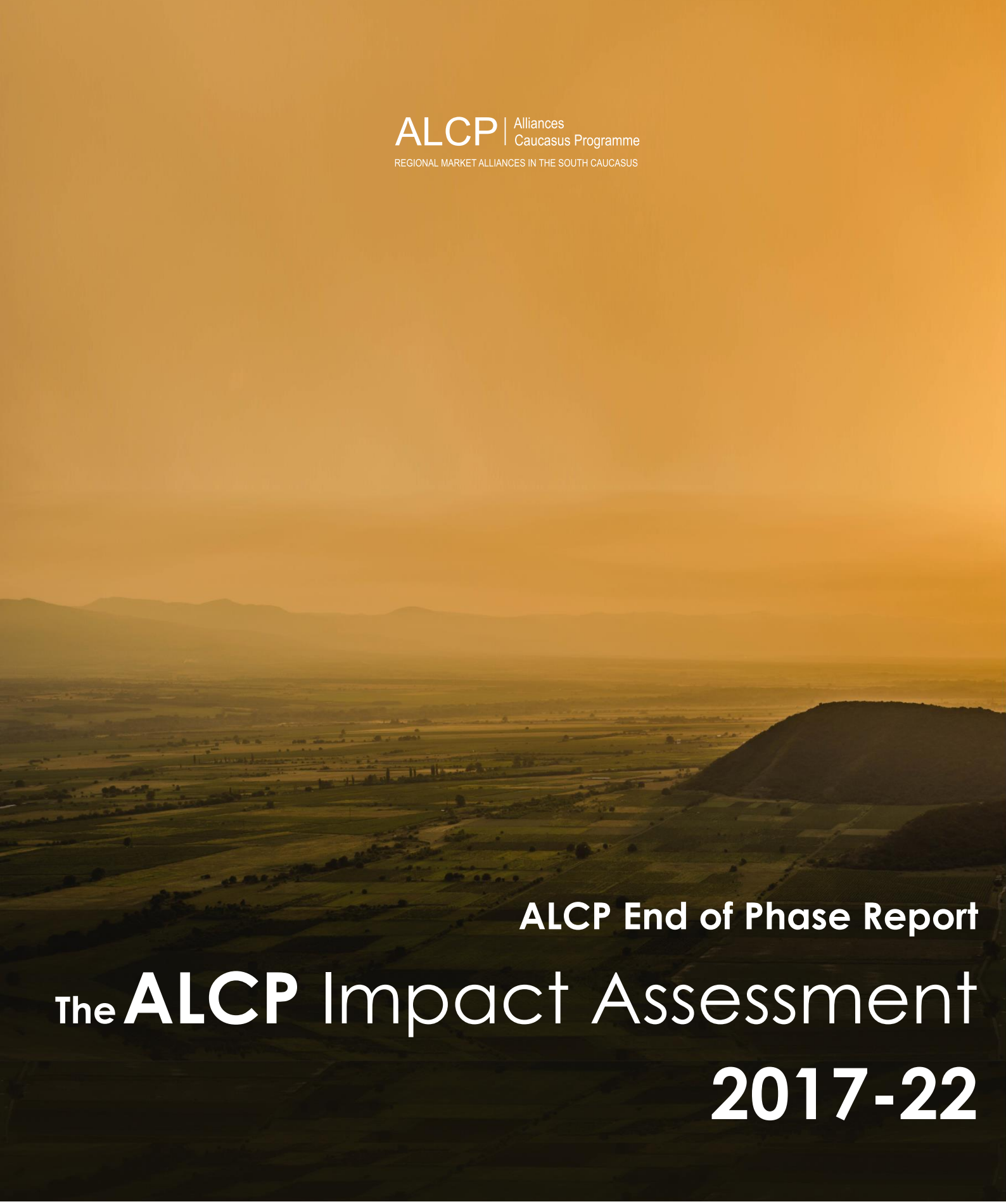
ALCP | Alliances Caucasus Programme

REGIONAL MARKET ALLIANCES IN THE SOUTH CAUCASUS



ALCP End of Phase Report

The ALCP Impact Assessment 2017-22

Schweizerische Eidgenossenschaft
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South Caucasus

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MERCY CORPS

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Part I Overview & Results of the ALCP Impact Assessment

OVERVIEW OF THE ALCP IMPACT ASSESSMENT

The ALCP Impact Assessment presents the aggregated impact for key indicators and key programmatic themes from the five years of the Alliances Caucasus Programme. The second part of the report contains the individual Impact Assessments conducted for the programme's interventions in the supporting functions, core market and rules of the livestock market system.

INTRODUCTION

The Alliances Caucasus Programme running from March 2017- to April 2022, was a market systems development programme working in the livestock and honey market systems in Georgia and was a Swiss Development Cooperation (SDC) project in cooperation with the Austrian Development Cooperation (ADC), implemented by Mercy Corps Georgia. The Alliances programme began in 2008 in Samstkhe-Javakheti, Georgia. Alliances Kvemo Kartli was opened in 2011, with a second phase awarded to Samstkhe Javakheti. In 2014, the second phase of an expanded Kvemo Kartli was merged with a new branch of the programme in Ajara and a two-year monitoring and sustainability phase in Samstkhe Javakheti to form the Alliances Lesser Caucasus Programme (ALCP). From 2014 Alliances management, programming and operations were fully harmonized under the ALCP. Since 2008 the ALCP has worked with 152 programme clients (30 in the new phase) and 1,012 programme supported entities[1] (85 in the new phase).

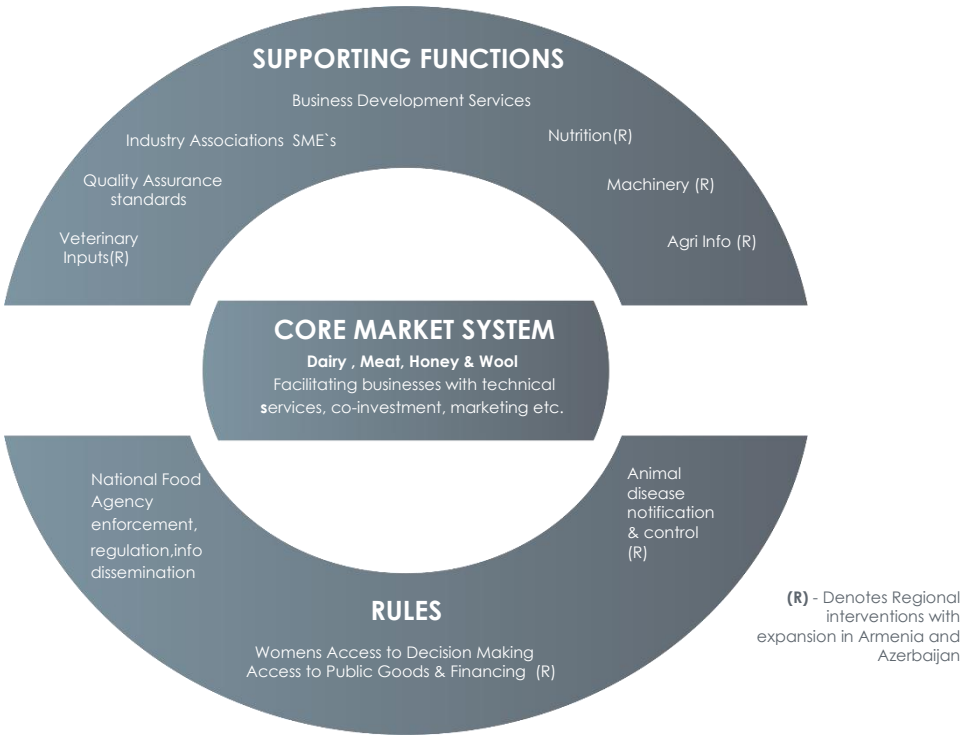


Figure 1 ALCP Market System Diagram

The final phase of the programme and subject of this Impact Assessment, the Alliances Caucasus Programme was focused on developing sustainability in the relevant SME sectors through inputs including agricultural information and VET, product diversification, quality assurance (Georgian Milk Mark, Bio certification) and industry associations (Georgian Beekeepers Union, Jara Beekeepers Association, Georgian Milk Mark Federation), cross-border exchange, trade and export whilst continuing to support stability in the livestock market system through rules related to women's economic empowerment, animal disease control, enforcement and regulation of Food Safety and Hygiene and information dissemination and improved value chain related government functions such as export certification.

This final phase of the Alliances Caucasus Programme is followed by Alliances Caucasus 2 running from May 2022 to April 2026 and funded by a donor consortium of the Swiss Development Cooperation, the Austrian Development Cooperation and the Swedish International Development

[1] Vet pharmacies, combined feed selling points, bull services providers, machinery, information service providers.

Cooperation Agency. It is a new programme expanding out from the livestock value chain and livestock and honey producers to rural production and rural producers in new value chains such as wild botanicals and silk as well as in beekeeping, dairy and meat products. It is expanding to improved sustainable production of value-added products and agency over natural resource use, building in sustainability and adaptation to climate change. It is built on the foundations of the ALCP and only tenable due to the impact described in this report.

Monthly collected data from clients and qualitative data, has illustrated that since 2017, the ALCP has achieved substantial scale and systemic changes. Regular monitoring and data collection practices have ensured that the programme makes data-driven decisions based on quantitative client and sectoral data and refines the interventions for maximum impact.[2] This is supported by annual qualitative farmer surveys and bi-annual capture of systemic change[3]. This data is then validated by end of phase farmer-level impact assessment.

In 2020-21 the ALCP conducted intervention-specific impact assessments to capture the actual scale, net additional income and other benefits for farmers, as well as to study farmers' coping strategies during the COVID-19 pandemic. These results were used to calibrate the attribution strategy and calculation methodology for incoming monitoring data post impact assessment.

IMPACT ASSESSMENT METHODOLOGY

In the previous phases due to the clustering of interventions in relatively defined programme areas, it was necessary to conduct an impact assessment, which would assess the impacts of all interventions together by drawing a representative sample from the total target population. However, in the current phase, new interventions are more disaggregated and geographically spread in Georgia and Armenia. Hence, the programme employed intervention-specific impact assessment methodology. The data analysis process was accompanied by rigorous triangulation using qualitative data at the farmer, business and sectoral level, monthly client-level data e.g., sales, volumes prices and third-party statistics e.g., government export data and systemic change surveys.

In January 2020 a DCED consultant worked closely with the ALCP team to design methodologies and attribution strategies for the impact assessments. From April 2020 to November 2021, the ALCP conducted the fieldwork in Georgia and Armenia. Overall, 11 intervention-specific impact assessments were conducted in Georgia and Armenia, and 1,041 respondents were interviewed. The quantitative data were analyzed in SPSS and qualitative thematic analysis in Excel. Please see the Impact Assessment Timeline Table on the next page.

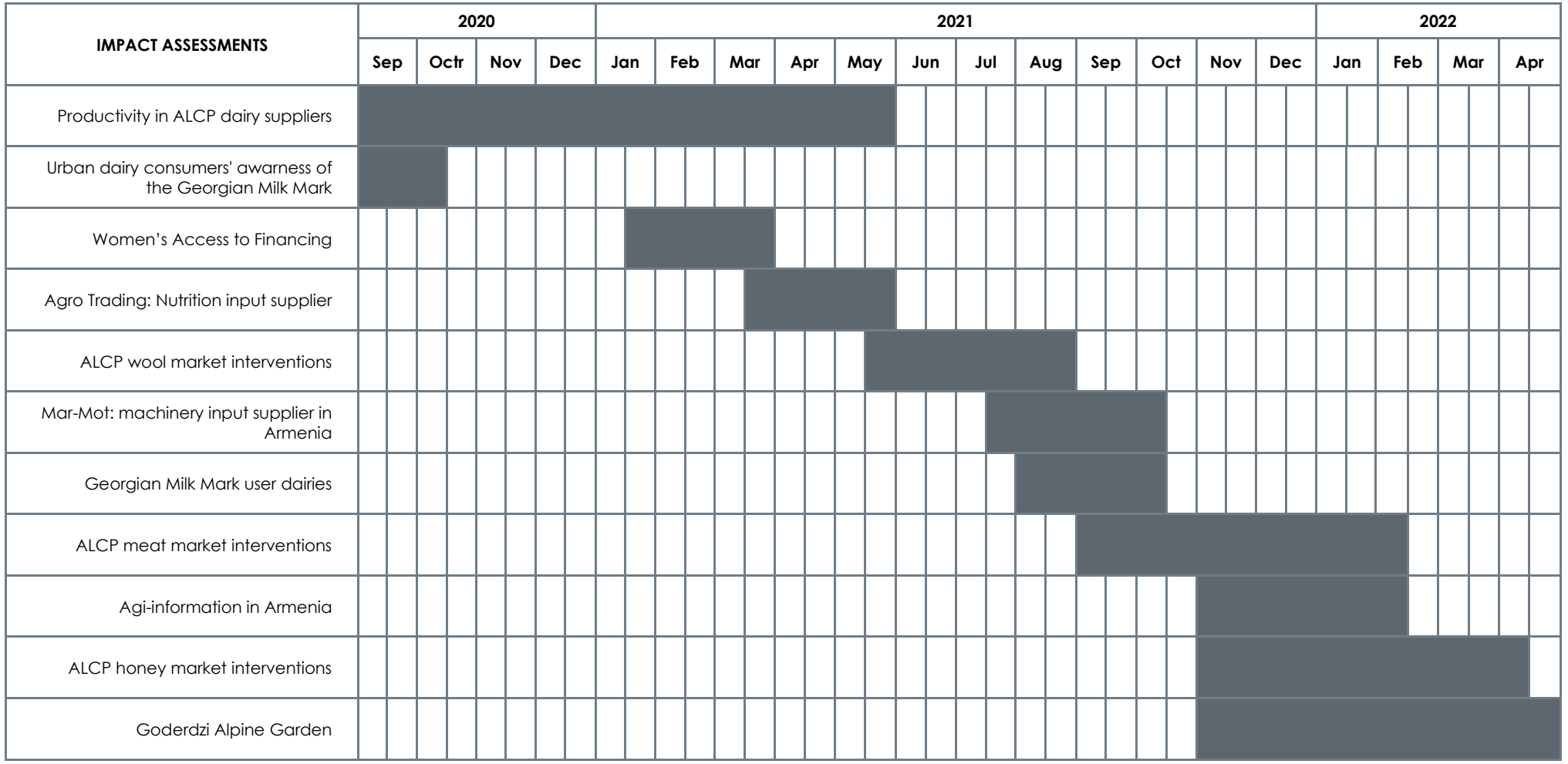
The impact assessment methodologies are further discussed per intervention impact assessment in Part II, as well as in Annex I Attribution Strategy per Intervention, where the detailed rationale, formulas and attribution strategies are shown. Ongoing monitoring of the Women's Rooms' service provision and use of the programme facilitated Veterinary Surveillance and Watering Points on the Animal Movement Route was also carried out under the current phase. Summary reports on both of these interventions are included in the rules section in Part II.

An external evaluation of the programme was carried out in January 2022.

[2] This includes the bi-monthly Monitoring Action Plan meetings where all programme and RM members examine, analyze, and troubleshoot incoming data.

[3] As recorded in the bi-annual reports' Systemic Change Log.

IMPACT ASSESSMENT TIMELINE



OVERALL RESULTS OF THE PROGRAMME

In this section aggregated programme impact is presented for universal indicators; scale, NAIC and jobs, for scale and impact derived from the delivery of agricultural information, for systemic change and for key themes across the programme; development in the dairy sector, export and women's economic empowerment. It also presents farmer level data on the impact of COVID-19 gathered through each of the individual impact assessments.

UNIVERSAL INDICATORS

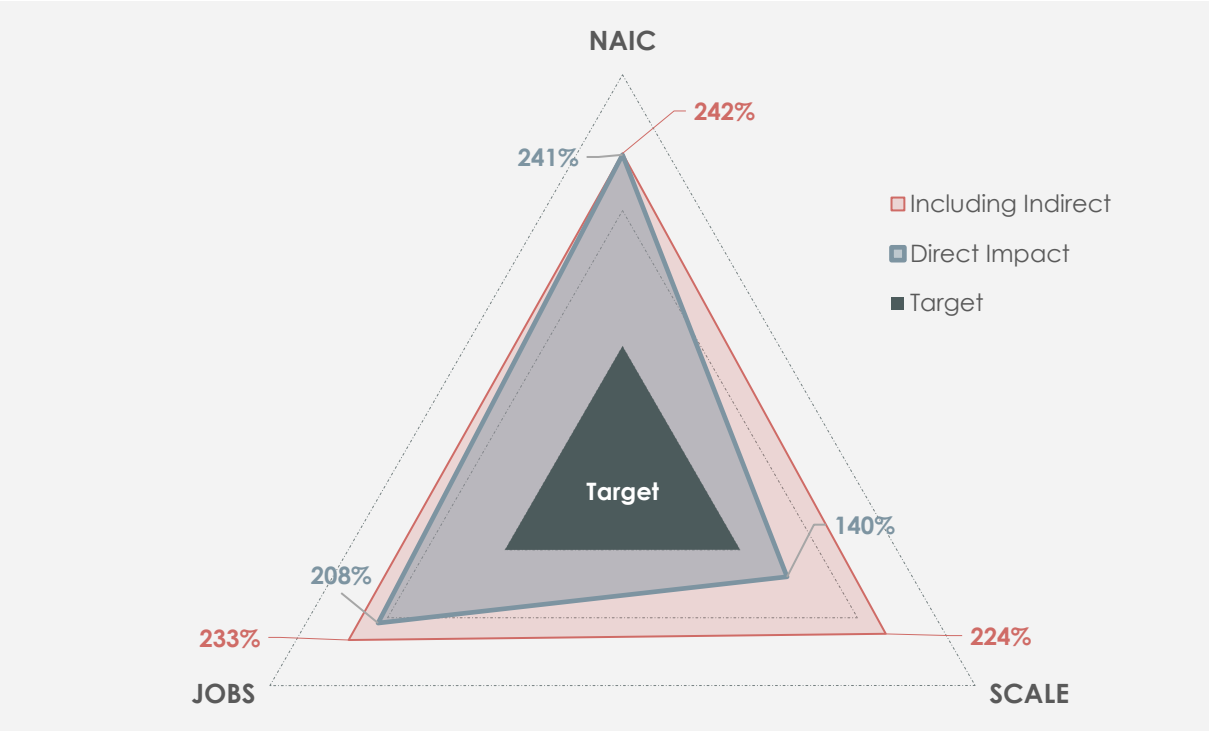


Figure 2 Programme Achievements Against Targets

The ALCP has significantly exceeded its targets in all major indicators: 140% in scale, 242% in NAIC and 208% in jobs.

SCALE

From 2017 to 2022 the ALCP reached 56,181 livestock and honey producers (LHP`s) directly through programme supported entities and 33,382 LHP`s indirectly through crowding in.

