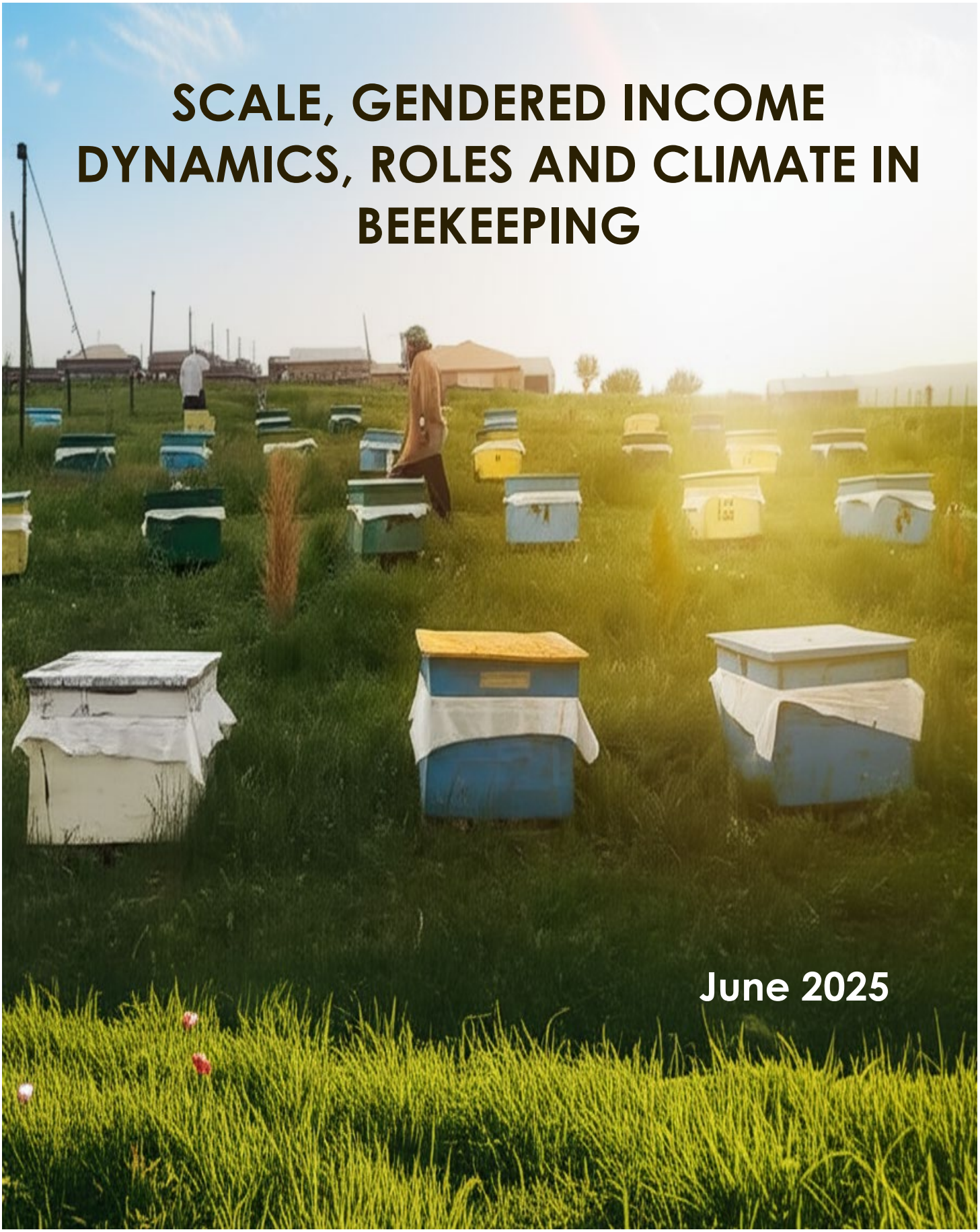
SCALE, GENDERED INCOME DYNAMICS, ROLES AND CLIMATE IN BEEKEEPING



June 2025

INTRODUCTION

Building on a decade of sectoral development, since May 2022, the ALCP2[1] has intensified its support to the Georgian beekeeping sector, with a strong focus on business sustainability and climate adaptation. Unpredictable weather patterns, increased disease prevalence and fluctuations in global honey markets have created pressing challenges for Georgian beekeepers, highlighting the need for enhanced resilience and sustained growth.

Having already addressed core market constraints - such as antibiotic use, inadequate testing services, lack of standardized supply, poor image and weak export capacity from 2014 to April 2022 the programme is now consolidating gains and advancing climate-smart beekeeping. Tailored interventions, developed from the 2022 ALCP2 Livestock Producers and Beekeepers Focus Group Survey on the impacts of climate change, are being implemented to support business sustainability and production resilience.

Alongside climate change considerations, the ALCP2 interventions prioritize Gender Equality and Social Inclusion (GESI). Consequently, all the interventions are GESI mainstreamed, with a special emphasis on inclusivity for ethnic minorities, women and youth beekeepers in the honey sectoral development strategy.

The ALCP2 is currently facilitating the following interventions:

Sectoral Representation - the Georgian Beekeepers Union (GBU): The programme formed the GBU in 2019 to bring together disparate honey associations and create a sectoral advocate. The association now has 10 association members, 29 private sector members and unites 6,900 beekeepers through the GBU database and reaches around 12,500 beekeepers through the Georgian Bee Facebook page. Since 2022 the ALCP2 has been focused on strengthening the service provision and sustainability of the organization through organizational diversification and income streams from quality services and outreach. The GBU provides essential extension to beekeepers including information, consultancy and hive treatment services, training programmes related to bee disease management and adaptation to climate change, and enhancing the productivity of beehives, sectoral advocacy and increasingly as a platform linking business to businesses or producers.

Flagship honey and bio support - Jara Beekeepers Association (JBA): The ALCP2 remains dedicated to supporting Jara Bio honey production through the JBA which is included in the honey sectoral strategy as a flagship intervention to promote Georgian honey on the international market particularly given its strong links to cultural heritage and the environment.

