesticides, manure, sales of seedlings, transportation, and others. The following changes need to take place:

- **Higher number of women entrepreneurs in the value chain.** Number of women entrepreneurs, as opposed to employees is much lower. That is mainly because of the mindset: husbands of such women would never want them to handle negotiations, transportation, water union members, and other procedures themselves. Therefore, here the perceived share of women reached a maximum of 10 percent.

- **Women control equipment/assets (for example, land).** Control over equipment and assets are exercised by men only. The wife of a farmer who was a part of the survey (she herself is working in the farm) said that even though she could control the business herself, due to mindset, this task is handled by her husband, who is also an owner of the business.

- **Women have or can acquire skills needed for profitable value addition opportunities through processing products and diversification.** Farmers mainly think that they themselves make decisions on value addition opportunities, though they accept that sometimes women also make some suggestions. Only one respondent said that further to his wife’s suggestion, he started producing pickled products and making higher profit, and another farmer said that his grandmother is the key person in all activities related to grapes.
Development trainings are conducted through the ABAD initiative\textsuperscript{21} (within the State Agency for Public Service and Social innovations, better known as ASAN service),\textsuperscript{22} but the number of their beneficiaries is quite small (around 170 households in December 2017), and mostly these are people, who are involved in craft-making.

The U.S. Agency for International Development (USAID) funds the ‘Smart Azerbaijani Farm (SAF)’ project, which is carried out by Ganja Agribusiness Association (GABA).\textsuperscript{23} The SAF is an agricultural model to improve farmer productivity and income through the application of innovative information and communication technology (ICT) practices.

In general, USAID runs an Agricultural Support to Azerbaijan Project (ASAP), various activities of which have strengthened the ability of domestic producers to meet international quality standards, increased exports, and fostered better supply and domestic market demand, in turn, boosting employment and incomes. ASAP targets value chains with the highest economic potential including hazelnuts, pomegranates, orchard crops, and vegetables. In specific, the project aims to

\begin{itemize}
  \item Assist growers and processors to adopt new technologies and techniques to increase the quality and quantity of production;
  \item Facilitate increased exports and enhanced domestic marketing through more rigorous food safety systems, packing, and post-harvest methods;
  \item Strengthen the links among actors in the respective value chains and foster cooperation through strengthened industry associations; and
  \item Build the availability, quality, capacity, and sustainability of business service providers and public and private extension services
\end{itemize}

With funding from BP, British Council implements the Agricultural Vocational Education to Develop New Occupations (AVEDNO)\textsuperscript{24} project in partnership with the Ministry of Education in support of enhancement of agricultural vocational training in Azerbaijan. This project is funded by BP. Three modules in horticulture specialization, five modules in Crop Production Specialist Occupation, and four modules in Agriculture Machinery Specialist Occupation have already been developed within the project. Currently four modules for Fruit Growing Specialist Occupation and three modules for Vegetable Specialist Occupation are being developed. Total number of developed modules will be 19 by the end of the project, which will cover four occupations. The project targets Gabala State Vocational Education Centre and these specializations initially are introduced as a part of a large-scale program to meet the demand of the labor market at the national level for qualified staff specialized in the field of agriculture.

The German Agency for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit, GIZ)\textsuperscript{25} is engaged in public-private dialogue forums that facilitate exchanges on vocational training between ministries, public sector bodies, and the private sector. After identifying the needs, short courses were developed and run in the cities of Goychay and Khachmaz in cooperation with local training providers. Because of these courses, 60 farmers

\begin{itemize}
  \item \url{www.abad.gov.az}
  \item \url{www.asan.gov.az}
  \item \url{http://www.gaba.az/seminarlar-davam-edir-saf/}
  \item \url{https://www.britishcouncil.az/en/programmes/education-society/AVEDNO-project}
  \item \url{https://www.giz.de/en/worldwide/20324.html}
\end{itemize}
have been able to improve their production both qualitatively and quantitatively. A community-based tourism model for the region around Goygol National Park is supporting the development of rural tourism and generating income.

It is also worth noting that Azerbaijan is also a part of the 5by20 project of Coca Cola, a global commitment of the company to enable the economic empowerment of 5 million women across the globe by 2020.

**Women control the sales income and the enterprise.** Because sales are mostly controlled by men, they allocate part of the income for business improvement/business needs and decide themselves, for example, which equipment to repair or which construction to add for their business. Yet, in rare cases, where the business is managed by women (for example, grape production in Shamakhý region, which is managed by the grandmother of a farmer), they themselves control the income and its distribution.

**Close to household community area (geographic).** Closeness to household community area is not a factor that shapes the share of women among employees. It only plays a role in cases where women have small children or a newly born child, because in this case she would face difficulty in leaving them at home and coming back home several times a day to feed them. In general, farming activity mainly takes place rather far from home, where there are large sowing areas.

**Low entry barriers for women entrepreneurs (time and mobility, access to technology and assets, and cultural constraints).** Except for the mindset, there are no other barriers for women entrepreneurs to run the business. Again, due to the mindset, the presence of men is very much important in roles that require physical power, negotiation with other men who provide some technical services, and so on. High interest rates, need for collateral, reluctance to give credits by banks, low amounts of credits offered by microfinance organizations, and concern that they would not be able to pay back promptly is yet another barrier for launching/expanding business.

**Offering new opportunities for women.** Perceived opportunities are mainly linked with future income that will be generated by the business. Other mentioned opportunities include increased role of women in the family, higher level of independence, higher importance in the society, increased knowledge, received skills, increased network, and so on.

Some respondents mentioned the potential for business improvement by using raw materials from other regions (where prices are more affordable), finding new wholesalers, whom they could sell more products to at a stable frequency, and others. There is also a potential for delivery and online sales of ready-to-consume products, especially considering the growing popularity of Facebook/Instagram pages, which offer ‘environmentally clean products directly from the source.’

**New activities are in line with livelihood conditions (year-round income, using family labor, rapid returns, contributing to food security, preserving the environment, and not reducing the availability of clean water).** The surveyed farmers are not considering preservation of the general environment or reducing the use of clean water and contributing to food security. Environment is mostly thought of when farmers think of reusing the same plot of land: “we need to behave environmentally properly to be able to have a harvest next year.”
Steady and increasing income is most important for the respondents. As to using family labor, this is not a must; however, in most cases, they do employ people out of the family, rent harvesting equipment, and so on.

Rapid returns are not expected: in both categories respondents said that during the first year, there may be even no return, but at a later stage, certainly they want to have a steady cash flow.

Lack of modern agricultural practices/knowledge was witnessed during the interviews: respondents are not concerned about damaging nature.

