NTFP Value Chain Analysis in Guria, Mtskheta-Mtianeti, and Kakheti

Enabling the implementation of Georgia's Forest Sector Reform - **ECO.Georgia**

Value Chain Study

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Executive summary

Currently, the potential of the economic value of Non-Timber Forest Products (NTFPs) largely goes unnoticed in official statistics and research publications despite NTFPs being important natural resources that support sustainable bioeconomy value chains, green jobs, alleviation of poverty, and economic and social development. The purpose of the assessment is to overview the existing literature on NTFPs, select the priority NTFPs and provide additional insights regarding the NTFP value chain in Georgia, with an additional focus on target regions.

Despite the data limitations, the analysis shows the increasing global demand for NTFPs and the potential for the development of NTFP sectors in Georgia. On the other hand, the NTFP value chain in target regions (Mtskheta-Mtianeti, Guria, and Kakheti) has further potential for development considering the abundance of selected organic wild NTFP products on their territories. However, issues like the lack of labor force, lack of knowledge on sustainable harvesting and product diversification, and the number and capacity of the processing enterprises create hindrances to the development of the value chain and higher inclusion of local vulnerable groups with an aim to improve the general socio-economic situation in rural areas.

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Abbreviation	Definition
AG	Agricultural
AR	Autonomous Republic
CENN	Caucasus Environmental NGO Network
CITES	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
DAI	Development Alternatives, Inc
EU	European Union
FES	Forest Ecosystem Services
HH	Household
HS	The Harmonised System Classification
IE	Individual Entrepreneur
LLC	Limited liability company
LQ	Location Quotient analysis tool
MEPA	Ministry of Environmental Protection and Agriculture of Georgia
MSME	Micro, Small & Medium Enterprises
NACE	Nomenclature of Economic Activities classification
NACRES	Noah's Ark Centre for the Recovery of Endangered Species
NTFP	Non-Timber Forest Products
PPP	Public-private partnership
PPD	Public-private dialogue
RCDA	Rural Communities Development Agency
RCS	Registered Cooperative Society
RDA	Rural Development Agency
SME	Small and Medium Enterprises
SS	Shift-Share analysis tool
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
USAID	The United States Agency for International Development
VC	Value Chain

❖ Introduction

Non-Timber Forest Products (NTFPs) are important natural resources that support sustainable bioeconomy value chains, green jobs, alleviation of poverty, and economic and social development. The current and especially the potential future economic value of NTFPs largely go unnoticed in official statistics and foresight analysis, as many NTFPs are part of the informal economy and often are not included in official records. Therefore, the NTFP sector represents an untapped source of economic and social development, also benefiting the environmental sustainability of the country. In addition, the NTFP sector may be vulnerable to external risks posed by both global and local challenges, such as climate and land-use changes, uncontrolled harvesting, inadequate management, and illegal trade[1].

The forest is a particularly valuable natural resource of Georgia, occupying almost 43% of the country's territory. Considering that Georgia is a highland country, almost all forest area (97.7%) is located on mountain slopes. The total forest area[2] of Georgia is 3.1 million hectares[3]. The following table shows the distribution of forest areas in Georgia by the managing parties of the forest resources.

Most of the forest area of Georgia is under the National Forestry Agency (65%)[4], which is then distributed by regions given in Table 2. Notably, the Imereti region has the 2nd highest forest area after the Abkhazia region, followed by Kakheti and Racha-Lechkhumi and Kvemo Svaneti.

Considering the share of forest area in a total area of the region, Racha-Leckhumi and Kvemo Svaneti region leads with 56.4%, followed by Imereti (48.2%) and Guria (42.1%).

Table 1: Forest area of Georgia by regions, 2020

Region	Forest area (thousand hectares)	Share of forest area in total area of the region
Imereti	312.1	48.2%
Kakheti	288.3	25.5%
Racha-Lechkhumi and Kvemo Svaneti	281.6	56.4%
Samegrelo-Zemo Svaneti	272.0	36.6%
Mtskheta-Mtianeti	237.7	35.0%
Shida Kartli	237.2	41.4%
Kvemo Kartli	146.3	24.1%
Samtskhe-Javakheti	129.8	20.2%
Guria	85.5	42.1%

Source: National Statistics Office of Georgia, PMC RC calculations

Diversity and the scale of the Georgian Forest area and available forest products provide direct and indirect benefits to the population of Georgia. Georgian forests have vital importance for the safety and well-being of the population, as well as for different industries. Clean water supply for a major part of the Georgian population depends on forests. Water supply for agriculture, clean air, NTFP, eco-tourism etc. depends on forest ecosystem health. Healthy forest ecosystems produce and conserve soil and stabilize stream flows and water runoff, which helps to reduce the risks of natural disasters (droughts, floods, landslides). Forests contribute to poverty eradication and economic development by providing food, fiber, timber, and other forest

[1] Food and Agriculture Organization of Untied Nations – Non-wood forest products for people, nature and the green economy. Recommendations for policy priorities in Europe

[2] Forest Area - Set of state forest, its land, forest under other types of ownership and their resources. Forest area consists of areas covered by forest and areas not covered by forest. The last includes fields, meadows, pastures, swamps, cliffs, glaciers, etc. Therefore, the data given in the table includes the forests under the private ownership as well as forests under public ownership.

[3] https://www.geostat.ge/media/41827/ENVIRONMENT_2020_V3.pdf

[4] Followed by the forest area under Agency of Protected Areas (16.4%), the Forestry Agency of Adjara (4.8%), and Abkhazia AR (13.8%)

products for subsistence and income generation. Forests also serve as sites of aesthetic, recreational, and spiritual value (GIZ, 2022). They contribute to the efficient functioning of economic sectors and alleviation of poverty, and development of a favorable economic and social environment.

It is generally believed that the forests of Georgia are rich and diverse, including non-timber resources (berries, fruits, mushrooms, medicinal plants, etc.). However, it should be noted that the resource assessment of non-timber resources in forests has received little to no attention in the past years. Therefore, currently, there is no precise information regarding the existing stocks and their economic potential.

1. Purpose of the Assessment

The purpose of the analysis is to provide insights regarding the NTFP industry in Georgia and in target regions, provide the basis for the further value chain analysis and resource assessment, as well as lay the foundation for the identification of priority value chains of the NTFP. The assessment aims to identify the major challenges, assess the current situation, and distinguish the opportunities of the NTFP sector in target municipalities of Guria, Mtskheta-Mtianeti and Kakheti to provide concrete recommendations for developing the value chains. As a result, recommendations seek to enhance the social inclusion of local households and SMEs in NTFP VC, product diversification, product quality, work safety, marketing and sustainable development of the value chains in a gender-balanced way.

The assessment covers two stages of data collection and data analysis. In particular, insights regarding NTFP value chains were evaluated using both - desk review (collection and analysis of secondary data) and primary data collection through in-depth interviews and consultations with relevant stakeholders of NTFP value chains.

The initial desk review covers topics such as innovation potential in the NTFP sector, legislative and administrative environment, and economic activities of the sector. Regional and municipal insights are also provided based on the availability of previous literature. In addition to that, the information regarding the municipal level assessment of existing NTFP value chains are integrated through the analysis of qualitative data collected throughout the interviews with the main value chain actors. Importantly, based on the qualitative analysis, a detailed mapping of value chains actors is created for the municipalities.

The desk report also aims to prioritize the NTFP products in the target regions to provide the basis for further qualitative analysis of the value chain and resource assessment of the priority NTFPs. Notably, the final selection of priority NTFPs per municipalities is provided based on the combination of desk review and qualitative analysis.

The qualitative analysis also addresses the information gap regarding the gender-specific characteristics and issues of NTFP value chains. The assessment also provides information regarding the strengths, weaknesses, opportunities, and threats of the NTFP value chains in target municipalities of Guria, Mtskheta-Mtianeti, and Kakheti regions. Finally, it provides recommendations on support measures for VC actors for enhancement of their business activities and income diversification, and policy recommendations aimed to promote and support the sustainable development of NTFP value chains, sustainable NTFP harvesting, creation of linkages between adjacent value chains, income, and product quality increase, NTFP certification, benefit-sharing approaches, marketing development, and facilitation of gender-balanced development of value chains. It must also be noted that one of the objectives of the qualitative analysis is to evaluate individual non-timber forest product resources: estimation of the scale and location of the presence of selected NTFPs in Kakheti and Mtskheta-Mtianeti regions, estimation of the harvesting levels and their consistency with the level of replenishment of resources. Resource anticipation is among the contributors for determining sustainable harvesting volumes, assessment of the potential for cultivation, and consequent recommendations for decision-makers and value chain actors.

2. Methodology

In the first stage of the desk research, data was collected from various sources, such as United Nations Comtrade portal, the National Statistics Office of Georgia (Business register and export statistics), National Forestry Agency, Rural Development Agency and Enterprise Georgia.

The global import data was gathered from United Nations Comtrade database, which aggregates detailed global trade statistics by products. However, the globally accepted traded product HS classification does not distinguish between wild and non-wild products, therefore the import on several trade products is just an estimation of global demand and is not precise as the HS classification products may also include cultivated products in some cases.

In addition to that, Georgian export statistics were also sourced from the trade portal of the National Statistics Office of Georgia. The dynamics of exports and total export portfolio of the products were analyzed. Similar to the global demand, the HS codes do not exactly classify NTFPs separately, therefore the results of the analysis are also an estimation and not the precise picture of NTFP export dynamics and portfolio.

Notably, the business statistics, such as value-added, turnover, employment, and salaries, from Geostat were not available for the NACE code 2.3 - Gathering of wild growing non-wood products and was only available for the Forestry and logging code (NACE code 2). Therefore, the business statistics were excluded from the analysis as only a minuscule share of economic activities in forestry and logging industry could be attributed to NTFP value chains. Other economic sectors were also excluded from the analysis, such as processing and preserving of fruits and vegetables, considering that main input products in those sectors are cultivated rather than collected in the forest.

The available data was then analyzed by the target regional and municipal levels in Microsoft Excel. Graphical visualizations are also provided. Various indicators and their dynamics were evaluated including the information regarding the beneficiaries of government grants, such as Enterprise Georgia and RDA. Short profiles for those companies were provided to describe their business activities and connection to NTFP products.

Apart from the statistical data, the existing literature was gathered and overviewed, covering the general value chain trends, challenges, and opportunities in Georgia as a whole and on regional levels (please refer to the Bibliography).

Based on the collected and analyzed statistical data and literature review, the final desk overview of the NTFP value chain document was developed.

On the next stage of the assessment, qualitative data was collected and analyzed through conducting in-depth interviews with NTFP value chain actors and other stakeholders[5].

Firstly, the list of relevant stakeholders was created, which included public sector representatives, NGOs and project representatives, value chain actors (such as collectors, aggregators, processors, distributors, wholesale and retailers, exporters).

A set of questionnaires was developed per each type of stakeholder and value chain actor, considering their role in the NTFP value chain. In particular, separate questionnaires were created for different value chain actors (collectors/aggregators and manufacturers) and other

[5] Refer to Annex 4: Distribution of Conducted Interviews

stakeholders (such as public sector representatives). The interview questionnaire covered the value chain processes, such as collection/aggregation, export, local sales, marketing, product diversification, quality of production, certification, labor force (including gender-specific questions), innovations, infrastructural issues, and public support. Notably, resource assessment questions were integrated into the questionnaire of the value chain actors. The existing challenges and bottlenecks were identified regarding the processing, handling, and other business operations through the questionnaire. Apart from that, the questionnaire focused on questions regarding the potential of value addition for the NTFP sector's priority products.

Apart from that, the opinions of private companies regarding the certification of certain promising products were analyzed through the questionnaire, and on the other hand, the feasibility of the introduction of certification was overviewed using the special questions prepared within the questionnaire for public sector representatives.

The collected quantitative data was analyzed using the MAXQDA platform by coding the interview notes.

3. Definition of NTFP Sector

Non-Timber Forest Products (NTFPs) are defined as wild or semi-wild non-wood forest species or products, also products in the early stages of domestication such as fruit trees, bushes, and orchards (European Forest Institute, 2019). The utilization of commercial opportunities of NTFPs and their sustainable exploitation have an increasing role in tackling rural poverty and the development of rural economies.

The "Rule on Forest Use" of Georgia determines non-timber forest resources as mushrooms, medical raw materials, technical raw materials, other herbal plants and their parts, bush plants and their products, that do not include timber.

The Food and Agriculture Organization of the United Nations defines NTFPs as goods of biological origin other than wood, derived from forests, other wooded land and trees outside forests. Terms such as "minor", "secondary" and "non-timber" forest products (NTFPs) have emerged as umbrella expressions for the vast array of both animal and plant products other than wood derived from forests or forest tree species[6].

European Forest Institute describes the following commodity dimensions of NTFPs and their specificities:

Table 2: Commodity Dimensions of NTFPs

Type of Commodity	Characteristics	Example
Personal Consumption	Personal Consumption and use of NTFPs within household	Collection of berries and wild mushrooms for use at home
Gifts	Personal collection to be given as gifts to family members and friends	Making wild berry jam to give as gift to family living in the city
Experiential products	Services related to the growing, collection and use of forest products	Paying for a basket weaving course
Territorial products	Regional specialties only	Farmhouse made traditional

[6] https://www.fao.org/forestry/nwfp/87212/en/

	available in local markets with or without specific territorial marketing such as local jams and liqueurs which are generally not available outside the region	mushroom pate sold through tourist shop as local delicacy
Niche products	Products aimed at a small, specialized market segment but not regionally constrained	Internet sales of boar bristle brushes
Mass market / industrial raw materials	Sale of bulk raw materials for industrial use	Cork auctions to factories making bottle stoppers

Source: European Forest Institute (2019)

Thus, the commercialization of the NTFP sector, sustainable use of resources and moving up the value chain can serve as a tool for poverty eradication and evolve as a significant engine for local and regional economic development.

Most rural households collect NTFPs for their own consumption, but – although this was until recently not legal – some households commercialize them, either locally or through more complex value chains involving local and regional intermediaries, processors, and exporters. (UNIQUE, 2021).

4. Innovation Potential in NTFP Sector

Innovation drives the diversification of the NTFP sector, its commercialization and export competitiveness. The European Forest Institute distinguishes following innovation trends in the NTFP sector:

Table 3: Innovation Trends in NTFP Sector

Type of Innovation	Description
Product Innovations	Even though NTFPs are traditional products, they can be substantially improved, or their new use might be explored. The example is cork, new uses of which are constantly developed through R&D.
Process Innovations	Improvements related to the process include forest management, product harvesting and processing. Harvesting and processing innovation support cost reduction and improvement of the product quality.
Organizational innovations	Horizontal or vertical cooperation that can make NTFP businesses more profitable
Marketing innovations	Improvement of NTFP marketing via new packaging, design, advertising or labelling. New marketing may also address new customers through different design or new advertising or distribution channels.
Policy innovations	New or adapted regulatory frameworks
Institutional innovations	Evolution of new institutions that might be certification schemes, regional marketing approaches or lobbying organizations
Social innovations	Novelties originated from Civil Society, such as foraging or bushcraft activities, rediscovery of old skills and traditions or survival training.

Source: European Forest Institute (2019)

NTFP sector of Georgia has significant potential in all dimensions of NTFP sector innovations. Further improvement of the sector's competitiveness requires efforts in enhancing product and process innovations, support of creative marketing, and evolution of supporting institutions in the forms of business associations and clusters.

In the field of marketing, the innovations in the Georgian context might include the following activities:

- Packaging, design, and labeling efforts to improve the market positioning of the NTFP products
- Introduction of local or regional brands through cooperation between NTFP producers
- Acquire organic or "from the wild" certification schemes
- Creation of online marketing and selling platforms

Institutional innovations may focus on the following initiatives:

- Creation of local or regional NTFP associations or business clusters
- Implementation of joint activities under the umbrella of associations or clusters for the solution of value chain-related challenges, promotion of marketing, improvement of market access, support technology transfer, product, and process innovations

5. Legislative and Administrative Environment

The new Forest Code of Georgia[7] was approved by the Parliament of Georgia on the 22nd of May 2020 and was eventually taken into force at the beginning of 2021. Prior to that, the Forest Code of Georgia[8], which was valid from 1999 to 2021, practically did not include legislative regulations regarding NTFPs. The existing legislative acts only mentioned non-timber forest products, however, there were no systemic inquiries and regulations regarding the use of NTFPs.

Before 2021, the main regulation tool for selected NTFP products was the ordinance of the government of Georgia within the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[9], which was taken into force on 6th of February 2007. The selected NTFPs were fir-tree cones and bulbs of Galanthus woronowii and cyclamen.

Since the beginning of 2021, the reform of the Forest Code of Georgia modified the legislative and administrative environment for the NTFP value chains. The forestry reform aimed at the development and implementation of the principles of sustainable management of forest resources. The main foundation and motivation for the principles of sustainable management is the reduction of the pressure on the use of forests and receive ecological and economic benefits.

In May 2021, the new "Rule on Forest Use" was introduced[10], which was fully in agreement with the principles and objectives of the new Forest Code. Throughout the following year, the „Rule on Forest Use" was modified three times and finalized by May of 2022.

The new "Rule on forest use" has determined legislative mechanisms on sustainable management and use of forests, aimed to safeguard the sustainable use of Georgia's forest resources upon enhancing, as well as improvement of characteristics, protection, and

[7] https://matsne.gov.ge/ka/document/view/4874066?publication=2#DOCUMENT:1;
[8] https://matsne.gov.ge/ka/document/view/16228?publication=30
[9] https://www.matsne.gov.ge/en/document/view/5490950?publication=0
[10] https://matsne.gov.ge/ka/document/view/5169447?publication=0

maintenance of ecological worth of forests.

Notably, the new rule does not limit access of the population to NTFPs, such as rosehip, blackberry, raspberry etc. Therefore, limits were not put on the households towards using NTFPs for private consumption. Free use of the natural environment of the forest implies the right of a person to be present and move freely in the forest, to collect NTFPs, wood products, and secondary wood materials, as well as spruce for personal use.

However, the rule establishes certain conditions for temporary restriction of free access to NTFPs. On the other hand, the regulation permits the commercial usage of NTFPs to the private sector, which had been limited prior to its adoption. The previously absent legal means for accessing non-timber resources was hindering the capacity of businesses to undertake export operations and to realize the products in the markets legally.

To be allowed to use the NTFPs commercially, legal persons have to apply for permission to the forest management bodies and receive the respective permit with a duration of one year. The person who holds the permit will be responsible to provide an annual report on acquired resources and pay a fee for utilizing natural resources, as set forth by the legislation.

Throughout the first six months of the implementation of the new Forest Code of Georgia, some gaps in the direction of the development of norms and regulating legislative acts were identified, creating the space for some alternations, such as modifications in some definitions, terminating the status of the forest, legislative principles for forest use, in the Forest Code[11].

The National Forest Agency is responsible for forest maintenance and reforestation and the sustainable use of biological diversity components in forests. The main tasks of the Forest Agency include:

- Forest fund management within the framework of the powers established by the Forest Code, legal and other statutory regulations.
- Implementation of measures for the maintenance and restoration of forests.
- Regulation of forest management.
- Implementation of control in the territory of the forest fund (except for licensing conditions) within the framework of the powers established by law.
- Implementation of forest inventory accounting.

Therefore, the National Forest Agency is responsible for issuing the permits for Forest Use and collecting the respective bills from the enterprises that use NTFPs for commercial use. The cost of issuance of the right for Forest Use amounts to 200 GEL and after acquiring the permit, the businesses are obliged to pay 0.01GEL per 1KG of the non-timber forest products, such as raspberry, blackberry, blueberry, berberis, and rosehip, gathered from the forests under the management of the National Forest Agency (see Table 4).

Table 4: Non-timber forest products and corresponding fees for collection

№	Resource	Amount of pay (GEL/kg)
1	Woronow's Snow-drop, Eastern Sowbread bulbs	0.1
2	Fir-tree cone	0.60
3	European blueberry	0.01
4	European blueberry leaves	0.01
5	Ragwort	0.01
6	Rosehip	0.01

[11] https://matsne.gov.ge/ka/document/view/5306129?publication=0

7	Crabapple	0.01
8	Sea-Buckthorn	0.01
9	Yarrows flower	0.01
10	Cowslip root	0.01
11	Cowslip flower	0.01
12	Leucojum bulb	0.01
13	Berberis	0.01
14	Black Hawthorn	0.01
15	Other[12]	0.01

Source: Law on "Fees on the usage of natural resources"[13]

The Law of Georgia on Licenses and Permits[14], which regulates all activities that use public resources by determining the exhaustive list of types of licenses and permits, establishing the rules for issuing licenses and permits, making changes to them, and canceling them, also provides additional information on the regulation of the non-timber forest products' usage. According to the law, the types of licenses to use includes the License to export fir cones, as well as snowdrop bulbs and/or cyclamen tubers that are listed in the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Apart from that, the law also provides additional information on general licenses for forest use, however, that does not specify the regulations specifically on the use of NTFPs. Therefore, according to the legislation on licenses and permits, only specific types of NTFP products are regulated through licensing.

The Administrative Offences Code of Georgia[15] states that the non-accordance with the licensing rules to export fir cones, as well as snowdrop bulbs and/or cyclamen tubers that are listed in the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) will result with the fine of GEL 2000, while the non-accordance with the license rules in the pre-defined period will triple the fine. On the other hand, the illegal use of other non-endangered species of non-timber forest products is noted to result in a fine from GEL 50 to GEL 150.

6. NTFP Data Analysis

The NTFP Data Analysis section of the report will cover both the desk review and the qualitative analysis of the NTFP value chains. The first sub-section will cover the analysis of secondary data, while the second sub-section will analyze the qualitative data collected by conducting in-depth interviews with relevant stakeholders and value chain actors.

Desk review

This section will analyze the available quantitative data regarding the NTFPs in the target municipalities of Georgia and in the country, considering the data availability issues regarding the NTFPs in Georgia. Firstly, the data analysis section will also provide an overview of global demand on NTFP products through analyzing the global imports of the selected HS classification products that include the NTFP products sourced from the United Nations Comtrade database. However, it must also be noted that HS classification does not

[12] The category "Other" includes all types of non-timber forest products permitted by the legislation of Georgia, including products of timber plants.
[13] https://matsne.gov.ge/ka/document/view/5305988?publication=0
[14] https://matsne.gov.ge/ka/document/view/26824?publication=92
[15] https://matsne.gov.ge/ka/document/view/28216?publication=511

differentiate between wild forest products and cultivated forest products, which could be the limitation of the analysis.