Domestic and Export Honey Supply and Sales - Honey Processing Factories: The programme aims to enhance beekeepers' access to value-added, reliable and regular honey markets by facilitating honey processing and exporter companies.

Production Resilience - Climate smart beekeeping Inputs: Beeswax and beehive input suppliers as well as bespoke climate adapted extension content have been facilitated to roll out climate smart inputs and information to help beekeepers cope with climate change.

[1] Running from May 2022 to April 2027 the ALCP2 is mainstreaming climate adaptation and the target group are rural producers dependant on natural resources for their livelihoods.

Honey Market Snapshot

The programme assessed developments in the honey market itself through the Honey Market Snapshot Survey 2024. The survey showed that Georgia's honey sector has significantly formalised since 2014, shifting from informal, small-scale sales to structured supply by mid and larger-scale producers. Individual Entrepreneurs (IEs) and Ltd companies have become the primary drivers of the formal market, propelled by the expansion of supermarket chains, growing HoReCa demand, and increasing export opportunities. However informal sales are still the main sales outlet for the majority of beekeepers who own fewer hives, sales are often linked to localized markets and increasingly rural tourism markets and account for 75% of honey sales.

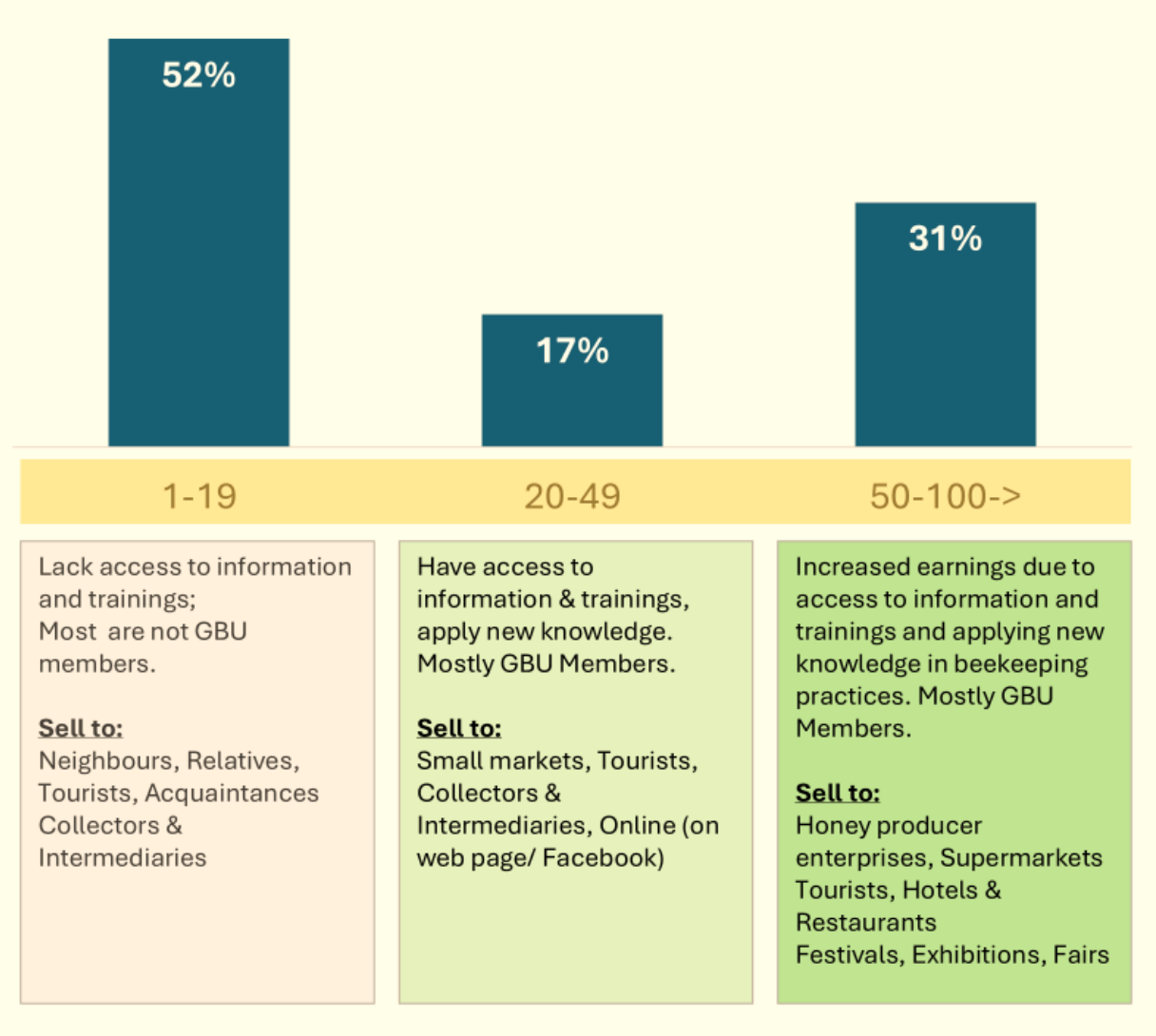


Figure 1 Sales Channel Characteristics of Georgian Beekeepers

Honey Impact Assessments

In 2024 the ALCP2 conducted a honey impact assessment to evaluate the impact of the programme's current facilitated interventions on beekeeper farmers in Georgia and the data confirmed that the programme interventions contributed to the increased financial and production resilience of beneficiary beekeepers . It concentrated predominantly on capturing the impact of the GBU outreach. The assessment found that:

- 6,816 beekeepers accessed the ALCP2 facilitated information through the GBU's online workshops, training sessions and information campaigns.
- 4,002 beekeepers applied new practices and good beekeeping practices.
- 2,939 beekeepers generated additional income worth 5.2 million Gel (1.9 million USD).