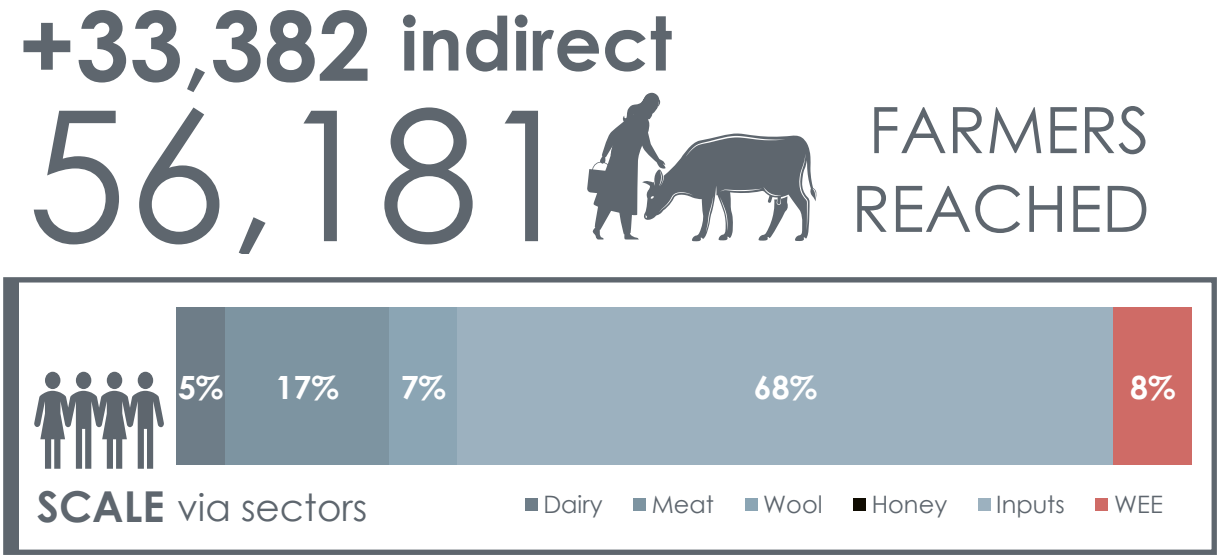


Figure 3 Scale Outreached by the ALCP

NET ATTRIBUTABLE INCOME (NAIC)

The programme has generated 21.1 million USD in additional income for beneficiaries: 10.3 million USD for farmers, 6.3 million USD for the programme clients, 2.7 million USD for employees and 1.8 million for crowding in beneficiaries. The impact assessments showed that the scale estimated from the monthly collected data was mostly in line with actual figures; only 3% higher compared to the estimated data. For net additional income, total NAIC is 2.3 higher than the estimated figure. The programme had underestimated monetary benefits generated from input related interventions, for animal nutrition supplier Agro Trading Ltd and machinery input supplier Mar-Mot Ltd. Mainly this was due to COVID-19 travel restrictions and the Nagorno Karabagh military conflict making field trips untenable. As the programme was not in regular field contact with farmers conservative estimations were used. During the Impact Assessment farmers reported higher benefits than expected. Overall, 49% of the scale and 55% of the NAIC comes from input related interventions

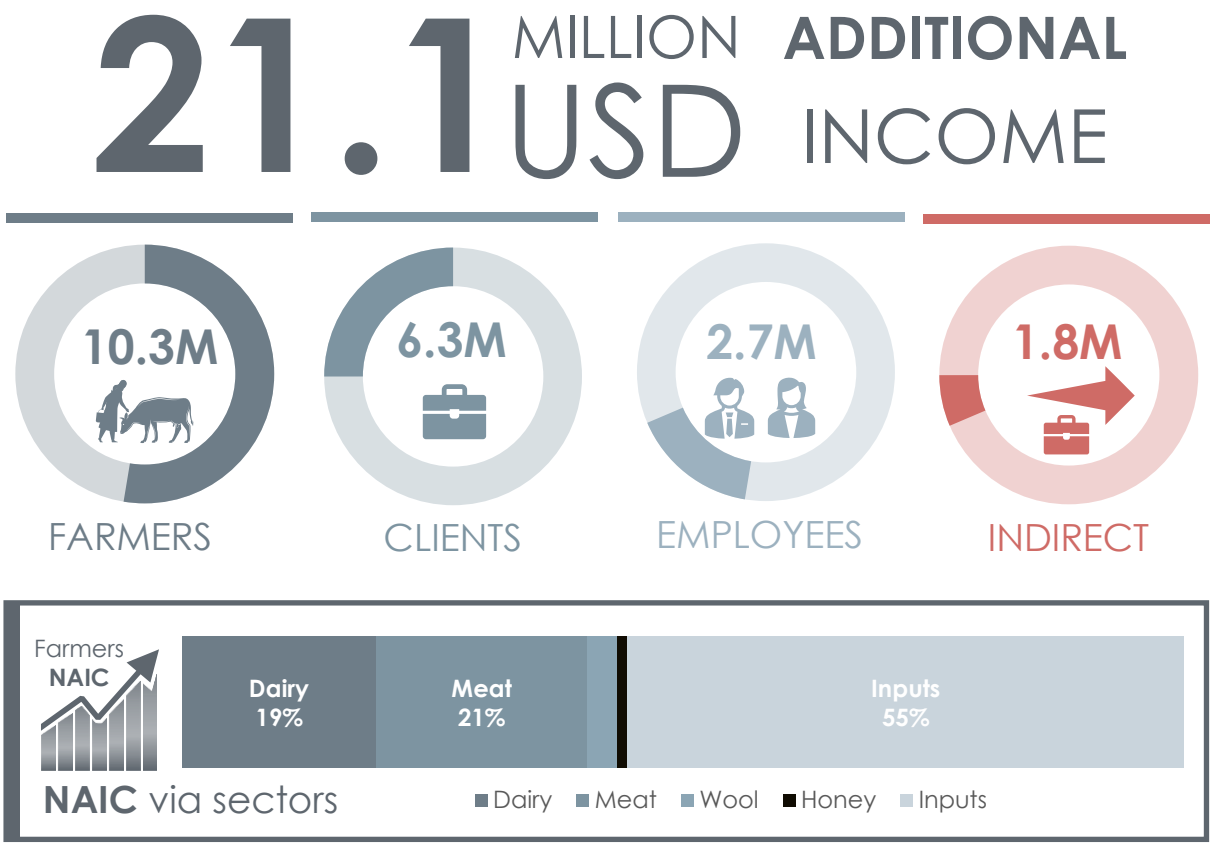


Figure 4 Additional Income Generated by the ALCP

JOBS

Regarding jobs, the ALCP has created 457 full-time job equivalents, out of which 243 were for women and 214 for men. Employees' salaries have amounted to 2.7 million USD.

The highest number of jobs for women have been created through the Women's Rooms (166) and dairy enterprises (39). The Women's Rooms have helped create these jobs at guesthouses, fruit processing units, sewing workshops and beauty salons who received grants for starting or expanding their businesses with the help of the Women's Rooms. They reported that after receiving grants they have increased confidence and self-esteem, they are more active, participate more in community life, have improved their living conditions and general well-being. Dairy enterprises employed 39 women with a salary from 600 to 700 Gel/month/employee to produce cheese and promote dairy products. The majority of them have written contracts that have helped them to get bank loans. Most have savings and invest money in their children's education and renovating or buying houses. Some invested in businesses or cows.

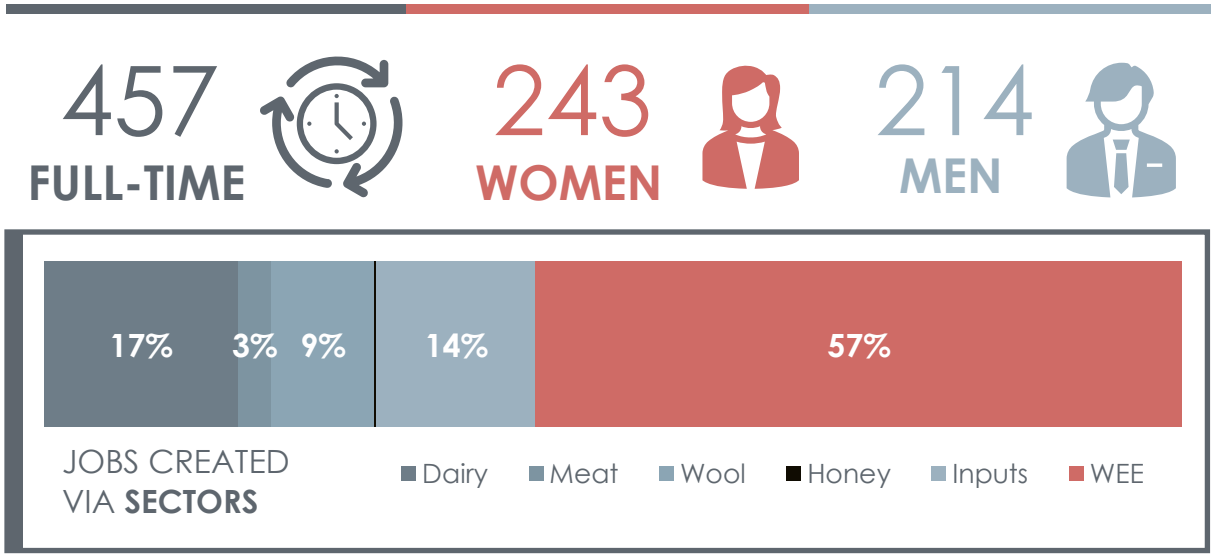


Figure 5 Jobs Created through the ALCP Facilitation

AGRICULTURAL INFORMATION PROVISION

Considerable scale is also reached on the programme through information provision to the target group. Although the programme does not ascribe NAIC to information provision, the scale, level of attribution and overlap making this unfeasible, the target group are clear in describing the benefits of receiving it.

In 2018 the programme conducted a nationwide information impact assessment *A National Review of Information Impact in Alliances 2008 to 2018* asking farmers about access, uptake, changing practices, whether information increased productivity and if and who they relayed this information to.

Scale and uptake: 52% of the interviewed farmers received agri information regularly, 68% of whom were women who received agri information independently or together with other household members. They increased their awareness and interest in new technologies, including veterinary treatments, use of pesticides and improving their farms and production methods. Previously, information poverty had always been more severe for women not having

the same culture as men of gathering in public on the street to chat and tended to be more limited in terms of mobility.

Changing practices and increased productivity: Successive impact assessments have shown that the majority of farmers and beekeepers receiving agricultural information change their existing practices for the better, increasing their productivity which leads to increased income particularly where improved inputs are available and accessible for use. 61% in the 2018 survey, had adopted new practices in agriculture. They used more appropriate veterinary medicines but fewer antibiotics, fed their cattle better, improved their cattle breed, had healthier cattle, produced more meat and sold cleaner milk. In the 2021 Honey Impact Assessment 50% of interviewed beekeepers receiving information from the Georgian Beekeepers Union changed their beekeeping practices, reducing their mortality rate by 60% and increasing productivity by 40%.

Spreading and Sharing Information: In 2018, on average, one interviewed farmer shared information with eight other farmers and from them 3.4 farmers adopted copied behaviour, including using the same veterinary medicines, combined feed, pest control, following the same veterinary calendar to vaccinate their cattle and tend to their crops, buying milking machines and applying for the same governmental grants.

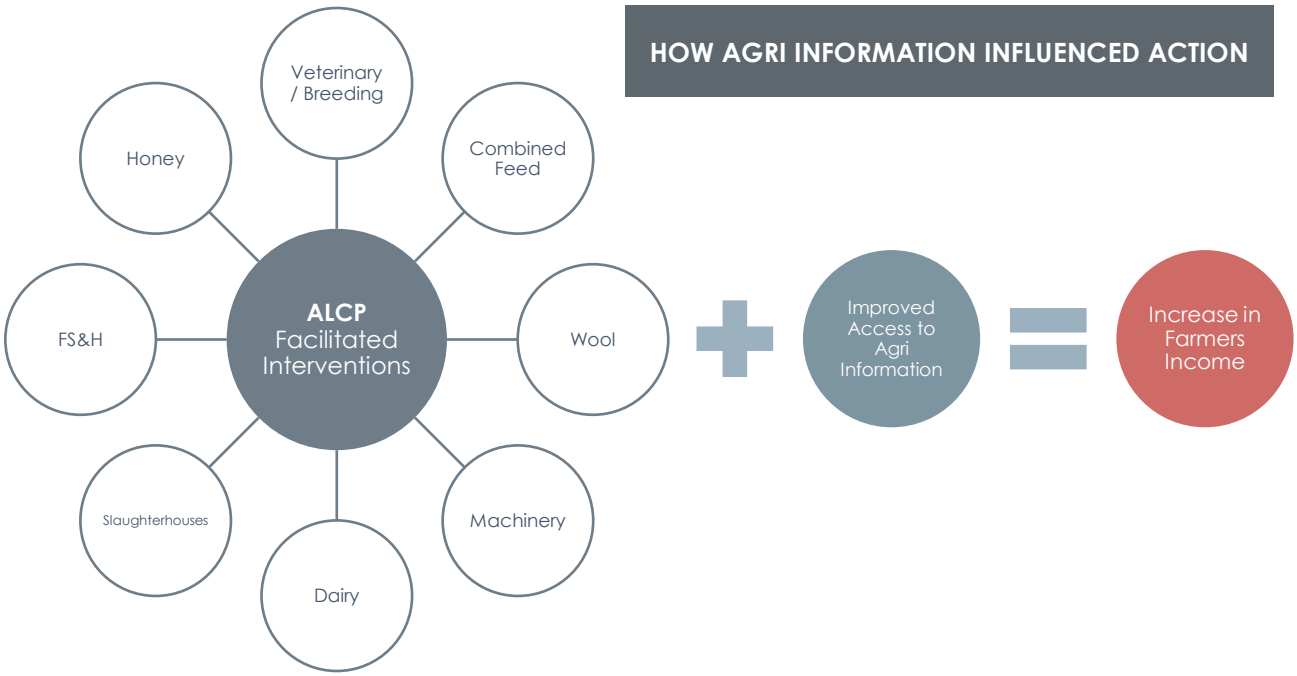


Figure 6 Influence of the Agri Information

WORKING THROUGH THE MEDIA

The sustainable provision of quality agri information through media has been a supporting function on the Alliances programme since 2008. Equitable information provision has played an important role in bolstering women's economic empowerment for example with specific food safety and hygiene content created for women dairy suppliers or which understood the role women play in diagnosing animal health. Of paramount importance from the first intervention was the avoidance of 'pay to print' or 'pay to play' funding and the creation of sustainable business models. Successive programme phases have seen a growth in scale from sustainable newspaper supplements to dedicated television programmes, online technical videos and the use of social media to post content and host active online communities. Underpinning this, the programme in conjunction with their client the Journalism Resource Centre developed agri journalism training and modules for journalism degree courses, to improve the quality of agricultural reporting. In the current phase this was expanded to three universities in Armenia and one in Azerbaijan. Clear wider regional interest in the importance of adopting a similar initiative was shown by Moldova, Belarus and Ukraine in the *International Conference in Agricultural Journalism and Agricultural Education(2021)*.

505 students in Georgia and 63 students in Armenia (75% women) have attended the agri journalism course at universities in Georgia (13) and Armenia (3). These universities are enthusiastic in their support of its value to the health of their institution. Reporting on agriculture is becoming as popular among student journalists as reporting on politics, sport, and culture. *A Catalogue of Agricultural Topics in the Georgian Livestock Sector* is full of women tailored topics where women are central in the value chain including milking, dairy production, livestock health care and Food Safety and Hygiene. More and varied articles and human-interest stories and channels based on real rural lives, regions, livelihoods and issues are available in the media which farmers, rural producers and citizens can relate to, be informed by and enjoy as opposed to the largely bureaucratic pieces making up the majority of reporting on agriculture a decade ago[4].

ONLINE AND SOCIAL MEDIA

The importance and prevalence of online media have grown considerably in rural Georgia in recent years and ever more livestock and honey producers are able to access online content. ALCP facilitated media partners have developed shareable online agricultural information including agricultural news, interest programmes and video lessons, online lectures and trainings to complement broadcast and print media. The multifunctional agri web platform Agroface launched in 2018 and has 5,000 subscribers and 71,000 views annually. TV stations *Perma* on Public Broadcaster and *Me var Fermeri* on Ajara TV developed social media pages with agri content to complement and interact with their agriculturalist viewers and reached 122,516 HH. Honey sector representatives including the Georgian Beekeepers Union and Jara Beekeepers Association have increasingly used online platforms to reach out to their members and others in the sector. 5,500 beekeepers have received regular information and trainings on honey quality export requirements, treating diseases with permitted medicines and byproduct production amongst others. Online media has also been utilized for two national information campaigns: reducing antibiotic use by honey producers which was preventing export and promoting the value of natural milk produced by small scale suppliers for the Georgian Milk Mark. The campaigns reached around 2 million views on various programme facilitated

[4] Developing Media Market Systems to Address Agricultural Constraints. A Case from the ALCP Georgia. (2019) Springfield Centre

platforms and social media particularly Facebook. In total, programme facilitated agri-related information has reached 287,261 rural HHs in Georgia and 101,549 HH in Armenia through television, radio and newspapers with far more being reached by social media.