Finally, horticulture is seasonal: seeding takes place twice a year (in autumn and in spring), harvesting and sales are mostly in summer and at the beginning of autumn. Meanwhile, it is worth mentioning that some farmers learned how to keep the products and are trying to sell them in winter (with higher income). Besides, increasing usage of greenhouses helps farmers avoid the strong effect of seasonality and have several harvest periods across the year.
CHAPTER 2: POULTRY BREEDING AND DAIRY

Short Introduction to the Sector

With respect to farm animals and poultry as well as milk production, the situation in terms of distribution by enterprises and private households was similar to the one in horticulture: in 2017, the majority of production was contributed by private farms/households rather than by the agricultural enterprises.

The main animal products are milk and eggs.

In terms of volume of production of eggs, the top three economic regions are Aran, Absheron, and Lenkaran, which cover more than 70 percent of the total number of produced eggs. In terms of volume of production of milk, however, the top three economic regions are Aran, Ganja-Gazakh, and Lenkaran, which cover around 70 percent of the total volume of produced milk. Note that during analysis two regions occupied by Armenia have been excluded.

It is also important that dynamics of average egg yield and, especially, milk yield are quite positive.

Figure 2. Average Egg Yield and Milk Yield

Growth Potential

Positive growth trend of the value chain, unmet market demand. In terms of dairy products, surveyed farmers said that the growth potential is quite high, and the main reasons are increasing population size and consumption. Besides, there appears to be a shift toward bioproducts/healthy products; for instance, people who used to buy 1 L of milk, now buy 2 L of milk; people now prefer buying ‘village chicken’ rather than industrially produced and packed ones. The main dairy products produced by farmers are milk, cheese, and yogurt. A very small share of production is covered by skimmed milk. Several respondents said that the market demand is not met completely because of limited number of livestock and the sales growth being unexpected. It is worth mentioning that the cattle breeders’ main share of income comes from milk and cheese/yogurt rather than meat.

Similar growth potential is witnessed with respect to poultry, and it is also explained by population growth and consumption increase. Besides, it appeared that in certain regions, the

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poultry keepers find themselves more vulnerable because of diseases, while respondents in Baku were saying that once they keep the standards and give necessary medicines to poultry promptly, diseases are not a big issue at all.

**Available sales outlet, high interest of buyers in the product.** For dairy producers in the covered regions (namely, Agstafa, Khachmaz, Sheki, Shamakhy, Gedebe), the main buyer groups are end users who come to bazaars, where they sell their products, while in Baku they work mainly with wholesalers but also have their own sales points, which are visited by end users as well.

In terms of poultry, there is a slightly different situation because of drastic difference in terms of sales practices in Baku and the regions. In Baku there are wholesalers, who buy at an acceptable price and there is no need for farmers to search for sales points, buyers, and so on. In the regions, however, there are intermediaries, who offer a very low price to poultry keepers, because they are then selling the meat/eggs to wholesalers.

So, the main buyer groups for poultry keepers in the regions include wedding houses, end consumers, bazaars, sales points on the roads, and finally relatives in other cities, who disseminate products among their colleagues, acquaintances, and so on. As mentioned, they mainly prefer to avoid working with intermediaries because of low prices offered by the latter.

Poultry keepers in Baku mainly work with wholesalers: “I have three wholesalers, who buy 100 percent of my production, and I have no need for additional points of sales or additional wholesalers, because I do not have any unsold products in my warehouse.”

**Scope for expanding production and/or scope for value addition through processing or product improvement (new products for which there is a market).** Expanding production or product improvement is more expected in Baku (though even here the probability is not high) than the regions, which mostly stems from lack of financing, high interest rates, lack of knowledge of government-supported business credits (they are offered at low rates, such as 6–7 percent per year). Besides, there seems to be a knowledge gap because some respondents said that expanding production technologies means switching to industrial production, which is not their goal. For instance, they think that production of sour cream or sweet yogurt or drinkable yogurt with fruit addition can only be produced by a processing plant.

Due to the increasing demand for dairy products, potential products such as kefir, sour milk, sour cream, and other fermented milk and cheese products or chilled snacks could be produced. By developing new processing plants or renovating the existing ones, the producers could extend beyond current markets such as local bazaars, which are considered as the main market. Potential targets for these products could be the parts of population with changing nutritional habits toward more healthy ones and the larger wholesalers.

As per AZPROMO,27 domestic production satisfies only 80 percent of the local demand for dairy products and there are opportunities for new processing plants, because the increase in production during recent years is significantly less than the growth of internal demand.

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27 [www.azpromo.az](http://www.azpromo.az)
**Low costs of the value chain compared to competitors.** Decrease of prices takes place when the farmers understand that at a higher price the product will not be sold and will get spoiled. Though they would still try to find wholesalers or end buyers, who would offer a better price:

“I already offer my products at attractive prices and therefore I have many buyers and do not have any unsold products, but there may certainly be a situation when I would have to offer some discounts to large buyers.”

“We do check prices of other sellers in the bazaar and adjust our own pricing taking them into account.”

The main share of the market is concentrated on small producers, with processing by large enterprises accounting for only a small proportion of total production.\(^2\)

According to the data of the SSC, the main imports of eggs and chicken products are from Turkey and the United States respectively, while dairy products are imported from Ukraine, Russian Federation, and Turkey. The competition is mainly due to perceived higher quality of products from these countries.

**Other competitive advantages of the value chain in relation to competitors (unique product/local specialty).** The main competitive advantage is the quality of a product: milk with no added water, yogurt prepared from real milk and not from powder milk, meat being from a healthy animal and not from a diseased/dead one, fodder consumed is of good quality, pure, and not chemical/artificial, eggs being fresh, and so on. According to respondents, the price is mainly adjusted by the bazaar, and producers are mostly following it, and this satisfies the demands of the producers in cases when they bypass intermediaries who decrease the prices using their bargaining power.

**Potential for collaboration and coordination between actors for value chain upgrading.** Both poultry keepers and dairy producers mainly use special veterinary pharmacies and veterinary services. Veterinary pharmacies and specialists are especially important for poultry keepers because of speedy spread of diseases.

The second main part of a value chain for both types of respondents is providers of fodder/alfalfa and various food additives. It is worth mentioning that both poultry keepers and cattle breeders prefer buying fodder from the Imishli region, because the quality of fodder there is very good. Yet, all respondents said that the price is very high, and this influences the price of their end products.

The third part mainly consists of key buyer groups, namely wholesalers, wedding houses, and so on.

Fourth, depending on the location, the farmers use irrigation services of water unions, which provide water in line with the relevant schedule. For instance, lack of water is especially felt in the northern and northwestern part of Azerbaijan, because there is a lack of artesian water sources and the construction of a main water line that delivers water from mountains to the capital.