One of the key challenges in the impact assessment had been assessing income generation for extension activities especially from the Georgian Beekeepers Union's main extension platform the Georgian Bee Facebook page. Extension services in the honey sector are where programme scale is achieved rather than suppliers to honey factories, as 75% of honey sales in Georgia are informal[2] and localized. The 2024 survey was based on the assumption that the GBU reaches only the 6,816 beekeepers registered in its database and did not include those who follow the GBU Facebook page. As a result, the assessment, its calculations and assumptions did not sufficiently account for GBU's significant social media outreach with over 85,500 views.

Information beneficiaries generating additional income

In May 2025, the ALCP2 therefore, decided to conduct an additional online survey on the Georgian Bee Facebook page. The aim of the assessment was to adjust viewership data from GBU livestreams and webinars and to estimate the true scale of GBU beneficiaries. The survey showed that online educational events for beekeepers averaged 15,000 views per session, which, after accounting for repeat views (1.2x)[3], equates to approximately 12,500 unique viewers (out of which 17% were female viewers). Accordingly, the estimated number of active beekeeper households in the GBU beneficiary group has increased to around 12,500 - up from 6,816 previously (Please, see Annex 1).

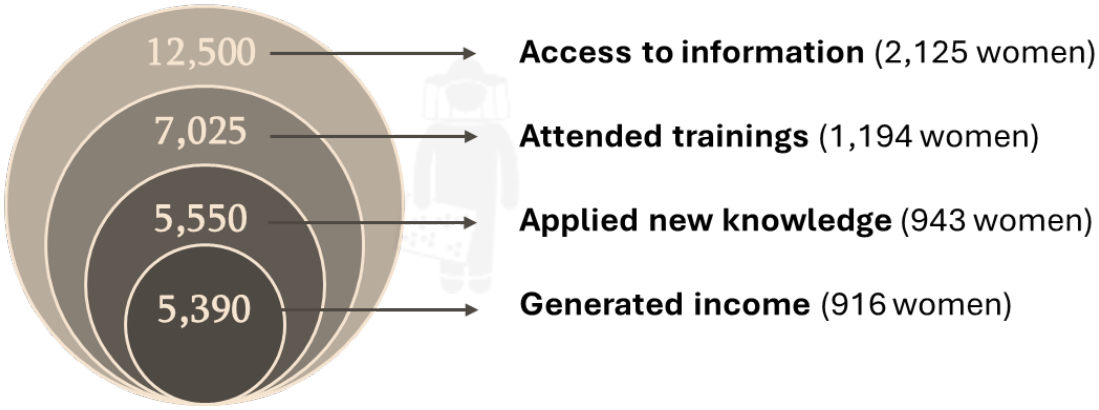


Figure 2. ALCP2 beneficiaries in the honey sector May 2025

Using the 2024 impact assessment finding that 43% of income beneficiaries reported a positive income change and applying it to the recent estimate of 12,500 active beekeepers receiving information from GBU, we estimate that about 5,390 beekeepers have experienced an increase in income from GBU online extension services (Please, see Figure 1 and Annex 1 for the full details).

[2] According to Geostat total honey production in 2023 was 2,100 Tonnes, while according to the Honey Market Snapshot Survey, surveyed 36 honey companies (which are major honey producers in the country) reported to produce 536 tonnes of honey (including collected honey from the beekeepers) in the same year in total. This constitutes approximately 25% of the honey production in Georgia. While the rest (75%) informal honey producers/ sellers.

[3] Since Facebook does not provide unique viewer data, we adjusted the 15,000 live video views using estimated duplication rates - low (1.2), medium (1.5), and high (2). Applying a low-duplication factor of 1.2, we estimated approximately 12,500 unique viewers.