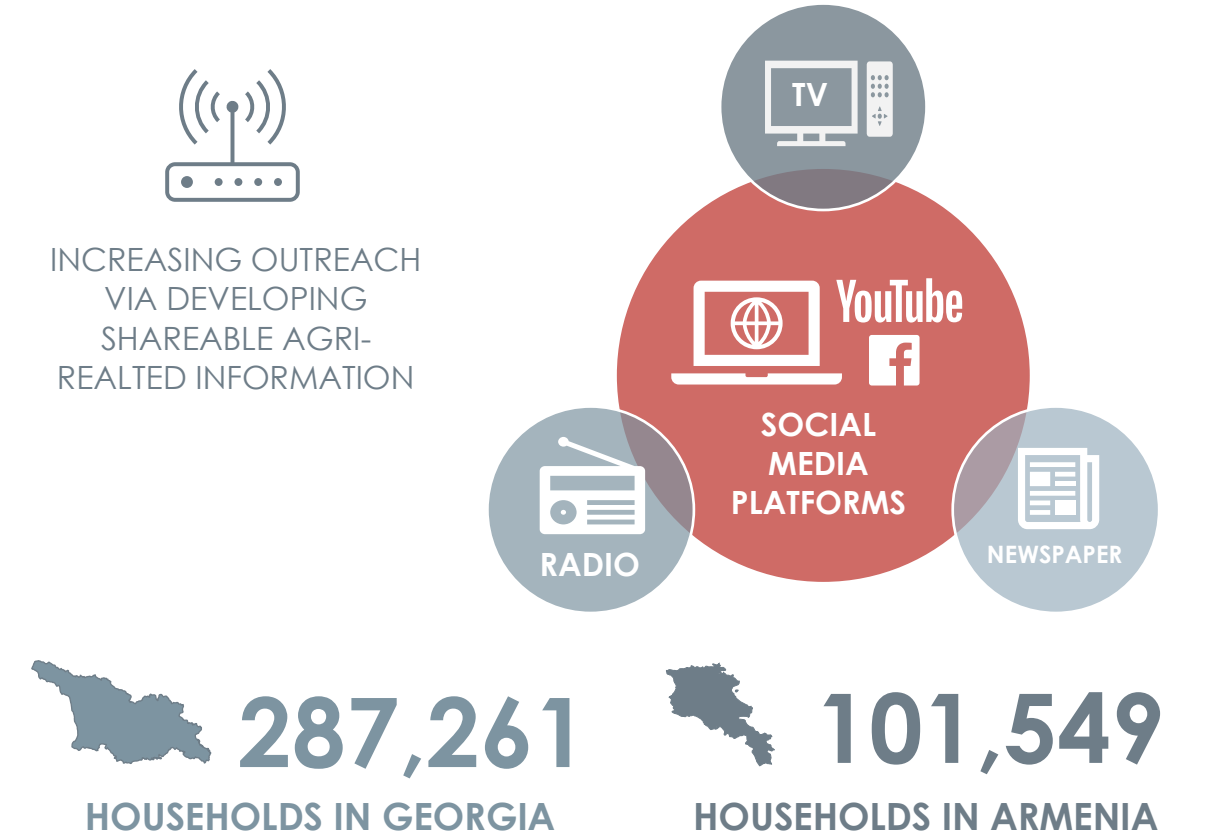
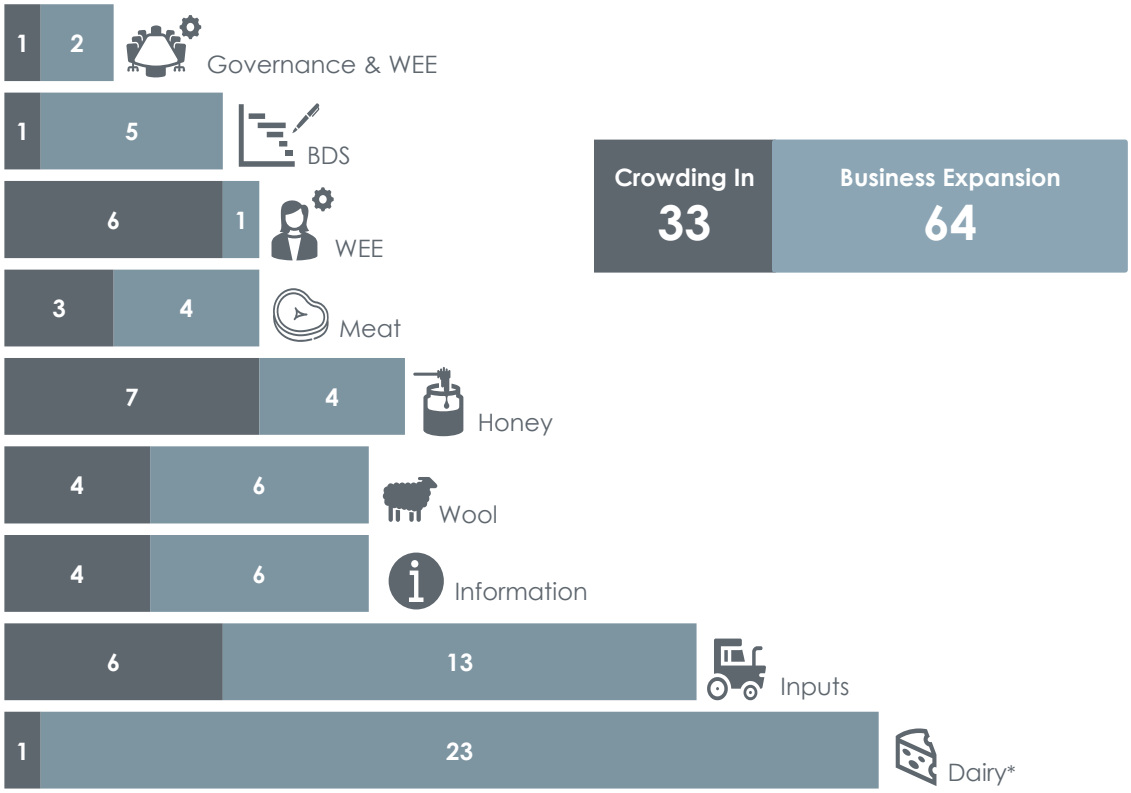


Figure 7 Outreach of Agri-Related Information

SYSTEMIC CHANGES

Systemic change indicates sustainable growth. The majority of the systemic changes that have been captured by the programme are related to crowding in, business expansion, sector-wide changes and the programme has also tracked undefined[5] and unintended effects.



* Business expansion cases in the dairy sector can be also classified as crowding in due to the expansion models being copied from other ALCP clients

Figure 8 Systemic Changes 2017-22

The highest number of crowding-in cases were in honey (7), governance & gender (7), and input-related interventions (6). These entities have entered the livestock sector as a result of improved incentives and operating environment facilitated by the programme and the opportunities shown by programme facilitated entities. For example, in the honey sector, twenty-three Jara beekeepers have crowded in, incentivized by increased commercial prospects to start Jara beekeeping. In the dairy sector, formally unregistered, uncompliant cheese producers have registered their dairy factories and sought and received consultation and advice from successful programme client dairies. Programme facilitated BDS are using the programme business models with other livestock-based businesses helping them to successfully enter and develop their businesses in the livestock sector.

[5] Reflects that the programme is able to capture few changes in the system that are genuinely unintended i.e. that there is no plausible expectation of this type of change occurring in the context of the interventions being carried out.

From 2017 to 2022 there were 64 cases of business expansion. Business expansion is a clear sign of sustainability and adaptation in the market system. It has included independent investment in technology, production and marketing, increased human resources and strengthened and diversified positions in the market, including from new sales channels, branding and product development. In the dairy sector, the Georgian Milk Mark dairy *Milkeni Ltd* started distribution to 50 new shops throughout Georgia, among them the upmarket Euro Product supermarkets chain in Tbilisi. Machinery inputs supplier *Marmot LTD* became the official dealer in Georgia for the prestigious Belarus Tractors after stringent checking of their premises, infrastructure and business against stiff competition in Tbilisi, guaranteeing extra business due to the prestige.

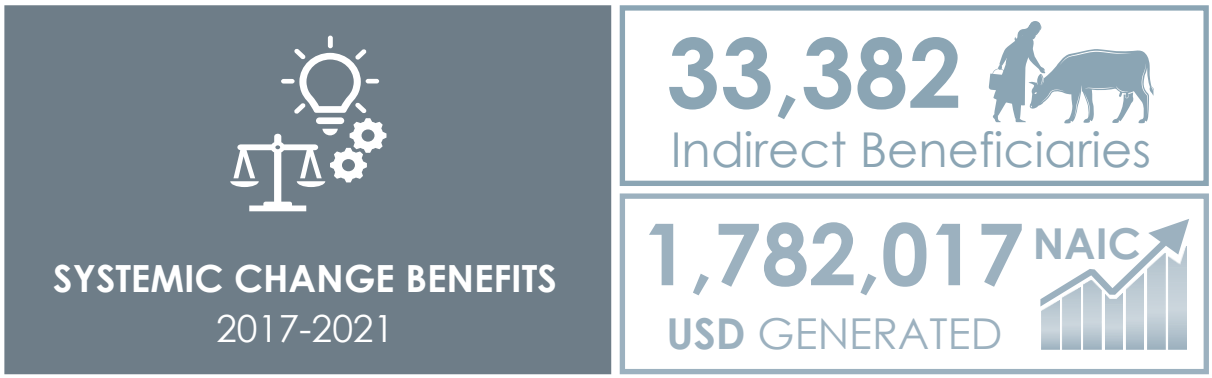


Figure 9 Benefits of Systemic Changes

General formalization across all programme facilitated dairies and many other dairies in the sector has been an integral component of the business expansion captured by the programme. The ILO's Better Cheese Better Work: the Alliances Caucasus Programme's Impact on Informality and Working Conditions in Georgia's Dairy Sector documented these elements of formalization within ALCP facilitated dairies and analysed how informal dairy enterprises were incentivized to formalize. Formalization has contributed to number of improvements including; better working conditions, a sense of income security, written or verbal agreements that are adhered to, access to training and information, a safer working environment, and equal pay for women and men. The study confirmed that without ALCP support most of these dairy enterprises would not have been able to meet the new business and Food Safety and Hygiene compliance requirements stemming from Georgia's EU Association agreement and would have had to close or at least operate increasingly insecurely and unsustainably in informal markets and farmer suppliers would have lost a main source of secure and regular income. Currently 26 ALCP facilitated dairies are now HACCP[6] certified and fifteen more in the process of being certified.

Deeper sectoral change was evinced in changes captured in rules that affect the livestock sector. At the government level, public officials have provided information to other businesses in the sector based on the experience they gained from programme interventions, for example, issuing veterinary certificates to honey, dairy and wool businesses for export. ALCP facilitated Advisory Committee meetings in meat, honey and animal disease control, incentivized ministers and government officials to initiate new regulations, budgetary measures or improved activities after those meetings. The Ministry of Environment Protection and Agriculture established a Honey Committee of key stakeholders from the sector to convene

[6] Hazard Analysis Critical Control Point (HACCP) is a management system in which food safety is addressed through the analysis and control of biological, chemical, and physical hazards from raw material production, procurement and handling, to manufacturing, distribution and consumption of the finished product.

regularly with government, to deal with issues constraining the sector. An example being regulation #525 stopping the registration of prohibited antibiotics which was brought in to tackle antibiotics residues, constraining export. Following Advisory Committee's illustrating the plight of the animal movement route, land reappropriation of land parcels on the animal movement route illegally sold to private landowners in the 1990's, were systematically re-appropriated by the Ministry of Economy and Finance and the Ministry of State Property.

Figure 10 HACCP Certification of ALCP Facilitated Dairies 2017-22

The proliferation of change in the market system has been further illustrated by cases of undefined and unintended effects documented by the programme. Dairy, meat, honey, input, media companies and associations have entered the mainstream business community with growing confidence, winning successful business deals and attracting funding, successfully advocating for their business' and for those of others within the sector, competing for and winning sectoral awards or attempting to strengthen their sectors through education and information dissemination. Within the development sector, programme facilitation and co-financing models in the dairy sector have become the norm, as have methods of showcasing and promoting sectoral achievement and growth, as seen in the copying of the Honey Festival and Business Women's Forum. These models put less emphasis on the implementing entity and more on the producers and participants, their products and their businesses, on networking and linkages with other market players and on promoting broad and equitable rural inclusion from across Georgia. Other cases have included attracting sectoral investments and promotion, as in the Department of Tourism of Ajara investment in and promotion of the Goderdzi Alpine Garden, the inclusion of Jara in the new 'tourist' alphabet and international media attention on Jara wild honey and subsequently Georgia's rich rural heritage and exceptional biodiversity.

LIVESTOCK SECTOR DEVELOPMENT THROUGH THE LENS OF THE DAIRY SECTOR

Practically all ALCP beneficiaries own cows and produce dairy products. Interventions starting in 2011 focussed on supporting functions which helped make improved inputs widely available as well as support to dairy factories and other interventions which created broader sectoral support such as food safety and hygiene compliance and womens access to decision making. The programme therefore conducted a sectoral impact assessment attempting to capture whether improved market access for dairy suppliers had resulted in changes to and investment in livestock husbandry practices in dairy farmers.

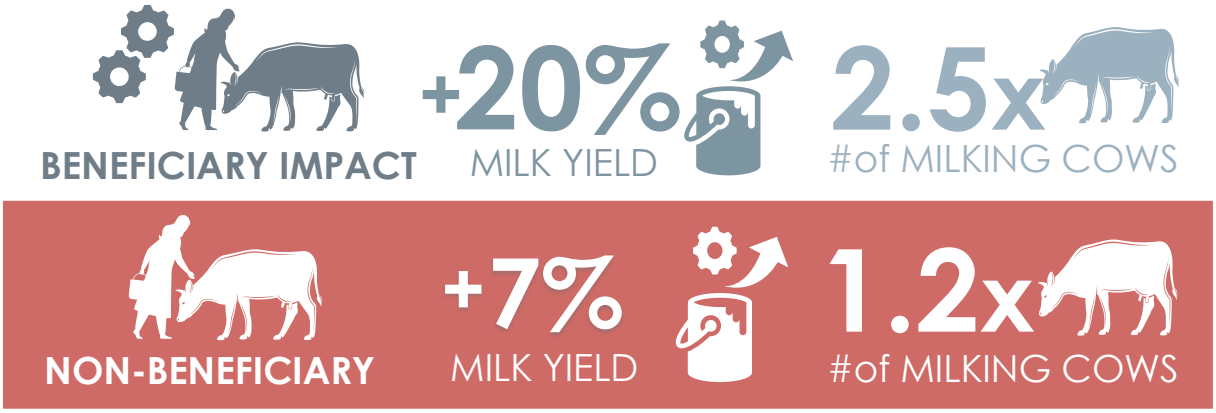


Figure 11 Increased Productivity in the Dairy Sector

The Productivity in ALCP Dairy Suppliers Impact Assessment looked at the difference between those supplying ALCP dairies and those not. It showed that an increase in the number of milking cows and milk yield was higher in dairy beneficiary farmers compared to non-beneficiary farmers. Beneficiary farmers increased their milk yield by 20% and non-beneficiaries by 7%. 69% of beneficiary farmers compared to 47% non-beneficiary increased the number of milking cows, by 2.5 compared to 1.2 in non-beneficiaries. Treatment group farmers are more likely to purposefully improve their husbandry practices, they invest more money in nutritional inputs and milking cows, they have more consultations with veterinarians and they have a more secure and stable source of income from selling raw milk than the control group farmers.

However **both groups** improved their husbandry practices and invested more to increase their herd sizes and milk yield. Compared to the baseline in 2011, it is obvious that both, treatment and control groups have benefited from an overall development in the livestock sector because all of them are using improved agricultural inputs, most of them are supplying raw milk rather than making and selling dairy products, have more cattle and have regular, safeguarded income. This makes it difficult to isolate ALCP attributable impact, but its contribution to the overall development is apparent. As a result, both groups have a stable source of income from livestock and are more hopeful about the future. They reported that they have spent income from selling milk mostly for their family, to improve their living conditions and to pay study fees for children. They are positive about the idea that investing more in livestock is a worthy and profitable activity. Investments in livestock production and

husbandry have included buying more cows, improving cattle sheds, improving cattle breeds, farm and dairy equipment, nutrition, and feed production.

Figure 12 Increased Demand for Milking Machines

MILKING MACHINES A CLEAR INDICATION OF GROWTH

The increasing trend of buying milking machines is a clear indication of positive growth. Annual qualitative reports have captured increased use of milking machines by female farmers who own more than five cows to save time for doing other activities. It now takes 20 minutes/five cows compared to an hour and a half by hand. In 2021 more than thirty five female suppliers of programme facilitated dairies Tsalka+ and Tsezar bought milking machines. The programme facilitated entities Mar-Mot Ltd (machinery supplier) reported a 733% increase in the sale of milking machines in 2021, from thirty milking machines/year in 2017 to 250 in 2021. Roki Ltd (veterinary supplier) has had a similar increase in sales of milking machines every year. Trust in milking machines is high and copying is common among farmers who see others who own and use milking machines. Both companies have free repair services a major factor in the new grwoth in the sector. In both companies, 50% of the sales of milking machines are through in-store credit. Over the past four years, the number of shops and distributors selling milking machines has doubled in Tbilisi and the number of milking machines sold in the majority of these shops has increased by 50% over the last year.

At this point, the trajectory of dairy sector development is promising. Currently, the majority of farmers are investing in dairy and they have access to the means to do so, most farmers have the opportunity of selling raw milk and have access to inputs. For poorer rural inhabitants, dairy farming still provides food security and is the lowest risk method of income generation. Cattle are still used as a form of capital that can be liquidized in times of need. All of the above indicates that the formalization of the dairy sector is developing in a positive direction.

EXPORT

The programme has facilitated 15 clients to export their products to 17 countries with an overall value of 37.6 million USD in the chilled sheep meat, honey, dairy, wool, veterinary inputs, agricultural machinery and animal feed value chains. All clients had domestic markets in Georgia but sustainable export has allowed them to diversify their markets and their products, allowing them to become more resilient particularly as regular export has intensified and the value of export has grown. Processed sheep export by slaughterhouses operating in Kvemo Kartli and Kakheti regions accounted for the largest share of exported products. However, export has also intensified in other sectors notably the dairy and honey sectors. The ALCP both directly facilitated entry point businesses to start exporting and simultaneously worked on export related supporting functions and rules affecting the livestock market system as a whole. The programme in close coordination with the Ministry of Environmental Protection and Agriculture and latterly through the programme facilitated Georgian Beekeepers Union and Georgian Milk Mark Federation, facilitated new regulations such as a ban on the sale of antibiotics prohibited in the EU, published export guidelines for SMEs, and supported government laboratory testing and certifications to stimulate export. Since 2017 seven dairies, three honey, two sheep, one wool, one machinery and one veterinary input supplier have been facilitated to successfully export their products.