Transportation services are not very important for the farmers, because mostly they are using their own vehicles for delivery of products or neighbor drivers. Sometimes, the farmers share

\(^2\) www.azpromo.az
the price of delivery. Also worth mentioning is that they do not use services of specialized transportation companies.

Owners of large farms also use maintenance services when their equipment gets broken or does not function properly.

There is a potential for marketing and promotion services that could help increase sales for regional farmers. Further there may be a need for packaging but this is expected only if prices are high enough. In March 2018, the Association of Milk and Dairy Products Producers and Exporters was established with the support of the Ministry of Economy and initiative of the dairy producers. It is envisaged that the association will be engaged in supporting the development of entrepreneurship, implementation of new technologies, and increase in production and export.

Sufficient technological and managerial level of enterprises in the sector for upgrading and innovation. Technologies in production are rarely used by a majority of the farmers. Only a few dairy producers said that they used milking equipment, feeding equipment, and so on and three poultry keepers (in both the regions and Baku) use equipment for heating and illumination during incubation. Some of the respondents mentioned that milking solutions and measurement technologies would be beneficial to simplify and streamline the production process to save time and improve the efficiency. Currently, all the products are made manually.

There is a clear gap in this direction, and this gap stems mainly from the lack of financing and access to acceptable credits. Besides, as mentioned above, farmers are not aware of special governmental credits that are aimed at improvement of agriculture. In this respect, it was mentioned that the main barrier not allowing access to credit is the banks’ demanding a collateral in the form of an own flat in Baku.

Access to infrastructure, qualified labor force, and raw material, inputs. In both dairy and poultry producing there are no gaps with respect to qualified labor force or infrastructure, and they can easily find additional employees or services when needed.

With respect to raw materials and inputs, one of the biggest problems is the price of fodder/alfalfa. Besides, when the farmers expand the number of existing animals by buying them from other farmers, it happens that there are diseases among the purchased livestock/cattle. In such cases, diseases speedily affect other healthy animals too. This makes it very risky to expand production by the addition of more animals.

Another difficulty is with the access to proper medicine, as frequently there is no effect from using a purchased medicine. Selection is mainly made based on price: the higher the price, the better is the expected quality. According to the respondents, while fodder/alfalfa is of local origin, the medicine can be both of local and foreign production. Medicine is conditionally imported from Turkey, Russia, and other European countries.

Access to financial services. It can be said that all participants try to expand their business at the expense of their own financial resources. Access to financial services is accompanied with difficulties. They are not satisfied with the high interest rates of business loans. In addition, the requirements and conditions imposed by banks are not considered to be acceptable. So, one of the main collateral requirements for commercial loan issue is an apartment in a district center or in the capital. Even if the bank agrees to accept a rural house as a collateral, their price estimation is very low and they, therefore, allocate a very small amount. It should also be noted
that no participant had any information about any subsidies, grants, and other financial services provided by the government for the development of the sector. Religion is another barrier for usage of credits though for a very small part of respondents, because Islam prohibits usage and issue of credits.

It is worth mentioning that in the regions, there used to be a credit organization engaged in provision of agricultural credits in small amounts at low interest rates, but its license was cancelled at some time by the Central Bank of Azerbaijan.

**Access to business development services for quality improvement of the production process.** Respondents are absolutely unaware about business development services, trainings, and consultancy in their respective fields. Yet, they would be interested in taking part in them to increase knowledge about production optimization. And none of them have used such services. Though they do know that the government is interested in the development of agriculture and banks give agricultural credits.

**Women’s Empowerment and Gender Equality**

**High share of women employed in the value chain as compared to the economy at large.** The direction of the sector requires female labor in any case, for example, for milking, taking care of chicken/cattle, in matters of hygiene, and directly in dairy products production. Based on this, as a workforce, women are involved in the sector. However, this type of work requires a lot of care and it is believed that a woman's hand is required.

In percentage terms, women in poultry constitute 70–80 percent and in cattle breeding, 50 percent, on average. Two respondents, whose production is located in their settlement in the outskirts of Baku, said that the share of female employees is down to 20 percent, and the reason was the mindset in that settlement that generally, women should not work. The small proportion of women is explained by sector members through the need for physical strength at work, so men's labor is used more. Men are needed in work related to machinery; purchase of medicine, feed, necessary gear, and accessories; the need to carry/transfer or make up/construct something; feeding cattle; negotiations with buyers; and so on. As one of the livestock farmers remarked, “there is need for a man on a farm, in any case. Then why should I spend twice and hire a woman for milking and a man for carrying, when a man can milk and carry himself? Moreover, men can milk just as well as women.” Some farmers in the capital complained that they have to hire men, because urban women do not want to do such kind of work.

It was also added that women are mainly involved in internal processes, while transportation, sales, and so on are done by men. However, some respondents noted that in case the processes start demanding less human power/strength, the share of women may become even higher.

**High number of women entrepreneurs in the value chain.** As opposed to employees, the number of women entrepreneurs is much lower. That is mainly because of the mindset: husbands of such women would never want them to handle negotiations, transportation, water union members, and other procedures themselves. Therefore, the share of women reached a maximum of 20 percent.

**Women control equipment/assets (for instance, land).** In both dairy and poultry keeping, control over equipment is held by men only. Whenever necessary they bring repairmen, who can make necessary updates/maintenance.
Assets (for example, land) can be controlled by women, but it also rarely takes place.

**Women have or can acquire skills needed for profitable value addition opportunities through processing products and diversification.** In comparison with control over equipment, in terms of value addition opportunities, women are very active and frequently are initiators of various changes in the production approach. A knowledge gap is still there (especially among poultry keepers) and they are willing to obtain new ideas and offers that could improve their expenditures and income. Respondents did not mention any type of specific areas of trainings they need, but noted that they are interested in participating in any training program related to their field. They also mentioned geographic factors as a main obstacle for their participation in trainings such as those held in areas remote from their location. Noteworthy is that currently, there are no training programs provided by the government or nongovernmental organizations (NGOs).

**Women control the sales income and the enterprise.** Because sales are mostly controlled by men, they allocate part of the income for business improvement/business needs and decide themselves, for example, which equipment to repair or which construction to add for their business. Yet, in rare cases, where the business is managed by women, they themselves control the income and its distribution.

**Close to household community area (geographic).** In the sphere of dairy and poultry keeping, closeness to household community area is not a factor that shapes the share of women among employees. It only plays a role if a woman has small children or a newly born one, because in this case she would find it difficult to leave them at home and come back home several times a day to feed them.

**Low-entry barriers for women entrepreneurs (time and mobility, access to technology and assets, and cultural constraints).** Except for the mindset, there are no other barriers for women entrepreneurs to run the business. Yet, the presence of men is very much important in roles that require physical power, negotiation with other men who provide some technical services, and so on.