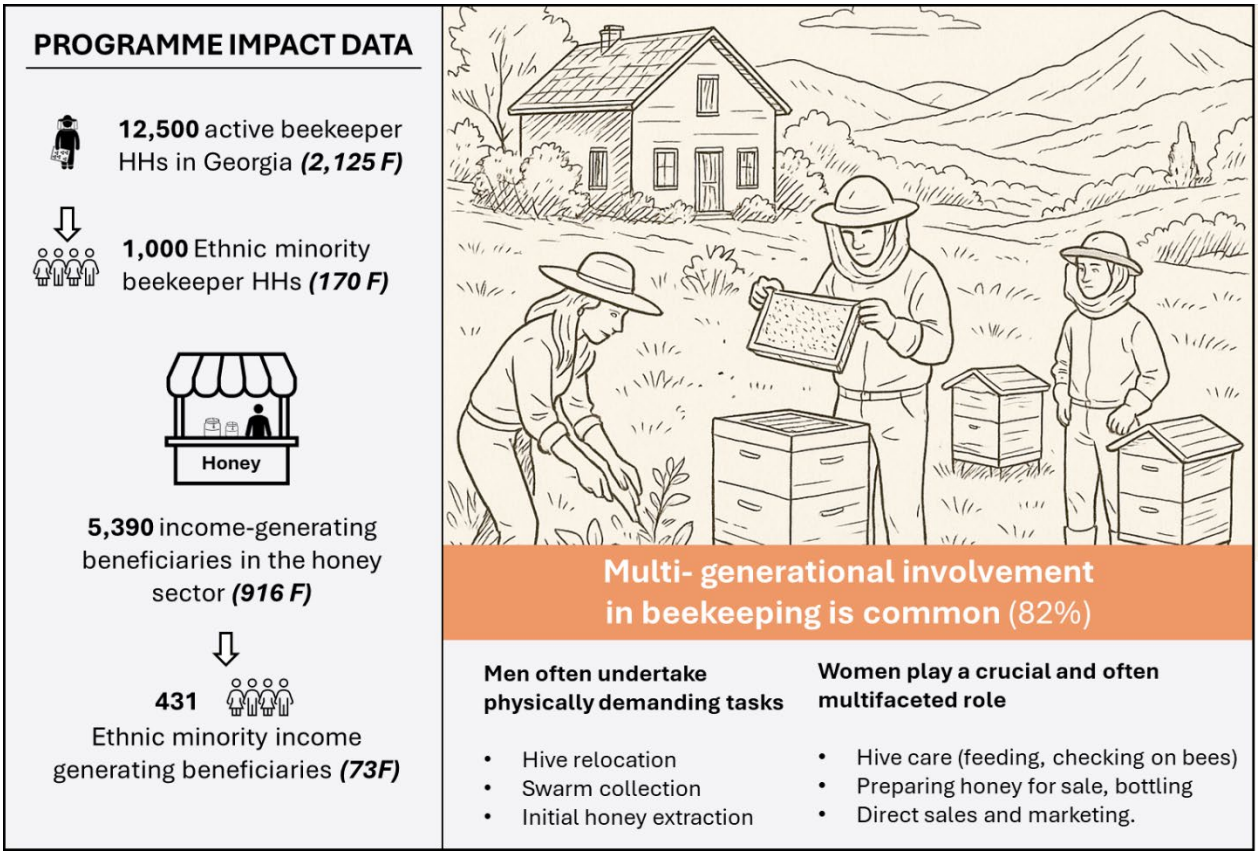


Figure 3 Current Honey Sector Impact

Gender Dynamics In the Honey Sector

The ALCP2's understanding of gender dynamics and inclusion in the honey sector has been based on the 2019 *A Gendered National Honey Sector Survey in Georgia,* which found that women who identified themselves as beekeepers made up 8% of beekeepers in Georgia. Current programme data indicates that this percentage is around 17%. Reasons that these women had become beekeepers included beekeeping being a family activity and women taking up the role after a father or husband have passed away, support from NGOs which had seen women based cooperatives formed and women given training, funding and beehives and women adopting more control over the business where it is an additional source of income linked to food production and rural tourism. For the 92% who identified themselves as male beekeepers, beekeeping mostly remained a household activity with women playing an important role in taking care of beehives, treating bees, negotiating with customers and selling honey. Men were responsible for bee transhumance, honey extraction/ packaging, buying vet medicines and inputs. The survey showed that women's role was central in the sale of bee products with women understanding promotion, marketing activities and opportunities for selling honey.

In 2022 the ALCP2 Honey and Queen Bee Market Research did a very detailed roles and responsibilities and access and agency breakdown for women and men in both women led and men led beekeeping HH's (P9,10), the main difference for female beekeepers was help required for moving hives, female roles in male led beekeeping HH's followed the pattern found in the 2019 survey. Agency of income from honey sales was held by both women and men in both HH's. Backing up the assumption that beekeeping is a HH affair.

The 2022 Livestock Producers and Beekeepers Focus Group Survey, revealed that women beekeepers often face limited opportunities for face-to-face networking, as these spaces are typically male-dominated; online training and live sessions therefore play a crucial role in providing them with access to information and expert advice. Gendered differences also emerged in priorities: women frequently highlighted the need for lighter, better-quality hives and adapted beekeeping equipment, while men more often focused on road infrastructure and pasture access.

Overall, through years of fieldwork, research and facilitation, the ALCP2 has gained comprehensive and nuanced knowledge of the honey sector; however, household dynamics and gender roles in beekeeping required updating given the changes in the sector and the programme attributed impact being registered. Therefore in 2025, the programme launched a survey to examine how women's roles are evolving at the household level, and how income is distributed and used in both primary women beekeepers (Women-led beekeeping households) and female members of beekeeping households (Women in men-led beekeeping households). It also included the experience of ethnic minorities and in line with the programme's mainstreaming of climate change, the survey also explored climate change issues in beekeeping, monitoring their impact alongside household and gender dynamics, and noting any similarities or differences in gendered responses between households.

METHODOLOGY

In order to ensure regional and cultural diversity, the survey was conducted across seven regions in both eastern and western Georgia, covering approximately thirty settlements. As the study aimed to capture the perspectives of both male and female beekeepers, the sample was designed according to minimum DCED standard to include at least thirty respondents from each gender group. In total, seventy-three semi-structured interviews were conducted with beekeepers across Georgia. Among the respondents, thirty (41%) were women. Of these, nineteen identified as the primary beekeepers, seven reported jointly managing the beekeeping business with a male family member, and four indicated that a male relative was the primary beekeeper while they provided assistance. In terms of ethnic background, twelve respondents (16%) belonged to ethnic minority groups - six were Armenian (four women and two men) and six Azerbaijani (two women and four men).

Table 1: Number of Interviews Conducted per Region

Regions	Number of respondents	Gender	Ethnicity
Imereti	12	2	0
Kvemo Kartli	12	4	10
Samegrelo	10	5	0
Racha-Lechkhumi	10	4	0
Samtskhe-Javakheti	9	9	2
Adjara	8	3	0
Kakheti	8	1	0
Guria	4	2	0
Total	*73*	*30*	*12*

The sampling included beneficiaries (79%) of the ALCP2 honey interventions and non-beneficiary households (21%) as well. The beneficiaries usually used more than one of the ALCP2 facilitated services. This broad geographic coverage and diverse sampling helped capture the different socio-economic and environmental contexts in which beekeepers operate.

Table 2: Number of Respondents Using the ALCP2 Facilitated Interventions

Benefited from the ALCP2 interventions	Number of respondents
Georgian Beekeepers Union	48
Honey Companies	38
Beehives & Beeswax companies	14
Jara Beekeeper	9
Non-Beneficiary	*14*

MAIN FINDINGS

Dynamics of the Beekeeping Household

Beekeeping in Georgia is predominantly a family affair, with an overwhelming majority of households (82%) reporting multi-generational involvement. While men usually undertake physically demanding tasks such as hive relocation, swarm collection and initial honey extraction, women play a crucial and often multifaceted role in hive care (feeding, checking on bees), preparing honey for sale, bottling and direct sales.

Compared to the market research and focus group surveys of 2022, these roles have largely remained consistent across households, with minimal reported shifts. In male led HH's men are primarily responsible for transhumance and the production of other bee products, while women take the lead in honey sales; hive care and honey harvesting are typically shared responsibilities between men and women.