Apart from that, the export data on selected HS codes sourced from the National Statistics Office of Georgia will be overviewed focusing on the dynamics and the portfolio of NTFP trade. Notably, the same limitation regarding the selection of HS codes will be relevant in this sub-section as well as in the global demand sub-section.

To overview the local NTFP sector in Georgia, the registered business entities operating in NTFP sectors will be shortly overviewed, also providing additional information on the funding of companies that operated in NTFP sectors. Considering that the official classifications from the business funding projects cannot be used to precisely select the companies operating in NTFP sectors, individual desk research was made for the companies to identify the main actors of NTFP sectors, and finally, providing short company profiles for each.

Overview of the Global demand on NTFPs

To analyze the global demand the selection of products with HS classification was analyzed. To proxy for the global demand for NTFP products various types of HS codes and their trade dynamic were analyzed. In particular, the following graphs include the exports of foliage, branches, other parts of plants for ornamental and pharmaceutical purposes, and edible dried or fresh fruits, and berries.

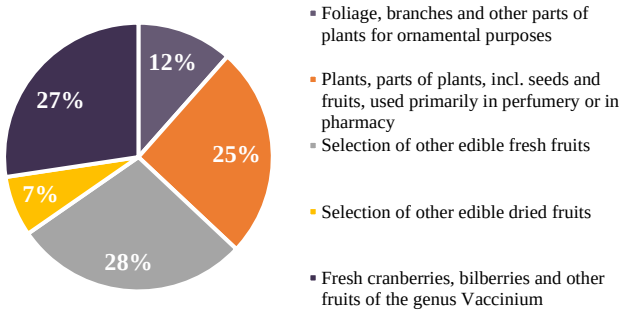
Based on the data sourced from the United Nations Comtrade database, all types of selected products have demonstrated an increasing trend in the volume of imports throughout the 2012-2021 analysis period. However, it must be noted that the value of global imports has been increasing most intensely for fresh cranberries, bilberries, and similar berries, compared to other types of selected import products. Apart from that, cranberries and bilberries also demonstrated the strongest increase in the volume of imports as well.

Notably, the demand for parts of plants for use in perfumery and pharmacy has also shown a significantly increasing trend throughout the last decade. In addition to that, compared to parts of the plants imported for ornamental purposes, the average price of pharmaceutical plants is almost twice as much as the price for ornamental plant products.

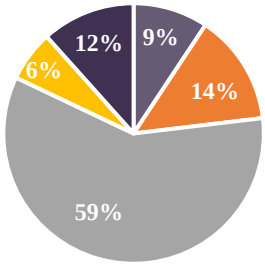
It is also interesting to overview the portfolio of those products in the aggregated global imports. The selection of edible fresh fruits (28%) and cranberries and bilberries (27%) were among the top categories based on the import value. On the other hand, by volume, the share of edible fresh fruits is highest, meaning that the average import price for those products was relatively small compared to other types of products.

Figure 1: The global import portfolio of selected HS product categories that include the imports of NTFPs by import value and by import volume (2012-2021)

Global import portfolio based on import value (2012-2021)



Global import portfolio based on import volume (2012-2021)



Source: UN Comtrade Database

To summarize, it can be considered that the global demand for NTFP products is increasing for all types of products. However, it must also be noted that throughout the last decade, berries have become more and more demanded on the global market and are on average higher priced compared to other NTFP edible fruits. On the other hand, some plants that can be used in perfumery and pharmacy still stand as the highest valued among other NTFP products despite relatively lower demand.

The Dynamics of Exports of NTFPs from Georgia

One of the indicators that can be used to identify the most demanded NTFPs is the data on the exports of those products. The data on export dynamics was available for Lingonberry, European Blueberry, Highbush Blueberry and Cranberry, and Rosehip. However, it must be noted that the generally accepted HS code classification does not give us the ability to distinguish between wild/forest products and cultivated goods. Therefore, the graphs below analyze the dynamics of the exports of selected[16] products that can be gathered in the forest, however, those are not distinguished from the cultivated products.

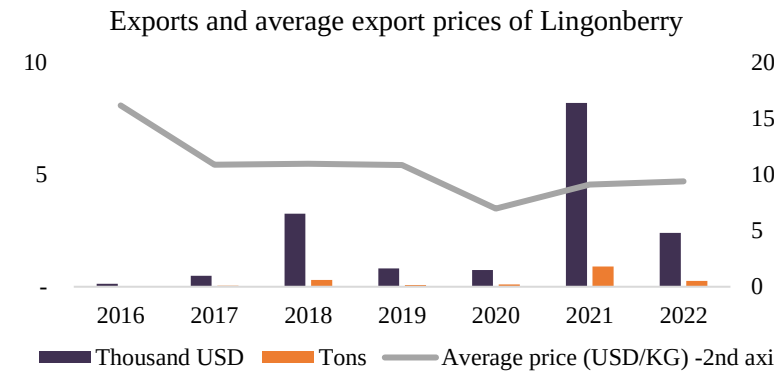
In all the selected products, the increasing trend in export volume and value can be noticed. Among those products, export volume and value are highest for highbush blueberry and cranberry, however, the exports can be assumed to be mainly contributed by the cultivated blueberry. The exports of rosehip, which showed a rapid jump in exports in 2022, are also among the high-volume exports among selected products. The lowest volume and value of exports were recorded for exports of lingonberries.

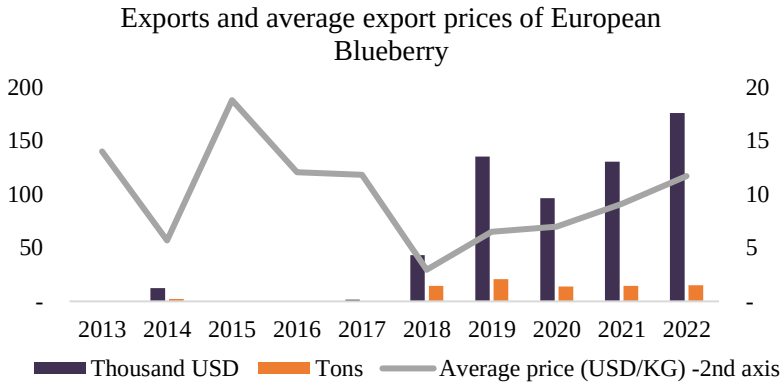
When looking at the average price of exports, which is calculated by dividing the value of exports in thousand USD by the volume of exports in tons, the relatively high average price of exports was recorded for lingonberry and European blueberry.

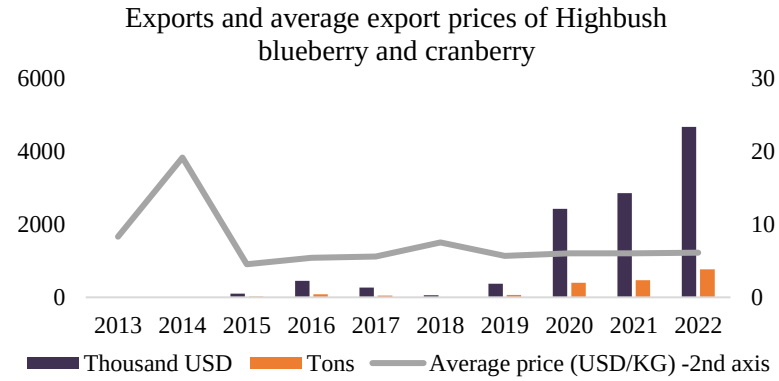
The lowest average price of exports was recorded for rosehip, however, it must be noted that the average price has been showing a significant upward trend throughout the last decade.

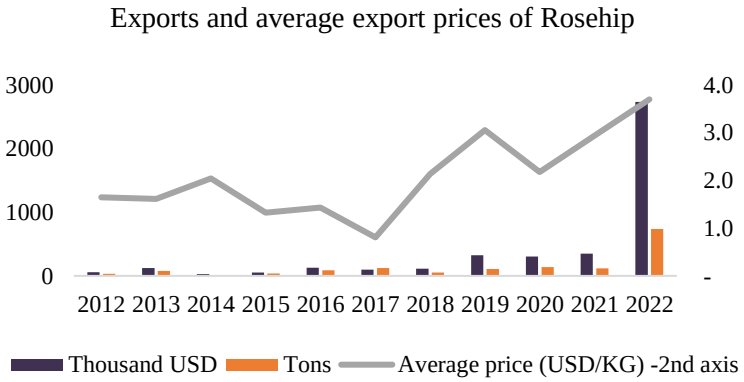
[16] The products are selected considering the data availability of export statistics, other groups that could include NTFP products are too large, therefore the pattern of NTFP product exports would be distorted

Figure 2: Export volume, value, and average price dynamics of selected products (2012 –2022)









Source: National Statistics Office of Georgia

Apart from that, it must be noted that based on the previously conducted analysis, NTFP products exported to Europe are mainly in dry form and the majority of the exported products are dried wild fruits.[17]

NTFP Value Chain – Main Actors in Georgia

The value chain actors are described based on the reports of UNIQUE, PMC RC, and TBSC Consulting.

Input Suppliers, that provide collectors with hand tools for effective collection of forest products and special vehicles for wild collection in the forests and transportation to the destination. For cooperatives, input suppliers provide production inventory and packaging materials. The provision of utilities - electricity, water and gas also represent an important input for the cooperatives. More sophisticated production inventory and packaging materials are supplied to the NTFP processors. Regarding intangible assets, the wild collection skills represent an important capacity for the collectors.

Collectors represent an important part of the value chain. They either collect NTFPs for own consumption, or for commercial purposes. They mostly sell products independently to end users via local markets or to the neighbors. The reasons for direct selling are potential to

[17] https://assets.forest-atlas.org/geo/PDFs/Deliverable_III_Final_geo.pdf

generate higher margin, absence of intermediaries in some municipalities and difficulties associated with the transportation of perishable products from remote areas (UNIQUE, 2021). Collectors mainly have storage facilities in their living spaces. When they supply intermediaries, the NTFPs are stored for 1-2 days. Collectors mainly use sugar bags as simple packaging materials.

Intermediaries, that are engaged in the consolidation of NTFP products from local collectors. In some cases, they have own reception points, or collect the products in the villages. Some intermediaries that own facilities do initial processing of the products. They sell products to large markets and retail outlets.

Processors add value to the NTFPs and are decisive players at the upper end of the value chain. Usually, they have closely associated intermediaries, typically individuals residing in rural areas, that organize groups of collectors at the local level. Generally, processors are engaged in initial and second-stage processing. Processors operating at the local and regional levels mainly deploy small scale, relatively cheap technologies, while the large processors utilize modern technologies and are capable to produce high quality products. Hence, they mainly target export markets while local and regional processors are mostly concentrated on domestic market and export only in rare cases. Processors might be cooperatives, that mostly conduct small scale value addition activities and companies, that are more equipped and capable to conduct processing activities and export the products. The processing activities may include chilling (to decrease the humidity of fresh fruits or keep them unspoiled), chopping, shelling, destoning/pitting, drying and boiling. Processors are also engaged in packaging activities and some of them have vacuum packing machines.

Domestic customers purchasing NTFP products throughout Georgia. This segment of the value chain includes individuals that purchase primary or processed NTFP products from collectors or in the retail shops, village markets or restaurants. Among the customers are retail shops that place processed NTFPs on their stores and restaurants. Also, an important domestic customer is the pharmaceutical industry.

International Buyers basically represent Multinational Companies that import Georgian NTFPs and partner with selected processing companies. Based on previous research, experts assume that more than 90% of the NTFPs processed in Georgia are exported.

Internationally and locally bases Certification bodies, providing certification of

- organic products,
- legally, ethically and sustainably harvested products
- social, environmental and economic standards

Due to the fact that the majority of the NTFP products can be collected for a very short period of time, collectors often tend to exit NTFP collection activities. This affects the business model of intermediaries and processors, who invest in capacity building of collectors. Due to high turnover they often need to seek new partners. In addition, the short seasons for harvesting NTFP products cause the low utilization rate of processing equipment, extending their depreciation period and hampering motivation to invest in modern equipment.

To overview the local actors of NTFP sector in Georgia we utilize the set of indicators and information sources to fill in the information gaps mentioned in the methodology section of the desk review report.

Even though the NTFP is among the economic sectors that often operate in the shadow economy, therefore the individuals and enterprises working in this sector are often not

included in the general statistics, it may still be useful to overview the number of companies operating officially under the NTFP economic sector.

Under the NACE Rev.2 classification, code A 02.3 stands for "gathering of wild growing non-timber forest products". Currently, only 14 enterprises are registered in Georgia as operating under this economic sector. Most of those companies are small-sized[18]. Among those companies, only 1 operates in the target region of Mtskheta-Mtianeti. There are no active enterprises operating under code 02.3 in other target regions – Guria and Kakheti. However, it must also be noted that despite the official location of the enterprise, the operations of some large enterprises may also cover the actors of target municipalities as they may be among the NTFP providers/gatherers to the larger enterprises.

Throughout the last decade, the number of companies operating under 02.3 NACE classification was relatively stable at low number, fluctuating between 13-17 active enterprises.

Another NACE classification that may be connected to the NTFP value chain is 10.39 – "other processing and preserving of fruit and vegetables", however, this economic sector is too broad and only a small share of the companies operating under code of 10.39 use NTFP products throughout their operations. Therefore, those NTFP companies could not be integrated in the analysis of Business Statistics to avoid overestimating the number of companies operating in NTFP sectors.

To address those data issues, we utilized additional online sources to gather information regarding the major companies operating in the NTFPs and to create the company profiles.

Notably, the latest information regarding the type of NTFP used in their operations and the estimated amount of NTFP used by the companies was provided by the National Forestry Agency of Georgia. The estimated amount of NTFPs describes the amount of NTFPs that will be used by given enterprises throughout a year. The data was provided to the National Forestry Agency by enterprises in the beginning of 2022 and the estimations of NTFP use in 2022 were confirmed by an external expert or auditor. Based on the provided data on NTFP use, LLC Geo Flower is the largest user of NTFPs, which is followed by LLC Ilo and individual entrepreneurs based in Vani and Batumi municipalities.

In addition to that the data was provided on the government support programs such as programs of Enterprise Georgia and RDA to overview the funding support to the NTFP companies. However, the data provided and the classification of beneficiaries by their business activities were not sufficient to distinguish which beneficiaries operated specifically in NTFP sectors. Therefore, the companies given in the company profile table were individually searched in the funding databases to identify the government support scale for those operating in the NTFP sector. Therefore, the description of some of the entities includes information regarding the received government support.

The following table summarizes the information regarding some of the companies that operate in the NTFP value chain and are relevant for the analysis.

Table 5: Short company profiles of businesses operating in the NTFP sector

Company	Location of the company	Description[19]	Type of NTFP used	Estimated amount of

[18] The enterprise is referred to as small if the number of employees does not exceed 50, and the annual turnover is less than GEL 12 million (Geostat, 2017).

[19] The descriptions, including the locations of enterprises, are provided through a review of online sources, including websites and social media web pages of the companies.

			in their operations	the NTFP used/collected in 2022[20]
RCS "Khaverdovani Chai"	Village Gezruli, Tchiatura Municipality	"Velvet Tea" is a cooperative created by locals in Tchiatura municipality, which has been operating since 2016. The cooperative manages tea cultivated on a total of 21 hectares and produces various types of products. The cooperative has received funding within RDA programme "Georgian Tea" with total of GEL 43 755 in 2016-2017 years, however, the funding was directed towards the plantations of tea, rather than use of NTFPs.	Billbery leaves manufacturing	10 tons
LLC Ilo	Village Dagva, Kobuleti Municipality	This NTFP company is based in Kobuleti municipality specializing in manufacturing of Ruscus.	Ruscus hypophyllum manufacturing	150-300 tons
LLC Agro Culture +	Village Mandaeti, Tchiatura Municipality	LLC Agro Culture + founded 2018. The company has tea plantations in Tchiatura municipality. LLC also received funding through RDA programme "Georgian Tea" with an amount of GEL 33 617 in 2018 again mainly focused on tea plantations rather than usage of NTFPs.	Billbery leaves manufacturing	5 tons
LLC Geo Flower	Ambrolauri city, Ambrolauri Municipality	LLC "Geo Flower" is a dried fruits and medical herbs producer based in Western Georgia, officially in Ambrolauri municipality. Since 2007, the company has specialized in the processing and drying of fruits and medical herbs.[21] The main business activities include Fruits processing; Tea manufacturing; Tea trade; Dried fruit manufacturing; Dried fruit trade[22]. LLC received funding within RDA project of nonstandard apple realization support through the subsidy amounting GEL 86 673 in 2021 and GEL 28 043 in 2022.	Rosehip, dandelion, bot elder, wild apple, marjoram, hornet, bramble leaves, burdock root, raspberry, raspberry leaves, southernwood, primula, lime-tree flower and leaves, nettle	1405 tons

[20] The source of information on type of NTFPs used and their estimated amounts are sourced from National Forestry Agency. Notably, the dataset provided by the National Forestry Agency (NFA) did not include information regarding some of the companies that use NTFPs in their operations, which could be attributed to the combination of factors, such as the companies using the services of external aggregators to acquire the needed NTFPs. However, it must be noted that the provided data includes all companies that have acquired the right for forest use from the NFA in 2022.

[21] https://www.eu4business-ebrdcreditline.ge/en/ltd-geo-flower-dried-fruit-medical-herb-production/

[22] https://www.bia.ge/EN/Company/2336

LLC Kakheti Bio	Tsnori town, Sighnaghi Municipality	The company, registered in 2014 and officially based in Signagi municipality, produces the following products: Condiments and seasonings; Herbs; Medicinal plants. Its business activities include: Herbs cultivation, trade; Medicinal plants trade; Spices manufacturing; Spices trade.[23] Within RDA agrocredit program, LLC received total of GEL 163 348 co-funding throughout 2016-2019 years.	Primula veris manufacturing	10 tons
Natura Tea Ltd. - Guria	Village Gurianta, Ozurgeti Municipality	The company, registered in 2013, produces the following products and services: Distribution; Dried fruit; Tea; Travel agency, and similar services. The company's business activities include Tea manufacturing; Tea trade; Distributors; Dried fruit manufacturing; Dried fruit trade.[24] The company has received GEL 25 375 as a co-funding within the agrocredit programme of RDA in 2014 and GEL 27 125 within the "Georgian Tea" programme.	-	-
Bio Product Company (BPC) Ltd.	Natakhtari village, Mtskheta Municipality	The company, launched in 2010, specializes in producing organic and conventional natural juices made from wild rosehips and sour cherry[25]	Rosehip	20 tons
Tianetis Nobati AG. Cooperative	Tianeti Municipality	The cooperative, established in 2015, is engaged in collecting and processing non-timber forest products, fruits, and medicinal herbs, including primula, rosehip, wild apple, cherry plum, apple, and seaberry. Factory located in Tianeti.[26] The AG received GEL 6 179 co-funding within the RDA agrocredit programme in 2019.	-	-
IE Nino Kekelidze	Tbilisi city	IE is officially based in Tbilisi. In 2021 the IE was funded within the microfinancing program of Enterprise Georgia with an amount of GEL 30 000 for the production of essential oils.	Pine, Spruce and Fir conifer manufacturing	3-4 tons
IE Zoia Sikharulidze	Batumi city	IE is officially based in Batumi	Ruscus hypophyllum manufacturing	50 tons

[23] https://www.bia.ge/en/Company/83032
[24] https://www.bia.ge/en/Company/58785
[25] https://tradewithgeorgia.com/companies/bpc-ltd-%E1%83%A8%E1%83%9E%E1%83%A1-%E1%83%91%E1%83%98%E1%83%9E%E1%83%98%E1%83%A1%E1%83%98-1
[26] https://www.facebook.com/ThinkNaturally/photos/gm.478583883444032/4091735390905619/?type=3&eid=ARCroj5epUencLsrJMKgys-HSJNmN-RrwYEZJ4XNFd4vwXARVn3QYGcKxkyIJPTZtQ01bRWsbpTe0MTJ

IE Levan Chichua	Village Mukedi, Vani Municipality	IE is officially based in Vani municipality	Ruscus hypophyllum manufacturing	100 tons
IE Dato Abralava	Zugdidi city	IE is officially based in Zugdidi municipality	Ruscus hypophyllum manufacturing	10 tons

7. NTFP value chains prioritization

For the conduction of VC mapping and prioritization, PMC RC has developed a methodology for assessing the competitiveness of the VC based on EU's SMART Specialization methodology[27]. The key components of this methodology are Location Quotient[28] and Shift-Share Analysis[29].

However, there are various limitations to the usage of these methodologies in the case of regional analysis of separate NTFP products in Georgia. These include:

- The key limitation is that companies engaged in NTFP collection and processing are united under two NACE codes (A 02.3, which stands for "gathering of wild growing non-wood products" and C 10.39 – "other processing and preserving of fruit and vegetables"), thus, separate NTFP products cannot be singled out. This limitation contributed to the problems in executing different parts of the methodology. Moreover, the low number of registered enterprises, thus, high share of shadow economy in target municipalities is an additional limitation.
- SS and LQ analysis, which are crucial part of competitiveness analysis, were impossible to be made as number of enterprises in each NTFP is not available.
- Key indicators, such as Estimated employment in the sector/sub-sector, estimated turnover of the companies, trade statistics, price dynamics of the main products, are not available, thus could not be incorporated in the assessment.
- Market demand was assessed based on the statistics of trade data. For most NTFPs, trade data is not available on a product level, thus, larger product groups were considered. Apart from that, some of the NTFP products may be an important input product for manufacturing of different export products, however, it is not plausible to identify if the NTFP product is used for manufacturing of selected export products by the HS classification and the name of the product. Therefore, to assess the market demand for NTFPs relatively appropriate HS codes were selected to analyze trade dynamics and volume. Another limitation with this respect is the unavailability to observe export which occurs via tourists buying local NTFP products.
- As NTFPs are often viewed by processors not as separate value chain for each product, but as one integrated value chain, some of the indicators of interest, such as sustainability and potential for inclusive growth[30], strength of investor interest[31] and opportunities for PPPs[32] were not considered, as they would have highly similar scores for each NTFP product.