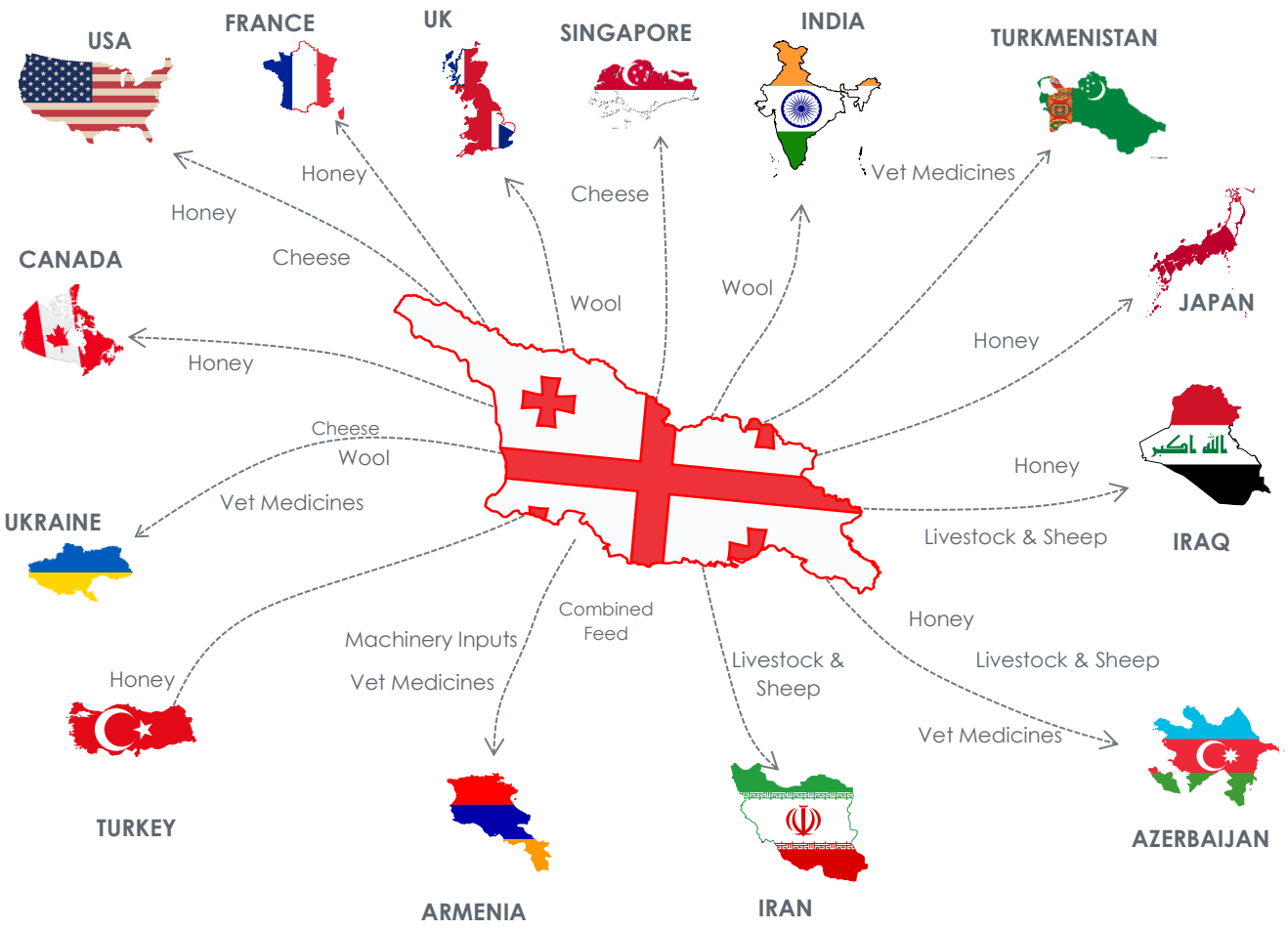


Figure 13 Export Markets of ALCP Clients

Figure 15 Value of Export Facilitated by the ALCP

CHEESE EXPORT

The total value of export in the dairy sector since 2017 is valued at 3 million USD. ALCP dairy clients have exported 166 tonnes of cheese to date amounting to 1.3 million USD and more are entering the sector. Formalized, compliant and efficient entities able to deliver consistent, quantity, quality and marketing helped ALCP client dairies enter the export market serving the Georgian diaspora in the US and Canada. These dairies are members of the Georgian Milk Mark, the programme facilitated quality assurance label for Georgian natural milk, another main factor underpinning the choice made by distributers in purchasing the cheese for export.

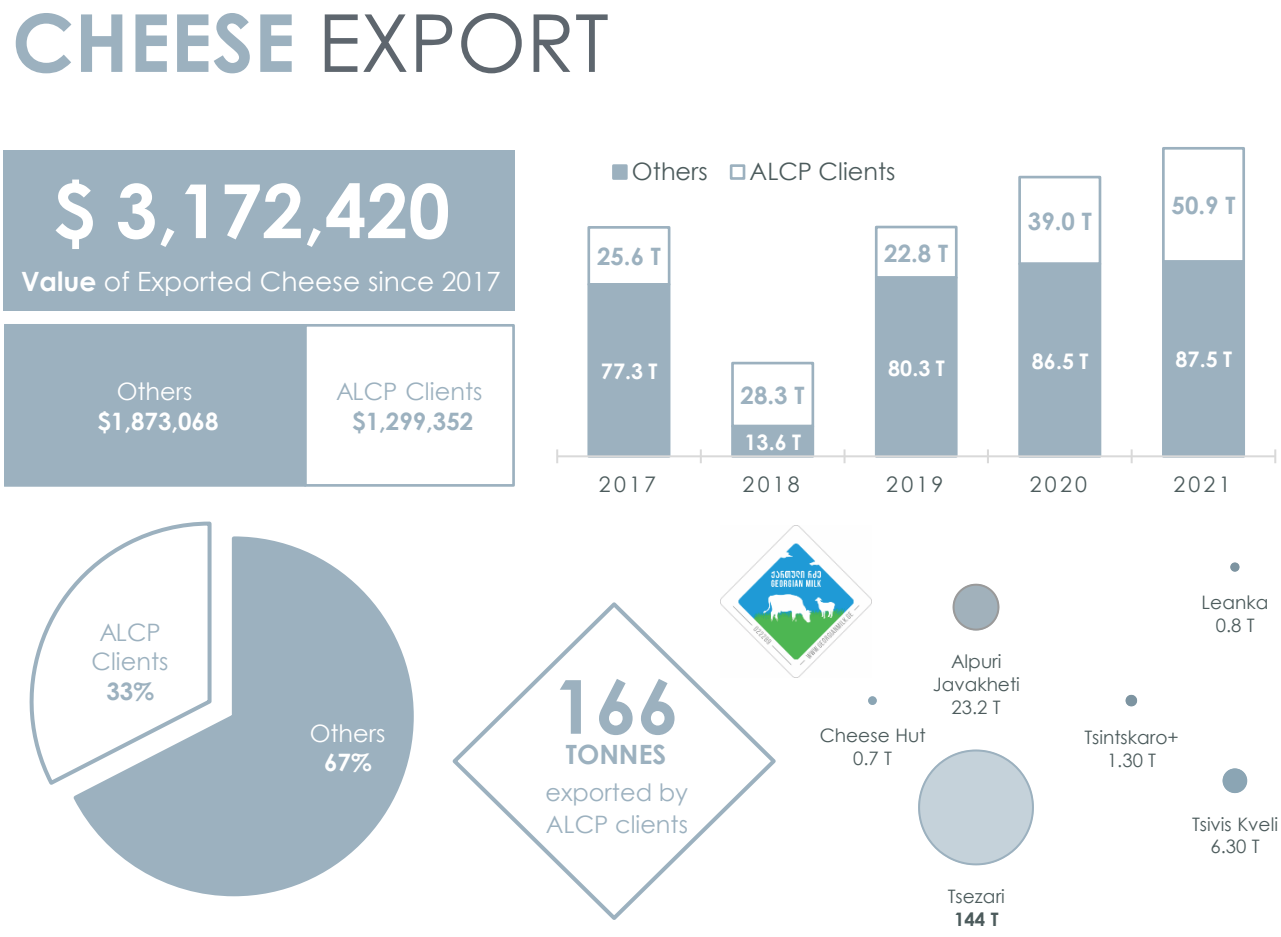


Figure 16 Georgian Cheese Export

HONEY EXPORT

Successive honey interventions since 2014 have led to the current development of export markets for bulk, brand and niche honey products, including bio certified wild honey. The volume of trade has grown 23 times since 2019 when 7 tonnes were exported and amounts to 0.83 million USD. 50% is exported directly from ALCP clients. Three Georgian companies won Silver medals in the highly competitive London Honey Awards in 2021 in a sector that is now growing in confidence.

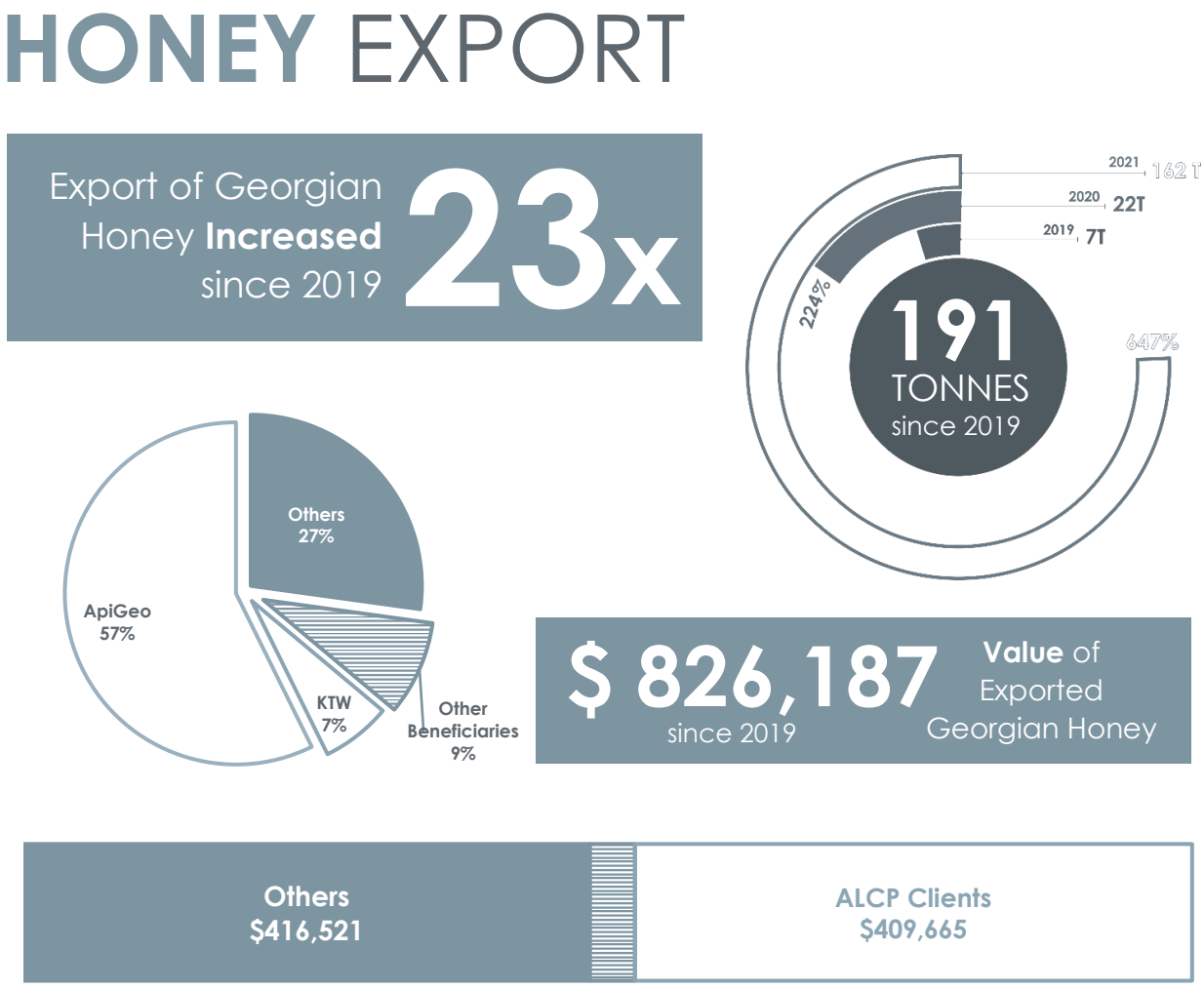


Figure 17 Export of Georgian Honey and Dairy Products 2017-21

WOMEN'S ECONOMIC EMPOWERMENT

Since 2017 along with increased equitable scale, incomes and jobs reached, a main positive trend has been the WEE impact generated at HH level. ALCP interventions related to dairies, selling cattle, sheep, wool, honey and buying animal feed have ensured that women in the target group have access to but also agency over expenditure related to livestock, time saved, public decision making and HH budgeting.

On average, across all impact assessments 38% of household decisions in relation to selling cattle, sheep, dairy products, raw milk, and using machinery have been made by women together with other household members. Their agency over decision making concerning spending the money generated from these activities is higher and amounts to an average of 61%.

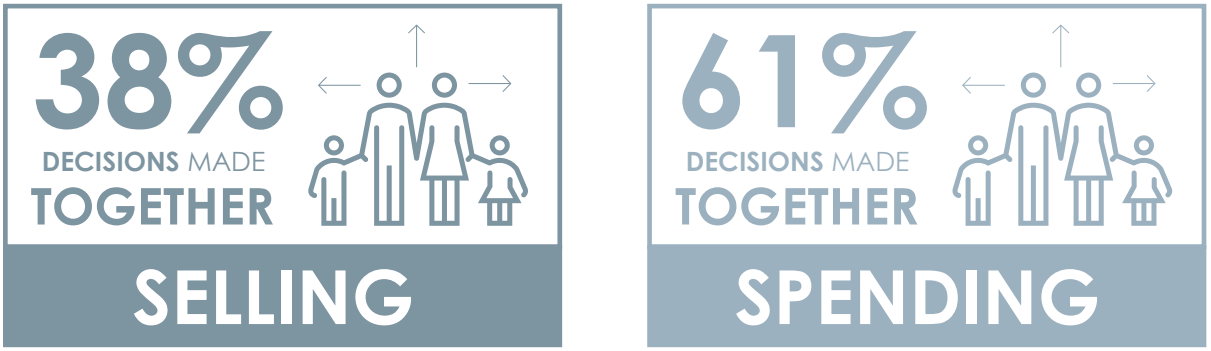


Figure 19 Decisions Made Regarding Selling and Spending

The programme captures a range of decision making over agricultural activities and agency over money made from them, including decisions made by women independently to those jointly decided with other HH members. Early gender research captured that most income from agriculture was considered joint HH income and decisions were most often made in consultation with other HH members

The Impact Assessment data showed that women have made more decisions jointly than independently and that more women have been engaged in agricultural decision making together with their household members compared to the baseline in 2016. Decision making over selling cattle, sheep, wool, hay, and honey was made by women only jointly with other HH members. However, in dairy, buying combined feed and veterinary[7] inputs, women did make independent decisions over the activity. The highest agency over decision making was in selling milk, a traditionally female area of activity and this showed a 4% increase, from 78% in 2016 to 82% in 2021, with 39% of these making the decisions independently. The agency over the money generated from this activity was 90% jointly and 16% independently.

Decision making varies considerably across different sectors. Traditionally 'male' areas of activity such as meat sales, breeding and machinery still show low female participation in decision making although there have been some increases since 2016. There was a 14% increase in selling cattle and sheep and a 6% increase in buying cattle feed. However, across

[7] 18% for combined feed, 51% for veterinary inputs in 2016 when monitoring stopped.

all sectors, agency over the usage of money generated from these agricultural activities has grown and is considerably higher than the percentage for decision making. 83% have managed money from selling cattle, 67% from selling sheep, 66% from selling wool, and 48% from selling honey.

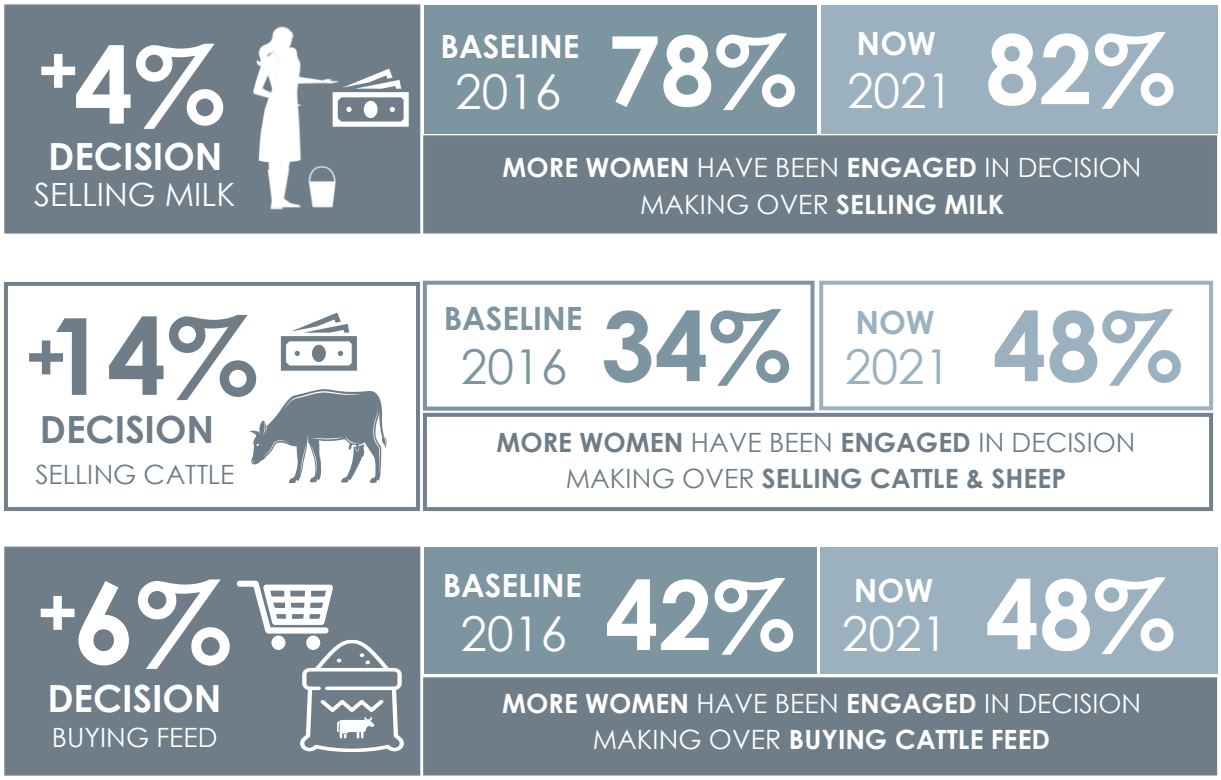


Figure 20 Changes in Decision Making 2016-21

Even in the use of machinery services for haymaking which is the most male-dominated sphere of activity where only 3% of women have made a decision together with other household members, 67% have jointly managed the money generated from selling hay

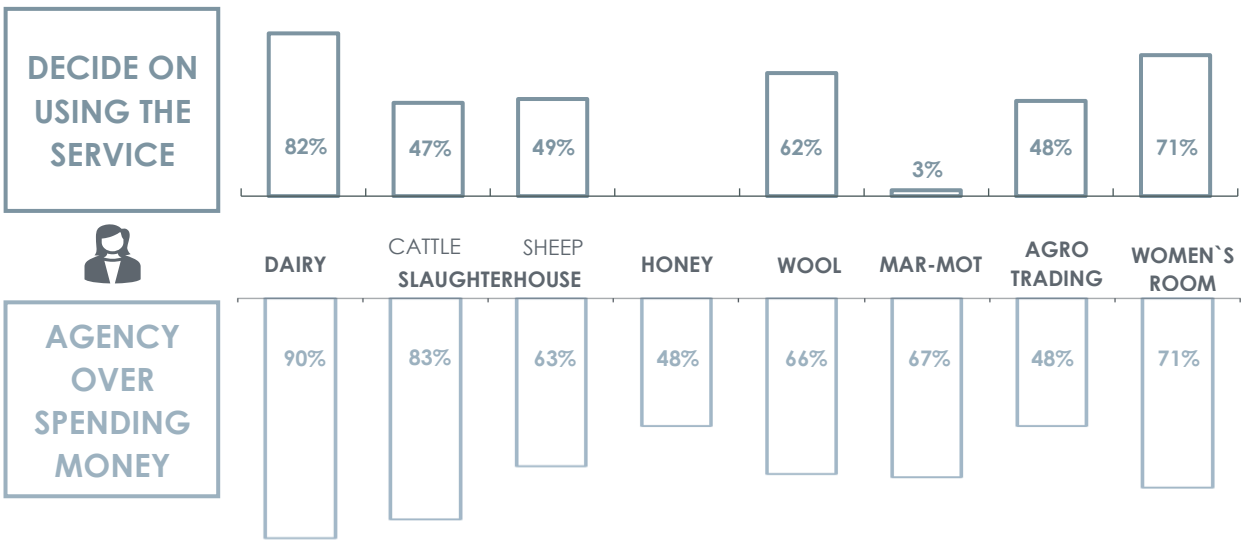


Figure 21 Comparison of Decision Making & Agency per Sector

QUALITATIVE SHIFTS: WOMEN'S EMPOWERMENT

As shown above, dairy production is the sphere in which women play the most central part in livestock production. Please refer to *Productivity in ALCP Dairy Suppliers Impact Assessment.*

Qualitative data[8] illustrates that high demand from dairy factories for raw milk, regular sales of milk, and good prices paid for milk have helped women gain agency over decision-making and spending money within their households. The majority of milk suppliers are women and the benefits to families, children and communities have been profound. These women have prioritized spending money generated from selling milk on buying combined feed to increase milk yield and earn more money because they are involved in milking and see the benefits of milk yield increase. They have invested more in livestock as in worthy and profitable activity. The revenue has been invested in children's education, renovation, or buying houses to improve their living conditions. These women together with other family members are proud of the results and do not question the necessity of women's empowerment.