Table 3. Roles and Responsibilities in Women and Men-Led Beekeeping Household

Gender Disaggregated Roles and Responsibilities	Women-Led Beekeeping Households			Men-Led Beekeeping Households		
	Women	Men	Both	Women	Men	Both
Taking care of beehives	X					X
Transhumance			X		X	
Honey harvest			X			X
Producing other bee products			X		X	
Honey Sale	X					X

The ongoing trend of youth migrating from villages sometimes leads to more single-headed or aging households, prompting older members to take on broader responsibilities. However, in households where youth remain, they are actively involved, assisting parents with physically demanding tasks and honey sales. Overall, the enduring family involvement highlights the fundamental role of beekeeping as a collective household livelihood, and no regional or ethnic variations were observed in this regard.

Income Distribution in Beekeeping Households

This study takes a closer look at the details of how income from the honey sector is used within households in which men identify as the primary beekeeper. Its key finding is that women, in both female and male led HH's play a central role in managing money earned from honey sales reinforcing the findings from the 2022 market research. Women often decide how and where this income is spent, giving them greater influence over household finances. This shows that, despite being seen as a male-dominated sector, honey production meaningfully contributes to women's economic empowerment.

Decision Making over **Beekeeping Investments**

In **women-led beekeeping households**, final decisions on investments in beekeeping are made by women in 47% of cases, with 37% of reporting joint decision-making, and 17% indicating that men make the decisions independently.

In contrast, in **men-led beekeeping households**, men overwhelmingly dominate decision-making over investments in beekeeping, with 88% of final investment decisions made by men alone and only the remaining 12% being made jointly.

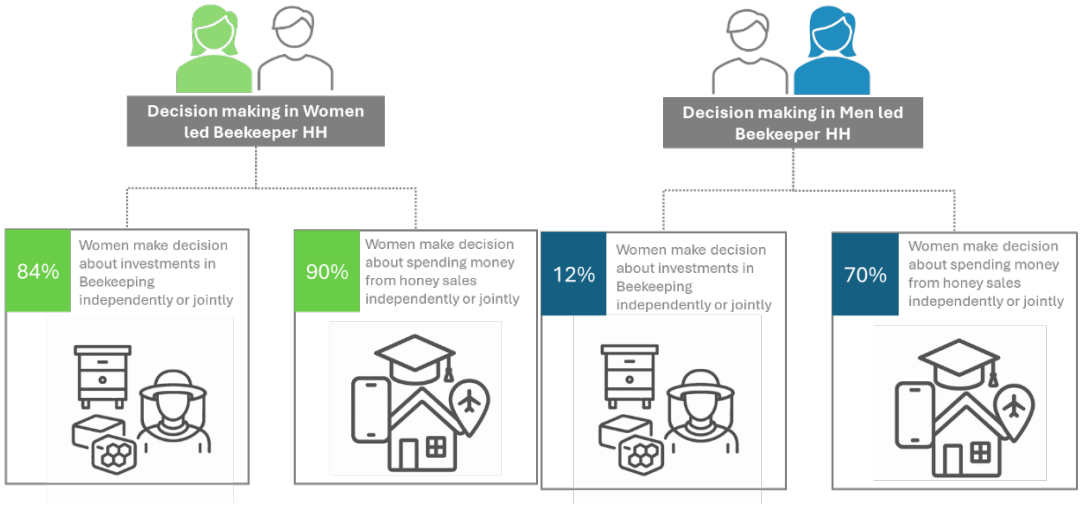


Figure 4. Women's Role and Agency in Household Decision Making Process Over Beekeeping Investments

Decision Making over **Household Income**

In **both** household types, decision-making around how to spend income from honey sales appears to be more cooperative than decisions over beekeeping investments. Women have much higher agency over these decisions. In **women-led beekeeping households**, decisions are most often made jointly, accounting for 60% of cases, followed by women deciding alone in 30% of cases, and men deciding alone in 10% of cases.

In **men-led** households, joint decision-making is also reported in around 60% of cases, with men deciding alone in 30% and women in 7%. This suggests that while men continue to hold greater authority over productive investments, income use decisions does involve greater participation from women.

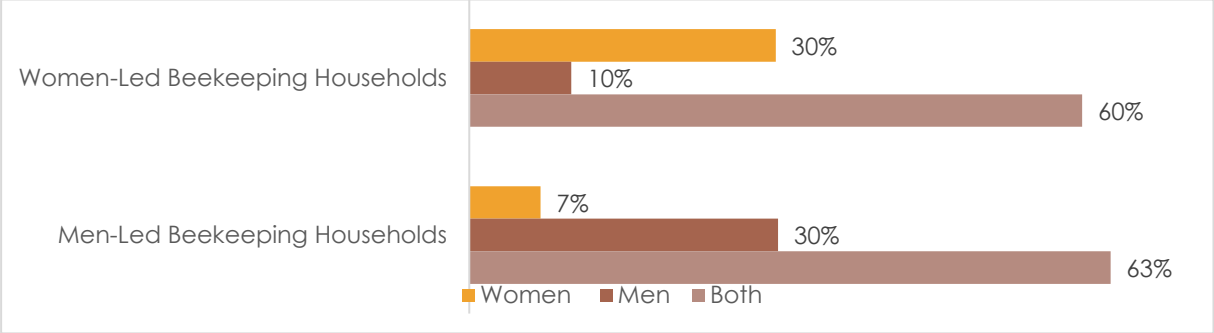


Figure 5. Who makes decisions about how to spend money received from sales of honey

Income Allocation

Income from honey sales is typically allocated to various household needs, with no significant differences observed between women-led and men-led beekeeping households.

When asked about specific uses, 83% of respondents reported that income from honey sales is used for beekeeping investments, and 82% indicated that it is spent on household expenses such as food and utilities.

Both female and male respondents explained that selling a large quantity of honey at once allows them to earn a substantial lump sum, which they often use to purchase higher-cost items like TVs, computers or washing machines. Household equipment is also a significant area of spending, with 51% of respondents reporting such use. While bulk honey sales tend to have a lower price per kg, they enable households to make meaningful, long-term investments. Women particularly emphasized the benefits of bulk honey sales.