Considering these limitations, the project team constructed a tailored sector prioritization methodology for this assignment, and constructed a composite appraisal matrix, combining indicators utilized in USAID – Value chain prioritization and gaps assessment (Georgia) (based on DAI's Competitiveness Appraisal Matrix and tailored to Georgia)[33] and UNIDO - Mapping Emerging and Potential Manufacturing and Agri-Business Clusters in Georgia[34]. The

[27] SMART Specialization is an approach elaborated by European Union, widely used when analyzing national and regional competitiveness. The ability to analyze combinations of potentials and strengths is one of crucial elements of the smart specialization approach. Identifying regional priorities is based on key indicators of Smart specialization approach: Economic potential; Innovative potential; Scientific potential. For more details please see: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC111430/2018-04-24_western-balkans-report_online.pdf

[28] LQ analysis reveals the basic economic sectors of a region and indicates how concentrated an economic sector is in a region compared to the whole country.

[29] This method enables the identification of the competitive sectors for each region of Georgia by identifying the factors affecting the changes in the number of people employed and value-added by certain economic sectors.

[30] Opportunities for women & youth; environmental and social impact

[31] Presence of existing or ready investors

[32] Existing eco-system for investment in the sector

[33] https://pdf.usaid.gov/pdf_docs/PA00WNVN.pdf

[34] https://www.gda.ge/shared/userfiles/images/UNIDO_Final%20cluster%20mapping%20report%20in%20Georgia.pdf

VC prioritization matrix within the project is tailored to the reality of the NTFP products and the data availability considerations. More specifically, indicators from the study of the Nuppun Institute for Economic Research for the World Bank about the prioritization of NTFPs[35] are utilized and integrated into the methodology. The composite matrix consists of 3 dimensions, aiming to measure different perspectives of the competitiveness of each NTFP: Supply; Demand; and Systemic impact and feasibility.

Each dimension is represented by a set of indicators which in combination assess the respective NTFPs with regard to the dimension. The set of indicators, and their respective explanations[36] are provided in the table below:

Table 6: Indicators for assessing NTFPs

Dimension	Indicator	Explanation
Supply	Presence of the product in the region	High score for products which are available in the region
	Existing processing enterprises	High score for products for which processing enterprises already exist in the region
	Available period	High score for products with longer available period
Demand	Upgrading potential	High score for products with higher number of suitable product derivatives
	Competitive advantage	High score for products with higher value and more positive dynamics in terms of exports from Georgia
	International demand	High score for products with higher value and more positive dynamics in terms of global demand (global imports)
Systemic Impact and feasibility	Job creation potential	Potential for involvement of local people in collection and processing

Finally, a weight is assigned to each indicator. The process of assigning weights to indicators in the appraisal matrix involved a comprehensive approach that incorporated insights from existing studies and tailored indicators specific to Non-Timber Forest Products (NTFPs). The weights were determined based partly on the methodologies by DAI[37] and UNIDO[38], as well as the study of Nuppun Institute for Economic Research[39], and partly on the relevance of each indicator to the performance and potential of the value chains under consideration. The aim was to create an objective assessment that captured the key dimensions necessary for evaluating and prioritizing the value chains. As a result, the final matrix is designed as follows:

[35] https://www.profor.info/sites/profor.info/files/publication/1.%20NTFP_Prioritization_Report_V2.pdf
[36] Key sources for the assessment were UNIQUE study "Strengthening Livelihoods and Social Inclusion in Georgia´s Forest Sector Reform" and PMC RC's "Value Chain Analysis of Non-Timber Forest Products in Mtskheta-Mtianeti Region"
[37] https://pdf.usaid.gov/pdf_docs/PA00WNVN.pdf
[38] https://www.gda.ge/shared/userfiles/images/UNIDO_Final%20cluster%20mapping%20report%20in%20Georgia.pdf
[39] https://www.profor.info/sites/profor.info/files/publication/1.%20NTFP_Prioritization_Report_V2.pdf

Table 7: Weight matrix of NTPF assessment indicators

Dimension	Indicator	Weight
Supply	Presence of the product in the region	25%
	Existing processing enterprises	15%
	Available period	10%
Demand	Upgrading potential	20%
	Competitive advantage	5%
	International demand	5%
Systemic Impact and feasibility	Job creation potential	20%

The matrix is used for assessing the competitiveness of each shortlisted NTFP for each target region, on a scale from one (lowest) to five (highest). Worth noting that for many indicators, it is hard to observe regional differences between the three target regions, thus, final scores for NTFPs were somewhat similar in all three regions.

It must be mentioned that the pool of products analyzed included wild-collected products, however, the methodology was not restricted solely to non-timber forest products (NTFPs) from forests but also encompassed those collected from nearby areas. The prioritization methodology, therefore, explored specific NTFPs, and at the conclusion of the prioritization process, the most economically significant NTFPs were selected based on our established criteria. Consequently, the final selection should not be construed as implying that other NTFPs, which were not identified as priority products through this specific methodology, are unworthy of attention.

7.1. Shortlisting of NTFPs

To compose a shortlist of NTFPs for the broader assessment, NTFPs were identified through several steps during the desk research:

- Step 1: Include the list of NTFPs included in the new Forest Use Regulation[40]
- Step 2: Include those NTFPs which were identified by the UNIQUE study as priority and/or potential NTFPs
- Step 3: Include priority NTFPs from PMC RC study "Value Chain Analysis of Non-Timber Forest Products in Mtskheta-Mtianeti Region"
- Step 4: From UNIQUE study annex 2 (Pool of relevant NTFPs by regions), include those NTFPs that are relevant for only one region. These steps aim to increase diversity of shortlisted NTFPs
- Step 5: Include those NTFPs that are already being processed by processing entities (based on the list provided by GIZ)
- Step 6: Exclude those of least interest identified by the UNIQUE study[41]
- Step 7: As a result, a shortlist of 34 different NTFPs was constructed.

As a next step, the conducted desk research was complemented by field research, involving interviews with key processing enterprises. Seven NTFPs were added to the shortlist considering the inputs received within the interviews, and one NTFP was removed. As a result,

[40] UNIQUE Study "Strengthening Livelihoods and Social Inclusion in Georgia´s Forest Sector Reform" Annex 5 List of NTFPs included in the new Forest Use Regulation

[41] Common yarrow (*Achillea millefolium*), European barberry (*Berberis vulgaris*), Hawthorn (several species but *Crataegus kyrtostyla* (red-fruited) is the most represented on the market)

a final list consisting of 40 different NTFPs was constructed, and assessed according to the prioritization matrix, based on the combination inputs from desk and field research.

7.2. Final Results of NTFP Prioritization

The final results of the prioritization of the shortlisted NTFPs are summarized in the table below. Detailed explanations for scoring of "Upgrading potential" and "Job creation potential" can be seen in Annex 1. Detailed scoring of each NTFP in each municipality for each criterion of the matrix is attached as Annex 2.

Table 8: Results of the prioritization of shortlisted NTFPs (score ranges from 1 to 5)

Products	Georgian name	Guria	Kakheti	Mtskheta-Mtianeti
Rosehip	ასკილი	4.1	4.4	4.8
Wild Cherry Plum	ტყემალი	3.8	4.2	4.4
European Blueberry	მოცვი	4.8	3.9	3.1
Crabapple	მაჟალო	3.8	3.8	4.1
Blackberry	მაყვალი	3.8	4.1	3.3
Stinging Nettle	ჭინჭარი	3.4	3.7	3.9
Sea-Buckthorn	ქაცვი	3.1	3.8	4.0
Sambucus	ანწლი	3.6	3.6	3.6
Wild walnut	ველური კაკალი	3.5	4.0	3.2
Cornelian Cherry	შვინდი	3.3	3.6	3.6
Ramsons	ღანძილი	3.1	3.7	3.1
Wild Mushrooms	ველური სოკო	3.1	3.7	3.1
Greater Burdock	ოროვანდი	3.2	3.2	3.2
Oregano	ორეგანო	3.1	3.1	3.3
Cowslip	ფურისულა	3.0	3.3	3.2
Licorice	ძირტკბილა	2.8	3.2	3.3
Ruscus	ძმერხლი	3.9	2.7	2.7
Mountain Savory	ველური ქონდარი	3.0	3.0	3.2
Wild Strawberry	ტყის მარწყვი	3.4	2.8	2.8
Horsemint	მთის/გრძელფოთოლა/მრგვალფოთოლა პიტნა	2.7	2.7	3.2
Common Dandelion	ბაბუაწვერა	2.9	2.9	2.9
Perforate St John's-wort	კრაზანა	2.8	2.9	2.9
Black Hawthorn	კუნელი	2.8	3.1	2.6
Blackthorn	კვრინჩხი	2.6	2.8	2.8
Greater Celandine	ქრისტესისხლა	2.6	2.8	2.8
Jujube	უნაბი	2.9	2.6	2.6
Cherry laurel	წყავი	3.0	2.5	2.5
Dwarf Everlast	ნეგო	2.5	2.5	2.8
German Chamomile	გვირილა	2.7	2.5	2.5
Pontic rhododendron	შქერი	2.9	2.3	2.3
Motherwort	შავბალახა	2.3	2.5	2.3
Rhododendron	დეკა	2.0	2.0	2.8

caucasicum				
Lemon Balm	ბარამბო	2.2	2.4	2.2
Marshmallow	ტუხტი	2.2	2.4	2.2
Speedwell	ვერონიკა	2.4	2.2	2.2
Ragwort	ხარისშუბლა	2.5	2.0	2.2
Hellebore	შხამა	2.2	2.0	2.0
Woronow's Snow-drop, Eastern Sowbreadbulbs	თეთრყვავილა	1.9	1.9	1.9
Leucojum bulb (summer snowflake)	ზაფხულის ცხენისკბილა	1.9	1.9	1.9
Alopecurus	მელაკუდა	1.7	1.7	1.9

Based on the results, our priority VCs are the following:

- Rosehip VC in Mtskheta-Mtianeti (Tianeti), Kakheti (Akhmeta, Kvareli)
- European Blueberry VC in Guria (Ozurgeti, Chokhatauri)
- Ruscus VC in Guria
- Sea-Buckthorn VC in Mtskheta-Mtianeti (Tianeti)
- Blackberry VC in Kakheti and Guria (Ozurgeti, Lanchkhuti)
- Wild Cherry Plum VC in Mtskheta-Mtianeti (Tianeti), Kakheti (Akhmeta, Kvareli)

Additionally, a noteworthy diversification potential has been identified in following NTFPs:

- Stinging Nettle, Crabapple and Sambucus in all target regions;
- Wild Strawberry and Cherry Laurel in Guria (Ozurgeti and Chokhatauri);
- Licorice and Cowslip in Mtskheta-Mtianeti (Tianeti) & Kakheti (all target municipalities)
- Sea-Buckthrorn (in all target municipalities in Kakheti) and Ramsons in Akhmeta and Telavi

The following table summarizes the list of priority products and products with noteworthy diversification potential by regions and municipalities.

Table 9: The priority NTFPs and products with noteworthy diversification potential by regions and municipalities

Region	Target municipality	Priority NTFPs	NTFPs with noteworthy diversification potential
Mtskheta-Mtianeti	Tianeti Municipality	• Rosehip • Sea-Buckthorn • Blackberry	• Stinging Nettle • Crabapple • Sambucus • Licorice • Cowslip
Guria	Ozurgeti Municipality	• European Blueberry • Blackberry • Ruscus	• Stinging Nettle • Crabapple • Sambucus • Wild Strawberry • Cherry Laurel
	Lanchkhuti Municipality	• Blackberry • Ruscus	• Stinging Nettle • Crabapple • Sambucus
	Chokhatauri Municipality	• European Blueberry	• Stinging Nettle • Crabapple

		• Ruscus	• Sambucus • Wild Strawberry • Cherry Laurel
Kakheti	Akhmeta Municipality	• Rosehip • Wild Cherry Plum • Blackberry	• Stinging Nettle • Crabapple • Sambucus • Licorice • Cowslip • Sea-Buckthorn • Ramson
	Dedoplistskaro Municipality	• Blackberry	• Stinging Nettle • Crabapple • Sambucus • Licorice • Cowslip • Sea-Buckthorn
	Telavi Municipality	• Blackberry	• Stinging Nettle • Crabapple • Sambucus • Licorice • Cowslip • Sea-Buckthorn • Ramson
	Kvareli Municipality	• Rosehip • Wild Cherry Plum • Blackberry	• Stinging Nettle • Crabapple • Sambucus • Licorice • Cowslip • Sea-Buckthorn

8. NTFP Value Chain by Municipalities

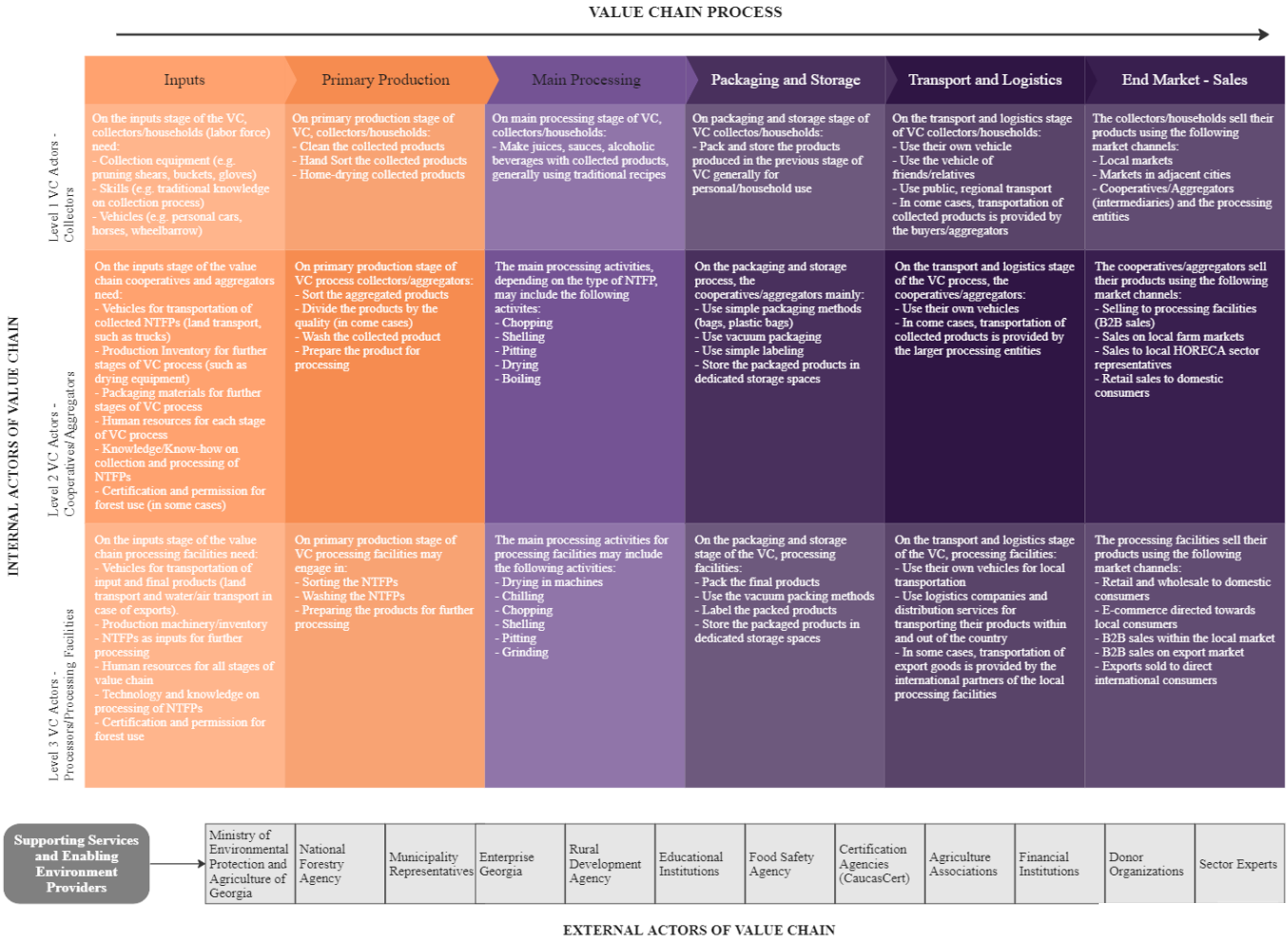
Non-timber forest products (NTFPs) play a significant role in the livelihoods of communities and contribute to the sustainable utilization of forest resources. Understanding the value chain of NTFPs is crucial for identifying opportunities to enhance their economic, social, and environmental benefits. This section provides an overview of the value chain for NTFPs, highlighting the stages involved in the journey from resource acquisition to sales, as well as the key activities and actors at each stage. By examining the various components of the value chain, we can gain insights into the challenges and opportunities associated with NTFP production, marketing, and utilization.

Before delving into the detailed analysis of individual priority non-timber forest products by municipalities, it is important to provide an overview of the general NTFP value chain map, which depicts the broad framework of the value chain in all target municipalities as a whole. This map outlines the overall process of the NTFP value chain and overviews the internal actors of VC and external actors, which provide supporting services and enabling environment to the NTFP value chain in all target municipalities.

Therefore, the following chart summarizes the NTFP value chain in target municipalities as a

whole, giving a wider understanding of internal actors of the value chain and external actors linked to the NTFP sector.

Figure 3: NTFP Value Chain Processes and Value Chain Actors



Source: Qualitative analysis

The detailed descriptions of the internal and external actors of the value chain presented in Figure 3 are presented in the following sub-section. Those sub-sections provide more detailed insights regarding the activities and roles of each type of actor in the general NTFP value chain.

Internal Actors

The value chain begins with the **input stage of the acquisition of NTFPs**, such as Rosehip, European Blueberry, Ruscus,, Sea-Buckthorn, Blackberry, and Wild Cherry Plum. This stage also encompasses the management and governance of forest lands where the NTFPs are sourced, including the accessing rights to collect NTFPs for enterprises. In addition to that, gathering of forest resources also involves important aspects such as forest management practices for sustainable harvesting, the knowledge of sustainable collection, and the use of NTFPs.

It is important to recognize that the resource acquisition stage is critical for maintaining the sustainability and integrity of NTFP value chains. By addressing issues related to sustainable harvesting, access rights, traditional knowledge, and biodiversity conservation, stakeholders can contribute to the responsible and sustainable acquisition of forest resources for NTFP

production.

Importantly, in addition to the collection of NTFPs, the initial input stage of the value chain involves the supply of the labor force and access to production inventory.

The labor force is essential for the collection of NTFPs from their natural habitats. Skilled and experienced individuals possess the knowledge and expertise required to identify, locate, and safely gather NTFPs while adhering to sustainable harvesting practices. They play a vital role in ensuring the quality and quantity of the acquired resources. However, it must be noted that the lack of labor force in rural communities and the relatively low interest of the inhabitants in engaging in NTFP collection creates a challenging environment for the development of the NTFP sector in target municipalities.

Apart from the collection stage, labor is needed to carry out activities such as cleaning, sorting, grading, drying, preserving, and packaging. Skilled laborers ensure that the products are processed efficiently, meeting quality standards, and enhancing their market value. The labor force contributes to product development and innovation within the NTFP value chain in the direction of processing techniques, or designing innovative packaging, thus expanding the range of marketable products and increasing their economic potential. Trained personnel can also conduct quality control measures, such as inspecting products for defects, checking for contaminants, and ensuring compliance with industry standards and certifications. Similar to the stage of collection, the issue with the lack of qualified personnel is present in the case of large processing enterprises as there are cases of the labor force outflow to other sectors, such as tourism, and migration of the labor force abroad.

The **primary production** activities include the collection of NTFPs from their natural habitats, sorting, and in less frequent cases grading based on the quality, ripeness (for example in the case of wild cherry plum), and dryness (for example in the case of rosehip). For certain NTFPs, the primary production activities may also include the cleaning and preparation of products, for instance in the case of wild sea buckthorn the fruit is separated from twigs. The primary production phase forms the foundation of the NTFP value chain and is crucial for the subsequent processing and distribution of these natural products.

In **the secondary production** stage, further product development and innovation occur. Quality control measures, such as obtaining organic or fair-trade certifications, support in meeting consumer demands for sustainably sourced NTFPs. Branding and marketing strategies, such as effective product labeling, packaging, and advertising, play a crucial role in promoting NTFPs to target markets.

Distribution and sales activities involve the movement of NTFPs from producers to end consumers. Wholesale and retail channels facilitate the flow of products, while direct sales through farmers' markets and online platforms provide alternative avenues. Notably, existing processing enterprises often focus on B2B selling and exporting of their products in large quantities generally in dry form, leaving further opportunities for product diversification and value-addition through the creation of innovative products.

The main value chain actors such as collectors, aggregators, cooperatives, processing entities, and exporters will be discussed by municipalities in the following sections.

On all stages of the NTFP value chain, **transportation** plays a vital role by facilitating the movement of raw materials, processed goods, and finished products across different stages and locations. Transportation helps connect different stages of the value chain, ensuring a smooth flow of NTFPs from the resource acquisition stage to the processing, marketing, and consumption stages.

In the initial stage of collection, collectors mainly use their own methods of transportation to reach the designated areas of NTFP collection. Mainly, they reach the areas by walking, and by personal vehicle. In the cases when the product is not easily accessed on foot or by car, they use horses. In the next stage, for NTFPs that require processing or value addition, transportation is crucial for moving raw materials from collection sites or designated gathering areas to processing facilities. This ensures the timely availability of raw materials, enabling efficient processing and minimizing waste, and is often managed by the processing enterprises.

Transport is essential for the distribution of NTFP products to various markets, including local markets, retailers, wholesalers, or export destinations. In the case of NTFP products with international demand, transport plays a critical role in export and import activities. Land and water transportation means are mainly used.