Skills training for women, easier access to credit due to regular income, and increased mobility due to more free time have also improved women's decision-making power within their households. Business training and vocational skills training related to FS&H information and Women's Rooms training has placed WRs visitors and female milk suppliers in a more advantageous position in the dairy sector and built their confidence and motivated them to engage more in the household decision-making processes. The Women's Rooms have helped their visitors in finding jobs, applying for/ winning grants, receiving and accessing funding sources; equipping them with knowledge and skills to increase their competitiveness in the labour market and they have then shared their own experiences with other women.

More free time due to shifting from making cheese to selling raw milk and increased use of milking machines have positively influenced women's mobility. This is one of the key areas in which women's agency has improved during the programme lifetime. Female farmers linked to dairy interventions now have more free time daily for socializing with neighbours and having coffee with friends between the morning and evening milking periods. Many women have used this time to go to their towns to shop, have their hair done at the salons, and receive cosmetic treatment for teeth[9].

Women's agency is limited when not free from violence. Women's Rooms managers have carried out and rooms been used for regular information meetings and events related to domestic violence and the elimination of early marriage in ethnic minority communities. The programme has found that financial stability has decreased trends in domestic conflict. Now female milk suppliers feel more secure and family life is easier.

FROM INDIVIDUAL TO COMMUNITY

Economic empowerment has positively impacted the engagement of women in local economic development priorities. Where the programme facilitated dairy factories are collecting milk, community priorities at community meetings have been influenced by main livelihood opportunities, including renovation of village roads to allow female farmers to access regular milk collection, renovation of kindergartens saving time from childcare and spending this time on other income-generating activities, running water renovations to better follow FS&H standards and save labour, animal movement route initiatives for the improved

[8] Bi-annual and annual donor reports and impact assessments

[9] The LEO Testing Tools for Assessing Systemic Change: Outcome Harvesting first established these trends and they have been tracked ever since.

biosecurity of their livestock and bridge renovation to access their village pastures. Women's Rooms managers have coordinated with Village Representatives to include women while organizing meetings with women attending of their own volition and with more confidence in voicing their ideas. This trend has included municipalities of Kvemo Kartli with a higher proportion of Azerbaijani women and Samstkhe Javakheti with Armenian women who still have strong cultural-traditional restrictions for women. These restrictions were circumvented because local government asked women to participate in village meetings. In these regions women started participating in village meetings and writing applications for village projects, mainly asking for water and kindergartens.[10]

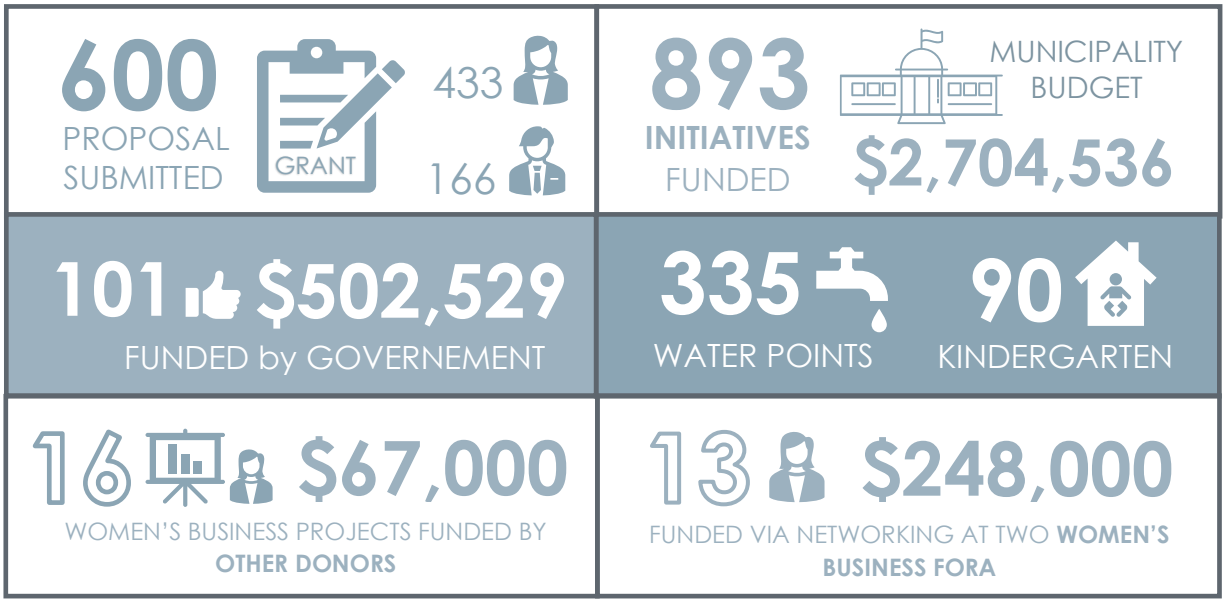


Figure 22 Achieved Outreach via Women`s Rooms 2017-22

EFFECTS OF COVID

The impact generated by the programme would have been higher if COVID-19 had not curtailed the growth of agri-businesses. From a business point of view, the most severely affected sectors were wool and honey, while dairy and inputs have been more resilient[11].

Farmers have also been struggling because of the pandemic. During the impact assessments, 59% of the interviewed farmers in Georgia stated that COVID-19 had a negative effect on their husbandries.

Farmers had limited market access, especially during the lockdowns: 60% of the farmers mentioned that selling cattle or sheep became more difficult, and 31% of them said the same regarding homemade dairy products. However, selling raw milk was farmers' most stable income during the Covid-19 outbreak, with only 9% of the farmers had problems with selling raw milk.

[10] Please refer to this Video about the Women's Rooms, their work and impact.
[11] For more information regarding the COVID-19 effects on the agri-businesses, please, see COVID-19 Effects on ALCP Client Businesses in the Dairy, Meat, Honey, Wool and Agricultural Input Sectors.

Regarding coping strategies, farmers mostly tried to decrease their costs and limit investments in agriculture: 37% of farmers mentioned that they either avoided or decreased investment in livestock and sheep, and 22% of them decreased the number of cattle or sheep. During the pandemic, the costs of rearing livestock increased as prices of animal nutrition and veterinary inputs increased: consequently, 35% of farmers decreased spending on animal feed, and 6% on veterinary costs.

Overall, COVID-19 has had negative effects on agriculture, but thanks to the sustainability and resilience of the ALCP clients, supplier farmers mostly maintained market access and currently, they are slowly but steadily recovering from the shockwaves of the pandemic.

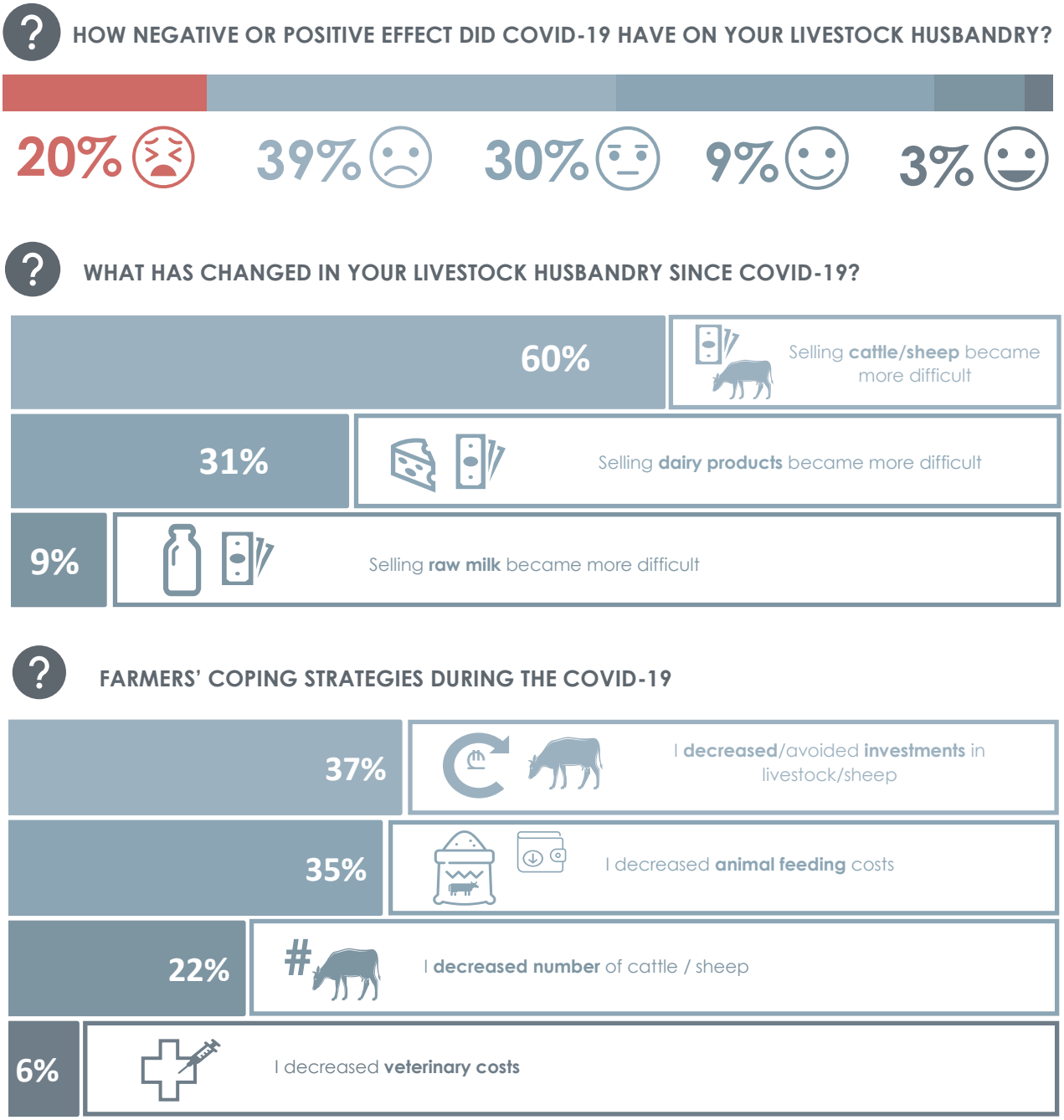
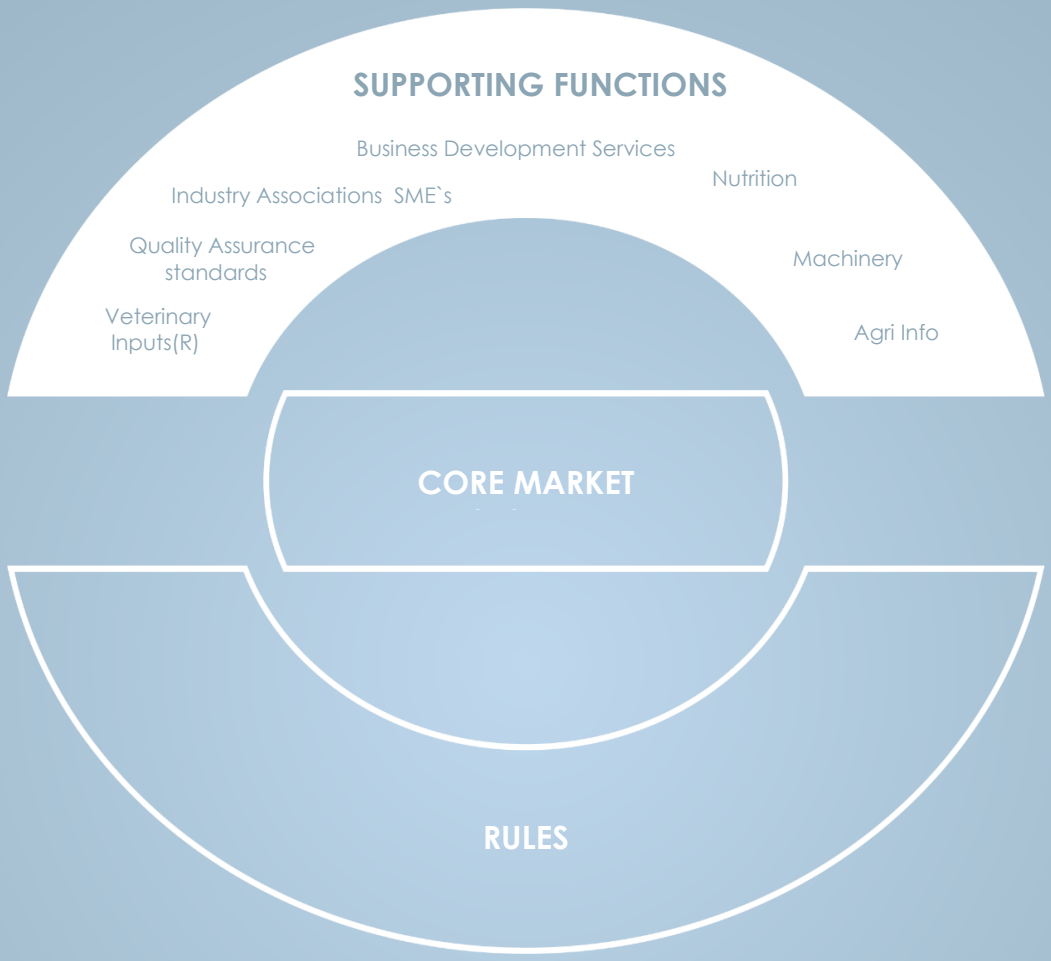


Figure 23 Farmers` Response to COVID-19

Part II Individual Impact Assessments

SUPPORTING FUNCTIONS



In the ALCP the supporting functions facilitated by the programme were information, animal nutrition, machinery and inputs, advocacy, access to finances and women`s economic empowerment. The programme put emphasis on creating scale via business expansion as part of the cross-border remit.

2018

Regional **ALT TV** in Armavir started **incorporating** daily **Agri news** slots in their primetime

101,549

Rural HHs in **Armenia reached** by agri-info through tv, newspapers and online videos

76

in-depth weekly reports prepared

News, prices, agri-infrastructure, roads, irrigation, machinery, the legitimacy of mining companies' work and effect on the environment, access to market, subsidy schemes and agri-credit options

All interviewed **farmers shared and discussed** the received **information with other farmers** mostly on new practices and market prices

Half felt in a **stronger bargaining position** with buyers due to access to the information on prices provided by **ALT TV**

3

Three Armenian **universities** are teaching **agri journalism** in **Armenia**

63 students have already **attended** the agri journalism module, **graduates** are **already influencing national reporting**

EVALUATION OF THE IMPACT OF INFORMATION INTERVENTION IN ARMENIA

INTRODUCTION

Facilitation with universities for the improvement of agricultural journalism and the quality of agri information available to farmers had been underway since 2014 in Georgia[12]. Forty-five print and TV journalists attended agri journalism trainings[13] , 505 students completed journalism degrees with an agro-journalism component and improved programming from 2014 onwards reached 287,261 rural HHs. This was extended to Armenia in 2017 as part of the cross-border remit of the current phase of the ALCP, through programme client the Journalism Resource Centre.

Ten journalists and university representatives in Armenia attended agri journalism trainings, and an agricultural journalism module was integrated into journalism degrees in three universities in Armenia from 2018. In April 2021, an *International Conference in Agricultural Journalism and Agricultural Education* (held online due to COVID-19) brought together academic and media representatives from Georgia, Armenia, Azerbaijan, Moldova, and Ukraine to discuss ways to further develop of agricultural journalism. It was followed by a Training of Trainers in teaching agri-journalism for journalism tutors in Armenia. In parallel, the JRC started regular mentoring of the regional *ALT TV* in Armavir on how to produce agri reports from 2017 and in 2018 bought TV equipment for them whence they launched regular agri reports.

To date, 63 students in Armenia have studied a journalism degree which includes the agri-journalism module. Agri-related information has reached and 101,549 HH[14] in Armenia through television, radio, newspapers and online videos. In October 2021, the ALCP conducted an intervention-specific farmer and student-level qualitative impact assessment to evaluate the farmers' and students' benefits from getting agricultural information through the regional broadcaster *ALT TV* in Armenia. The survey also includes findings from lecturers and students at Armenian universities about the teaching of Agri Journalism.

[12] For more on the rationale behind the development of agricultural information interventions please see this interview.
[13] In 2016, six Georgian universities included the module in their curriculum (Tbilisi Javakhishvili State University, Akhaltsikhe State University, Batumi Shota Rustaveli State University, Gori State University, Telavi State University, Kutaisi State University); a further eight universities have incorporated the module since then 2017-4 (Tbilisi Georgian-European Higher Education University, David Aghmashenebeli University of Georgia, Tbilisi Grigol Kobakhidze University-Alma Mater, Samtskhe-Javakheti State University); 2018-2 (International Black Sea University, National University of Georgia); 2019-2 (Tbilisi Georgian Technical University, Tbilisi Caucasus International University). In Armenia three universities National Agrarian University, Bryusov Linguistic University and Vanadzor State University have integrated the Agri module into their courses since 2018.
[14] The data comes from ALT TV based on their internal evaluation of their audience.

METHODOLOGY

Ten[15] in-depth face-to-face interviews with farmers who have watched regional *ALT TV* in the Armavir region, Armenia to measure the level of their satisfaction with access to and use of agricultural information and the quality of this information. In total, 60% of the respondents were women and 40% men. The fieldwork finished when interviews reached a saturation stage. Regarding the agri-journalism module – three university representatives from three different universities[16] who are teaching Agri Journalism and eight of their students who attended the Agri journalism study module were interviewed. The university representatives organized the meeting with these students.[17] In-depth interviews were conducted which included qualitative questions about the benefits of the study Agri Journalism and how they applied it in practice.

KEY FINDINGS

The study captured the following key findings:

In 2018, the regional ALT TV in Armavir launched regular agri reports. As a result of this intervention, ALT TV started producing daily agri news incorporated into their primetime news and weekly in-depth agri reports. They started writing on simple legislative news, prices, agricultural infrastructures, roads, irrigation, machinery; the legitimacy of mining companies' work and the influence of this work on the environment, access to market, subsidy schemes and credit availability.