As a 38-year-old female beekeeper put it:

'The price for bulk honey is not as good and sometimes it is only half of what tourists pay for a kg. But I still prefer to sell it all at once. Bulk sales give you a decent amount of money straight away, which is better for the family. When you sell a kg here and a kg there, that small money just gets spent bit by bit, and in the end, there is nothing left. It is better to get a bigger amount at once, which you can actually use to do something important.'

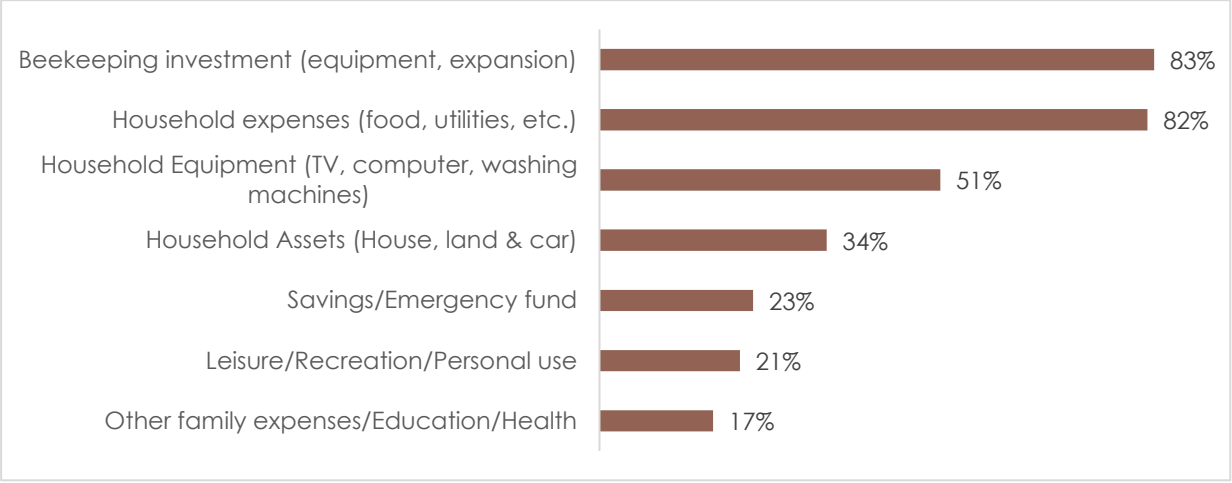


Figure 6. Allocation of Income from Honey Sales in Beekeeping Households

How Apiary Size Corresponds to Household Income

Both male and female respondents explained that for beekeeping to serve as the primary source of household income, an apiary needs to exceed fifty beehives; for smaller operations, the revenue typically functions as supplementary income for everyday household expenses.

In this regard, gender characteristics emerged as a crucial factor. Out of thirty interviewed female beekeepers, only two had more than thirty beehives. Our interviews revealed that female beekeepers frequently encountered significant difficulties in managing more than thirty beehives, primarily due to the intensive physical labour required for hive expansion and maintenance. This challenge is further exacerbated by the prevailing perception among interviewed male and female beekeepers that beekeeping is fundamentally a family business, making the hiring of external labor an uncommon practice. Consequently, this reliance on family labour, coupled with the inherent physical demands, severely limits the capacity of female-led operations to expand to the 50-beehive threshold necessary for generating a sustainable primary household income from beekeeping.

Implicit and Explicit Barriers for Ethnic Minority Beekeepers

Armenian and Azerbaijani beekeepers face a distinct set of barriers that hinder their full participation in the honey sector. A key challenge is limited access to information on new or climate-adapted practices and disease management. While the most explicit and immediate barrier for many ethnic minority beekeepers is language, which hinders their engagement with Georgian-language materials, training sessions and extension services provided by actors like the Georgian Beekeepers Union (GBU), deeper, often overlooked, implicit barriers also play a significant role. These less visible challenges stem from underlying cultural perceptions, trust deficits, and a lack of confidence in formal institutions.

For instance, the data showed that many ethnic minority beekeepers, both male and female, are hesitant to formally register their apiaries as business entities, fearing that doing so may attract unwanted attention from government authorities and lead to additional tax obligations or fines. This avoidance prevents them from accessing public support programmes and formalised honey markets. The result is a cycle in which beekeeping remains informal and small-scale.

Another recent concern expressed by Azerbaijani respondents is the closure of access to the Azerbaijani honey market, which had previously offered an outlet for bulk sales. This shift has made it more difficult for these beekeepers to sell large quantities of honey at once. Nonetheless, many still access local agricultural markets, where they are able to sell their honey at relatively good prices, especially when selling directly to consumers.

Despite these constraints, Armenian and Azerbaijani youths appear open to change, they are often more motivated to learn, explore new approaches and even adopt climate-smart practices, than elderly members in their communities. This signals a potential generational shift that could drive future inclusion and innovation in the honey sector.

Climate Change and Disease Management

There were no significant differences in gendered responses to climate change between women- and men-led beekeeping households. Across the board, beekeepers recognised the changing weather patterns, expressed concern about their impact, and showed motivation to learn, adapt and adopt better coping strategies.

Both female and male beekeepers reported significant challenges due to unpredictable and extreme climate conditions. Longer, colder winters, along with unexpected late frosts and heavy spring rains, have repeatedly disrupted the flowering of plants and shortened the nectar collection period, directly leading to weaker bee colonies and reduced honey yields. These climate shifts also contribute to increased susceptibility to bee diseases and pests, notably Varroa mites in eastern Georgia and the emerging Tropilaelaps in western Georgia.