**Offering new opportunities for women.** Perceived opportunities are mainly linked with future income that will be generated by the business. Other mentioned opportunities include increased knowledge, acquired skills, increased network, making ‘God’s work’ by helping employees to obtain income for their families, and so on. Till now the value chain products were not in the list of main exported non-oil products. Yet, there is a potential for women to start exporting with the support of the newly established association and existing AZPROMO.

**New activities are in line with livelihood conditions (year-round income, using family labor, rapid returns, contributing to food security, preserving the environment, and not reducing availability of clean water).** Surveyed farmers are not considering preservation of the environment or reducing the use of clean water and contributing to food security. They are first of all focusing on steady and increasing income. As to using family labor, this is not a must: in cases when the income allows, they do employ people out of the family. Rapid returns are not expected: in both categories respondents said that during the first year there may be even no returns, but at a later stage, certainly they want to have a steady cash flow.
CHAPTER 3. APICULTURE

Short Introduction to the Sector

Apiculture is widespread mainly in the mountainous regions of the country and revered for the nutritional and remedial qualities of honey. This sector is considered as a rapidly expanding one in Azerbaijan. The main targets of development, as outlined in the ‘Special Law on Apiculture’, are increasing the productivity of beekeeping economies, improvement in the quality of industrial processing, and integration of the latest technologies in packaging and labeling (AZPROMO).  

According to the data from the State Statistical Committee of Azerbaijan Republic (SSCAR), 97.3 percent of the beekeepers produced honey for sales purposes, while 2.7 percent of the producers used it for domestic usage.

Though honey is the main product, there are also small volumes of beeswax, bee milk, bee venom, and other apiculture products that are produced by beekeepers (SSC).

Growth Potential

Positive growth trend of the value chain, unmet market demand. There has been a 42 percent increase of volume of production of honey in Azerbaijan from 2010 to 2016.

Figure 3. Honey Production (tons, thousands)

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29 www.azpromo.az
Beekeepers consider the sector as very prospective. There will always be demand, because the result of their work is honey and this product is valued as useful and healing. In addition, Azerbaijani honey is rated as one of the most useful, because the country is located in nine climatic zones.

To satisfy the demand for the product, there are enough beekeepers in the country. However, there are certain difficulties in product sales. As a result, beekeepers cannot afford increasing production as widely as they would like to. This situation is particularly evident among beekeepers living in marginal areas. As participants themselves noted, “the buyer does not go to the village B, since the village A is located closer and there they also sell honey.”

Despite the conduct of honey fairs, about one-third of beekeepers do not participate in them. The reasons vary, some of which are the following:

- One part of them believes that fairs are damaging the right perception of the quality of their product. “I sell a kilogram of my honey for AZN 40 (US$23–24), as I am confident of its quality and guarantee it. The same people have been buying from me for years, precisely because of the high quality of honey. At a fair, a maximum set price is AZN 20–25 (US$11–15). If I sell honey there for that price, I will lose my clients. They will think my honey is not so good, that I agreed to sell it for AZN 20–25.”

- Beekeepers from the northern part of the country do not like the period of the fairs. It falls during autumn, and at this time it is important to care for bees, to prepare them for hibernation. Therefore, only those, who have somebody to take care of the farm in their absence, are able to come to fairs.

- For one survey participant, beekeepers who are ‘traders and speculators’ by nature, became an obstacle, because due to them, they are losing their sales.

At the same time, fairs are highly valued. They allow selling products in large quantities, even at a relatively low price; finding new customers; bringing products to wholesalers; broadening horizons; and so on.

Resuming the activity of the Azerbaijan Beekeepers Association from this year inspires hope. Participants who visited the fair noted that in the current fair, the association provided great support in obtaining certificates, laboratory results, access to large customers, obtaining the necessary information, joining the agreements on large shipments abroad (concerns only those beekeepers who can offer at least 1 ton of honey). Moreover, the association announced the conclusion of contracts with the United States, Japan, and Germany on supply of honey.

Existence of difficulties should not be regarded as unprofitability of the sector. Focus group discussion (FGD) and in-depth interview (IDI) participants consider the sector to be profitable enough. The only undesirable factor is the lack of opportunity to sell goods in bulk, “to get a large amount of money at a time.”
The state decree on allowing beekeepers to place their hives in any forest area without restrictions is also positively perceived. Until then, certain forests and protected areas were closed to beekeepers. Also, this decree further expands the conditions for receiving honey even more.

Increase in demand for bee milk and bee venom would also contribute to development of the sector. According to the opinion of the participants, this direction of the sector is almost not developed. State orders do not exist. Private enterprises do not buy in small quantities.

**Available sales outlet, high interest of buyers in the product.** As the participants informed, most beekeepers sell their product at the retail level rather than wholesale. The main buyers are ‘old customers’, acquaintances, and relatives. They also often direct new buyers, so word of mouth is an effective way of communication.

Wholesale buyers usually address large producers, because they have honey in large quantities. In addition, wholesalers buy the product at a low price, which is unprofitable for small and medium-size producers.

Except for fairs, as such, there are no sales points for honey. Mostly, sales are carried out at home, or through acquaintances and relatives. If a friend or relative has a store, the product is also sold there. Sometimes beekeepers themselves deliver to the buyer's home or sell in the market. Producers do not look for contacts with network supermarkets, in view of the uncertainty that they will be supported. It is believed that such points of sales prefer to keep labeled honey on sale, for example, Ballı, I'm Honey, Qinyst oğulları, and different Russian and Turkish brands.

Participants have noted that in connection with an economic crisis, the purchasing power of the population has fallen. Although a certain number of buyers began to purchase the product in larger volumes, at the same time, along with the rest, they also request for a reduction in price.

**Scope for expanding production and/or scope for value addition through processing or product improvement (new products for which there is a market).** In beekeeping, there are several ways to expand production and increase income:

- Increasing the number of bees to produce a product in large quantities
- Growing of queen bees both for their own farming and for sale
- Production of bee milk
- Production of bee venom

However, most participants, do not intend to tackle all these areas. First, any development requires finance. Second, the product must be sold. Because there are no official applications for purchase of beekeeping products in any quantity, manufacturers do not risk investing large sums. Participants are afraid that it will not be possible to sell the goods and it will remain in their hands. As a result, they will lose their finances. For example, bee milk is of interest to purchasers only if it is not less than 1.0 kg, and there is no demand for bee venom at all.
Considering all this, it is more acceptable and appropriate to expand production to the extent of available finances. Of all the ways, increasing honey production by increasing beehives is often preferred.

**Low costs of the value chain compared to competitors.** The cost of the product is determined depending on expenses. Therefore, selling the product below the quoted price is unprofitable. Together with this, to not ‘go bust’ at all, beekeepers, if necessary, reduce prices to be more attractive and acceptable. For example, concessions are made to old customers, relatives, wholesalers, or when there is a danger that the product will not be sold:

“My honey costs AZN 35 (US$21). There are buyers for whom even AZN 5 mean something. I offer it to them for AZN 30 (US$18).”