FARMER-LEVEL IMPACT

The interviewed farmers highlighted that ALT TV's reports showed dynamics and perspectives of the agricultural sector innovatively. ALT TV's agri reports have become more analytical towards the governmental programmes related to agriculture, now farmers are more objectively informed about details of the governmental programmes. The interviewed farmers noted that these agri reports are also showing their initiatives and interests from their; the farmer's perspective, and that helps local officials to hear the voice of farmers, understand their position and make policy changes according to these farmers' needs. For example, in September 2021, farmers couldn't sell grapes as wine and brandy producers were offering low prices, so after reporting, local officials negotiated with the wine and brandy companies to supply grapes with reasonable prices for farmers.

All the interviewed farmers have shared and discussed information received from ALT TV with other farmers e.g., neighbours, relatives, friends, mostly this information was on new practices and market prices. These farmers are also giving recommendations to other farmers related to managing greenhouses, cheese enterprises, strawberry farming, and prevention activities against animal diseases.

All the interviewed farmers are feeling that they have the knowledge to advise other farmers on new technology in agriculture received through ALT TV.

Half of the interviewed farmers are feeling that they are in a stronger bargaining position with buyers since they have had access to the information on prices provided by ALT TV.

[15] Random sampling of farmer data provided by ALT TV representatives of ALT TV helped to find the selected farmers from their regular audience.

[16] The National Agrarian University of Armenia, Bryusov Linguistic University, Vanadzor State University

[17] We could manage to interview only eight students who were keeping in touch with lecturers. Currently, there are only ten students who are studying agri journalism at the National Agrarian University and due to the COVID-19 pandemic, they are online which made it difficult to find them for interviews. The majority of students have already finished the course and left their universities, so, their lecturers did not have information about these students' contacts.

STUDENT-LEVEL IMPACT

- 63 students in Armenia have studied the course at the National Agrarian University of Armenia, Bryusov Linguistic University and Vanadzor State University.
- According to the interviewed lecturers and students, over the last few years, student journalists in Armenia have been becoming more interested in reporting on agriculture as a result of this intervention. The universities with integrated agri-journalism and media associations see the importance of motivating students and journalists to start agri reporting and students are understanding the importance of airing agricultural information. The interviewed lecturers estimated that reporting on agriculture is becoming as popular among student journalists as reporting on politics, sport, and culture.
- Three graduates of the National Agrarian University of Armenia who attended a journalism degree which includes the agri-journalism module started working at the Armenian Project Elaboration Department of the Ministry of Economy of Armenia and one of their responsibilities is to help the Public Broadcaster of Armenia with making sixteen in-depth reports about smart agriculture and they are using the knowledge they received from this course. These journalists expect that the Public Broadcaster of Armenia will continue in-depth agri reporting after publishing these sixteen reports.
- One graduate who attended a journalism degree which includes the agri-journalism module at Bryusov Linguistic University of Armenia started working at National Kentron TV. She is using her knowledge received from the course while making agri reports to show not only farmers talking about problems but also reporting about solutions through interviewing public officials and specialists. She is glad that her agri reports have reached more views and comments on Facebook than other reports she has made about sports or culture.
- Ten students of the Freelance Journalists Department of the Vanadzor State University of Armenia attended the Agri Journalism course in the 2018-2019 study year. This department has not received new students since then and as soon as they receive new students, they will continue teaching this course.

UNIVERSITY-LEVEL IMPACT

- The National Agrarian University of Armenia integrated agri journalism into an agricultural extension subject that is under the Agrarian Policy, Consultation and Information course of the Agri Business and Economy department. The lecturer of this course wrote a textbook for the Agricultural Extension subject and used materials from the Constructive Agricultural Journalism textbook published by the JRC.
- Bryusov Linguistic University of Armenia integrated agri journalism into their Journalism skills course at the Journalism Faculty. The Media Initiatives Centre a key partner of the JRC in Armenia is integrating agri journalism into their newly established media literacy e-course.
- The agri journalism material now needs updating and extending to address climate change. The JRC and their partner entities and universities would like to develop and roll out a regional online platform to cement ongoing linkages between Georgian and Armenian universities, expanding agri journalism and environmental initiatives within these countries.

BUSINESS-LEVEL IMPACT

- Since 2019, ALT TV made seventy-six in-depth weekly reports. As a result, about 101,549 rural people in Armenia have been reached. Over the last two years they have also increased

the number of followers on their Facebook from 2000 to 5000. The number of viewers has on average 150,000 views/report.

- Since producing these reports ALT TV has been able to sell them to the Public Broadcaster of Armenia, two online news portals, A1+ and environmental news portal ecolur.org. they have developed an image as niche agricultural reporters. This image also helped them with attracting commercial advertising. These two sources are now their main income.

Agro Trading Impact assessment

2017-2021

Agro Trading Ltd produces combined feed for cattle, pigs and poultry as well as milled grains in their expanded production facility in Marneuli, selling in their company-owned shop in Marneuli and distributing to 25 shops in other parts of Georgia.

Scale

5,258 farmers have used combined feed

19,807 farmers have used milled grains

In 48% of treatment group households women decide to buy cattle feed independently (18%) or together with other household members (30%).

Total NAIC from increased milk yield and increased live weight of cattle

10,058,954 Gel
3,298,017 USD

NAIC per household

1,913 Gel
627 USD

Farmers increase milk yield and live weight of cattle after using combined feed

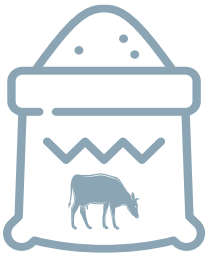
On average, treatment group farmers used combine feed for 6 months a year, households use 2 kg of combined feed per milking cow per day

Main reasons for using Agro Trading's combined feed

There are other brands of combined feed, but farmers prefer the Agro Trading's products: only 7% of control group farmers used other brands of combined feed;

Woman: "I used Universal to fatten my calves and it had significant benefits. The calves grew 20-30 kg more than usual and when we speak about 15 calves, it is not small amount of money. The last year my son married and I bought a house for him".

Man: "Universal is only a little bit more expensive than bran but it is worth it: especially when milk prices are high. We tried different types of combined feed and it is the best one".



EVALUATION IMPACT FROM THE AGRO TRADING ANIMAL NUTRITION

INTRODUCTION

In 2016, the ALCP started facilitating *Agro Trading Ltd* a local Marneuli company originally supplying milled grains; maize, wheat and barley to small scale livestock producers through one sales outlet, to increase production efficiency, develop an inexpensive combined feed[18] and increase accessibility of affordable milled grains. In 2021 combined feed for cattle, pigs and poultry as well as milled grains are produced in the expanded production facility in Marneuli, sold in the company-owned shop in Marneuli, and are distributed to 25 shops in other parts of Georgia, some expansion to Armenia has occurred but has been stymied by COVID-19. The products are also bought by Armenian farmers on the way to the border crossing. More farmers now have stable and reliable access to affordable, better quality animal nutrition products that increase the milk yield and live weight of their cattle.

In April 2021, the ALCP conducted an intervention-specific farmer level impact assessment to evaluate the *actual*[19] scale and farmers' benefits from using *Agro Trading's* products. The impact assessment showed that estimated scale from monthly data sheets was in line with actual figures, however the *actual* net additional income (NAIC) for farmers was 3 times higher compared to the estimated figure due to better capture of milk yield and meat yield increases at farmer level and improved triangulated sales data.

METHODOLOGY

The ALCP conducted ninety-seven semi-structured face-to-face interviews with livestock farmers in Kvemo Kartli, Samtskhe-Javakheti, Kakheti and Samegrelo where distribution outlets are situated. In total, 54% of the respondents were men and 46% women. We selected respondents using a multistage sampling strategy: in the first stage, we identified villages (selling points) where *Agro Trading* has been distributing grains and combined feed. In the second stage, we selected treatment group farmers (41) who have used *Agro Trading's* combined feed and control group farmers (56) who have not used the product.

The data was analysed in the statistical software SPSS using the comparison groups attribution strategy: treatment and control group farmers' responses were compared with each other in

[18] An inexpensive mix of milled grains and some additives; maize, barley, wheat, bran, salt. Some more expensive variations include vitamins and oil seeds.

[19] The ALCP DCED audited RM system uses ongoing quantitative and qualitative monitoring to report *estimated* data, farmer level impact assessments then determine *actual* data.

order to capture attributable impact and wider benefits of the *Agro trading's* combined feed products.

KEY FINDINGS

The study captured the following key findings:

- Since 2017, 5,258 households have used *Agro Trading's* Combined Feed and 19,807 households have bought *Agro Trading's* milled grains[20];
- The total amount of additional income (minus costs) generated for farmers amounted to 10,058,954 Gel (4,547,780 Gel in 2020) [21]. This means that in total one beneficiary household has generated additional 1,913 Gel since 2017;
- In 48% of the treatment group households women take the decision about buying cattle feed independently (18%) or together with other household members (30%);
- On average, one treatment group farmer used 2 tonnes (102 sacks) of combined feed in 2020: in other words, 2 kg of combined feed per milking cow per day;
- On average, in 2020, treatment group farmers had 6.4 milking cows and the control group farmers - 5.1. The treatment group farmers spent 98 Gel more per milking cow (1,033 Gel) than the control group farmers (935 Gel) in 2020. The results showed that *Agro Trading's* combined feed products are the most economical product on the market and its benefits significantly exceeds its costs.
- After using Universal, milk yield is increased by 29%. Treatment group farmers have had 2.2 litres more milk per milking cow per day, than control group farmers. On average, during the high milking period, treatment group farmers had 13 litres milk yield and control group farmers 10.8, during the low milking period, 6.9 litres and 4.6 litres, respectively; On average, the price of raw milk was 0.90 Gel per litre.
- On average using *Agro Trading's* combined feed at an average of 2kg/day also increases the live weight of cattle by 13%. Feeding heifers with Universal for one year increased live weight by 13 kg, 20 kg in the case of bulls. On average, the live weight of cattle was 9 Gel per kg.
- On average, treatment group farmers used combined feed for 6 months/year in 2020. Generally, farmers used Universal during the winter months to supplement hay when grass is scarce.
- There are other brands of combined feed, but farmers prefer *Agro Trading's* product - Universal: only 7% of control group farmers used other brands of combined feed. Farmers reported that Universal is the most productive affordable animal nutrition on the market which "properly does its job".
- Respondents report that they buy *Agro Trading's* Universal, because it increases milk yield (66%), it is convenient to use / it is ready-mixed (32%) and it increases the live weight of cattle (22%). Among the reasons for not buying Universal, the control group farmers emphasized on high price (50%), they had not heard about the product (34%), or they do it themselves/they mix grains (32%).

[20] As opposed to the estimated figures of 5147 CF, 17,904 MG.
[21] As opposed to 3,68110 GEL estimated NAIC

EFFECTS OF COVID-19 ON LIVESTOCK HUSBANDRY

- 60% of all the respondent farmers reported that Covid-19 negatively affected their livestock husbandry: this number amounted to 51% among treatment group farmers, and 67% - among control group farmers. Thus, it seems that beneficiary households have been more resilient.
- Due to Covid-19, 20% of all respondent farmers decreased the number of cattle, 17% decreased or stopped buying additional cattle feed, 13% decreased or stopped buying veterinary inputs. In relation to sales, (29%) mentioned that selling cattle (13%) milk products or (8%) raw milk had become more difficult.

Mar-Mot Impact Assessment in Armenia

Mar-Mot is a machinery input supplier supplying mowers, rakes and spare parts to 5 shops in Armenia

Since 2017, Mar-Mot's cross border trade to Armenia amounted to 4 m Gel

294 Mowers	0.2 m	1,289 Rakes	1 m	Spare parts & hydraulics hoses	2.8 m

820 Service providers bought new machinery inputs

16,995 farmers used new machinery services (Scale)

5.6 m Gel additional income for the farmers (NAIC)

61% The majority of the farmers reported that since the baseline year 2017, access to machinery services improved

Better services

I It is faster

II It breaks down less

III Hay is better quality

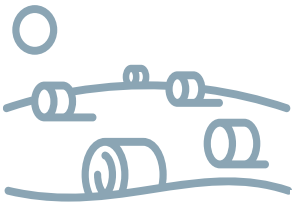
Decreased delays (%)

Farmers increased amount of land cultivated for hay-making **+ 32%**

Land cultivated (ha)

"Two years ago, I bought 2 ha of land for hay and increased the number of cows, as I saw that there was a new and upgraded machinery equipment service available in our village and I could get better quality hay on time. Before we couldn't do that, as machinery service providers used to provide services with old equipment which often broke down and we needed to wait for renovation for several days that spoiled my hay."

A Farmer from Lchashen Village, Sevan.



MACHINERY & INPUTS

EVALUATION OF THE IMPACT OF MAR-MOT IN ARMENIA

INTRODUCTION

Since 2014 the ALCP has facilitated *Mar-Mot Ltd* to increase farmers' access to quality hay-making machinery services[22] in Georgia and since 2017 in Armenia and 2020 in Azerbaijan. As a result of the intervention, by 2017, 20,071 households in Georgia had used new machinery services and generated more than six million Gel additional income for their families[23].

In 2017 the ALCP financed *Mar-Mot Ltd* to expand its business to Armenia. The total value of *Mar-Mot Ltd* 's cross-border trade to date currently amounts to 4 m Gel. The company supplies mowers, rakers, and machinery spare parts to five[24] machinery shops in Armenia. On average, 73% of their sales are of *Mar-Mot's* machinery. Consequently, 820 machinery service providers in Armenia have to date bought *Mar-Mot's* machinery equipment, 25% of them bought more than one piece of equipment, and they all provided machinery services to farmers.

In September 2021, the ALCP conducted an intervention-specific impact assessment in Armenia to assess *Mar-Mot's* scale, net additional income, and other impacts at the farmer level in Armenia. The study illustrated that *Mar-Mot Ltd* has significantly contributed to improved hay-making practices in Armenia.

METHODOLOGY

The ALCP conducted sixty semi-structured face-to-face interviews with farmers who have had access to machinery services using Marmot's equipment in Armenia. In total, 63% of the respondents were men and 37% women.

Respondents were selected using a multi-stage sampling strategy. Firstly, out of the five selling points, two shops were selected where *Mar-Mot's* machinery was sold[25]: one in Lori Province and another in Sevan-Gegharkunik Province. Secondly, eight machinery service providers were interviewed, who had bought *Mar-Mot's* machinery equipment. After that, these service providers assisted with arranging interviews with farmers in their villages for whom they had provided services and sixty interviews were conducted with farmers.

[22] The model is as follows. Marmot Ltd sells cost effective, efficient machinery with credit provision to machinery shops. They sell to machinery service providers and larger farmers who then provide machinery services including hay making to small farmers. Hay making represents one of the most important facets of livestock production and largest expenditures for farmers. See The Characteristics of Hay Production (ALCP,2013) for more details.

[23] Taken from the ALCP impact assessments 2016/2017.

[24] Before Covid-19 *Mar-Mot* supplied to 8 shops in Armenia, flowing resumption of cross border trade following the Nagorno Karabagh war and when borders opened post COVID-19 lockdown, it now regularly supplies five of them.

[25] These shops were purposefully selected based on their location and willingness to assist the interviewers during the field work.

Quantitative data was analysed in the statistical software SPSS and qualitative data in Excel. The survey included qualitative questions related to the benefits and level of satisfaction of farmers due to access to improved machinery services.

KEY FINDINGS

The study captured the following key findings:

- In Armenia 16,995 households have used *Mar-Mot's* machinery equipment for cultivating hay. This scale is 45% higher than the estimated figure (11,736 HHs).
- Net additional income (NAIC) for these 16,995 households amounted to 881,943,493 Dram / 5,615,356 Gel[26]. In total, since 2017 one beneficiary HH generated 51,908 Dram / 330 Gel additional income. This NAIC is 7 times higher than what was estimated based on the monthly collected data (Mar-Mot's sales data)[27].
- Since, the baseline year of 2017, the interviewed farmers have increased the amount of land cultivated for making hay from 3.5 ha to 4.6 ha in 2021.
- In 2021 there was a drought in Armenia particularly in Sevan-Gegharkunik Province which significantly reduced the amount of hay cultivated. In 2017, one household cultivated 583 bales of hay. Due to better access to machinery, in 2019 this figure increased dramatically to 814 bales, but in the drought year of 2021, it decreased again to 517 bales per HH. Nevertheless, the price of hay increased simultaneously, from 676 Dram in 2017 to 1,706 Dram in 2021. Thanks to that, hay making remined a profitable business even during the drought.
- There is a clear trend that new machinery equipment has been substituted for old Soviet machinery equipment. In 2017, 84% of the interviewed farmers only had access to old machinery equipment for making hay and only 13% - to new machinery equipment. However, in 2021 these figures had changed to 41% and 57%, respectively.
- Due to better access to hay-making machinery services, these farmers reported fewer delays in cultivating hay: in 2017 61% of farmers had delays, while in 2021 only 14% reported the same.
- Most of the interviewed farmers (61%) mentioned that compared to the baseline year of 2017, machinery services have improved: they emphasized that the machinery services are faster (43%), breaks down less (39%) and that a better quality of hay is cultivated (16%).

[26] Originally, the programme reported 11.2 million Gel as an additional NAIC for farmers based on 100% attribution of increased cultivated land. However, the external evaluator recommended reducing NAIC significantly because in 2021 a drought increased hay prices, and this external factor was not taken into consideration during the attribution. The DCED consultant also confirmed that this variable needed to be included in the attribution strategy, and he suggested reducing NAIC by 50% in the absence of further triangulation to prove otherwise. The ALCP had solid qualitative data which indicated that the main factor for increased hay production was improved access to hay-making machinery, and not the drought. However further triangulation at the farmer level is too difficult with Nagorno Karabagh and Ukraine conflicts as well as Covid and a lack of time making this untenable. Additional triangulation was then attempted but no official Armenian statistics on hay making on other areas of Armenia was available. So, in order to maintain a conservative approach to attribution, the programme has decided to give equal weight to both factors, and we have reduced NAIC by 50%.

[27] The programme lacked monthly collected data on the farmers' level in Armenia. NAIC and Scale were *estimated* based on *Mar-Mot's* sales figures and qualitative data. Therefore, this study was the first attempt to capture the *actual* benefits of *Mar-Mot's* intervention in Armenia, which clearly indicated that the programme's estimations were too conservative.

EFFECTS OF COVID-19 AND NAGORNO-KARABAKH WAR ON THE CULTIVATION OF HAY IN ARMENIA

- The majority of the farmers (96%) stated that neither COVID-19 nor the Nagorno-Karabakh war directly affected their businesses and they had not had to change any of their hay cultivation practices because of these factors. Amongst all external factors, drought had the greatest negative impact on hay-making, especially in Sevan-Gegharkunik Province.
- Regarding the Nagorno-Karabakh war, it started in October 2020, when the farmers had already cultivated hay, and it finished in November 2020 after the hay-making season. Therefore, the war did not have a direct impact on these farmers.
- In the qualitative narratives, the interviewed machinery shops explained that during COVID-19 their sales increased dramatically because many Armenians could not emigrate for seasonal employment and more of them engaged in agriculture. Overall, they think that COVID-19 had more positive than negative impacts on their business and on hay making in general.