External Actors

In addition to internal actors, the value chain is also impacted by external actors, both public and private entities. **Public entities** play a significant role in NTFP value chain, contributing to its development, regulation, and sustainability. For instance, **the Ministry of Environmental Protection and Agriculture of Georgia and the National Forestry Agency** are important external actors in the NTFP value chain as they are responsible for the establishment of policies and regulations and consequent fulfillment of the legal framework. Those public entities are responsible for contributing to the conservation and sustainable management of forests and their resources. The National Forestry Agency engages in monitoring and enforcement activities to prevent illegal harvesting and promote sustainable practices after the introduction of the new law on forest use.

In addition to national-level public entities, **municipal governments** are also among the external actors of the NTFP value chain, as they invest in infrastructure development that indirectly also supports the NTFP value chain. This includes constructing or maintaining roads, bridges, trails, and other transportation networks that facilitate the movement of NTFPs from collection areas to processing and market centers. Improvement of infrastructure enhances access to markets, reduces transportation costs, and stimulates economic activities related to NTFPs.

However, it must be noted that there are some challenges in the direction of the flow of information without hindrance regarding the dynamics of economic sectors and related legislative changes and consequent collaborative actions of municipal and national governments. Therefore, there is an open space for further collaboration and development of the socio-economic situation. Apart from that, the development of linkages between municipal governments with other stakeholders can also provide additional opportunities for NTFP value chain actors. For instance, municipal governments can collaborate with local stakeholders and organizations to provide capacity building and training programs for NTFP collectors, processors, and entrepreneurs. These programs can focus on sustainable harvesting practices, value addition techniques, quality control, marketing strategies, and entrepreneurship skills. Capacity building initiatives empower local communities and enhance their participation in the NTFP value chain.

In addition to the development of a legal framework and fulfillment of relevant activities ensuring the sustainable management of Forests, some programs by government organizations, such as **Enterprise Georgia and Rural Development Agency**, in some cases act as a funding opportunity for enterprises involved in the NTFP value chain. However, sufficient attention has not been received by the NTFP sector from these entities. Financial institutions are also a source of loans for value chain actors involved in NTFP production.

Apart from public entities, support programs can also be implemented by other stakeholders, such as **international donors, development institutions and local NGOs**. The support provided by the donors can be provided through different channels. For instance, grants focus on supporting the establishment or expansion of NTFP-based enterprises and provide funding for business planning, market research, equipment purchase, infrastructure development, and working capital. Meanwhile, some grants can focus on biodiversity conservation, reforestation, sustainable harvesting techniques, habitat protection, and ecosystem restoration. In addition to that, capacity building and training can also be provided by these stakeholders to promote the labor force skills development. Finally, they often support research and development initiatives related to NTFPs. Through research, donors contribute to the understanding of NTFP potentials, challenges, and opportunities, creating the possibility for research-based decision-making.

Currently, **educational institutions** such as VETs are not involved in the NTFP value chain of target municipalities, as programs provided by them do not focus on the sustainable management, collection, use, and processing of forest resources. However, the potential role of VETs in NTFP VC is to offer practical training programs that equip individuals with the necessary skills and knowledge for various tasks within the NTFP value chain. These skills may include sustainable harvesting techniques, post-harvest processing, quality control, product development, packaging, marketing, and entrepreneurship.

For now, **agriculture associations**, such as the **Georgian Forest Product Association and Elkana**, also act as information sources for VC actors. In addition to that, Georgian Forest Product Association plays a crucial role in the NTFP value chain by bringing together stakeholders, advocating for their interests, and promoting collaboration and knowledge exchange. For instance, the role of GFPA in public-private dialogue was significant throughout the development of the new law on forest use and its sections on the use of NTFPs.

Certification and food safety entities play crucial roles in ensuring quality, safety, and compliance within the non-timber forest product (NTFP) value chain. Certification entities are responsible for establishing and implementing standards and certification schemes that verify the sustainable and ethical practices of NTFP producers. Certification entities enhance market acceptance and consumer trust by providing assurance that NTFP products have been sourced and processed in a responsible and sustainable manner, which is highly demanded on export market. Together, certification and food safety entities contribute to the credibility, transparency, and marketability of NTFP products, promoting responsible practices and protecting consumer interests.

Notably, **sector experts** play a significant role in all stages of supporting **NTFP value chain** by providing specialized knowledge, technical guidance, and research expertise. They offer technical advice on sustainable practices, conduct research and innovation activities, contribute to policy development and advocacy efforts, deliver capacity-building and training programs, provide market intelligence and value chain development insights, and foster collaboration and networking among NTFP stakeholders. Their involvement ensures stakeholders have access to up-to-date information, expertise, and support, leading to sustainable practices, innovation, policy alignment, capacity building, market development, and overall growth of the NTFP sector.

8.1. Rosehip, Wild Sea-Buckthorn, and wild Cherry Plum Value chains in Tianeti Municipality

Introduction

Tianeti municipality in the Mtskheta-Mtianeti region is known for its rich and diverse forest resources, which provide a range of non-timber forest products (NTFPs) that are important for local communities and contribute to the local economy. Based on the PMC RC study, the following forest fruit and medical herb NTFPs are collected from the available main varieties in Tianeti municipality and Ukana Pshavi:

Table 10: Available and Collected NTFPs (Forest Fruit) in Tianeti and Ukana Pshavi

NTFPs available in Tianeti and Ukana Pshavi	Botanical Name	Georgian Name	Collected and Processed
Rosehip	Rosa canina	ასკილი	V
Wild Sea-Buckthorn	Hippophaë rhamnoides	ქაცვი	V
Cherry plum	Prunus divaricata	ტყემალი	V
Wilde Apple	Malus orientalis	მაჟალო	V
Wild Caucasian pear	Pyrus caucasica	პანტა	
Hawthorn	Crataegus kyrtostyla	კუნელი	
Wild Blackberry	Rubus caucasicus	მაყვალი	
Blackthorn	Prunus Spinosa	კვრინჩხი (ღოღნაშო)	
Wild Cornel	CORNUS MAS	შინდი	

Source: PMC RC

Similar data for medical herbs is presented in the table below:

Table 11: Available and Collected NTFPs (Medical Herbs) in Tianeti and Ukana Pshavi

NTFPs available in Tianeti and Ukana Pshavi	Botanical Name	Georgian Name	Collected and Processed
Primula Veris	Primula macrocalyx	ფურისულა	V
Yarrows	Achillea millefolium	ფარსმანდუკი	V
St. John's wort	hypericum perforatum	მელაკუდა	
Dandelion	Tarazacum Officinale Wig	ბაბუაწვერა	
Rhododendron caucasicum	Rhododendron caucasicum	დეკა	
Nettle	Urtica dioica	ჭინჭარი	
Wild Mint	Calamintha grandiflora	მთის პიტნა	
Licorice (Liquorice)	Glycyrrhiza glabra	ძირტკბილა	

Source: PMC RC

Based on the past literature mentioned above and the additional analysis of NTFP value chains[42] provided in this report, the further municipal analysis focuses on Rosehip, Wild Sea-

[42] Refer to the final results of section 8 of the report – "NTFP Value Chains Prioritization"

Buckthorn, and Wild Cherry Plum based on their high potential for development. Rosehip, Wild Sea-Buckthorn, and Wild Cherry Plum are widely gathered and processed by local communities and enterprises in Tianeti municipality. However, the value chain of each product is different for each non-timber forest product and involves multiple actors, from collectors to end-users, each with their own interests, constraints, and challenges.

Therefore, understanding the dynamics of the value chain is critical for identifying opportunities for improving the efficiency and sustainability of the value chain, increasing income for local communities, and promoting the conservation of forest resources. In this section, we provide a short value chain analysis of Rosehip, Wild Sea-Buckthorn, and Wild Cherry Plum in the context of Tianeti municipality, focusing on the key stages of the value chain and the actors involved in each stage.

The following sub-sections focus on each involved actor, by analyzing the qualitative data received from NTFP collectors and aggregators from Tianeti Municipality, main processors, and exporters of products collected in Tianeti Municipality. The NTFP VC analysis of Tianeti municipality also includes additional information collected from external actors from the public sector, such as municipality representatives, and support organizations, such as Georgian Forest Product Association.

Rosehip Value Chain

Collecting and aggregating

According to respondents, the majority of NTFP product collectors in Tianeti municipality are women, particularly when it comes to the Rosehip collection. Women play a significant role in the NTFP value chain, as they are actively engaged in the gathering and harvesting of these forest resources.

In addition to women, the collection process often involves the participation of the entire family, including children, however, less frequently. It is a common practice for families to engage in NTFP collection as a means of supplementing their income and utilizing collective labor. This involvement of the whole family not only contributes to the collection efficiency but also serves as a way of passing down traditional knowledge and skills to the younger generation.

The age profile of NTFP collectors in Tianeti municipality shows that the majority of collectors are above the age of 45. It is notable that the involvement of youth in the collection process is considerably low. However, encouraging the participation of younger generations in NTFP collection can help ensure the sustainability of the sector and the transmission of traditional knowledge.

In cases where processing companies actively collaborate with collectors, they provide instructions on sustainable and high-quality product collection. In Tianeti municipality, the main value chain actor to contribute to the skills development of local collectors is the cooperative “Tianetis Nobati”. These instructions aim to ensure the restoration and preservation of the NTFP resources for future seasons. For example, collectors may be instructed to collect the products far from the main road to avoid potential pollution and to adhere to sustainable harvesting practices. Such collaboration between processing companies and collectors can contribute to the sustainable management of NTFP resources and the preservation of biodiversity.

Among the selected NTFPs, rosehip holds a prominent position in the collection activities.

This is primarily due to the higher demand from processors and the market. Rosehip collection is influenced by its seasonality, with the collection period typically ranging from September to January. Collectors focus on gathering rosehip during this time to meet market demand and take advantage of its commercial value.

Table 12: Seasonality of Rosehip

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rosehip												

Source: PMC RC

It is important to recognize that for the majority of interviewed collectors, NTFP collection serves as an additional income rather than the sole source of livelihood. Many collectors engage in NTFP collection and in parallel receive other income from agriculture activities, pensions, and social benefits. Diversified income helps to mitigate risks and provide a more stable livelihood for collectors.

Normally, rosehip is collected in backpacks and brought to the HH facilities by foot. When the collection is organized by “Tianetis Nobati”, it ensures the transportation of products. In other cases, locals use either their private vehicles or municipal transport to transport their products to cooperative and re-sellers in Tbilisi.

The issue of overcollection of rosehip was not a case for respondents. The demand for the product is high and it is a potential for a higher level of collection that is not utilized due to the scarcity of the labor force. Notably, the number of collectors is decreasing annually due to the migration of workers and the transition of workers to other sectors.

In summary, NTFP collection in Tianeti municipality involves the active participation of women and the reliance on traditional knowledge and skills. While older generations play a significant role in NTFP collection, efforts should be made to engage and encourage the participation of younger individuals. Collaboration between processing companies and collectors can promote sustainable practices, and rosehip stands out as a key NTFP due to its demand and extended collection period.

Processing

The majority of interviewed collectors in Tianeti municipality actively collaborate with the cooperative "Tianetis Nobati," that is consistent with previous literature findings. The UNIQUE study reveals that approximately 250-300 locals, representing about 2.5%-3.0% of the local population, collect NTFPs for the cooperative. Among them, approximately 80% are women. In practice, it is estimated that around 775-930 people from 250-300 families engage in NTFP collection, as multiple family members are involved in the collection process, while only one member maintains a relationship with the entrepreneur.

Primary processing of the rosehip by households includes removal of tips and placement in the bags for delivery to aggregators and processors. For family consumption, the HHs use rosehip for making tea.

"Tianetis Nobati" primarily sources most of its products from Tianeti municipality through the involvement of local coordinators. To ensure high-quality and sustainable collection, the cooperative provides annual training to the collectors from the municipality, which are paid based on collected amounts of NTFPs. The cooperative focuses on processing of all three priority products.

In 2018 and 2019, the PMC RC conducted a value chain analysis and collected information on the total volume of NTFPs collected by the main player in the industry, "Tianetis Nobati.". Among the collected products, Rosehip was third by volume (20 tons) after Cherry Plum and Wild Apple. In the following year, due to the pandemic, the cooperative temporarily suspended the processing of Primula veris and medical herbs/plants. The volume of wild apples also declined significantly post-pandemic. Meanwhile, the annual production of Rosehip was approximated at 20 tons .

Table 13: Volume of NTFPs collected by "Tianetis Nobati"

NTFP	2018 (tons)	2019 (tons)
Cherry plum	30	40
Wild apple	15	15
Rosehip	8	12
Primula veris	4.8	6
Wild Sea buckthorn	4	4
Yarrows	6	1

Source: PMC RC

Currently, as part of its processing operations, "Tianetis Nobati" fully dries the aggregated product before distributing it to other enterprises. The cooperative actively supplies other prominent actors in the NTFP sector in Georgia, namely LLC Geoflower and LLC BPC. The cooperative possesses the necessary knowledge and plans to increase production, diversify products, target different consumer groups, and ensure production continuity. However, the main hindering factor in development is a lack of finances.

LLC BPC, one of the major NTFP producers and exporters, focuses on rosehip juice production, with approximately one-third of its total income attributed to rosehip juice sales. Over the period of 2019-2022, the average volume of processed rosehip was 20 tons, with 80% of the rosehip supplied from the Mtskheta-Mtianeti region.

It is noteworthy that LLC BPC plans to increase its production and utilization of NTFP products in the future, indicating an expected rise in demand for NTFPs, particularly for rosehip and sea buckthorn, in Tianeti municipality.

In addition to that, one of the largest producers and exporters of NTFP products – LLC Geoflower is also planning to increase its production based on the demand from international importers. However, it must also be noted that LLC Geoflower is planning a transition from wild collection to cultivated collection of non-timber forest products to ensure easier and more voluminous collection practices in the future.

Marketing and Sales

When it comes to the selling price of rosehip, it varies depending on whether the product is dry or not. On average, collectors can expect to sell rosehip in the range of 1-3 GEL per kilogram. The pricing is influenced by factors such as market demand and product dryness. In particular, the price of dry rosehip is higher than the price of fresh products. Some of the collectors of rosehip use traditional methods to dry the product. The share of household consumption in the total amount of collected rosehip is insignificant. Currently, for the collectors, the collected rosehip ranges from 100-500 kilograms per season.

In the case of rosehip collectors, they predominantly sell their harvested products to processors

in larger quantities, given the high demand for this particular NTFP. However, relatively smaller share of collectors lack information regarding the demand from processing enterprises for NTFP products. Some of the interviewed collectors throughout the analysis mentioned that they are not well informed on high demand on rosehip from larger enterprises.

Collectors also sell small quantity of raw rosehip to re-sellers in Tbilisi agrarian markets.

"Tianetis Nobati" distributes its products through various channels, including other producers, food service providers, and direct sales to consumers through e-commerce, although the latter represents a small share of total sales.

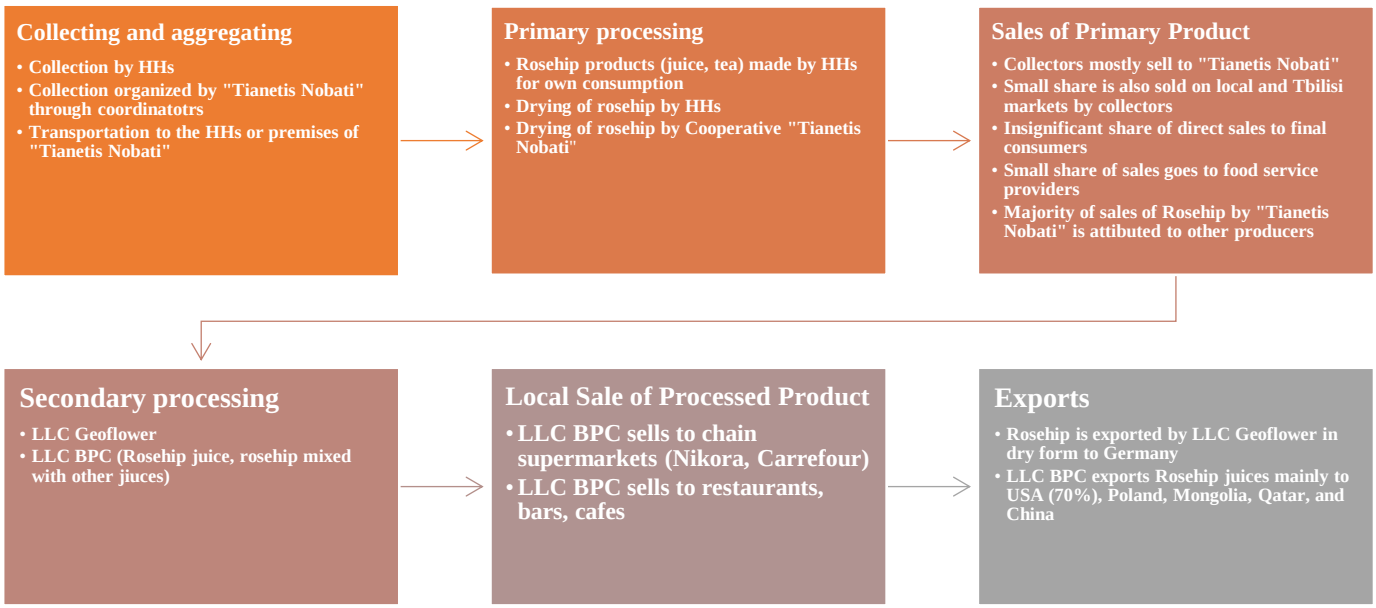
LLC BPC targets both domestic and global markets, with approximately 50% of products sold domestically in supermarket chains, restaurants, bars, and cafes. The main export destinations include the USA (around 70% of total exports), Poland, Mongolia, Qatar, and China. However, the export dynamics were hindered by the pandemic, particularly in China. Products are exported via land and water transport, although transportation prices experienced a drastic increase due to global and regional logistical issues resulting from the Russia-Ukraine war.

For the promotion of the product on local market, LLC BPC actively uses social networks. On export markets, significant resources are spent on the promotion through e-commerce channels. This is mainly done by partner trader companies, however LLC BPC also participates in the process.

LLC Geoflower exports NTFP products mainly to Germany, out of which part of the products such as rosehip, wild sea buckthorn, and wild apple are sourced from Tianeti municipality.
To summarize the Rosehip Value chain in Tianeti Municipality, the following flowchart illustrates the main actors and activities. The process starts with collecting and aggregating Rosehip, mainly carried out by women collectors in Tianeti municipality. The cooperative "Tianetis Nobati" plays a crucial role in sourcing Rosehip and providing training to collectors for sustainable collection practices. The cooperative then proceeds with processing and sales. The processed Rosehip products are distributed through various channels, including other producers, food service providers, and direct sales to consumers.

To summarize the Rosehip Value chain in Tianeti Municipality, the following flowchart illustrates the main actors and activities. The process starts with collecting and aggregating Rosehip, mainly carried out by women collectors in Tianeti municipality. The cooperative "Tianetis Nobati" plays a crucial role in sourcing Rosehip and providing training to collectors for sustainable collection practices. The cooperative then proceeds with processing and sales. The processed Rosehip products are distributed through various channels, including other producers, food service providers, and direct sales to consumers.

Chart 2: Rosehip Value Chain in Tianeti Municipality



Source: Quantitative analysis

Wild Sea-Buckthorn Value Chain

Collecting and aggregating

The collection of NTFPs involves various factors and dynamics that contribute to the overall process. Similar to other NTFPs, when it comes to the wild sea buckthorn collection, women are the main collectors. However, the process of collecting is sometimes relatively challenging, which can be attributed to the plant's natural habitat in remote areas, such as slopes, rocky cliffs, and river sides. Due to the same factors, the whole family is rarely involved in the collection process.

The majority of collectors are above the age of 45, and the engagement of youth in NTFP collection is relatively low. Traditional methods and knowledge form the basis of the collection process, which relies heavily on established practices passed down through generations.

However, there are instances where sea buckthorn is collected earlier than optimal, which impacts the nutritional and medicinal properties. In addition to that, picking sea buckthorn berries too early can also affect the plant's productivity. Sea buckthorn plants rely on their berries to spread their seeds and reproduce, so harvesting the berries before they are fully mature can reduce the plant's ability to reproduce and potentially lead to a lower yield of berries in the future. Furthermore, harvesting the berries before they are fully ripe can deprive the plant of its energy and reduce its ability to produce new growth. In contrast, rosehip and cherry

plum are less vulnerable to inefficient collection practices as those plants have higher resistance both to anthropogenic and natural hindrances. One collector also mentioned that she practices cutting of small branches of tree during the collection process.

The collection season for wild sea buckthorn typically ranges from late August to October.

Table 14: Table 14: Seasonality of Wild Sea Buckthorn

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wild sea buckthorn												

Source: PMC RC

For most interviewed collectors, NTFP collection serves as an additional source of income. It is often combined with income from agricultural activities, pensions, and social benefits. Notably, the collection of NTFPs primarily benefits groups with low or no incomes.

Cooperative "Tianetis Nobati" plays a significant role in the sea buckthorn value chain. Over the period of 2018-2019, the cooperative successfully aggregated a substantial amount of sea buckthorn, reaching about 4 tons a year. However, throughout the following years, the collection of sea buckthorn was reduced to about 1-2 tons per year, which can be partially attributed to issues with the labor force, capacity of the cooperative to collect additional products after their main processing products of Cherry plum and Rosehip.

It is worth noting that the volumes of wild sea buckthorn have remained stable, showcasing the consistency and reliability of the collection process.

To summarize, the collection and aggregation of NTFPs involve various considerations and practices. In the case of wild sea buckthorn, gender distribution among collectors shows a slightly higher share of women, and the engagement of men is likely due to the plant's presence in remote areas. Family involvement, however, is less frequent. Traditional methods and knowledge play a significant role in the collection process, although there are instances of early harvesting that can impact the plant's productivity and future yields.

Processing

Primary processing of the wild sea buckthorn takes place at the premises of HHs. Before selling to aggregators the collectors sort the fruit, cut the stalks and put in plastic bags or solid storage means.

After the washing of the product, some households prepare juices and jams for own consumption. The product is blended, and sugar is added in the preparation process. Normally, sea buckthorn jams and juices are stored in glass bottles or jars.