“Last year my relative did not sell to the wholesaler for AZN 12 (US$7), he said they buy at a too low price. The whole village sold, only he did not. Then he saw that the goods did not sell well, he even agreed to sell for AZN 8–10 (US$5–6).”

“It happens that old customers ask to decrease the price. I agree, because they buy from me for so many years. I do not want to lose such clients.”

**Other competitive advantage of the value chain compared to competitors (unique product/local specialty).** The local competitors include agricultural enterprises, private entrepreneurs, family businesses, and households. The most important condition for competition between honey producers is the quality of their product. First of all, honey should be exceptionally pure, without the addition of sweet syrup. The constituent part and geographical location of the product also have a value, that is, acacia, buckwheat, white or mountain, lowland, forest honey, and so on.

As a factor of competition, natural conditions are also regarded. For example, some participants complained that vegetation quickly burns out in their territory in summer because of aridity. Therefore, they have to transport hives to several regions, sometimes rent a land, go home occasionally for private matters and then return. These all require additional costs. To cover them, they have to increase the price of honey. In this situation, these beekeepers lose to competitors in terms of price too.

Vegetation growing around hives also affects competition. Some participants noted that due to the lack of Christ's-thorn in their region and the short period of its flowering, they cannot collect such honey, although it is considered one of the most useful. Similar examples were given for different plants.

According to respondents, international competition includes products imported from Russia and Turkey.

**Potential for collaboration and coordination between actors for value chain upgrading.** For beekeepers, the main parts of the value chain are pharmacies and veterinarians. In pharmacies, they purchase the necessary medicines for bees wax, dry herbs, and plants. At pharmacies, as well as from veterinarians, they receive advice on treatment and use of medicines. Beekeeping uniforms and different tackles are also purchased in pharmacies.
The next stage is beekeepers or people, who can rent equipment for straining honey. A manual device is available for many beekeepers. However, it is expensive to buy more modern equipment, so renting them is preferred.

Boxes for hives are made by carpenters. They play an important role in the value chain. However, experienced beekeepers do not often turn to them for help, because they themselves have learned to make boxes.

Another necessary link is transportation. With the help of it, hives are transported to the ‘habitat’ points. For implementation of transportation, beekeepers resort to the help of people who have trucks or tractors with trailers. In view of the high cost, services of carrier companies are not used. Some beekeepers have their own transport.

Wholesalers are one of the most important targets for beekeepers who work with them. With the help of wholesalers, these beekeepers sell their goods, hence they closely associate with them.

If there is an access to more skilled colleagues, beekeepers often communicate with them, expand their knowledge, and if necessary, ask for their help. Such sector players occupy the position of a consultant in the value chain.

For a certain part of the players in the sector, tenants are chain components too. These tenants provide them with their territory for placement of hives.

Laboratories, quality control committees, and other similar structures occupy a small and insignificant place in the value chain. Beekeepers address them in extremely exceptional cases.

Collection points for bee milk can take a significant place in the value chain. However, the limit set by them at the moment is high for small producers. Therefore, only large manufacturers, for example, such as the company ‘Qinyat Oğulları’, work with them.

Given the ‘weighty return’ of the association, some participants hope it will support and assist beekeepers, at least in matters of large purchases.

Regardless of discontent, honey fairs occupy a significant place in the life of more than half of beekeepers. There they sell a certain part of their goods, find new loyal customers, and communicate with other beekeepers.

Only large producers cooperate with advertising agencies, design centers, and packing points so far. Although the purpose of the Azerbaijan Beekeepers Association is to develop beekeeping in the country, solve the problems of beekeepers, and develop a common concept of beekeeping, the respondents did not indicate any advertisement or promotion-specific support provided by the entity.

**Sufficient technological and managerial level of enterprises in the sector for upgrading and innovation.** Only one of the participants—a representative of the beekeeping farm ‘Qinyat Oğulları’—noted that he automated honey production. He bought equipment for US$30,000 in Germany several years ago for this purpose. A part of the medicinal herbs for bees is grown on the territory that belongs to the farm. The owner of the farm travels a lot, learns beekeeping in different
countries of the world, and introduces innovations in his farm because he is ‘a man of science’ (as he called himself).

However, most of the beekeepers cannot afford introducing modern technology, such as honey extractors, bee smokers, and so on in production, or application of modern innovations due to absence of financial resources and investments. Anxiety is also created by the lack of governmental requests for honey. Such inquiries would increase the confidence and readiness of producers to invest and expand production. Often Iran’s situation on that matter was mentioned. There the government grants subsidies to all agricultural sectors and then purchases the entire crop, regardless of the volume.

Access to infrastructure, qualified labor force, raw material, and inputs. Access to infrastructure, qualified laboratories, raw materials, labor, and so on is in the focus of interest of the sector’s players. However, eventually, everything comes down to additional costs that beekeepers do not want or cannot afford.

Almost all participants use family members or close relatives as workforce. External labor is used when necessary. For example, when honey production is delayed, additional manpower is needed, the farm needs to be supervised for several days, and so on.

In addition, it is believed that in the beekeeping sector it is very difficult to find specialized personnel. This is because there are no educational institutions and faculties in universities in the country, which would prepare qualified specialists. Also, there is not enough literature in this area.

As the modern machinery necessary for honey filtration is expensive, it is preferred to rent it for a short period of time. As for the services of laboratories, as the participants noted, “Any beekeeper knows the quality of his honey, its sort, and kind. What else should we go to the laboratory for?” Two to three participants detailed examples of cases when laboratories produced wrong results. This service is only used when participating in the fair, where the laboratory results are required.

Timely treatment and vaccinations for bees are necessary. Beekeepers are very sensitive about this issue; they do not miss any procedures. However, they complain that this is not enough sometimes, because the bees still get ill. There is an opinion that not all pharmacies sell good-quality medicines. Therefore, when purchasing medicines, it is preferred to contact pharmacies with which they have been associated with for a long time and to constantly consult with veterinarians and long-standing experienced beekeepers.

Access to financial services. It can be said that all participants try to expand their business at the expense of their financial resources. Access to financial services is accompanied by difficulties. They are not satisfied with high interest rates of business loans. In addition, the requirements and conditions imposed by banks are not considered to be acceptable. So, one of the main collateral requirements for commercial loan issue is an apartment in a district center or in the capital. Even if the bank agrees to accept a rural house as collateral, their price estimation is very low and they, therefore, allocate a very small amount. The fear to survive the difficulties with repayment in the case of a bad harvest is strong among beekeepers, because their harvest is completely dependent on the weather conditions. Discontent is also caused by the fact that when allocating loans for agriculture, beekeeping is never mentioned in the list of sectors covered. Only one participant was
aware about the major business loans with an annual rate of 6–7 percent. And he also treated it with certain distrust. It should also be noted that no participant had any information about any subsidies, grants, and other financial services provided by the government for the development of the sector.