Evaluation of the Impact of Women's Rooms Access to Finance component 2017-2020

Grant Application Through Women's Rooms

653 **Grant Application** were **sent** through Women's Rooms

137 applications were **successful**

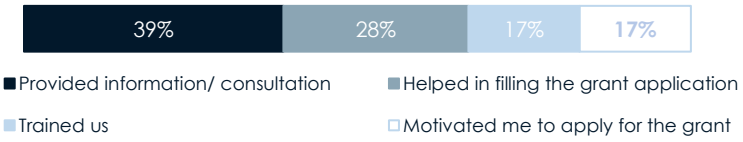
110 beneficiaries
20% received more than one grant

$2.2M **total amount** of grants received

16,115 **average amount** of grants received

NGOs 22%	Governmental Programmes 78%

Q: How did Women's Rooms help with receiving grant?



For the majority of the respondents (81%) Women's Room is the only place where they can be assisted to access grants / finance

Beneficiaries' Perspectives

100% **of the respondents have positive attitudes towards the WRs and they strongly recommend it to others**

"WRs helped me to apply for both NGO and governmental grants. I opened a sewing factory and employed 6 women. Honestly, it changed my life, because it gave me a hope – hope that I can do more."

Beneficiaries reported that after receiving grants they have:

- Increased confidence and self-esteem;
- Increased participation in community life;
- Improved living conditions and general well-being.

Use Grants

88 new business started

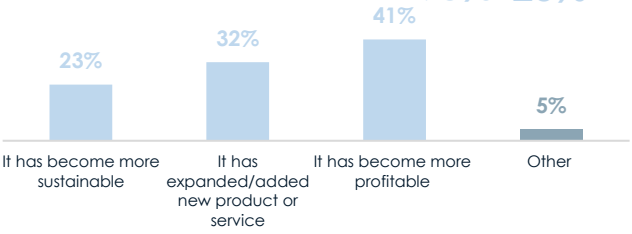
93% are still operational

22 business expanded

1.3 M for Employees

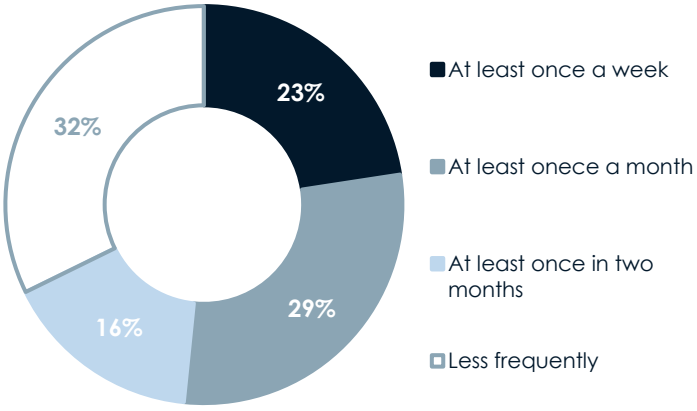
184 New Jobs Created

75% **25%**



Usage of Municipal Women's Rooms

Q: How often do you use Women's Rooms



Q: How did you find out about Women's Rooms?

19% Friends

20% Social Media

43% Local Government

67%

of the respondents have used **online services** of WR after the **Covid-19 outbreak:** they attended trainings or received consultation

WOMEN'S ACCESS TO FINANCING

EVALUATION OF WOMEN'S ROOMS ACCESS TO FINANCING COMPONENT

INTRODUCTION

In 2012 the Alliances Programme (ALCP) established a model for a new municipal service in Georgia; the Women's Room, to improve the access of rural women to local government and decision-making processes in tandem with the work being done to mainstream national gender policy requirements into local government e.g. attendance at the meetings of the municipality and participation at community meetings.

Over the last nine years, thirty-one Women's Rooms have been established: thirty in Georgia and one in Armenia[28]. Initially the rooms were focused on providing simple but very necessary services: consultation, computer, free internet, library, children's corner, space for meetings and trainings and involving more women in local decision- making fora i.e. village meetings. The WR managers encouraged rural women to attend, to vote and initiate new community projects. National results are impressive: the participation of women in community (village) meetings[29] has risen from 3% in 2012 to around 35% in 2016. The voting priorities have changed to include issues most immediately effecting women's lives. The first and second priority issues voted for at the meetings have become water provision and kindergartens. To date[30] 714 women instigated community initiatives have been funded by municipal budgets, including the building of 301 water points and 80 kindergartens with a total value of $2,062,451 from 2013.

From 2017 one of the main goals of the WRs has been to support rural women in accessing funds for their business ideas. The ALCP facilitated business plan writing and fundraising training for the Women's Rooms managers in 2017 and 2019[31]. The rooms became one of the main sources of information and support for rural women and men looking for funds and applying to Governmental and donor-funded grants programmes. According to data provided by Women's Rooms, since 2017, 112 women and 14 men have been financed through the Women's Rooms: 126 additional jobs were created: 88 projects were funded by the governments' small grants programme ($402,000), 16 projects – by other donor organizations[32] ($67,000) and 13 projects - through networking at two Women's Business Fora

[28] Two more in Armenia to be opened soon

[29] Community (village) meeting is a form of citizens' participation at local decision making. The meetings are held in all villages of Georgia ones in a year, under the Government's Village Support Programme, where the participants are initiating and voting for the village infrastructure projects to be funded that year from the government. In 2017 the Government stopped this programme and after a two-year gap, still restarted it in 2019.

[30] March 2021

[31] Conducted by the Georgian Institute of Public Affairs (GIPA)

[32] Including UNDP, EU ENPARD programme and USAID

($248,000). Apart from that, Women's Rooms increased women's participation in Community Meetings and 714 women's initiated projects have been funded through municipal budgets.

The following study aimed to double-check the data provided by the Women's Rooms about government and donor organizations' funding. To validate this data and assess impact, the ALCP needed to collect information directly from those who were financed/obtained funding through the Women's Rooms.

METHODOLOGY

The ALCP conducted thirty-one semi-structured telephone interviews with beneficiaries of Women's Rooms' access to financing components in four regions of Georgia: Kvemo Kartli, Samtskhe-Javakheti, Ajara and Kakheti. The respondents were randomly selected from the ALCP database, which included names and contact details of 88 beneficiaries who received grants from 2017 to 2020. In total, 85% of the respondents were women and 15% men.

We analysed quantitative questions in SPSS and qualitative information in Microsoft Excel. Finally, we compared study findings with ALCP monthly data and other programme documents; this triangulation increased the reliability of the findings because the figures from different sources were in line with each other. This enabled us to generalize the findings.

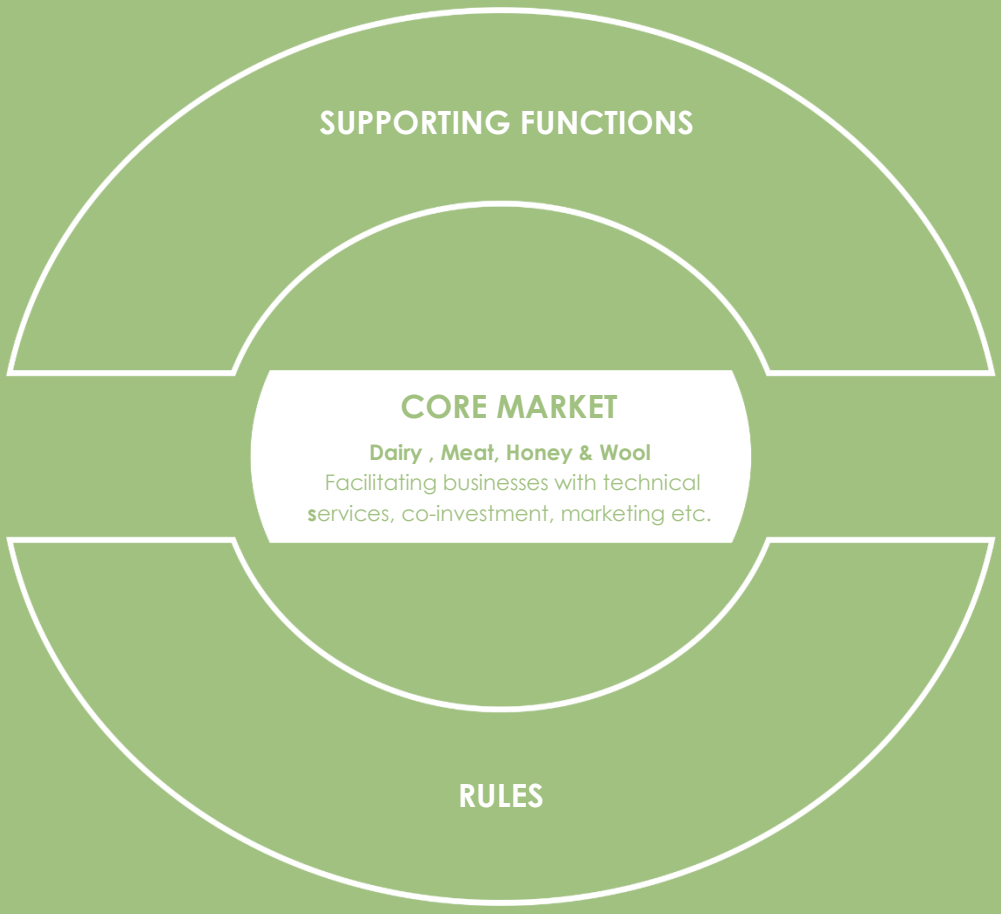
KEY FINDINGS

The study captured the following key findings:

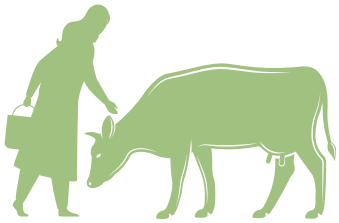
- Since 2017 to 2020, 653 grant applications[33] (78% for governmental and 22% donor funds) have been made through Women's Rooms out of which 137 applications (21%) were successful.
- In total, 110 beneficiaries (94 women and 16 men) received grants. Furthermore, since 2017, 20% of them got more than one grant.
- The total amount of grants received through the Women's Rooms was 2.2m Gel, which amounts to 20,070 Gel per beneficiary and 16,115 Gel per successful application.
- For the majority of the respondents (81%) in rural communities the Women's Room is the only place where they can be assisted to access grants/funds.
- As a result, 88 new businesses started and 22 existing businesses expanded. 93% of these businesses are still operational and 7% were closed mostly due to Covid-19.
- Women applicants mostly used these grants to open greenhouses, guesthouses, hotels, fruit processing units, sewing workshops or beauty salons, while men opened automobile repair shops and guesthouses.
- 184 new jobs were created (75% for women and 25% for men). The average salary for employees is 471 Gel and the total amount of salaries amounts to 1.3m Gel.
- 67% of the respondents have used online services provided by the Women's Rooms after the Covid-19 outbreak: they attended trainings or received consultation;
- All the respondents (100%) stated that they would recommend the Women's Rooms' services to others.
- Qualitative data illustrates that economic empowerment positively affected social cohesion and political engagement: beneficiaries reported that after receiving grants they have increased confidence and self-esteem, they are more active and participate more in community life and they have improved their living conditions and general well-being.

[33] 'Number of applications sent' comes from the ALCP monthly monitoring data.

CORE MARKET



In the ALCP the programme intervened in the dairy, meat (cow and sheep) wool and honey core markets. In the honey core market rules related to a culture of mistrust around the quality of Georgian honey were tackled through services to the core such as information to beekeepers, laboratory services and marketing; as well as formation of industry associations the Georgian Beekeepers Union and Jara Beekeepers Association.



DAIRY SECTOR

PRODUCTIVITY IN ALCP DAIRY SUPPLIERS

ABSTRACT

The increased productivity identified amongst ALCP dairy suppliers in this impact assessment will not be added to the programme impact tally due to the overlapping amongst interventions for which impact has already been calculated. Why then did we conduct a statistically significant impact assessment?

In 2017 at the behest of the donor SDC, a new productivity indicator and target (10%) was added to the log frame for productivity increases in milk, meat, wool and honey, against which we needed to report, in addition to other mostly economic or scale indictors. We also wanted to complete the detailed picture we had formed of the ALCP farmer dairy supplier (treatment group) over the years and to build up a more comprehensive picture of those farmers keeping dairy cows who do not supply ALCP facilitated factories (control group). We wanted to compare the difference in motivations and outlooks between the two groups. We wanted to quantify qualitative statements made by farmers and the factories they supply regarding increased production recorded during routine results measurement and further triangulate impact recorded for interventions in the inputs sectors of veterinary inputs, nutrition, breeding and agri information.

This study which compared treatment farmers supplying four ALCP dairies in two regions and four vastly different municipalities [34] and their respective control group farmers, has provided convincing evidence to prove the hypothesis that *farmers selling raw milk to programme facilitated dairies are more likely to purposefully improve their husbandry practices and invest more to increase their herd sizes and milk yield in comparison to farmers who do not sell raw milk to the mentioned factories*. Overall, the treatment farmers had a 13% increase in milk yield over control farmers, increasing their yield by 20% and control farmers by 7%. 22% more treatment farmers increased their number of cattle. 69% of treatment group farmers compared to 47% control farmers increased the number of milking cows, by 2.5 compared to 1.2 in the control group. Thus, the attributable difference is 1.3 milking cows at 13% more productivity, which means 2,418 liters of additional milk produced per year per beneficiary household amounting to 1,954 Gel net[35].

However, the herd numbers and yield of the control farmers has also increased albeit to a lesser extent. It seems that the 'control group' has also been impacted by the growth in the dairy SME sector in

[34] Sub alpine in Khulo, grassland plateau in Tsalka, semi lowland village in Tsinskaro and lowland peri-urban in Rustavi, Gardabani.

[35] Based on an average milk price of 0.9gel/l and increased costs per beneficiary HH of 222 gel.

Georgia; by the subsequent demand for raw milk and by improved availability of agricultural inputs much of which are at least partly attributable to the programme. In fact, the programme was unable to find control groups to reflect the baseline situation found before 2015; that of small-scale dairy farmers who were mostly making and selling home-made cheese based on a minimal inputs regime. Most farmers now have access to the sale of raw milk and most farmers now have access to quality veterinary, breeding, nutrition, machinery services and agri information, access which was severely limited or non-existent when the programme started working in the targeted regions. According to this impact assessment, 65% of control farmers interviewed are now regularly supplying raw milk in the ALCP targeted region from a combined three region baseline of around 28%[36] for all farmers. Factoring in SME factories with dedicated suppliers we can conjecture that around 70% of all small-scale farmers are now selling raw milk to a third party.

The difference between treatment and control group farmers comes into sharper focus when analyzing the reasons behind herd retention and increase and application of inputs. Treatment farmers supplying to fully compliant cheese factories are focused on increasing their productivity to sell more milk and increase their income, whereas control group farmers overwhelmingly see dairy farming as the farming activity with lowest risk. Applications of inputs amongst the treatment group appear more purposeful, with more money spent on more and better nutritional inputs in the treatment group, more retention of female calves, more money spent on new milking cows and more consultations with veterinarians. Reflecting the stability and security offered by supplying to a dedicated dairy.

The study, however, indicates an overall development in the dairy sector in the target regions. We can conclude that compared to the baseline in 2011, the majority of all farmers are more likely to be selling raw milk, investing in increased milk productivity and increasing their herds and the vast majority, 83% of treatment and 80% of control farmers are positive about this investment and the future of this livelihood, investing the income derived from it into improving their standard of living within their homes and into their families, mostly in terms of education.

PURPOSE OF THE RESEARCH

The ALCP has been working in the dairy and meat sectors in four regions of Georgia since 2008 in Samstkhe Javakheti, Kvemo Kartli and Ajara since 2011 and 2014 respectively and in Kakheti since 2019. The programme's work has generated sizeable impact in the dairy sector, reaching up to 25,000 milk supplier households who have to date generated approximately USD 6.7 million from selling raw milk to 41 ALCP facilitated enterprises. 300 decent jobs have been created (of which 121 are due to crowding-in) generating 4.3 million Gel / 1.8 million USD in salaries. The ALCP enterprises themselves have generated 17.3 million Gel / 7.2 million USD in net attributable income. This impact assessment is an attempt to capture the changes in livestock husbandry practices in dairy farmers supplying to four ALCP factories, in two regions in Georgia, measuring attribution by analyzing data of beneficiary (treatment) and non- beneficiary (control) farmer groups.

The ALCP created a model for the sustainable development of Small and Medium Enterprise (SME) dairy factories based in and equitably[37] supplied by local communities, which included the development of commercial Food Safety and Hygiene (FS&H) and Business Development Services

[36] Combined for AJ, KK and SJ from this study and other ALCP surveys including impact assessments and Focus Groups.

[37] The programme recognized that the proper inclusion and capacity development of women suppliers who predominantly milk and
produce dairy products was vital to the model. 80% out of 25,000 beneficiaries of the dairy interventions are women and the benefits to families, children and communities have been profound.

(BDS) consulting services. The programme's systemic approach to the development of the livestock sector also made sure that the inputs and services (breeding, nutrition, veterinary inputs and agri information) to improve production were available and accessible for farmers supplying ALCP facilitated factories and more broadly across Georgia[38].

The local factories buying raw milk from regular suppliers have been exceedingly important in rural areas, providing vital income to communities. This income has allowed farmers to invest in both their livelihoods related to livestock production as well as in family, education, health and leisure[39]. Investments in livestock production and husbandry have including buying more cows, improving cattle sheds, improving cattle breeds, farm and dairy equipment, nutrition and feed production.

While it is now difficult to separate out and find farmers who have been completely unaffected by the ALCP interventions (as many of the input interventions have had a national outreach and the programmes dairy factory facilitation model has been adopted as fairly standard by both government and other development entities), the programme believed that suppliers of the fully facilitated ALCP dairy factories have been more motivated to increase production in terms of larger herd sizes and improved husbandry practices than dairy farmers not supplying to ALCP factories[40].

There was convincing evidence that farmers selling regularly and securely to programme facilitated dairy enterprises were more likely to invest more to increase their herd sizes i.e. TOTAL YIELD and to improve their husbandry practices i.e. YIELD PER COW (breeding, nutrition, veterinary inputs) than farmers not supplying to the factories, based on a comparative analysis of the programme's systematic data collection from 2011 to date as shown in Annex 2. The programme believed that programme dairy suppliers were more purposeful and positive in their attitude to livestock farming going forward and more systematic in their application of inputs for further development. Figure 1 below outlines the hypothesis.