Currently, as part of its operations, the cooperative “Tianetis Nobati” directly distributes the wild sea buckthorn to a large producer, namely LLC Geoflower. This producer undertakes further processing of the product before exporting it to their trade partner located in Germany. This direct distribution model ensures a streamlined flow of the sea buckthorn from the cooperative to the final consumer.

Furthermore, another significant player in the market, LLC BPC, is planning to diversify its product range in the near future. This indicates a growing recognition and demand for NTFPs, particularly sea buckthorn, within the Tianeti municipality. As these large actors expand their operations and invest in diversification, the overall demand for sea buckthorn and other NTFPs is expected to increase further, presenting promising opportunities for the local collectors and the development of the value chain.

The active involvement of cooperative "Tianetis Nobati" and the collaboration with established producers like LLC Geoflower and LLC BPC contribute to the sustainable growth and economic development of the region. With a stable supply of wild sea buckthorn, efficient distribution channels, and a growing demand for NTFPs, the prospects for the sea buckthorn value chain in Tianeti municipality appear promising.

Marketing and Sales

Wild sea buckthorn collectors have a dual market approach, selling their products both to processors and market resellers in Tianeti municipality and the capital city of Tbilisi. The proximity to Tbilisi offers the advantage of low transportation costs, while the sales prices in the capital city are higher, providing an opportunity to increase income from the NTFP collection. Similarly, household consumption of wild sea buckthorn is relatively low compared to the sold quantities, as collectors prefer to sell most of their product due to its high price and demand from customers in the markets.

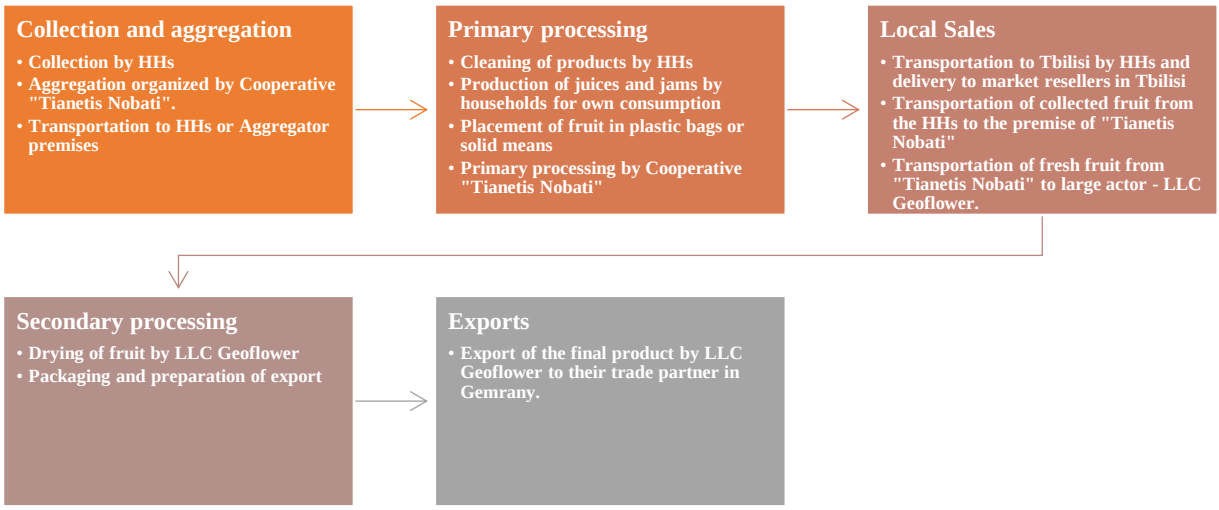
HHs have partner aggregators/re-sellers in Tbilisi agrarian markets that stably buy the product. One interviewed NTFP collector also sells homemade wild sea buckthorn juice to aggregator in Tbilisi. The transportation of product is ensured via small regular buses or vehicles of friends or neighbors.

Among the priority NTFP in Tianeti municipality, wild sea buckthorn commands the highest price, ranging from 5-10 GEL per kilogram. The range of price mainly differs by selling channels and market demand on the product.

Cooperative “Tianetis Nobati” directly sells the wild sea buckthorn to a large producer, namely LLC Geoflower. This producer undertakes further processing of the product before exporting it to their trade partner located in Germany. This direct distribution model ensures a streamlined flow of the sea buckthorn from the cooperative to the final consumer.

The following flowchart summarizes the wild-sea buckthorn value chain in Tianeti Municipality. The value chain starts with local collectors, collecting wild sea buckthorn from areas such as river coasts. Part of the collected sea buckthorn is prepared and sold to resellers in the Tbilisi market due to the proximity of the municipality to the capital city. Another part is sold to the cooperative, which in turn supplies the larger enterprise – LLC Geoflower with fresh product, which then processes the product to export to Germany.

Chart 3: Wild Sea Buckthorn Value Chain in Tianeti Municipality



Wild Cherry Plum Value Chain

Collecting and aggregating

In contrast to the collection of wild sea buckthorn, the collection of wild cherry plum follows a different pattern. Women primarily take on the role of collectors, but men are also involved, particularly in transporting the harvested cherry plums from remote locations to their villages. This is because the weight of the collected fruit can be challenging for women, necessitating the assistance of men in transporting larger quantities.

Family involvement in the collection process is common, and children often participate as well. Most collectors are above the age of 45, while the engagement of younger individuals in the collection of NTFPs is relatively low. Traditional methods and knowledge form the foundation of the collection process.

The collection season for wild cherry plums spans from July to September, providing a specific timeframe for the collectors to gather the fruit.

Table 15: Seasonality of Wild Cherry Plum

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cherry plum												

Source: PMC RC

For the interviewed collectors, NTFP collection serves as an additional source of income. It is often combined with income from agricultural activities, pensions, and social benefits. This analysis reveals that the collection of NTFPs primarily benefits groups within society with low or no incomes, providing them with opportunities to improve their economic situation.

HHs collect the wild cherry plum manually. Sometimes they use wooden sticks in the collection process. Normally, they store the raw fruit in buckets before realization. Unripe fruit may also be placed in commodity bags.

Processing

The HHs use wild cherry plum for the production of traditional sauce. Normally, prepared product is stored in glass bottles and used for the family consumption.

As mentioned above, in 2018 and 2019, the PMC RC conducted a value chain analysis and collected information on the total volume of NTFPs collected by the main player in the industry, "Tianetis Nobati." Cherry plum accounted for the largest volume, with 70 tons collected in both years. This highlighted the significance of cherry plum in the local value chain.

However, the COVID-19 pandemic had a profound impact on the cherry plum industry. As the main buyers for the cooperative were food service providers, the strict regulations and limitations imposed during the pandemic significantly reduced the demand for cherry plum products. Consequently, the volume of wild cherry plum collection and processing witnessed a notable decline.

Nevertheless, the situation started to change in 2022 as the demand for cherry plum sauce increased, particularly from food service providers. Recognizing this opportunity, the cooperative strategically focused on increasing its production and sales of cherry plum paste.
It is worth noting that a significant portion of the cherry plum production by the cooperative, around 70%, originates from wild sources. This highlights the importance of the sustainable wild cherry plum collection and its integration into the value chain. Cultivated cherry plums contribute to the remaining 30% of the production.

Marketing and Sales

Collectors of wild cherry plums adopt a similar dual market approach to those collecting sea buckthorn. They sell their products both to processors and market resellers in Tianeti municipality and the capital city of Tbilisi. One of the collectors also practices direct sales in Sioni village, that has a high number of visitors during summer. The proximity to Tbilisi offers the advantage of lower transportation costs, while the sales prices in the capital city are higher, enabling collectors to increase their income from NTFP collection. Interestingly, household consumption of wild cherry plums is also low compared to the quantities sold. However, collectors often utilize the fruit to create processed products such as traditional sauces, preserves, and, on rare occasions, jams.\HHs do not practice any marketing or branding activities.

Among the priority NTFPs in Tianeti municipality, the price of cherry plums is relatively lower, ranging from approximately 1-2 GEL per kilogram. Despite its lower value, the collection and sale of wild cherry plums contribute to the overall income and livelihoods of the collectors involved.

In 2022, by adapting to the evolving market demands, cooperative “Tianetis Nobati” was able to produce and sell approximately 20 tons of cherry plum paste, enhancing it as their main processed product.

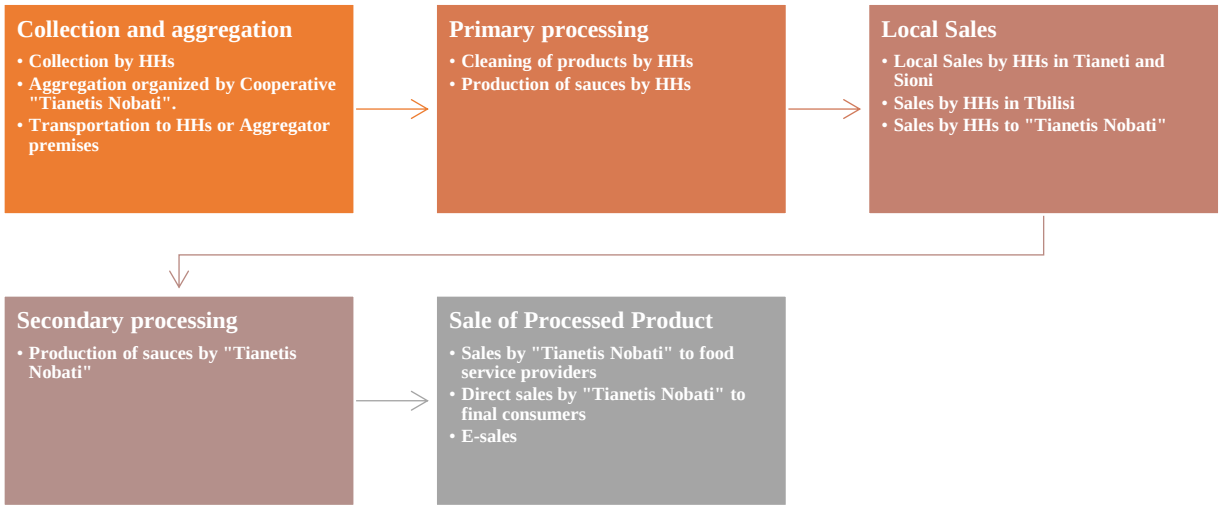
Cooperative also sells cherry plum sauce to individuals that are operating in local markets and are selling the sauce to final consumers.

In addition to sales in large amounts, “Tianetis Nobati” also focuses on retail sales of their branded products through direct sales to final customers, including the use of e-commerce, though that amounts to only an insignificant portion of total sales. In 2022, the cooperative started piloting sales of cherry plum sauce from supermarkets to analyze the existing demand for their products. The branded 1.5 liters of cherry plum sauce is expected to be priced approximately between GEL 3.6-4.
Conducted research has nor revealed export of processed wild cherry plum from Tianeti

municipality.

To summarize the Wild Cherry Plum value chain in Tianeti Municipality, the following flowchart illustrates the main actors and activities involved. The value chain starts with the collection and aggregation of wild cherry plums, which is then distributed by two channels – first is the sales to market resellers and the second is selling products to Cooperative "Tianetis Nobati", which processes product in the form of sauce and distributes it to food service providers, market resellers, supermarkets and directly to consumers.

Chart 4: Wild Cherry Plum Value Chain in Tianeti Municipality



Source: Qualitative analysis

Challenges

The following challenges were identified throughout the analysis of the priority NTFP value chains in Tianeti municipality.

Labor force scarcity and limited youth engagement: The demand for NTFPs, especially for rosehip, is high, but the number of collectors is decreasing annually due to migration and transition of workers to other sectors. The lack of labor force poses a challenge to gathering larger amounts of NTFPs, which limits the potential for increased collection. The majority of collectors are above the age of 45, and the involvement of younger generations in the collection is considerably low. Encouraging the participation of younger individuals is important to ensure the sustainability of the sector and the transmission of traditional knowledge.

Lack of sector-specific knowledge: Apart from traditional knowledge, other sources of knowledge and skills specifically in the field of NTFP collection, such as modern collection

practices and equipment, technologies for primary processing, marketing and branding, diversification potential are not widely spread in the municipality. Despite the existence of a forestry program in VET in Tianeti municipality, it does not cover the specifics of NTFPs. An additional source of information for those interested in the NTFP sector can be brochures created within the GRETA project[43], training provided by Elkana, and other online sources. Though, the interest of collectors to self-educate themselves on sustainable collection, storage, and processing of NTFP products is not high, as the traditional knowledge is often considered to be sufficient.

Sustainability and Restoration: While collaboration between processing companies and collectors provides instructions for sustainable collection practices, ensuring the restoration of NTFP resources remains a challenge. Efforts should be made to promote sustainable harvesting methods, preserve biodiversity, and implement effective resource management strategies to safeguard NTFP availability for future seasons. The main target of these efforts should be households that do not cooperate with processing enterprises and do not receive sustainability instructions from them.

Market Dependence: The strong focus on the rosehip collection highlights the dependence on a limited number of NTFPs. This can lead to market risks, as fluctuations in demand or changes in consumer preferences may impact the income and livelihoods of collectors. Diversifying the range of NTFPs collected and exploring new market opportunities can help mitigate these risks.

Limited Income Generation: The majority of collectors view NTFP collection as an additional income source rather than their primary livelihood. This suggests that income from NTFPs alone may not be sufficient to meet their needs. Enhancing income-generating opportunities through complementary activities, skill development, and value addition along the value chain can help improve the economic well-being of collectors.

Lack of Information on Demand and Access to Markets: Some rosehip collectors lack information regarding the demand from processing enterprises for NTFP products. Improved communication and market knowledge can help collectors maximize their profits and optimize their collection practices. Ensuring fair prices for NTFP products and improving market access for collectors can be a challenge. Strengthening market linkages, establishing transparent pricing mechanisms, and promoting fair trade practices can contribute to more equitable benefits for collectors and enhance their bargaining power in the market.

Limited Financial Resources: Lack of finances hinders the development of NTFP processing and sales. For instance, the cooperative "Tianetis Nobati" faces challenges in expanding its production, diversifying products, and targeting different consumer groups due to limited financial resources. Access to funding and investment opportunities is crucial for scaling up operations and meeting the growing demand for NTFPs.

Transportation Costs and Logistical Issues: Exporting NTFP products to international markets involves transportation via land and water routes. Global and regional logistical issues, such as those resulting from the Russia-Ukraine war, can increase costs and challenges in reaching export destinations.

[43] The GRETA | Green Economy: Sustainable Mountain Tourism and Organic Agriculture Project is co-financed by the EU as well as EU member states Sweden and Austisa, and is implemented by the Austrian Development Agency. The objective of the action is to facilitate an improvement of the business environment and the creation of new income opportunities in sustainable mountain tourism and organic agriculture in order to reduce poverty and exclusion in the selected mountain areas of Georgia.

8.2. European Blueberry, Blackberry, and Ruscus Value Chains in Ozurgeti, Lanchkhuti, and Chokhatauri Municipalities

Introduction

Guria Region is rich with NTFP resources, but their potential is weakly utilized. The collection of NTFPs is often a sole income source for the rural population that tends to be engaged in the collection activities regardless of the price of the products. According to CENN report, on average, only 10-15% of the final selling price of the NTFP products is directed to the collectors. In the case of dried blueberry leaves, 25 % of the final selling price represents a profit of processing company.

According to the NTFPs' prioritization results, European Blueberry, and Blackberry were selected as products with the highest economic potential in Guria, which is consistent with the previous literature. In particular, based on the study conducted by CENN (2022), European blueberry and Blackberry were also concluded to be among the NTFPs with high economic potential in Guria. In addition to that, considering the biodiversity of the Guria Region, Ruscus Colchicus was also selected as the priority NTFP for Guria.

Among the municipalities, Ozurgeti represents a leading municipality in Guria in the field of NTFP collection and processing. Most of the NTFP collection activities are concentrated around the villages located on Bakhmaro mountain slopes. In Ozurgeti municipality all the selected NTFPs – European Blueberry, Blackberry, and Ruscus are actively collected. Meanwhile, in Chokhatauri municipality main priority products are European Blueberry and Ruscus . In Lanchkhuti municipality, Blackberry and Ruscus are selected as priority NTFPs.

Understanding the value chain of NTFPs in this region is crucial for identifying opportunities, challenges, and potential interventions to support the growth and sustainability of the sector. The following sub-sections focus on each involved actor, by analyzing the qualitative data received from NTFP collectors and aggregators in Guria, main processors, and exporters of products collected in Guria. The NTFP VC analysis of Guria also includes additional information collected from external actors from the public sector, such as municipality representatives, and support organizations, such as Georgian Forest Product Association.

European Blueberry Value Chain in Ozurgeti and Chokhatauri Municipalities

<u>Collecting and aggregating</u>

In terms of collected quantity, Blueberry is the leading NTFP variety in Ozurgeti Municipality, followed by Chokhatauri Municipality.

According to respondents, the majority of NTFP product collectors are local families working in groups. Women are actively involved in the NTFP value chain, however, men also play a role in the collection of wild blueberry leaves due to the challenging locations of the blueberry bushes, primarily found in remote forest areas. Regarding the age of collectors, generally, the elder population is involved in the collection process. However, in some cases, people younger than 40 are also involved in the collection process.

Mainly people who are involved in the collection process have very low income from other sources and the seasonal work of blueberry and blueberry leaves collection provides an income for them for basic needs.

The collection starts at the beginning of April or May, depending on weather conditions, and lasts until July.

Table 16: Seasonality of European Blueberry in Guria

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rosehip												

Source: Qualitative Research

In cases where processing companies actively collaborate with collectors, they receive instructions on the correct collection of the NTFP. Apart from that, the collectors have traditional knowledge on collection practices. The process of picking wild blueberries relies entirely on manual labor as technology is ineffective for this task. Unlike cultivated plantations, wild blueberries are scattered across various locations where equipment becomes impractical for harvesting. Additionally, the experienced collectors are adept at their picking techniques, making the use of equipment unlikely and unnecessary.

Collectors collect about 10-20 kilograms each and collect their products together to transport to households and processing enterprises (approximately 150 kilograms are sent in one way). Transportation is provided by locals from the village. In total, 500-600 kilograms are collected in a village per season. At households, the product is stored in cardboard boxes.

Notably, collectors sometimes have issues with reaching the places of collection by car due to infrastructural problems on roads to reach upper villages. In those cases, they had to use horses or walk to the collection places, which decreased their productivity.

Another issue that collectors see as a risk for them is the regulation[44] of product collection and are threatened by the possibility of getting highly fined.

Tea producing company LLC Milmartea and Individual Entrepreneur David Teneishvili also engaged in tea production are important players on Guria Region market. In addition to those enterprises, throughout the past years, other large actors, such as LLC Geoflower and Caucasan were present in the wild blueberry value chain in Guria. Based on the CENN study, according to local farmers, an annual collection of blueberries in Guria reaches 40-50 tonnes, but the potential is higher. Both – the fruit and leaves of blueberries have commercial value.

The volume of blueberry products (fruit, leaves) collected in Guria by selected companies in the period of 2015-2020 is presented in the table below:

Table 17: Blueberry products (fruit, leaves) collected in Guria (cumulative figures for 2015-2020 years)

	Company	Collected Fruit/Leaves	Total Volume (Tones)
1	Geoflower	Fruit	20
2	Caucasan	Fruit and leaves	5
3	Milmart	Leaves	1

Source: CENN (2022)

[44] For further information regarding the regulatory environment, please refer to chapter – "Legislative and Administrative Environment".

Processing

European Blueberry leaves are actively processed as tea in tea processing companies. European Blueberry dry leaves are also sold in mountainous touristic destinations, such as Bakhmaro and Gomi Mountain.

Household use is significantly low compared to sales, especially for blueberry leaves. In the case of berries, some value-added products are produced by collectors, including juices and jams.

LLC Milmartea, known as "Georgian Tea Shemokmedi" actively works in Ozurgeti municipality as a tea-producing enterprise. Since 2015 they started producing tea from NTFP products, including the wild blueberry. The majority of the products processed by the enterprise are sourced from Ozurgeti municipality, followed by Chokhatauri municipality (relatively smaller amounts).

LLC Milmartea actively collaborates with other actors in the sector, such as cooperatives and individual enterprises, to ensure a sufficient collection of blueberry leaves. The average annual collection of fresh blueberry leaves is approximately - 5-6 tons, which equates to 1.2 tonnes of the final product of blueberry leaf tea.

In addition to LLC Milmartea, other individual enterprises also focus on the production of blueberry leaf tea. The large individual entrepreneur from Ozurgeti Municipality also pointed out the significance of blueberry leaf production for Guria. Currently, their main focus is blueberry leaf, production of which started 20-25 years ago based on the traditional knowledge of the benefits of blueberry leaf tea. The main suppliers are local collectors from upper villages near Gomi Mountain and Bakhmaro. The collection price of fresh leaves is approximately 5 GEL per kilogram, while in 2014-2015 prices were about 1 GEL per kilogram of blueberry leaves. Based on the interview with the individual entrepreneur in Ozurgeti municipality, the production and sales of blueberry leaf tea increased drastically throughout the past years reaching approximately 1.2 tons of annual production currently.

The enterprise is actively working with educational institutions, including VET institution "Horizonti"[45] in Ozurgeti, the students of which will pass internship regarding the agricultural processing activities in the enterprise. According to the respondent, the interest of other organizations, including international organizations, is increasing in the direction of NTFP production.

Marketing and Sales

In Chokhatauri municipality, collectors directly sell the collected products in Bakhmaro, including berries and blueberry leaves. There are some small-scale enterprises in Chokhatauri, however, there are no large-scale processors present. The selling price of collected berries is approximately 7-8 GEL per kg. Meanwhile, fresh leaves are sold at 4-5 GEL per kg and dry leaves - at 40-50 GEL per kg. Generally, the buyers are Georgians, however, in some cases considering the location of villages (close to Bakhmaro or Gomi Mountain) buyers are international visitors interested in local produce.