Nevertheless, several participants used business or consumer loans at the beginning of their business. Due to the small amount, the recipients of consumer loans did not experience any special difficulties during repayment. Two participants applied for business loans. One of them also managed to repay in time, because he has another source of income. The other had to ask relatives and friends for help to make the repayment, because the year turned out to be rainy and it was not possible to obtain income.

Religion is another barrier for usage of credits though for a small part of respondents.

Access to business development services for quality improvement of the production process. Although the development of agriculture is always among the government’s important tasks, participants believe that not so much attention is paid to the beekeeping sector. The most important is financial support, as well as the opportunity to sell the product in large batches, hence the existence of governmental procurement. Discontent is caused by the fact that honey is imported in the country, while Azerbaijani honey is of a better quality, cleaner, and more useful/good for health. In the case of governmental procurement, the population could consume the local product. In this regard, honey fairs are of some help, but there are also some shortcomings.

Besides that, participants would be interested in participation in various kinds of trainings, seminars, and events. However, these are not carried out, and even if they are, the majority do not know about them. The Union of Beekeepers still exists technically. However, considering the restoration of activities starting from this year, there is great expectation from the Union. There is a huge shortage of specialists, literature, and specialized labor. There is a need for educational institutions that would teach beekeeping as a science.

Women’s Empowerment and Gender Equality

High share of women employed in the value chain as compared to the economy at large. There are few women in the sector—5–10 percent. Often these are family members or close relatives of the beekeepers. Women are very rarely attracted as an external workforce. This is based on the characteristics of the sector, but mainly it is the mindset: “no man will want and will agree with his wife or daughter living away from home in the mountains or forests for months.” Normally women employees help during honey filtration. The range of their activities includes the removal of the ‘film’ from the combs, filtration, and cleaning after filtration. Due to the delicacy/fineness of the work, women are also suitable for the production of bee milk.

High number of women entrepreneurs in the value chain. Despite the fact that women, although in small numbers, are employed as auxiliary/supportive labor in family beekeeping farms or in close relatives’ farms, none of them is the owner or director. Even the participants have never met a female beekeeper in their entire lives. Although, they are sure that they can do it.
Women control equipment/assets (for example, land)/women control the sales income and the enterprise. Because the sector involves mainly men, control over equipment, income, assets, and so on belongs to them as a rule. Only one participant (the owner of Qinyat Oğulları) noted that during the filtration of honey and the production of honey, a certain number of women employees are involved, and this group is led by his wife.

Women have or can acquire skills needed for profitable value addition opportunities through processing product and diversification. In general, it is not denied that women have skills needed for profitable value addition opportunities through processing the product and diversification and it is not rejected that sometimes women make some suggestions: “My wife's father is also a beekeeper, so she knows this work very well. She pulls out frames from the beehive without any fear, takes care of the bees, removes the top layer from the combs, and gives them medicines. However, I can’t take her to the mountains with me, that’s not right.” Nevertheless, male beekeepers mainly make decisions on value addition opportunities themselves, because they are in this environment all the time, and therefore understand it better. Here again, the respondents expressed interest in any professional development trainings that could be organized and delivered in their regions, justifying this with the fact that it is harder for them to leave their facilities for extended periods of time.

Close to household community area (geographic). To obtain a good harvest without problems for people who live close by, the hives should be in wild nature/open air. During the year, beekeepers transport the hives from place to place looking for a territory with various flowery vegetation and they return home only by winter. It is not the type of activity that can be carried out close to the household. Therefore, women are almost out of the sector.

Low entry barriers for women entrepreneurs (time and mobility, access to technology and assets, and cultural constraints). During the discussions it was noted there are no obstacles in terms of starting a business in the beekeeping sector for women. However, this is the case if a woman acts only as the owner, that is, she invests financial resources and recruits male workers. As indicated above, a woman cannot conduct business herself either because of traditional norms or because of difficulties: it is necessary to stay away from home, there is often a risk of being stung by bees, there is a danger of being attacked by wild animals, and so on.

Offering new opportunities for women. Because beekeeping is the kind of occupation that it is undesirable for women to engage in, they are mainly offered opportunities linked with future income that will be generated by the business. Men, however, are sure that women would do very well, if work specifications were not that difficult. As noted by respondents, women could act as potential investors or act in management positions in cases of enterprises. There are also opportunities for both genders for expanding the business beyond the local market and exploring export markets.

New activities are in line with livelihood conditions (year-round income, using family labor, rapid returns, contributing to food security, preserving the environment, and not reducing availability of clean water). It is believed that bees play an important role in nature. Therefore, there is no doubt regarding the positive impact of beekeeping on the environment. However, in any case, environmental protection is not the primary goal for the beekeeper, nor is contributing to food security, using family labor, not reducing availability of clean water, and so on. As in all
sectors, the beekeeper thinks about the financial side when starting a business—about income, about satisfaction of the family’s needs, and taking care of the family. However, given the seasonality, the sector does not offer a continuous annual income, similar to the remaining sectors of agriculture. Nevertheless, the acquired seasonal income can be used throughout the year as honey always remains in reserve and it can be sold whenever required.
## CHAPTER 4: RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Horticulture</th>
<th>Poultry Breeding and Dairy</th>
<th>Apiculture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential of the Sectors and Success Prospects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Internal Growth Potential</strong></td>
<td></td>
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<tr>
<td>Horticulture is one of the most traditional forms of agriculture in Azerbaijan with the most developed value chain due to the investments. The value chain offers highest employment opportunities, among others. Internal demand is constantly increasing due to the growing population size and demand. The variety of products offered by the farmers is quite wide with high potential for export and import substitution. The current government support and private investments result in development of infrastructure such as construction of warehouses, processing facilities, and so on, which creates a potential for expansion of business and production volumes. However, there are significant infrastructure areas, which require improvement, such as irrigation systems, provision of support services, supply of qualified experts, and so on. The price of the products in the internal market is equal or sometimes even higher compared to the imported goods due to the production costs. The availability of financial support in the form of government subsidies or loans from private sector is either not communicated to producers or the conditions are very hard.</td>
<td>Private farms and households comprise the majority of production. The situation with internal demand is similar due to increasing size of population and shift towards healthy products. The value chain of this sector is underdeveloped. The supply of local producers does not satisfy local demand and the presence of imported products in the market is significant. The potential of this sector in the internal market is theoretically good, however, lack of technological upgrades, knowledge gaps, and availability of financing for expansion of business are indicated as main obstacles for development.</td>
<td>The sector consists of mainly small producers and family businesses. Due to the high costs of production and hard work required (because most of the work is done manually), the volume of output is low, while the price of the product is high. The sector lacks centralized support, which could actually lead to the realization of its good potential both in meeting local demand and export opportunities. Lack of financing and qualified specialists with education in apiculture being among the obstacles for growing the business. The product line is also least diversified compared to other two sectors.</td>
</tr>
<tr>
<td><strong>Prospects for External Success</strong></td>
<td></td>
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</tr>
<tr>
<td>Research demonstrated that the producers export their products to neighboring countries themselves or connect directly with local buyers based on the geographic area. However, the high potential of this sector for export is still not realized. With the support of associations and state entities such as AZPROMO the trends in export remain positive during recent years.</td>
<td>The dysfunctional capacity of the value chain both with regards to the local and foreign markets limits the prospects of exports in this sector. The local supply of products does not satisfy the demand of the local market even with the growth in production during recent years. The demand for Azerbaijani products in international markets was not studied.</td>
<td>The value chain is one of least invested among selected sectors for study, and thus remains very limited to meet the local demand. However, there are high expectations related to the Azerbaijan Beekeepers Association, which announced conclusion of contracts with the United States, Japan, and Germany on supply of honey. The sector requires capital investments for export infrastructure.</td>
</tr>
<tr>
<td><strong>Business development services</strong></td>
<td></td>
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</table>