Varroa mites remain a widespread concern and are typically treated with various bio-treatments like oxalic acid, Bipin and Amitraz-based products (e.g. Varokom, Apitak, Rulamit). Tropilaelaps cases are only widespread across western Georgia, but fear of its arrival in other regions is high. Many beekeepers report having information about Tropilaelaps but no direct experience with it, expressing concern about its potential spread through bee colony sales and transhumance. Treatment for existing diseases often involves non-antibiotic methods (e.g., acids, queen bee isolation, zootechnical methods). The beekeepers supplying honey to the ALCP2 facilitated honey companies explicit stating they avoid antibiotics to maintain honey quality.

To combat diseases and climate related challenges, both male and female beekeepers are increasingly strengthening their colonies through earlier and prolonged feeding, improved hive insulation and ventilation and proactive disease treatments. They are also adapting apiary practices by strategically relocating hives, planting shade and preparing for earlier blooming seasons. A few respondents mentioned that they had invested in climate-adapted beehives as well, but most beekeepers remained unaware of such options and continued to use traditional hives. Nevertheless, both female and male beekeepers emphasised the importance of knowledge in beekeeping and expressed pride in their ongoing efforts to learn; in this regard, youth are particularly motivated to adopt new practices. In this context, the GBU's role in providing timely and practical information was widely acknowledged and appreciated by the respondents.

Overall, despite recurring challenges, beekeepers express a high level of satisfaction with their business, viewing it as a traditional and often passionate source of income. For many respondents, beekeeping is more than a business - it is a way of life. As a 56-year-old male beekeeper explained: 'Not beekeeping is not an option for me. Even if it is not profitable, I will still continue beekeeping. My father kept bees too, and for as long as I can remember, we have been doing this. So, I am not going to stop it. I lost many colonies to disease in recent years, but I still plan to buy a few more.'

Future plans overwhelmingly focus on expansion, aiming to increase hive numbers and honey production volumes, invest in equipment and explore diversification into other bee products, driven by perceived demand and the desire for greater profitability and stability.

CONCLUSION

The study confirms that beekeeping in Georgia remains deeply embedded as a family-based livelihood, with roles strongly shaped by household leadership and gender norms. In **women-led households**, 84% of women make decisions about beekeeping investments, either independently or jointly with other household members. Furthermore, in 90% of these households, women are involved in decisions regarding the use of income from honey sales.

In **men-led households**, only 12% of women are involved in decision making over beekeeping investments. Nevertheless, women continue to play a significant role in managing income from honey sales: they lead or share decisions in 70% of cases, **demonstrating that income allocation remains an important avenue for women to influence household economic priorities, even when they are not the primary beekeeper.**

The physical demands of managing more than thirty hives continue to limit women's capacity to expand operations. Targeted interventions, such as labour-saving technologies, lighter climate-adapted hives, improved market access and gender-sensitive extension services are needed to address these constraints and fully unlock women's economic potential in the honey sector. This further validates the ALCP2 strategies, where climate-smart extension, beehive, and beeswax interventions are all GESI-sensitive and directly address the challenges highlighted by women beekeepers.

The study also captured structural and cultural barriers affecting ethnic minority beekeepers, beyond the well-known language constraints. Implicit challenges, including limited trust in formal institutions and hesitancy to formally register businesses, restrict full participation in beekeeping

programmes and activities. This issue needs more attention, with culturally sensitive support that builds trust and helps ethnic minority beekeepers formalize their businesses so they can fully benefit from programmes and services, which can be especially appealing for engaging younger beekeepers, for example, in recruitment to the GBU. Women and men were mostly in sync over climate change. Beekeepers are aware of and are responding to climate challenges and seek to make the most of a strong market but are concerned as new diseases appear and spread.

Annex 1: Short Report: Estimating the Number of Beekeeper Member Households in the 'Georgian Bee' Facebook Group

Objective

The aim of this research was to estimate the number of actual beekeeper member households within the Facebook group *Georgian Bee* which serves as a platform for knowledge exchange, problem-solving, and community building among individuals interested in beekeeping in Georgia. The group is administered by Georgian Beekeeper Union[4].

Methodology

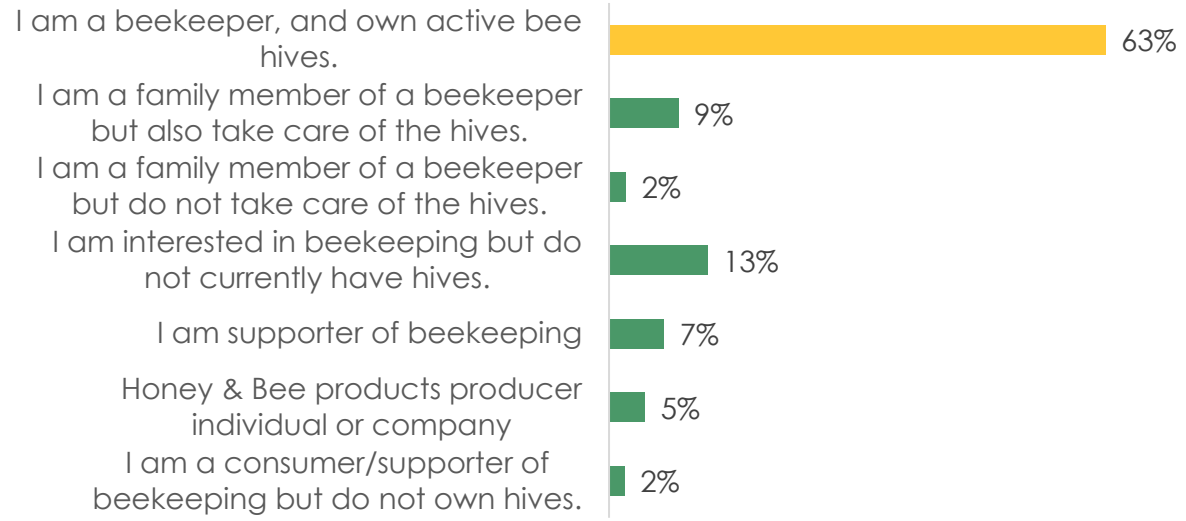
To estimate the number of active beekeepers in the group, **a triangulation approach** was used, drawing on two independent data sources from group activities:

1. **A Facebook poll**, specifically designed to classify the role of members in beekeeping.
2. **Average viewership data** from beekeeping-related online events held within the group by Georgian Beekeeper Union

Findings

Source 1 – Poll Results

The poll was conducted over a two-week period and was seen by 4,300 members, with a total of **704 respondents**. The question posed was: "*Select which best describes your role in beekeeping?*". Participants could select only one of the given roles.