[45] "Horizonti" web-page

Approximately 60% of processed blueberry leaf tea by LLC Milmartea is exported to Europe. Transportation is mainly ensured by land and the transportation costs are covered by the trade partners. The main trade partner is Germany, followed by Poland and the Czech Republic. In the majority of cases, trade is conducted directly by LLC Milmartea to their trade partners. However, smaller shares of their dry products are sold to other enterprises (approximately 15-20%), and in some cases, their products are exported through those enterprises.

Selling export prices are volatile, however, still, the price of blueberry leaf tea is high, compared to other teas (including blackberry leaf tea) and the average prices are between 22-25 USD dollars per kilogram. Despite the high prices, it should be noted that the production costs of blueberry leaf tea are also high.

The demand for blueberry leaf tea is increasing both from current trade partners and new partners, according to LLC Milmartea. There are cases when the demand from the trade partners is much higher than the production capacity of the processing company. In addition to that other factors also act as hinderance. In particular, the labor force may not be sufficient in some cases to collect large amounts of products, the weather conditions may not be appropriate for the collection, and the infrastructural issues may hinder transportation.

The processing company also focuses on domestic sales, however, challenges are present with chain supermarkets to reach an agreement regarding the process of sales. Apart from that, the company also sells products directly to consumers. An insignificant number of sales are coming from e-commerce, as currently, the website[46] is not used to at full capacity.

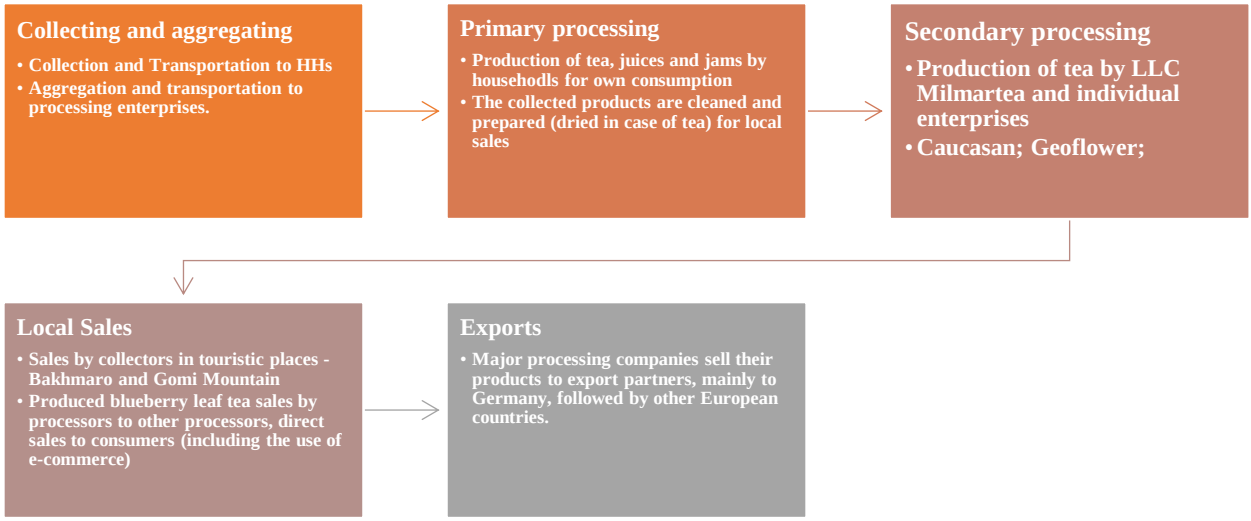
According to individual entrepreneur, the demand is much higher than the enterprise is capable of meeting with current capacity. The average product selling price is 80 GEL per kilogram to other re-sellers, which export the product abroad. The international demand for blueberry leaf tea is noticeable in post-soviet countries and European countries.

The further plan of the enterprise is to sell its product as a branded blueberry leaf tea and collaborate with chain supermarkets using distribution, however, some issues are present in this case as well.In particular, reaching agreements with chain supermarkets that are beneficial for both parties is deemed to be difficult for individual entrepreneurs from Ozurgeti municipality. In addition to that, issues with finding the appropriate distribution services for the products were also mentioned.

To summarize the wild blueberry value chain in Ozurgeti and Chokhatauri municipalities, the following flowchart illustrates the main actors and activities involved.

[46] www.milmartea.ge.

Chart 5: European Blueberry Value Chain in Ozurgeti and Chokhatauri municipalities



Source: Qualitative analysis

Blackberry Value Chain in Guria

Collecting and aggregating

Blackberry is present in all municipalities of Guria with larger amounts in Ozurgeti municipality, followed by Chokhatauri and Lanchkhuti municipalities. The collection of Blackberry and Blackberry leaves is dominated by women. Most collectors are above the age of 45, while the engagement of younger individuals in the collection is insignificant. Notably, family involvement in the collection process is common.

The accessibility of blackberry patches and the presence of thorns and tangled vines can make navigation and harvest more difficult. The quantity and distribution of berries within the patches, as well as the manual picking technique required, make the process of collection challenging. In addition to that, the collected product cannot be reached by transport due to natural conditions, therefore, collectors are mainly walking to their destinations and return with buckets of products.

The collection season for Blackberry starts in June and lasts until the beginning of September, depending on weather conditions.

Table 18: Seasonality of Blackberry in Guria

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rosehip												

Source: Qualitative Research

Similar to other NTFPs, generally, the collection of blackberries is a source of income for low-income people who live in poverty, providing them with opportunities to improve their

economic situation.

Collectors that are focusing on the collection of blackberry leaves in Ozurgeti municipality mainly are supplying larger processing companies, while the berries themselves are prepared to be sold on local markets both for Ozurgeti and Lanchkhuti municipalities.

On average, throughout the past years, the freshly collected leaves amounted to 3-4 tons, which equals half a ton of the final product of blackberry leaf tea.

Processing

The collectors use some of the collected blackberries for household uses. In that case, some products like juices, jams, and preserves are made for the family. It is not frequent for collectors to sell the value-added products mentioned above. However, individual cases are also present, when the collectors are making new products such as blackberry sauce and mixed jams with other fruits for realization.

As mentioned above, LLC Milmartea is among the biggest actors in the NTFP value chain of Guria. Currently, the company is actively working on the production of blackberry leaves tea in addition to the above mentioned blueberry leaves tea. The main suppliers are from Ozurgeti municipality as production takes place in the municipality.

Other processing enterprises have also shown an interest in producing blackberry leaf tea. In particular, one of the respondents noted that they have piloted the production of this tea, however, the selling channels could not be reached successfully, and thus because of the lack of demand the production was suspended.

Marketing and Sales

The collectors often sell the blackberries on local markets within a maximum of two days after the collection of berries, considering the perishability of the berry. Generally, the collectors sell the product on local markets or on the streets. In addition to that, some collectors supply restaurants and bakeries. The demand for blackberries is high, and there are almost no cases of the product spoiling.

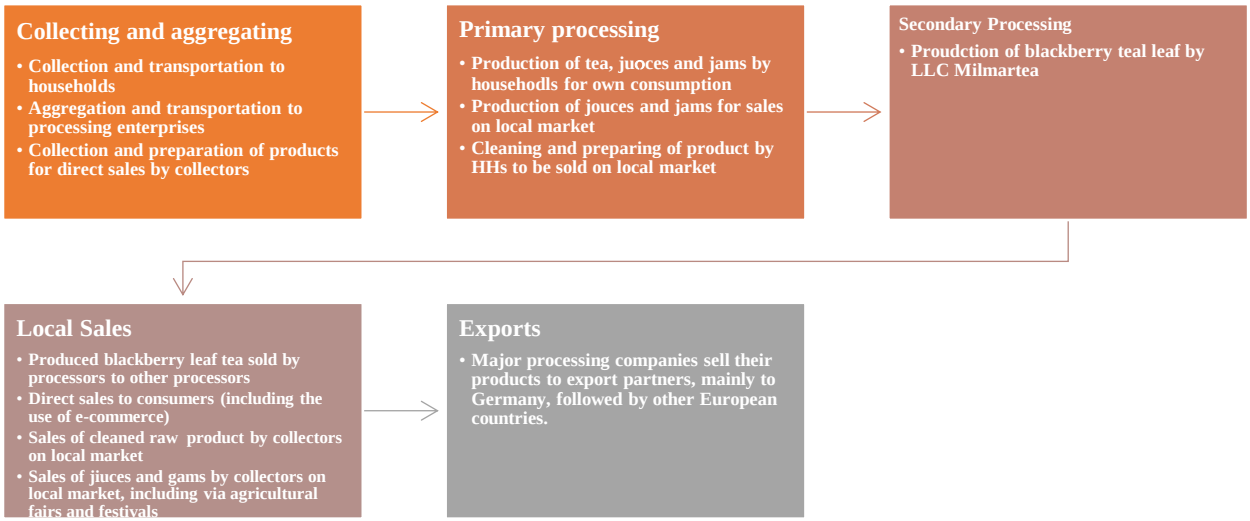
According to one of the respondents from Lanchkhuti municipality, she has produced a variety of products with blackberries, such as sauces and jams and mainly used agricultural, agrotourism, and food festivals in different parts of Georgia to sell their products. The main buyers in this case were international visitors rather than locals.

The selling channels of blackberry leaf tea are similar to blueberry leaf tea. In particular, sales can be directly to consumers and exporters, re-sellers, and other companies.

The selling channels of blackberry leaf tea are similar to blueberry leaf tea. In particular, sales can be directly to consumers and exporters, re-sellers, and other companies.

The following chart summarizes the Blackberry value chain in Guria.

Chart 6: Blackberry Value Chain in Guria



Source: Qualitative analysis

Ruscus Value Chain in Guria

Collecting and aggregating

Ruscus is present in the forests of all three target municipalities of Guria. Notably, it is usually found in shaded areas, often under trees or in the understory of forests. Collecting Ruscus can be challenging due to its natural habitat in woodlands and forests. The collection process is typically done manually, requiring individuals to bend down and carefully cut or dig out the plant without damaging its roots. Overall, the combination of its habitat, physical characteristics, and the need for careful handling makes the collection of Ruscus a challenging task.

Considering the presence of Ruscus in hard-to-reach places, the majority of the collectors are men of a younger age. However, women also play a role as collectors in the value chain.

Currently, Ruscus is collected for two main purposes. Firstly, it is collected to sell to producers that are using Ruscus leaves for ornamental and decorative purposes. Secondly, it is collected by locals for feeding cattle. The respondents note that in the shady places of the forests, the plant sometimes has damaged leaves making it inappropriate for the collection with an aim to sell to other processors. Other respondents also note that the plant has experienced some problems throughout the past years and the leaves are not as healthy as before. In addition to that the weather conditions, such as hail, negatively affect the collection of Ruscus. However, in those cases, when the leaves are not in good condition, the plant is often used as a feed to cattle.

The collection period of Ruscus starts in September and lasts until the first snow of the season.

However, other respondents noted that they start the collection at the beginning of December and lasts until the beginning of May. However, despite the long collection periods, the interviewed collectors are only working actively for 1-2 months per season.

Table 19: Seasonality of Ruscus in Guria

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rosehip												

Source: Qualitative Research

After the collection, Ruscus is stored in dark and cool places until the sale. Generally, the storage period for collectors lasts for only a few days (2-3 days).

According to information received from NFA, following quantity of product permits was obtained in 2022:

Table 20: Ruscus Obtained in Guria Under the Permits Issued by NFA

Product	Company	Duration of the permit	Obtained quantity (tones)
Ruscus	Individual Entrepreneur	1 year	17.9
Ruscus	Individual Entrepreneur	1 year	60

Source: NFA

For 2023, harvesting of following quantity is anticipated according to the permit issued by the NFA:

Table 21: Ruscus to be Harvested in Guria Under the Permit Issued by NFA

Product	Company	Duration of the permit	Obtained quantity (tones)
Ruscus	LLC "Ilo"	1 year	100-150 tones

Source: NFA

Processing

Ruscus has the potential to be used in two main directions: as a decorative plant (ornamental plant and foliage in floral decorations) and for medicinal purposes. In traditional medicine, Ruscus has been used to treat circulatory disorders, varicose veins, hemorrhoids, and other related conditions. Particularly, Ruscus extract can be used in herbal remedies and dietary supplements aimed at improving venous insufficiency and in certain skincare products, particularly those targeting skin conditions related to poor circulation. However, respondents have not mentioned the medical purposes of Ruscus and pointed out its only ornamental value and usage of plant as cattle feed.

Marketing and Sales

The collected plants are sold to re-sellers, who are working in the field of ornamental plants and floral decorations. The average price per stem of a plant is 0.05 GEL and on average the bunch of the plant contains 40 stems.

One of the respondents noted that the average income per day ranges from GEL 15 to 25. The selling of the products takes place every 2-3 days during the active season. The number of aggregators and re-sellers is not high in Guria and the supply of the plant is much higher than the existing demand. Therefore, the issue of scarcity will not be present in case of the increased demand.

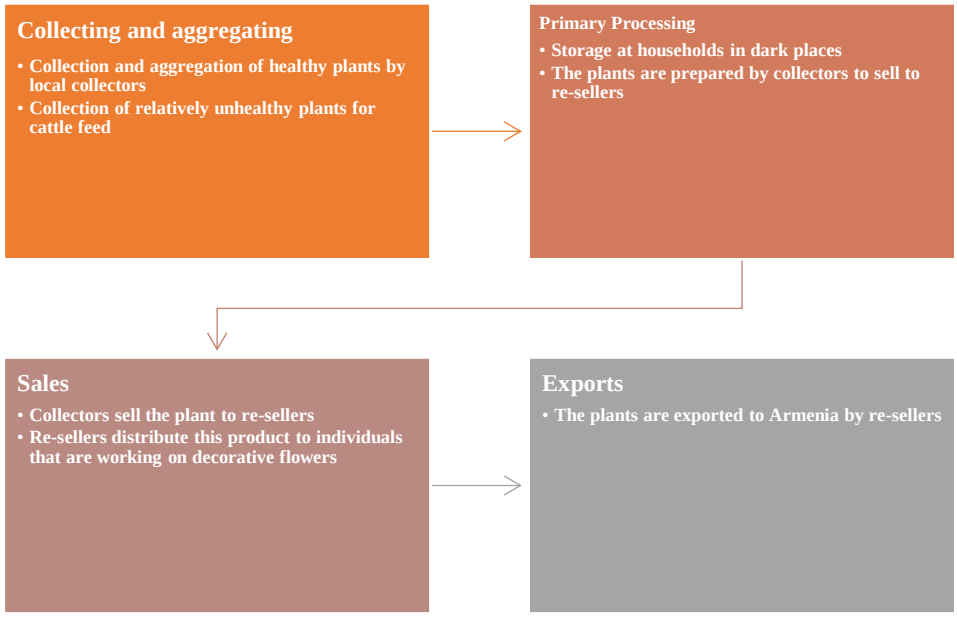
One of the respondents mentioned that the Ruscus is sometimes exported to Armenia through re-sellers, however, the collectors do not hold further information regarding this issue.

Notably, the collection of Ruscus is the source of additional income for the local collectors and they are also engaged in other agricultural activities seasonally.

The costs such as collection fee on the forest use and transportation costs are often covered by the re-sellers.

The following chart summarizes the value chain of Ruscus in Guria.

Chart 7: Ruscus Value Chain in Guria



Source: Qualitative interviews

Challenges

The following challenges were identified throughout the analysis of the priority NTFP value chains in Guria Region.

Lack of access to finance: The challenge lies in the difficulty for processing enterprises to increase their production to satisfy the international and local demand due to the inability to find relevant financial resources.

Infrastructural issues: Road access to upper villages hinders both the collection processes and the further transportation processes needed for maintaining the value chain.

Networking difficulties and non-reimbursement of product revenue by chain supermarkets: Establishing networks and ensuring fair payment for sold products is challenging for some of the processing entities transitioning to branded sales.

An unstable number of collectors and human resource problem: The availability of collectors fluctuates, with some individuals leaving for other pursuits. Mobilizing and organizing the remaining collectors becomes challenging. Additionally, the aging workforce poses a problem, as employees involved in the collection process are predominantly aged, while young people tend to migrate to urban areas or even Europe.

Lack of information sharing between municipal and national governments in the direction of the NTFP sector: Local municipalities have an interest in understanding the potential of local forests, and the issues with the introduction of the new law, however, the information sharing level is relatively low between different governmental entities, including MEPA and National Forestry Agency.

Legal Issues with Collection of NTFP by Local Collector: Currently, local collectors have difficulties in communicating with entities, such as the National Forestry Agency. The collectors lack information regarding the new rules of collection and generally base their fear of being fined for collecting the forest resources.

Damaged Leaves of Ruscus: Some respondents noted that the plant sometimes has damaged leaves in shady forest areas, which makes it unsuitable for collection and sale to processors. This reduces the market value of the plant.

Weather Conditions: Weather conditions such as hail can negatively impact the collection of Ruscus . Unfavorable weather can damage the plants and make them unsuitable for sale.

Limited Knowledge of Medicinal Uses: Although Ruscus has potential for medicinal uses, such as treating circulatory disorders and varicose veins, respondents did not mention or focus on these applications. The limited knowledge and focus on ornamental value may limit the exploration of its medicinal potential.

8.3. Rosehip, Blackberry, and Wild Cherry Plum Value Chains in Akhmeta and Kvareli Municipalities

Introduction

The population of Kakheti region is engaged in NTFP collection and processing activities, but the absence of cooperatives and processing enterprises hampers the development of value chain and commercialization potential of NTFPs. In addition, in comparison to other target regions, weather conditions and droughts represent a higher threat to selected NTFP products – especially Blackberry.

Due to the absence of cooperatives and processing enterprises, the NTFPs value chain in Kakheti is mostly local. Main value chain operations are conducted locally, with some exceptions where rosehip is supplied to Tianeti municipality or rare cases when other products are transported to Tbilisi markets. In this sense, the NTFP value chain in Kakheti significantly differs from Mtsketa-Mtianeti and Guria value chains. Therefore, significant efforts are needed to enhance investments in processing enterprises.

Rosehip Value Chain

Collecting and aggregating

The rosehip value chain in Akhmeta and Kvareli municipalities is dominated by women. They are engaged in the collection, transportation, and primary processing activities.

Normally, after collection and transportation, rosehip is placed on the balconies for drawing. Afterwards, the product that is intended for the family consumption is stored in special packs. The households mainly use rosehip for the preparation of tea.

Some of the collectors sell rosehip on local market in raw or dried form. It is mostly bought by other households for the preparation of tea.

It is important to note that collection of rosehip has limited potential for obtaining additional revenue. The households mostly collect the product for family consumption due to the various health benefits of the product.

The collectors normally do not use the vehicles for the transportation of the product from collection areas to the household. This is mainly explained by the small quantity of collected products that does not justify the additional costs needed for transportation. Also, in Akhmeta municipality, NTFP collection areas require AWD vehicles, that consume more fuel than ordinary vehicles.

The seasonality of rosehip in Akhmeta and Kvareli municipalities is reflected in the table below:

Table 20: Seasonality of Rosehip in Akhmeta and Kvareli municipalities

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rosehip												

Source: Conducted Interviews

Processing

In Akhmeta and Kvareli municipalities, rosehip is mainly processed in the households. It is mostly used for making tea. For making the tea, collectors dry the product and store it specialized bags that protect from humidity. One of the interviewed collectors mentioned, that she uses the rosehip only for household consumption and never sold it. However, she gives the product as gift to neighbors in the village.

For aggregators, dried rosehip has a higher price, so the collectors are motivated to collect and dry the product in their households. Hence, the collectors bring the rosehip at households and spread the harvest for drying.

Marketing and Sales

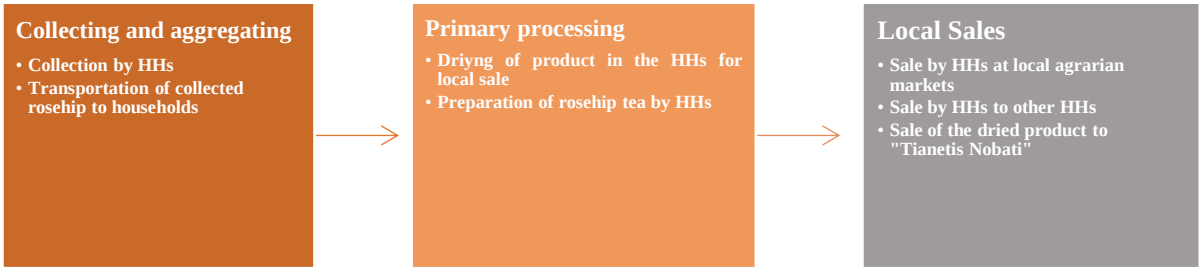
The collectors mainly sell the product on the local market, also directly to other households. Some of the collectors are well known and they may receive phone calls from other households

that are searching for various types of NTFPs. One of the interviewed collectors uses the facebook page “Akhmeta” for spreading information and sale of the product.

One of the interviewees mentioned that in the case of increased demand for rosehip, 3 or 4 neighbors are engaged in the collection process and send the harvest to Tianeti municipality. In this case the transportation is done through regular minibus travelling on the route Akhmeta-Tianeti.

The rosehip value chain in Akhmeta and Kvareli municipalities is presented below:

Chart 8: Rosehip Value Chain in Akhmeta and Kvareli Municipalities



Source: Qualitative analysis

Blackberry Value Chain

Collecting and aggregating

The Blackberry is considered as the most prospective NTFP in Akhmeta and Kvareli municipalities in terms of demand and price. Even though Blackberry harvesting is more labour intensive in comparison to other priority NTFP products, its collection is also dominated by women. One of the respondents stressed that she does not have enough time and energy for the collection of higher quantities, even though she is aware of high demand for the product on the local market.

One of the interviewees stated that she may collect and bring home around 15-20 kilograms of Blackberry per one visit to harvesting areas. The product is mainly collected in buckets and transported without using vehicles.

The product is extremely sensitive to droughts. In 2022, the high temperatures caused serious damage to the harvest. Accordingly, the deficit of the product was observable and the prices on the local market increased.