| | | |
| | | |
| | | |
| | | |
The Azerbaijan State Agricultural University is the only educational institution offering Bachelors and Master’s degrees related to the field. Recently, the Ministry of Agriculture and ADA University signed an agreement on cooperation and development of specialists in related fields. There are also Soviet-era vocational schools which educate and train specialists, but their facilities are not satisfactory to guarantee the quality of education. Throughout the years, various trainings and professional development sessions were provided by institutions such as the British Council, USAID, the World Bank, and UNDP. The sector is in the spotlight of the government in terms of investment and subsidies, as well support on various levels by means of established associations.

<table>
<thead>
<tr>
<th>Horticulture</th>
<th>Poultry Breeding and Dairy</th>
<th>Apiculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>The respondents indicated lack of knowledge in managerial disciplines as well as technical skills to make business improvements. The number of trainings provided by various stakeholders including NGOs decreased during recent years and participants expressed interest in any type of training that could be provided. Respondents also noted lack of sources of financing for diversification and expanding the business. Most of them prefer not to invest in new technologies and shift to machine production, because it requires additional investment. The level of cooperation is relatively low in this sector. The newly established Association of Milk and Dairy Products leaves hopes for the support of activities in this sector.</td>
<td>The situation with consultancy and education is the weakest compared to other sectors. A significant lack of qualified specialists is experienced. Here again, the respondents expressed concerns about growing the business and investing in expansion, due to the unstable demand or lack of government buying. Available sources of financing are very limited and the private banks mainly offer loans with unfavorable terms for the small producers.</td>
<td></td>
</tr>
</tbody>
</table>

**Women in the Value Chain**

<table>
<thead>
<tr>
<th>Participation of Women in the Value Chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation of women in horticulture is highest, but is mainly concentrated in manual harvesting, which varies based on products.</td>
</tr>
</tbody>
</table>

Strong cultural and mental barriers for entry determined in all sectors. For all three value chains, businesses could be established close to households.

**Entry Barriers**

Entry barriers are high due to high costs and mindset.

Based on the collected data growth potential of various levels was revealed. All three sectors are characterized with entry barriers for entry of women and require implementation of adequate steps and introduction of reforms.

**Horticulture**

(a) Expand production facilities such as processing plants to increase the volume of output to satisfy local demand and export markets.

(b) Invest in processing technologies. The research revealed that most of the farmers make limited investments of their own in improvement of techniques.
(c) Create sources of available financing. It is necessary to offer new financial products with suitable or personalized interest rates, collaterals, and other terms. There is a high interest in Islamic financing products. Introduction of government support programs or clear communication of the existing ones is also encouraged.

(d) Establish entities that support regional farmers in terms of marketing and promotional activity, so that they could avoid working with intermediaries and gain direct access to retailers or exporters.

(e) Provide support from the government in the form of various projects and purchasing and collection centers, which is important to guarantee efficiency of the production.

(f) Conduct consultancy and training programs for farmers to improve their skills and knowledge in modern approaches.

(g) Conduct training and sessions on raising the awareness of gender equality issues among population. Improve working conditions for women to meet specific demands.

Poultry Breeding and Dairy

(a) Guarantee timely and easy access of regional producers to necessary medicine for maintaining the health of animals.

(b) Focus on providing available sources of financing for regional producers considering the specifics of conducting business in rural areas and offer loans with preferential terms so that they could upgrade and innovate.

(c) Improve the existing irrigation and water supply infrastructure, especially in northern and northwestern territories of the country where the geographic conditions are harsher.

(d) Provide marketing and promotional support to the regional farmers to accelerate sales.

(e) Conduct more trainings and consultancy to improve managerial and technical skills and knowledge of the farmers.

(f) Introduce educational and training programs to support and promote participation of women in business.

Apiculture

(a) Provide sales support to the beekeepers so that they could gain access to buyers with subsequent growth in profits and increase production.

(b) Provide greater support from the government in this sector in forms of government purchases and order of diversified products. These could be based on both responding to the local demand as well as opening to the external markets.
(c) Ensure availability of affordable financial products must be guaranteed to encourage business development and expansion.

(d) Create courses, degree programs or other educational programs to supply the sector with qualified specialists. Currently there is no educational institution, which provides such kind of qualification.

(e) Promote women’s participation in entrepreneurial activity through education, training and access to preferential financial support.
## ANNEX 2: GUIDE