If the 63% share is considered representative of the group's 26,298 active members[5], it would indicate approximately **16,586 active beekeepers** in the group. Based on the poll stats **17%** of the respondents who identified themselves **as active beekeepers were women**.

Source 2 – Online Event Viewership

Educational and problem-solving online events led by professional beekeepers and trainers have had an average of 15,000 viewers per session (based on analysis of 8 session data from 2024 and

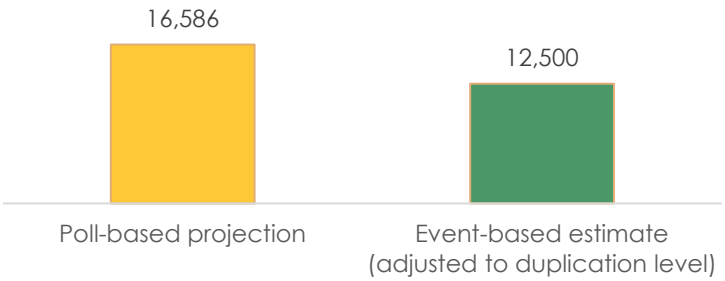
[4] The group is closed and its content only available for view for the group members

[5] In total the Facebook Group has 42,000, but according to FB page statistics the active ones are 26,298 members who show regular engagement in the group activities (page visits, posts, discussions, etc.). Therefore for more accuracy active member number was taken for the calculation of unique beekeeper HHs

2025). These events are highly technical in nature and likely attract a predominantly beekeeper audience, offering a separate estimate of engaged beekeepers.

Since the live video views (15,000) likely include repeat views, a correction factor (average repeats per viewer - 1.2, low duplication rate) was applied to it to estimate the number of unique viewers, which equaled to **12,500.**

Conclusion



These two data points provide a rough estimate of the number of beekeeper member households in the group. Due to certain limitations (given below) a conservative approach was taken selecting the event- based estimate as actual number of Beekeeper household members of the Georgian Bee Group **12,500.** Out of these **17% (2125HH)** was used as a multiplier to identify female beekeeper households (Based on Facebook online poll results)

Limitations which could affect the figures presented in these findings:

- The poll may have a self-selection bias, with active beekeepers more likely to respond.
- Online event viewership may include repeated views or non-beekeepers with casual interest. Though applying a correction factor, may improve the accuracy of the figure.

Annex 2. HONEY IMPACT ASSESSMENT QUESTIONNAIRE

PART1: General information

Age	
Gender	
Ethnicity	
Municipality, Region	

1. **[Interview]: Check which ALCP2 clients/services do the beneficiary use.**

Activities	Yes
Attended beekeepers training organized by GBU/ RDA?	1
Received beekeepers' SMS from GBU	1
Received consultation (F2F, Telephone/from GBU from GBU (Aleko Papava)	1
Attended/ watched online meetings at Georgian Bee FB pages?	1
Bought Beehives & Beeswax from the ALCP client [interviewer mention name of ALCP2 clients: Tamazi Glonti (beeswax), Vakho Glonti (Api Guru and Skalona (Valeri)]	1
Received beehives sublimation, smoking equipment	1
Supplied honey to API GEO, Royal Honey or Tapli Sakhlshi	1
I have Jara Beehives, Attended JBA trainings on bio certification, received JBA services (honey harvest, bio treatment, bio medicines)	1

1. **How long have you been supplying with the ALCP client [mention name of the honey company]?**

_____ Years

2. **How has working with this honey company helped you? What are the benefits?**

_____
_____
_____

PART2: Climate change and diseases

C1. What are the biggest challenges you currently face in beekeeping?

_____
_____

C2. How have climate conditions affected your beekeeping in the last three years? What are the conditions?

_____
_____
_____

C3. Have you adopted any new practices to cope with climate conditions? If yes, what are they?

_____
_____
_____

C4. Interviewers Note: Have you noticed the increase or decrease in bee diseases?

- Ask about Tropilaelaps cases? Other widespread diseases? How do they treat this disease? With or without antibiotics etc.?

_____
_____
_____

PART3: WEE questions for Beekeepers

W1. Which of the household members is the main beekeeper?

1. Men
2. Women
3. Both

W2. Does other family members also contribute / are involved in beekeeping?

1. Yes, men
2. Yes, Women
3. Yes both, men and women
4. No.

W3. How does men/women/boys and girls contribute to beekeeping? What do they do exactly? [ask separately about men, women, boys and girls] Does these roles and responsibility change in the last 3 years? Why/how?

_____
_____
_____
_____

List of activities	Women Respondent				Men Respondent			
	W	M	Both	*Youth*	W	W	Both	*Youth*
Taking care of beehives								
Transhumance								
Honey harvest								
Producing other bee products								
Honey Sale								

WEE agency			
	W	M	Both
W4. Who makes the final decisions on beekeeping investments (e.g., purchasing hives, beeswax, equipment, expanding production)?			
W5. Please, tell us who makes decisions at your household how to spend money received from sales of honey?			

W6. How do you usually spend the income from honey sales? (Select all that apply)

1. Household expenses (food, utilities, etc.)
2. Household Equipments (TV, computer, washing machines)
3. Household Assets (House, land & car)
4. Beekeeping investment (equipment, more hives, etc.)
5. Children's education
6. Healthcare
7. Savings
8. Other (please specify): _____

W7. Overall, how satisfied are you with your beekeeping business? Why?

- What are the future plans regarding the beekeeping business?

_____
_____
_____
_____

W8. Comments & Interviewers Notes

_____
_____
_____
_____