The seasonality of Blackberry in Akhmeta and Kvareli municipalities is presented in the table below:

Table 21: Seasonality of Blackberry

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rosehip												

Source: Qualitative Research

Processing

In Akhmeta and Kvareli municipalities, Blackberry is mainly processed in the households. It is mostly used for making jams, juices and in rare cases alcoholic beverages. Homemade products are normally stored in glassware.

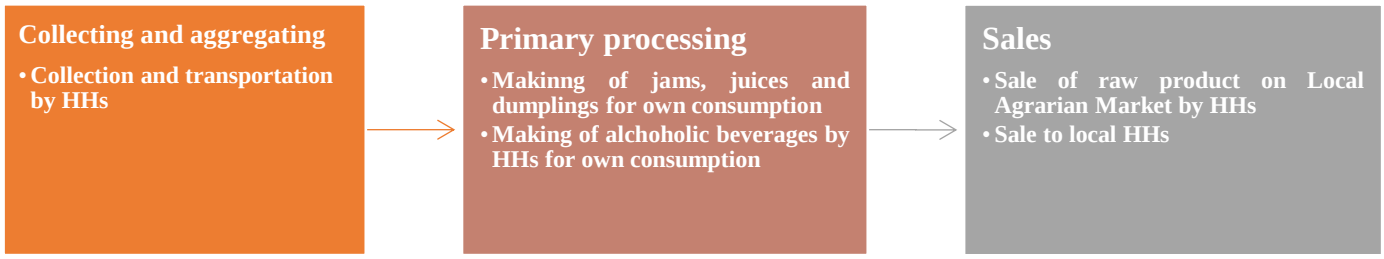
The product is damaged pretty fast, so it must be sold rapidly or used for the preparation of food and drinks for households. One interviewee stated that she uses the product for making vodka if she is not able to sell the product on local market. Also, the product is traditionally used for making various kinds of juices for the family consumption.

Marketing and Sales

The collectors mainly sell the product on local market. One of the interviewees stated that on Sundays, between 8-10 collectors sell the product on local agrarian market. Those who sell the product on the local Agrarian market shall collect it on Friday or Saturday. The price of the product is between GEL 3-4. Collectors also directly sell the product to other households, Sometimes, they might receive an order in advance for the collection of a certain quantity of Blackberry.

Thus, the activities concerning the value chain of the product mostly take place on municipal levels. Schematic illustration of the value chain is presented below:

Chart 9: Blackberry Value Chain in Akhmeta and Kvareli Municipalities



Source: Qualitative analysis

Wild Cherry Plum Value Chain

Collecting and aggregating

The wild cherry plum is the most easily collectible NTFPs from priority products identified in

Kakheti Region. Mostly women are engaged in the collection activities. Wild cherry plum trees are spread in the surroundings of villages and outskirts of the roads.

The seasonality of wild cherry plum is presented in the table below:

Table 22: Seasonality of Wild Cherry Plum

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cherry plum												

Source: Conducted Interviews

Processing

The product is very popular among households and is used to produce traditional sauces, "tklapi" and alcoholic beverages. These products are mainly consumed in households.

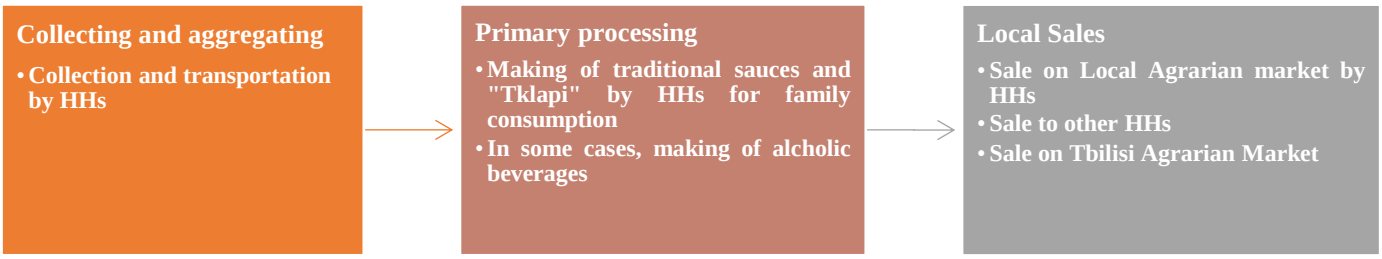
Marketing and Sales

The price of wild cherry plum on the local market varies between GEL 1-1.5. This low price serves as a demotivational factor for collecting the product for commercial reasons.

Sometimes, collectors may receive orders from other households on the collection of certain quantity of product. In addition, the product is transported to Tbilisi markets by minivans.

Similar to the abovementioned products, the absence of aggregators and processing enterprises hampers the development of value chain and commercialization of the product.

Chart 10: Wild Cherry Plum Value Chain in Akhmeta and Kvareli Municipalities



Source: Qualitative analysis

8.4. Blackberry Value Chains in Telavi and Dedoplistskaro Municipalities

Collecting and aggregating

Majority of NTFP product collectors in Telavi and Dedoplistskaro municipalities are women. They are mostly engaged in the collection of Blackberry.

In addition, the collection process may involve the participation of the whole family. In Telavi municipality, the whole household – son and his parents are involved in the collection of the product. Afterwards, mother is engaged in the household production for family consumption, while son and father distribute the product to local market and confectionery.

Collectors in Telavi and Dedoplistkharo lack medium or large buyers of Blackberry. Mostly, the households collect the product, transport it, sort, wash, and use it to family production.

The seasonality of Blackberry is presented in the table below:

Table 23: Seasonality of Blackberry

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rosehip												

Source: Qualitative Research

Some households have family tradition of collection of Blackberry and making respective products for own consumption. Others are engaged in the business to obtain additional income.

Processing

Households produce jams, juices and in rare cases dumplings for the family consumption. Outside the households, the product is used as an input in confectionary products.

The municipalities lack processing enterprises. Hence, the main buyers are local households, aggregators on local agrarian markets and confectionaries.

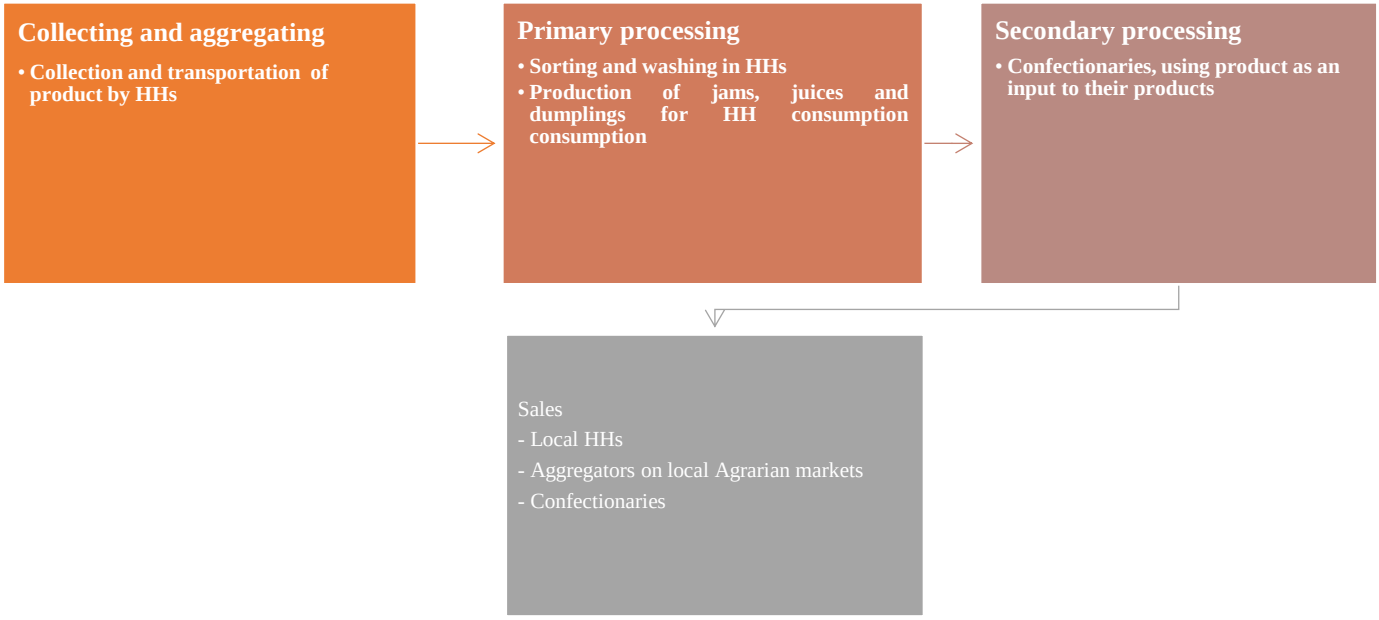
Marketing and Sales

The only sale channels are local agrarian markets and confectionaries, that use the product as an input in the production of cakes.

According to the interviewed households, recently, the selling price of Blackberry on local agrarian market was GEL 7 per kilogram. They are satisfied with the price and existing demand for the product, however stress that droughts negatively affected the harvest in previous years. In recent years, the demand for Blackberry exceeds the supply. The deficit of the product on the market is mainly caused by droughts. Also, the collection of Blackberry is labor intensive and time consuming.

The collectors positively assess the market perspectives of the Blackberry. Some of them are considering the intensification of production by cultivation, while others think of commercialization of home-made products and realization on local market. In the realization of their plans, the households will mainly depend on market signals, possible support measures for the intensification of production and commercialization of homemade products.

Chart 11: Blackberry Value Chain in Telavi and Dedoplistskharo Municipalities



Source: Qualitative analysis

Challenges

The following challenges were identified throughout the analysis of priority NTFP value chains in the selected municipalities of Kakheti Region.

Absence of Aggregators and Processing Enterprises for the Priority NTFPs: Collectors of the NTFPs state that the absence of aggregators and processing enterprises hampers the development of the sector in Kakheti Region. Accordingly, their commercial activities in the NTFP mostly depend on the demand from local Agrarian market and local households. The existence of aggregators and processing enterprises will serve as a motivational factor for increasing the collection volumes of NTFPs, engaging more people in collection activities, stable and medium to long term relationships between the actors of value chain that would create win-win cooperation and positive externalities.

Domination of traditional knowledge on NTFPs and Absence of Channels for Exchanging Information and Experience: The collection and processing activities and processes rarely change. Innovation and creativity are very rare in the primary NTFP sector. Partially, this is due to information failures on existing market potentials, absence of materials and manuals on NTFP sector, lack of information on international development trends and experience accumulated in EU and other advanced countries.

Absence of Cooperation among the NTFP collectors: Collectors are unaware of the benefits of cooperation that might take place under the umbrella of cooperative, association or cluster. Most of them could not afford certain equipment, technologies or vehicles that might increase their productivity and income. Collectors may unite forces in organizing joint harvesting, packaging, marketing, selling, joint purchasing of needed equipment or technologies. At the next stage, they may improve understanding of the diversification and commercialization opportunities by adding value to collected NTFPs.

Local Nature of Value Chains: Main NTFP value chain processes are localized in the municipalities. This negatively affects demand, income generation, value addition and export potential. The only exception is the rosehip value chain, that practices inter-regional cooperation where products collected in Kakheti are bought by the cooperative located in Mtskheta-Mtianeti. Thus, the NTFP sector in Kakheti Region lacks the channels that might generate additional demand on NTFP products and support its diversification. Local or international investments are needed in the NTFP processing industries. The local investments may be focused on primary processing activities and oriented on meeting the demand on export markets. International investments may bring know how, knowledge and skills necessary was using NTFPs for the production of diversified food, drink, pharmaceutical and cosmetic products.

Sensitivity of Blackberry to Draughts: The hot and dry summer might seriously damage the harvest. This causes a deficit of the product on the market, decreased incomes of collectors and increased prices for households. The risk mitigation measures are quite scarce, as far as NTFPs are not in private ownership and could not be treated as cultivated areas.

9. Resource Assessment on NTFP Products in Mtskheta-Mtianeti and Kakheti Regions

Resource Assessment

According to the information received from the Caucascert – organic certification company, resource assessment is the most expensive component in the certification process. Each company seeking bio certification shall conduct a resource assessment. These assessments include crucial information, based on which processor companies deliver trainings to collectors. Normally, such assessments are conducted by botanists. The information on resource assessments conducted in the process of bio certification is confidential.

According to Caucascert, sustainable harvesting of NTFPs largely depends on the existing local knowledge. Collectors operating in the villages can predict the approximate volume of harvest after observing respective areas. They also know allowed collection volumes, that will not negatively affect sustainability and recoverability. This local knowledge and expert evaluation are of crucial importance. Experts engaged in resource assessments closely cooperate with respective local individuals.

9.1. Mtskheta-Mtianeti Region

Rosehip

Based on the preliminary research conducted in the framework of the study, the rosehip was selected as a priority NTFP product in Tianeti municipality of Mtskheta-Mtianeti Region.

Distribution

In Georgia, rosehip is distributed in mountainous areas, forests, outskirts of the forests and roads, outskirts of rivers, seaside.

Based on the interviews conducted with various stakeholders, collectors, aggregators and processing enterprises, the rosehip is the most widespread NTFP in Mtskheta-Mtianeti Region. In Tianeti Municipality, rosehip is mostly collected at the outskirts of forests.

Use of Rosehip by Households and Processing Enterprises

Georgian population is involved in the collection of rosehips due to its value for making drinks and medical products. Traditionally, rosehip was used for the treatment of a wide variety of chronic and ordinary diseases. Most recently, increased demand on local and international markets for raw rosehip and its products is observable.

In Mtskheta-Mtianeti Region, households mostly use the product for the preparation of tea. Processing enterprises mostly use rosehip for the production of juices.

In general, there is an abundance of rosehip in the region. The demand for its collection also exists and exceeds the supply, due to the small number of individuals engaged in the collection. According to the representatives of processing enterprises, the number of collectors is decreasing annually.

Exact Data on rosehip resources and reserves is not available. The data obtained from the interviewed processing enterprises is presented in the table below:

Table 24: Rosehip Obtained and Processed by Enterprises in Tianeti Municipality

Company	Total Quantity (Tonnes)		
	2020	**2021**	**2022**
BPC	16	12	20
Tianetis Nobati (cooperative)	6	7	7

Source: Conducted Interviews

Sustainable Harvesting

Rosehip in Mstketa-Mtianeti Region is mostly harvested in the period of September-December. The households stress that the collection process is difficult, due to the existence of thorns in the fruit. It is mostly collected by hand. However, one of the collectors mentioned that she receives information and instructions on proper and sustainable harvesting from the Association “Elkana”. She also received training from the association on using special scissors for the rosehip harvesting.

According to the representative of the processing company, in general, the rosehip represents a resistant fruit, and it may be damaged only in extremely rare cases. Hence, wrong collection practices in rosehip harvesting have less influence on the sustainability in comparison to other NTFPs. However, the rosehip shall be collected properly for the preservation of biodiversity. Approximately 20% of the fruit shall be left in the bush to ensure a good harvest for the next year. Based on the observation of one processing company, once in 5 years the rosehip harvest may be negligent.

The main problem that incorrect harvesting may pose for the enterprises is the supply of raw rosehip with broken branches. However, this occurs only in rare cases. Accordingly, the processing enterprises and associations regularly instruct collectors on the proper and sustainable harvesting rules.

Wild Cherry Plum

Based on the preliminary research conducted in the framework of the assignment, wild cherry plum was selected as a priority NTFP product in Tianeti municipality of Mtskheta-Mtianeti Region.

Distribution

Wild cherry plum is widely distributed in almost all regions of Georgia, at 1600 – 1800 meters above the sea level. In Tianeti Municipality, 70% of the wild cherry plum purchased by the aggregator comes from the local forests.

Use of Wild Cherry Plum by Households and Processing Enterprises

Wild cherry plum is historically used by Georgian households for making of drinks, food, and sauces. Wild plum sauce is the most widespread product prepared by Georgian households for the family consumption and realization on local agrarian markets. In addition, the product is used for the preparation of juices, compotes, jams, "tklapi" and other products. Wild cherry plum vodka is also made by some households across the country.

There is an abundance of wild cherry plum in the region. The demand for its collection also exists and exceeds the supply.

Exact Data on wild cherry plum resources and reserves is not available. The data obtained from the interviewed collector is presented in the table below:

Table 25: Collection of Wild Cherry Plum by the Collector in Tianeti Municipality

Collector	Total Quantity (Tonnes)		
	2020	2021	2022
Collector from Tianeti Municipality	Has not collected	0.3	1

Source: Conducted Interviews

Sustainable Harvesting

The harvesting of the wild cherry plum in Tianeti Municipality starts in June and may last until the beginning of winter. In June and July, certain demand exists for unripe wild cherry plum, while the ripe product is mostly supplied from August. Households collect the fruit manually, with the help of special sticks. The unripe product is put in bags or buckets, while the ripe products shall be put in special table ware.

According to local collectors, the main risk for the harvest is the weather. The frostbite may damage the fruit at the early stage of flowering. They haven't experienced cases of improper collection and its negative influence on the harvest. Some of the collectors receive instructions on sustainable harvesting from the Association "Elkana".

Wild Sea-Buckthorn

Based on the preliminary research conducted in the framework of the study, wild Sea-Buckthorn was selected as a priority NTFP product in Tianeti municipality of Mtskheta-Mtianeti Region.

Distribution

Wild Sea-Buckthorn is found across both the western and eastern regions of Georgia at elevations below 2500 meters from sea level. The plant is well-adapted to tolerate harsh conditions such as strong winds, and poor soil quality. The plant grows in various types of habitats, including riverbanks, where the soil is often moist and provides suitable conditions for its growth. The presence of water and the fertile soil in river beds can support the development of Wild Sea-Buckthorn bushes.

In Tianeti municipality, wild sea buckthorn is widely spread on the Iori riverbanks. It is frequently collected by the local collectors throughout the municipality considering that the wild Sea-Buckthorn is a versatile plant known for its numerous benefits.

Use of Wild Sea-Buckthorn by Households and Enterprises

The berries of Wild Sea-Buckthorn are packed with essential nutrients, antioxidants, and healthy fatty acids, making them highly nutritious. It is valued for its potential health benefits, including immune-boosting and anti-inflammatory properties, therefore it is traditionally used for medical purposes as well by the locals.

The wild sea buckthorn is consumed and sold as a fresh product, however some culinary adaptations in households, such as juices, jams, sauces, and other kinds of preserves. Those are sold on local and Tbilisi agrarian markets. The wild sea buckthorn is also processed as a dry product for further export.

Based on the conducted interviews, the resources are abundant in the riverbanks of the municipality, however, collection levels are not high due to the lack of labor force.

Exact data on wild sea buckthorn is not available, however, based on the interview with a cooperative from the municipality, in the past years the average annual collection was 4 tons per year, which was then reduced to 1-2 tones due to the lack of collectors. The data obtained from the interviewed collector is presented in the table below:

Table 26: Collection of Sea Buckthorn by the Collector in Tianeti Municipality

Collector	**Total Quantity (Tonnes)**		
	2020	2021	2022
Collector from Tianeti Municipality	0.2	0.3	0.5

Source: Conducted Interviews

Sustainable Harvesting

The major factor for sustainable harvesting of wild sea buckthorn is collecting berries during the appropriate season when they are fully ripe. This helps in maintaining the natural reproductive cycle of the plant and the collected berries have their full nutritional value. In addition to that, harvesting only a portion of the berries, leaving a significant amount for the plant to regenerate and continue growing should also be mentioned. Avoiding overharvesting prevents depletion of the plant population.

Apart from that while gathering, gentle harvesting methods, such as carefully handpicking inf the berries without causing harm to the branches, leaves, or roots, should be used to minimize

the damage to the plant.

9.2. Kakheti Region

Blackberry

Based on the preliminary research conducted in the framework of the study, Blackberry was selected as a priority NTFP product in all target municipalities of Kakheti Region.

Distribution

Blackberry is mostly distributed in shrubland, on the sidelines of forests, roads, rivers, streams. In Kakheti Region, the collectors mostly harvest the product at the outskirts of villages. The product is mostly harvested in August.

In general, collection of the Blackberry is one of the most labor-intensive processes among NTFPs. The collection in Akhmeta municipality is especially challenging due to its hilly terrain. In some collection sites of Kvareli municipality, the product is in the areas that are hard to reach, and collectors use special scissors for road trekking and reaching the product.

Use of Blackberry by Households and Processing Enterprises

Blackberry is traditionally used by Georgian households for making homemade jams and juices. In rare cases, the product is used for making vodka. It is also used by confectionaries and restaurants as an input in cakes. On Agrarian markets, there are aggregators that purchase the product for further re-selling to households and confectionaries.

Historically, households were also using Blackberry for medical reasons, as far as its fruit contains glucose, fructose, organic acids, pectin, cells, potassium salts, B vitamin. Leaves of the product Contain C vitamin, organic acids and small quantity of essential oils. The tea produced from the Blackberry also has various medical features.

However, based on the information obtained from collectors, currently only the fruit of Blackberry is used by the households in Kakheti.

Exact Data on Blackberry resources and reserves is not available. The data obtained from the interviewed collector is presented in the table below:

Table 26: Collection of Blackberry by the Collector in Telavi Municipality

Collector	Total Quantity (Tonnes)		
	2020	2021	2022
Collector from Telavi Municipality	0.08	0.09	0.08

Source: Conducted Interviews

Interviewed stakeholders stressed that the collection of Blackberry is labor intensive, but it is the most profitable NTFP due to existing demand and price. According to them, the cultivated product is also available on the market, but the wild fruit is considered to have better qualities and is more demanded on the market.

Sustainable Harvesting

Blackberry in Kakheti Region is collected during the summer months. In rare cases, the collection also takes place in September.

The main threat affecting the harvest of Blackberry is drought. In 2022, the drought caused smaller harvest, deficit of the product on the market and increased prices. However, according to collectors, the drought damages only the fruit, not its bushes. Hence, in the proper weather conditions the harvested volumes may be increased in subsequent years.

One of the specificities of Blackberry is its perishability. Accordingly, it shall be immediately used in household production or sold on the agrarian market. The product is also easily damageable, and collectors should avoid crushing the fruit. Some of them put newspaper sheets in buckets to avoid crushing the product.

During the collection, individuals shall not break the branches of Blackberry, that may cause withering of whole bushes.