<table>
<thead>
<tr>
<th>Lead questions</th>
<th>Scores (0-10)</th>
<th>Weight</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Assess growth potential</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the prospects for future demand growth?</td>
<td>9.0</td>
<td>3</td>
<td>12.0</td>
</tr>
<tr>
<td>Are traders willing to buy more of the product?</td>
<td>8.1</td>
<td>2</td>
<td>10.1</td>
</tr>
<tr>
<td>Can new products be developed through processing, or product improvement for which a market exists?</td>
<td>4.5</td>
<td>1</td>
<td>5.5</td>
</tr>
<tr>
<td>Can the product be supplied to the consumer at attractive costs?</td>
<td>7.3</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>What are the competitive advantages of producers (cost, product characteristics)?</td>
<td>6.3</td>
<td>3</td>
<td>9.3</td>
</tr>
<tr>
<td>Is there potential for increased cooperation in the value chain?</td>
<td>6.6</td>
<td>2</td>
<td>8.6</td>
</tr>
<tr>
<td>Do enterprises in the value chain have the management capacity for upgrading and innovation?</td>
<td>4.7</td>
<td>3</td>
<td>7.7</td>
</tr>
<tr>
<td>Is infrastructure, qualified lab our force, raw material, inputs sufficiently available?</td>
<td>5.0</td>
<td>3</td>
<td>8.0</td>
</tr>
<tr>
<td>Are financial services sufficiently available?</td>
<td>3.2</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>Are business development services for quality improvement of the production process sufficiently available?</td>
<td>4.0</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41.1</strong></td>
<td><strong>20</strong></td>
<td><strong>61.1</strong></td>
</tr>
<tr>
<td><strong>B. Assess potential for women’s empowerment &amp; gender equality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the share of women employed in the value chain relatively high?</td>
<td>2.6</td>
<td>2</td>
<td>4.6</td>
</tr>
<tr>
<td>Is the share of women entrepreneurs in the value chain relatively high?</td>
<td>1.9</td>
<td>3</td>
<td>4.9</td>
</tr>
<tr>
<td>Do women control equipment and assets?</td>
<td>1.6</td>
<td>3</td>
<td>4.6</td>
</tr>
<tr>
<td>Do women have (or can they acquire) the skills needed for interesting value</td>
<td>3.9</td>
<td>1</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td><strong>5.9</strong></td>
<td><strong>5.0</strong></td>
<td><strong>4.9</strong></td>
</tr>
</tbody>
</table>

Total: 64.8
addition through processing or product diversification?

<table>
<thead>
<tr>
<th></th>
<th>2.1</th>
<th>3.1</th>
<th>3.1</th>
<th>2</th>
<th>4.1</th>
<th>5.1</th>
<th>5.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do women control the sales income and the enterprise?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can the work take place close to home?</td>
<td>2.1</td>
<td>7.3</td>
<td>5.0</td>
<td>1</td>
<td>3.1</td>
<td>8.3</td>
<td>6.0</td>
</tr>
<tr>
<td>Is this a value chain with low barriers to enter for poor entrepreneurs (small scale of production, low start-up costs, not requiring major capital investment, using low-tech skills)?</td>
<td>7.4</td>
<td>9.0</td>
<td>8.1</td>
<td>7.4</td>
<td>9.0</td>
<td>8.1</td>
<td>8.1</td>
</tr>
<tr>
<td>Is this a value chain with low barriers to enter for women (time and mobility, access to technology and assets, cultural constraints)?</td>
<td>4.9</td>
<td>7.7</td>
<td>5.1</td>
<td>2</td>
<td>6.9</td>
<td>9.7</td>
<td>7.1</td>
</tr>
<tr>
<td>Does this value chain offer new opportunities for women?</td>
<td>5.5</td>
<td>7.7</td>
<td>6.0</td>
<td>4</td>
<td>9.5</td>
<td>11.7</td>
<td>10.0</td>
</tr>
<tr>
<td>Is the activity in the value chain in line with livelihood conditions (year-round income, using family labor, rapid returns, contributing to food security, keeping the environment intact, not reducing availability of clean water)?</td>
<td>4.1</td>
<td>4.5</td>
<td>4.4</td>
<td>2</td>
<td>6.1</td>
<td>6.5</td>
<td>6.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25.3</td>
<td>39.8</td>
<td>31.7</td>
<td>20</td>
<td>45.3</td>
<td>59.8</td>
<td>51.7</td>
</tr>
<tr>
<td><strong>GENERAL TOTAL</strong></td>
<td>66.4</td>
<td>89.1</td>
<td>76.5</td>
<td>40.0</td>
<td>106.4</td>
<td>129.1</td>
<td>116.5</td>
</tr>
</tbody>
</table>
## ANNEX 3: LIST OF RESPONDENTS

<table>
<thead>
<tr>
<th>N</th>
<th>Method</th>
<th>Name</th>
<th>Organization/Sector</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IDI</td>
<td>Ibrahimova Sakina</td>
<td>Cattle-breeding/Poultry</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>2</td>
<td>IDI</td>
<td>Asgarova Gulnaz</td>
<td>Cattle-breeding/Poultry</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>3</td>
<td>IDI</td>
<td>Alakbarova Gafile</td>
<td>Cattle-breeding/Poultry</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>4</td>
<td>FGD</td>
<td>Taghiyeva Jamila</td>
<td>Horticulture</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>5</td>
<td>FGD</td>
<td>Alakbarov Namaz</td>
<td>Horticulture</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>6</td>
<td>FGD</td>
<td>Taghiyeva Shahsanam</td>
<td>Horticulture</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>7</td>
<td>FGD</td>
<td>Ibrahimov Hasan</td>
<td>Horticulture</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>8</td>
<td>FGD</td>
<td>Alakbarov Isaq</td>
<td>Horticulture</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>9</td>
<td>FGD</td>
<td>Alakbarova Chichak</td>
<td>Horticulture</td>
<td>Aghstafa</td>
</tr>
<tr>
<td>10</td>
<td>IDI</td>
<td>Shahbazov Mirza</td>
<td>Horticulture</td>
<td>Khachmaz</td>
</tr>
<tr>
<td>11</td>
<td>IDI</td>
<td>Mammadov Adil</td>
<td>Horticulture</td>
<td>Khachmaz</td>
</tr>
<tr>
<td>12</td>
<td>IDI</td>
<td>Nurmammadzada Elshan</td>
<td>Horticulture</td>
<td>Khachmaz</td>
</tr>
<tr>
<td>13</td>
<td>IDI</td>
<td>Mammadov Rumin</td>
<td>Beekeeping</td>
<td>Khachmaz</td>
</tr>
<tr>
<td>14</td>
<td>IDI</td>
<td>Latifov Latif</td>
<td>Beekeeping</td>
<td>Sheki</td>
</tr>
<tr>
<td>15</td>
<td>IDI</td>
<td>Davidov Nurlan</td>
<td>Horticulture</td>
<td>Baku</td>
</tr>
<tr>
<td>16</td>
<td>IDI</td>
<td>Salimov Rasim</td>
<td>Beekeeping</td>
<td>Baku</td>
</tr>
<tr>
<td>17</td>
<td>IDI</td>
<td>Musayev Bayram</td>
<td>Beekeeping</td>
<td>Gedebe</td>
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<tr>
<td>18</td>
<td>IDI</td>
<td>Mammadov Nazarali</td>
<td>Beekeeping</td>
<td>Baku</td>
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<tr>
<td>19</td>
<td>IDI</td>
<td>Aliyev Shirin</td>
<td>Horticulture</td>
<td>Shamakhy</td>
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<tr>
<td>20</td>
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