One household plans to cultivate Blackberry. There are several factors for this decision:

- Unpredictability of Blackberry harvest, mostly caused by weather conditions and drought
- Increasing demand on the product
- High quality of the fruit

10. Roles of Different Genders and Socially Vulnerable Groups

Mostly, the collection Rosehip, Wild Cherry Plum, European Blueberry, Sea-buckthorn, Blackberry are women driven activities in target regions. However, there are some exceptions where family members are engaged in the processes and have different roles.

In Tianeti municipality, the collectors of **rosehip**, **wild cherry plum** and **sea-buckthorn** are mostly women. One of the interviewees stated, that men in the municipality are mostly engaged in the production of wood charcoal, that is a demanded product on the market. Women collect the product, ensure its transportation, processing for family consumption and supply to aggregators or consumers for obtaining additional income. Their engagement in NTFP sectors is either from childhood, family traditions concerning the making of certain products from NTFPs or motivation for obtaining additional sources of income. One of the interviewees stated that she collects rosehip – a product that freely gives harvest and income - from childhood.

According to one of the interviewees, the collection period for rosehip in autumn coincides with other agriculture and household activities. Accordingly, it is difficult to wholly switch on the collection of NTFP. The annual rosehip collection may reach 1.5 tons if she had been able to devote more time to this activity. She also stated that her sister visits her from another region for rosehip collection and she collects more product because she is occupied only with this activity during her visit. One of the respondents in Tianeti municipality stated that sometimes she buys sea-buckthorn from other collectors to respond to the increased demand on the market. She also produces sea-buckthorn juice and supplies the product to the buyer in one of the Agrarian markets of Tbilisi. In the future, she plans to expand the sea-buckthorn collection area due to the stable demand for the product and higher prices.

Collection of Rosehip, Blackberry and Wild Cherry Plum is dominated by the women in **Kakheti Region**. Mostly women above the age of 50 are engaged in the collection in Akhmeta municipality. One interviewee sells all three products on the local agriculture market. The buyers know her well and contact her via telephone when they need to buy NTFPs. She also posts information on the availability of NTFPs on the Facebook page "Akhmeta". Sometimes she draws rosehips and sells the processed product that is used for the preparation of tea. Unsold Blackberry and Cherry Plum are processed to produce home-made vodka. In addition, she produces various kinds of juices, jams, and "tklapi" for household consumption. In Akhmeta, the main realization opportunity for local women collectors is local market, where the Blackberry shall be delivered rapidly after the collection to avoid its damage.

One woman interviewee from **Kvareli municipality** stated that women and men are equally engaged in the collection of Rosehip, Blackberry and Wild Cherry Plum in Kvareli. According to her, the age of collectors varies between 30-40 years. They mainly sell collected products in Tbilisi. NTFPs are transported via minibuses. Some households also sell products on the local market. She also makes jams and cherry plum sauces for family consumption.

According to one interviewee from **Telavi municipality**, he is engaged in the collection of Blackberry with parents. All of them take part in the collection activities, afterwards the mother makes processed products for the family consumption, while he and his father supply the product on the local market to aggregator and confectionery located in Telavi municipality.

According to women collectors from Kakheti, the collection of **Blackberry** and Rosehip is more labor intensive than the wild cherry plum. Sometimes, collection of Blackberry requires entering in high grass, where the collector needs to deploy special sticks and cut the fruit with scissors.

Aged women dominate in the collection of **Blackberry** in Guria region. In the harvesting period, the collectors in Lanchkhuti municipality are massively engaged in the collection to sell at local agricultural market, also supply restaurants and bakeries. Some of them may sell on the streets. The collectors mostly represent the low-income segment of the population, and their main motivation is to obtain additional income. Sometimes, grandchildren are engaged in the collection together with their grandmothers. One of the interviewees from Lanchkhuti municipality actively processes Blackberry and produces jams and sauces. She mainly sells the products on agritourist festivals taking place in Guria or nearby regions.

Mostly women are engaged in the collection of **European Blueberry** leaves in Guria region. Most of them are above the pension age (60 years) and their activities are motivated by obtaining additional income. The age of younger collectors is between 40-45 years. The collectors use horses and carts for transportation and rarely motorized transport. The product is used for making tea for family consumption. Also, certain quantity of harvest is sold on local market.

Collection of **Ruscus** in Guria is dominated by men, but women may also be engaged in the activities. The main difficulty for women is the location of product in the forest and rocks, that are hard to reach.

Most of the interviewed collectors do not cooperate with VET institutions. Some of them receive instructions on sustainable harvesting from the aggregators or associations. One of the women interviewees has received professional education in 1980s and obtained qualification „Master of Fruit and Berry Processing".

One of the largest NTFP processor enterprises provides trainings for collectors on the topics of ecology, biodiversity, social responsibility, sustainable collection, requirements on

certification. These trainings are provided by the resources of enterprise.

Women are mostly employed in the packaging activities in one of the processor enterprises. The person responsible for the quality management is also woman. The founder of the enterprise describes employees as very experienced and is keen to retain them. Even this enterprise does not have a cooperation experience with VET institutions. The enterprise independently organizes trainings for employees on bio production methods.

The cooperative specializing in collection and processing of NTFPs in Mstketa-Mtianeti Region mostly employs women. Only the employees responsible for technical issues are men. The 70-80% of collectors, with whom the cooperative has partnership are also women. It regularly provides trainings for the collectors. The members of the cooperative also attend trainings on food security.

An enterprise in Guria, specializing in the processing of European Blueberry leaves cooperates with 35-40 local collectors. Representative of the enterprise stated that 50% are women and 50% - men. The men shall accompany women in the areas that are hard to reach. There are cases when members of families are engaged in the collection. This enterprise represents an exception as far as it cooperates with local VET institutions. The partners are planning to implement internship in the enterprise for the students at the VET college. The enterprise also cooperates with German company "NatureLand" in the area of education on proper management of natural resources.

Another enterprise in Guria, specializing in the production of tea from the European Blueberry leaves mostly employs women. They are engaged in the process of sorting and packaging. Men are responsible for the proper functioning of production technologies. The enterprise also employs 20-30 seasonal collectors, mostly women. The representative of the enterprise mentioned that there were several trainings on NTFP products organized by the Trainers' Association.

11. Recommendations on Support Measures for Value Chain Actors, Sustainable Harvesting and Benefit Sharing Approaches

Based on the identified challenges in the NTFP sector, the following support measures may be considered for supporting value chain actors:

Active information campaign on available state and donor-funded private sector support programs – The majority of interviewed collectors are not aware of the opportunities provided by Micro, Small & Medium Enterprises (MSME) support programs. Accordingly, proactive supply of respective information will support them in intensification and diversification activities, access to equipment and technologies and overall increase of NTFP related income. The information campaign may include meetings and presentations, distribution of information brochures and consultations on the eligibility criteria.

Creation of NTFP cooperatives, associations, or clusters – Individually, NTFP collectors lack knowledge, capacities, in the area modern collection practices and equipment, technologies for primary processing, marketing and branding, diversification potential, also financial resources to meet the needs required for achieving effectiveness in collection, processing, marketing and selling activities. Hence, unification of resources is needed for the achievement of collective goals. These institutions and associations can act as one of the tools for supporting the sector, however, it must also be noted that government institutions and donor organizations already put significant effort in the creation and development of cooperatives. Therefore, if needed, this form of union is preferred to be initiated by the private sector.

In addition, collective actions may be deployed for the advocacy of existing problems related to infrastructure, access to finance and information and initiation of Public-Private Dialogues (PPDs). This support shall primarily target Kakheti and Guria Regions and driven by technical assistance of international donor organizations. The project shall conduct regional diagnostic studies of NTFP sectors, that will include following elements; cooperation experience between NTFP actors; Potential for joint actions and cooperation; Recommendations on the creation and institutionalization of cooperative, association or cluster; Definition of vision and strategic priorities of cooperative/association/cluster.

Capacity building of NTFP value chain actors – Most of the collectors practice traditional methods of collection and primary processing. They do not invest time and resources in the marketing of their products. In addition, they lack the knowledge and capacities for writing business plans and project proposals. Accordingly, the capacity building actions shall target knowledge dissemination on modern collection practices, processing techniques, preservation of hygiene and food security standards, marketing and sales (including e-commerce) of NTFP products. Besides, trainings on business plan and project proposal writing shall be delivered. These efforts may be implemented in close cooperation with international donor organizations, Enterprise Georgia and Rural Development Agency.

Design and delivery of tailored support measures for the NTFP sector – Individual or collective support measures for the NTFP value chain actors may include

- Assistance in diversification and value addition activities, that may include: supply of information on demanded processed products on local market; capacity building activities on small scale production standards; support in acquiring needed equipment and technologies;
- Support in purchasing collection, processing equipment or transportation means
- Assistance in the design of regional NTFP brands
- Support in packaging, marketing and sales
- Assistance in attending local and international fairs
- Constant supply of information on local and international trends in the NTFP sector, that may include the design and regular distribution of NTFP sector snapshot consisting from following elements: global and local trends, global and local demand on NTFP products, export destination countries of Georgian NTFP products, emerging opportunities.

Support for the development of market linkages – NTFP collectors lack information on the market demand for primary and processed NTFP products and sales opportunities throughout the country. Measures shall be designed to improve information dissemination on available sales opportunities, including agrarian markets, concentration of internal and international tourists, local, regional and national fairs, culinary festivals. In addition, the demand of local food processing enterprises, cafes, restaurants, confectioneries on NTFP products shall be studied and information supplied to NTFP collectors and processors. After the initial analysis, regional B2B forums may be organized to support the development of linkages between NTFP collectors, aggregators, food processing enterprises, local agrarian markets, cafes, restaurants and confectionaries.

Attraction of local and international investments in NTFP processing sector, especially in Kakheti Region – Further development of the NTFP value chain urgently requires creation and operation of processing enterprises especially in Kakheti Region as there are no enterprises focusing on priority NTFPs in contrast to Mtskheta-Mtianeti and Guria regions. Technical support may include the conduction of feasibility study of NTFP sector investment attractiveness, that will study the existing situation, priority value chains, local and international demand on selected primary and processed NTFP products. The study may also

identify the most attractive location for the enterprise and conduct initial calculation of required investments. The initiative shall be undertaken in close cooperation with Enterprise Georgia, National Forest Agency, Governor's Administration and municipalities of target municipalities.

Creation of regular platform for sharing knowledge and experience on NTFP collection and processing – The Forest Product's Association may serve as a facilitator of such platform. In its framework, the NTFP value chain actors may regularly share practical knowledge, findings of studies and views on the topics of sustainable collection, new technologies and processes available for processing activities, diversification potential of NTFPs and their products, local and international market dynamics. These exchanges may be done through regular conferences twice a year, electronic exchange of information, regular monthly online meetings hosted by seminal experts or practitioners. This platform may serve as a useful tool mix traditional knowledge and practices with modern ones, dissemination of useful information on available supports measures, technologies and equipment.

Elaborate data collection methodology on annual collection and processing of NTFPs – The data collection and obtaining of reliable information on collected and processed NTFPs shall form a cornerstone for ensuring sustainable management of NTFP resources. The data would give central, regional and local authorities information on the dynamics of NTFP exploitation, enable them to define risks of overexploitation and define policies and support measures for ensuring preservation of biodiversity.

Initiation of regular Public-Private Dialogue (PPD) platform with the participation of collectors, aggregators, cooperatives, processing enterprises, local and national authorities – The calculation of sustainable harvesting volumes requires deployment of expert knowledge accumulated through resource assessment studies, knowledge and experience of collectors, cooperatives and processing enterprises. Accordingly, the formation of regular PPD platform to exchange information on state policy goals, views of individuals and enterprises engaged in the NTFP business and respective specialists would create collaborative environment for the convergence of views and opinions on sustainable harvesting volumes.

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13. Annexes

Annex 1: NTFP products prioritization indicators - Upgrading potential and Job creation potential

Product	Suitable product derivatives	Score (1-5)	Potential for the involvement of local people in processing	Score (1-5)
Woronow's Snow-drop, Eastern Sowbreadbulbs თეთრყვავილა	**Food and Drink Products:** N/A **Medical Products:** Mainly used for the treatment of Poliomelitis	1	Dangerous plant if used incorrectly	1
Fir-tree cone გირჩი	**Food and Drink Products:** Production of Jams **Medical Products:** Mainly used for the treatment of cough	3	Traditionally collected by the households	3
European Blueberry ლურჯი მოცვი	**Food and Drink Products:** Is consumed in a natural or frozen form, also for the production of jams, soft and alcoholic drinks, and inputs in various confectionery products **Medical Products:** Has antibacterial effect, is used for the improvement of blood circulation	4	The trend is towards industrial cultivation of the product, but high demand and prices on the market shall serve as a motivational factor for further engagement of local population	5
Ragwort ხარისშუბლა	**Food and Drink Products:** N/A **Medical Products:** Used in the preparation of medicines for the treatment of ulcer, asthma, hypertonic.	2	Very limited collection	1
Rosehip ასკილი	**Food and Drink Products:** Used to produce wide variety of products, like juices, oil, wine, tea, dried product, **Medical Products:** Used for the treatment of wide variety of chronical and ordinary diseases;	5	Traditional involvement of local people in collection and commercialization activities, due to the increased demand on local and international markets and diversification potential	5
Crabapple მაჟალო	**Food and Drink Products:** juices, jams, tea, "tklapi" **Medical Products:** deployed for the improvement of the work of hematopoiesis organs,	4	Despite its limited use in local consumption, the potential of local involvement is high due to the demand on internal and external markets	4
Sea-Buckthorn ქაცვი	**Food and Drink Products:** Used to produce wide variety of products, like juices, jams, marmalades, flavoring means, food additives, tea, oil. **Medical Products:** Used in the areas of ophthalmology, stomatology, antiseptic means, treatment of skin and cardiovascular diseases	5	Sea-blackthorn is widely collected and used for family use, while its commercialization opportunities are largely unexploited in Georgia	4
Cowslip ფურისულა	**Food and Drink Products: N/A** **Medical Products:** Used for the	2	Limited collection for traditional medicine purposes	2

	treatment of cough, bronchitis, runny nose, also for the migraine			
Leucojum bulb (summer snowflake) შროშანი	**Food and Drink Products:** N/A **Medical Products:** N/A	0		0
Black Hawthorn კუნელი	**Food and Drink Products:** Mainly used for the production of juices, **Medical Products:** Mainly used for the treatment of hurt muscle disorders	3	Traditionally used by local households for the treatment of diseases	3
Wild Cherry Plum ტყემალი	**Food and Drink Products:** Widely used for the household and industrial production of the popular Plum Sauces; Also used to produce gams **Medical Products:** Limited use for medical reasons	4	Traditional products for local population, mainly for the household production of homemade plum sauces; It's diversification potential needs to be further explored.	5
Blackberry მაყვალი	**Food and Drink Products:** Popular in natural form, also used to produce jams and confitures, wine **Medical Products:** Products derived from blueberry leaves and roots are used for the treatment of Gastroenterological diseases, also used for the treatment of diabetes	3	Blackberries are a popular fruit among local population and traditionally collected for family consumption. Demand on blueberry at local market is high	4
Blackthorn ღოღნაშო/კვრინჩხი	**Food and Drink Products:** production of jams, syrups, and confitures **Medical Products:** Blackthorn is used in the traditional medicine for the treatment of various diseases	3	Blackthorn mostly grows in Eastern Georgia and collected by the local population for family consumption	3
Cornelian Cherry შინდი	**Food and Drink Products:** Direct consumption, production of compotes, jams, juices, syrups **Medical Products:** Mainly used for the bactericidal, pain reliever purposes	4	Traditional collection product of local population with good potential for improved harvesting and diversification	5
Stinging Nettle ჭინჭარი	**Food and Drink Products:** Used for the preparation of salads, soups, **Medical Products:** Actively used for the stimulation of blood, stopping of bleeding, treatment of diabetes, anemia, and number of other diseases	5	Traditionally collected by local households for food and traditional medicine purposes; Further potential for the diversification of products, especially for medical purposes	4
Licorice ძირტკბილა	**Food and Drink Products:** N/A **Medical Products:** Stimulates respiratory organs, has antispasmodic and anti-inflammatory effects	3	Limited collection by the households for the traditional medicine purposes	3
Horsemint მთის/გრძელფოთოლა/ მრგვალფოთოლა	**Food and Drink Products:** Mainly used to produce tea and giving aroma and taste to various	3	Limited collection by the households for the consumption in food	3

პიტნა	products **Medical Products:** Used as a pain reliever, treatment of digestive disorders			
Rhododendron caucasicum დეკა	**Food and Drink Products:** Used for the production of tea **Medical Products:** Used for the treatment of hypertonic and kidney diseases	2	Limited collection by the households for the traditional medicine purposes	2
Common Dandelion ბაბუაწვერა	**Food and Drink Products:** N/A **Medical Products:** Has antipyretic effect, used for the treatment of rash, hemorrhoids	2	Limited collection by the households for the traditional medicine purposes	2
Alopecurus მელაკუდა	**Food and Drink Products:** N/A **Medical Products:** N/A	1	N/A	1
Perforate St John's-wort კრაზანა	**Food and Drink Products:** N/A **Medical Products:** Traditionally used for the treatment of numerous diseases	3	Limited collection by households for traditional medicine purposes	3
German Chamomile გვირილა	**Food and Drink Products:** tea **Medical Products:** anti-inflammatory, anti-septic effects, used for the treatment of colitis, hemorrhoids, liver and gall diseases	3	Traditionally collected by the households for traditional medicine purposes	3
Hellebore შხამა	**Food and Drink Products:** N/A **Medical Products:** Used as a pain relief during Rheumatism, also for the treatment of Eczema	2	Very limited use due to the dangerous nature of the plant	1
Speedwell ვერონიკა	**Food and Drink Products:** N/A **Medical Products:** Used for the treatment of wounds and skin diseases	2	Limited collection by households for traditional medicine purposes	2
Jujube უნაბი	**Food and Drink Products:** Used in the confectionery industry and production of juices **Medical Products:** Used for the treatment of Hypertonia, cough, lounge disease	3	Limited collection and use by households	3
Greater Celandine ქრისტესისხლა	**Food and Drink Products:** N/A **Medical Products:** Used for the treatment of warts, rash; also as a pain reliever during liver disease	3	Traditionally collected by households with limited quantity	2
Lemon Balm ბარამბო	**Food and Drink Products:** N/A **Medical Products:** Used for the regulation of blood pressure, also as a soothing mean	2	Limited collection by households for traditional medicine purposes	2
Marshmallow ტუხტი	**Food and Drink Products:** N/A **Medical Products:** Used for the	2	Limited collection by households for traditional medicine purposes	2

	treatment of cough, colitis, ulcer			
Motherwort შავბალახა	**Food and Drink Products:** N/A **Medical Products:** Mainly used as a soothing mean, also for the treatment of malaria and gastrointestinal diseases	2	Limited collection by households for traditional medicine purposes	2
Dwarf Everlast ნეგო	**Food and Drink Products:** N/A **Medical Products:** Mainly used for the treatment of liver and Gallbladder diseases	2	Limited collection for traditional medicine purposes	1
Mountain Savory ველური ქონდარი	**Food and Drink Products:** Used as a food additive **Medical Products:** Widely used for the treatment of Tachycardia, headache, rhinitis, respiratory infections	3	Traditional product collected and harvested by households, with diversification potential in food industry	4
Sambucus ანწლი	**Food and Drink Products:** Rarely used for the production of alcoholic beverages **Medical Products:** Used for the treatment of diabetes and kidney pain	3	Traditional product collected for the traditional medicine purposes	3
Oregano თავშავა	**Food and Drink Products:** N/A **Medical Products:** Used for the treatment of bronchitis, tuberculosis, gastritis, regulating menstrual cycles	3	Limited collection for traditional medicine purposes	2
Greater Burdock ოროვანდი	**Food and Drink Products:** N/A **Medical Products:** Stimulates metabolism	2	Limited collection for traditional medicine purposes	2

Annex 2: Prioritization matrix

Detailed scoring of each NTFP in each municipality for each criterion of the matrix is attached as an Excel document - Annex 2 – NTFP Prioritization

Annex 3: Interview Guides

Individual interview guides for the value chain actors and other stakeholders is attached as a Word document in Georgian – Annex 3 – Interview Guides

Annex 4: Distribution of conducted interviews

The following table summarizes the number and distribution of value chain actors interviewed within the NTFP value chain analysis and resource assessment.

	Entity	Number of conducted Interviews
Public Sector	Biodiversity and Forest Department (BFD) of MEPA	1
	National Forest Agency (NFA)	1
	Ozurgeti Municipality	1
	Lanchkhuti Municipality	1
	Chokhatauri Municipality	1

	Tianeti Municipality	1
	Akhmeta Municipality	1
	Telavi Municipality	1
	Kvareli Municipality	1
	Dedoplistskaro Municipality	1
	Total	**10**
NGOs, Associations, Project Respresentatives, and Experts	UNDP, Biodiversity Finance Initiative (BIOFIN)	1
	GRETA project/ADA	1
	Forest Product Association of Georgia	1
	Georgian Farmers' Association (GFA)	1
	Caucasus Nature Fund	1
	Certification entity - CAUCASCERT Ltd	1
	NTFP Expert	1
	Total	**7**
Value Chain Actors - Processors	LLC Geo Flower - Georgia	1
	Kakheti Bio Ltd. - Kakheti	1
	Tianetis Nobati AG. Cooperative – Mtskheta-Mtianeti	1
	Bio Product Company (BPC) Ltd. – Mtskheta-Mtianeti	1
	LLC Milmartea - Guria	1
	Individual Entrepreneur - Davit Tenieshvili - Guria	1
	LLC "Rcheuli" - Guria	1
	Total	**7**
Value Chain Actors - Collectors, Aggregators, Households	Rosehip, Wild Sea-Buckthor, and Wild Cherry Plum collectors in Tianeti municipality	5
	European Blueberry, Blackberry, and Ruscus collectors in Guria Region	5
	Rosehip, Wild Cherry Plum, and Blackberry collectors in selected municipalities of Kakheti Region	7
	Total	**17**
	Grand Total	**41**

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