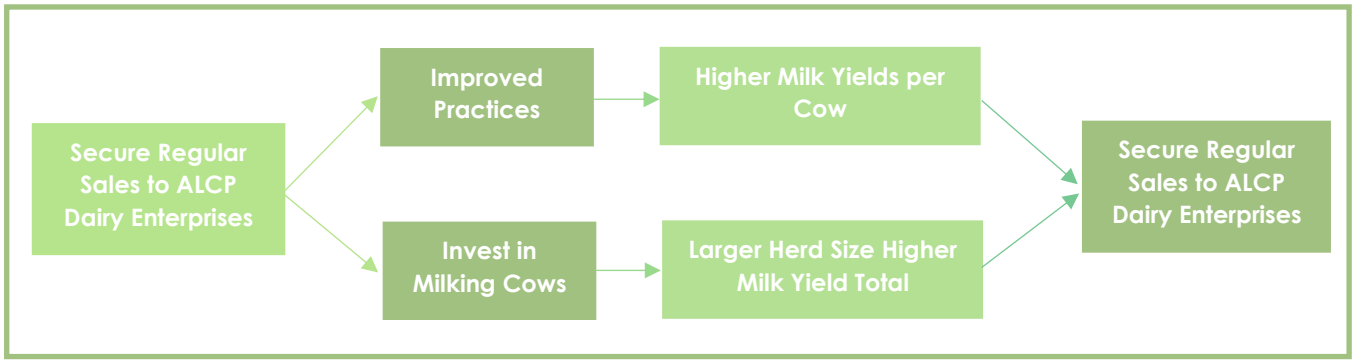


Figure 24 Milk Yield Survey Hypothesis

METHODOLOGY

In total, 130 interviews were conducted with treatment and control group farmers using a semi-structured questionnaire with quantitative and qualitative questions including their level of positivity towards livestock production (Please see Annex 2). The selected treatment group farmers were suppliers to four ALCP facilitated dairy enterprises, Tsezari, Tsinskaro Plus and Milkeni in Kvemo Kartli

[38] From 2008 the ALCP has generated more than 73 million Gel / 31 million USD additional income for 636,296 beneficiaries: 478,604 farmers benefited from the ALCP facilitated veterinary interventions reaching 96% of Georgian farmers, 4,530 from breeding, 51,675 from nutrition, 68,268 from machinery, 283,261 from agri information (61%), 24,131 from dairy, 21,464 from meat, and 5,090 from wool.

[39] For more information about the ALCP impact on the dairy sector, please see the following reports - Better Cheese Better Work: The Alliances Caucasus Programme's Impact on Informality and Working Conditions in Georgia's Dairy Sector (ILO) and Testing Tools For Assessing Systemic Change: Outcome Harvesting The ALCP Project In The Georgian Dairy Industry (USAID)

[40] This hypothesis was based on the analysis of programme data from 2008 –to date. Please, see Annex 1 a comparative study of programme sources table.

region, and Natural Produktsia in Ajara. The following factories were selected purposefully as they are current clients of the programme and the ALCP had better access to their beneficiaries.[41] The control group farmers were selected as those with a similar baseline situation[42] before the intervention started; in herd size, breed and husbandry practices, who were not regularly selling milk to programme dairy enterprises and were either selling raw milk to other dairies/intermediaries or producing dairy products for sale.

SAMPLING

In total, 65 treatment group farmers were selected randomly from supplier lists provided by the programme dairies (Table 1 below). 65 control group farmers[43] were selected using snowballing technique in the villages in which the enterprises' dairy suppliers were based. The baseline was retrospective, set for treatment and control group farmers by asking them to recall information about their husbandry practices, production and sales before the interventions started. The assessment has a 90% confidence level and 10% margin of error. The baseline years were assigned respectively to the enterprise starting year and end-line year as 2019[44].

Table 1 Sampling per Enterprise

TABLE 1	NAME OF THE ENTERPRISE	EXISTING # OF FARMERS	TREATMENT SAMPLE	TREATMENT FARMERS	CONTROL FARMERS	INTERVENTION STARTING DATE / BASELINE
KK	Tsezari	250	24%	15	15	2011
KK	Milkeni	251	24%	16	16	2014
KK	Tsintskaro plus	246	23%	15	15	2016
AJ	Natural Produktsia	304	29%	19	19	2015
Total		**1,294**	**65**	**65**	**65**	

ANALYSIS

We assessed the attributable changes in yields and herd size by using the difference in difference calculation as in Table 2.

Table 2 Attribution Calculation

TABLE 2: DIFFERENCE IN DIFFERENCE CALCULATION	RETROSPECTIVE BASELINE	END-LINE (2019)
Treatment - Avg. Milk Yields	B1	E1
Control - Avg. Milk Yields	B2	E2
Treatment - Avg. No. of Cow	B3	E3
Control - Avg. No. of Cow	B4	E4
Attributable Increase in Milk Yields	(E1-B1) - (E2-B2)	
Attributable Increase in No. of Cows	(E3-B3) - (E4-B4)	

[41] Otherwise, there is no significant difference between these and other ALCP supported dairy factories in Kvemo Kartli and Samstkhe Javakheti. All programme-supported factories have the same business model and results can be generalized.

[42] 65% selling home-made dairy products (35%) selling milk irregularly

43 Control group farmers have similar baseline situation in herd size, breed and husbandry practices and who are not selling to the dairy enterprises supported by the program.

[44] Treatment and control group had the same baseline for each factory/village. However, the baseline year varies across factories, which creates slight inconsistency in sampling methodology.

The study identified that both groups had increased herd size and improved the productivity of their milking cows. The treatment group farmers increased more in both components than the control group farmers did. Compared to the control group farmers, they have made decisions that are more purposeful when it comes to nutrition, breeding and veterinary practices. As the result, they have stable source of income from livestock and are more hopeful towards future. However, the attributable difference is not as significant as was expected by the programme as it seems that both treatment and control group farmers have benefited from the overall development of the dairy sector with both groups having access to opportunities to sell raw milk, and increased availability of quality inputs including ALCP facilitated nationwide veterinary, information and increasingly nutrition.

The majority of treatment and control group farmers (83% and 80%, respectively) were positive about the idea that investing more in livestock is a worthy and profitable activity. They reported that they

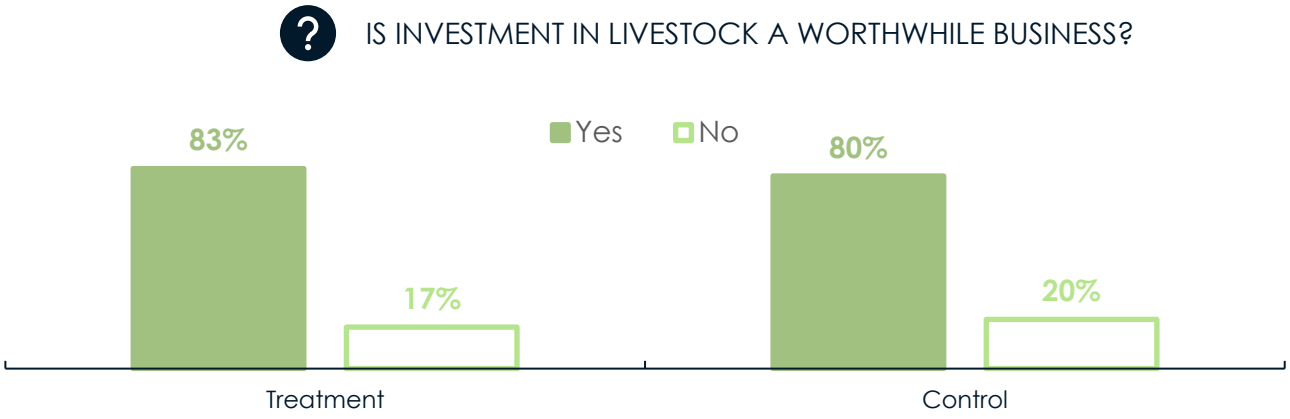


Figure 25 Perceptions regarding Investments in livestock

have spent income from selling milk mostly for their family to improve their living conditions and to pay study fees for children.

According to the respondent's narratives from both groups, they regarded livestock husbandry and selling milk as the best way to get income compared to other agricultural activities in the village. Both groups, but especially treatment group farmers, were positive about their future plans. They stated that they are going to stay and continue doing this business namely selling raw milk to the factories, keeping livestock and investing in increased production.

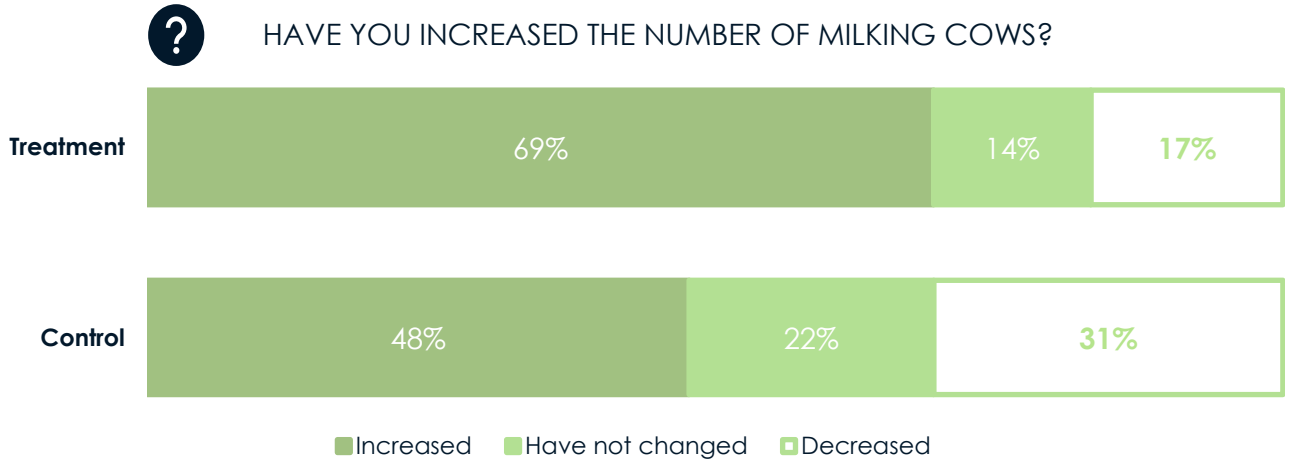


Figure 26 Changes in number of milking cows

INCREASE IN HERD SIZE

The majority of treatment group farmers have increased their herd size. Answers to the question *have you increased the number of milking cows since the baseline year or not* significantly differed between interviewed treatment and control farmer groups: 69% of the treatment farmers had increased their number of milking cows compared to 48% of control group farmers.

An increase in the number of cattle and cows was evident in both groups. Treatment group farmers have increased their cattle and cows on average by 2.5 cattle (from 9.4 to 11.9) and 1.8 cows (from 3.9 to 5.7) since the baseline year. Control group farmers increased the number of cattle by 1.2 cattle (from 8.1 to 9.3) and the number of cows by 0.5 (from 4.2 to 4.7). The difference in difference approach[45] was then applied, comparing the increase in the number of cattle/ cows between treatment and treatment and control farmers. As a result, we get the difference 1.3 for cattle and cows, attributable to the program.

Table 3 Increase in the Number of Livestock

	# OF CATTLE		# OF MILKING COWS		#CATTLE	#COWS
	Baseline	Endline	Baseline	Endline	Increase	
Treatment	9.4	11.9	3.9	5.7	2.5	1.8
Control	8.1	9.3	4.2	4.7	1.2	0.5
				Attributable to the program	1.3	1.3

Additionally, the study tried to find out the reasons behind, increasing, keeping the same or decreasing the number of milking cows since the baseline year. It seems that treatment farmers are prioritizing milk sales and income compared to control. 21% percent more treatment farmers (40%) quoted the opportunity to sell milk regularly as their prime motivation for increasing the number of milking cows, the second (34%) being to gain more income. The highest percentage of control farmers (31%) prioritized the perceived reduced risk of dairy farming as opposed to 16% treatment. Only control farmers mentioned making cheese for an improved market and increased family demand.

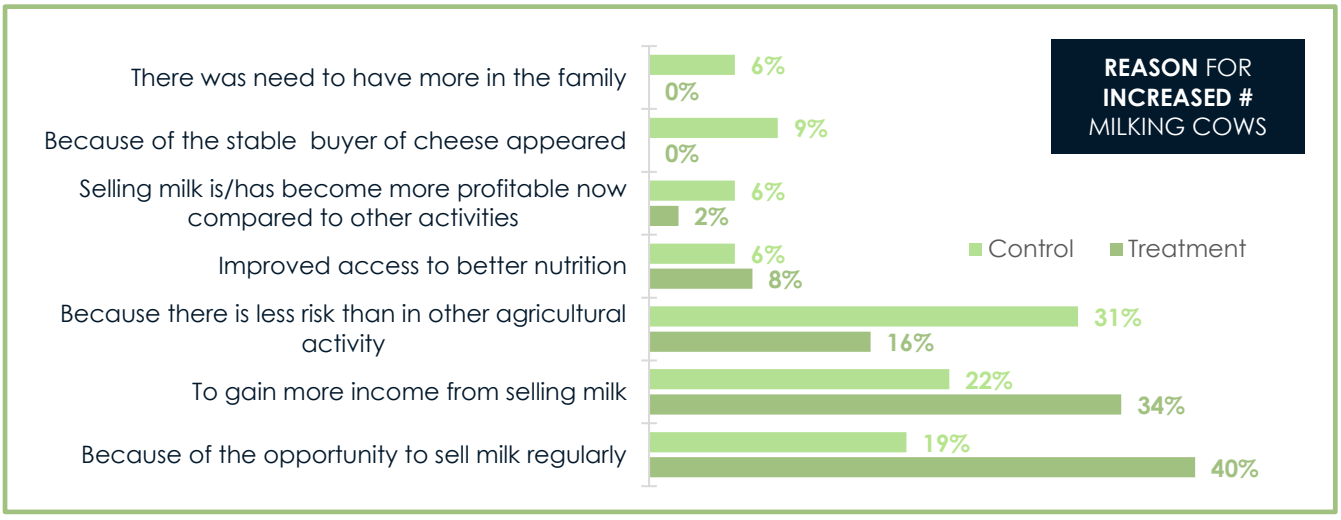


Figure 27 Reasons for increasing the number of milking cows

[45] The mentioned method tries to exclude the counterfactual, i.e. what would have happened anyway, if the programme facilitated dairy enterprises have not created access to market for the farmers. In our case the counterfactual was control group data.

14% of treatment and 22% of control farmers maintained the same number of cattle. Of these 67% of control farmers and 50% of treatment farmers reported that they could not take care of more cattle due to health problems/old age or having no one to assist with the farm duties. The remaining treatment farmers and 20% of control farmers stated other business/tasks/work as the reason. 17% of treatment and 31% control had reduced the number of their milking cows. Selling a cow due to need for money was the main reason for both treatment (75%) and control (50%) farmers. Highlighting the role of livestock as a form of capital to be utilized in times of need. It is interesting that 13% of control farmers mentioned that they were orientated on fattening calves for selling meat presumably showing a diversification to meat rather than dairy in lieu of regular sales of milk.

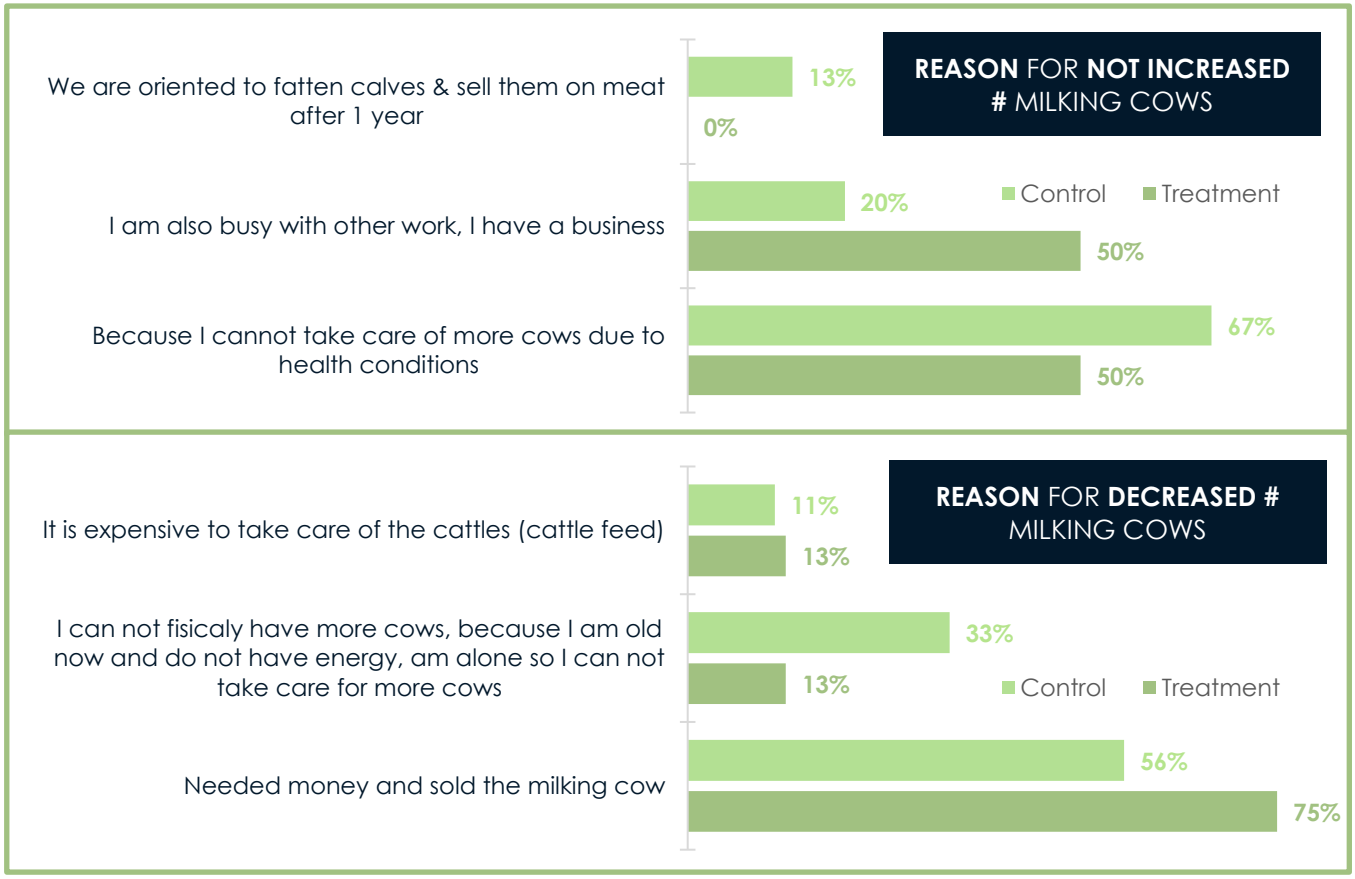


Figure 28 Reasons for not increasing/decreasing the number of milking cows

INCREASE IN MILK YIELD

The study indicated that both groups slightly increased milk yield. The treatment group farmers had a higher increase than the control group farmers; increasing their cow's daily milk yield during both high and low milking seasons[46] by 1.7 and 0.9 liters respectively, which equals a 20% increase. Control farmers increased by 0.6 and 0.3 liters' a 7% increase. Based on the difference in difference approach of measuring attribution, 1.1 liters (high milking season) and 0.6 liters (low milking season) per day increase to the suppliers of ALCP dairies is attributable to the programme.

[46] 7 months was determined as milking period of single cow from which high milking season continues on average for 4 months, while low milking season lasts for 3 months

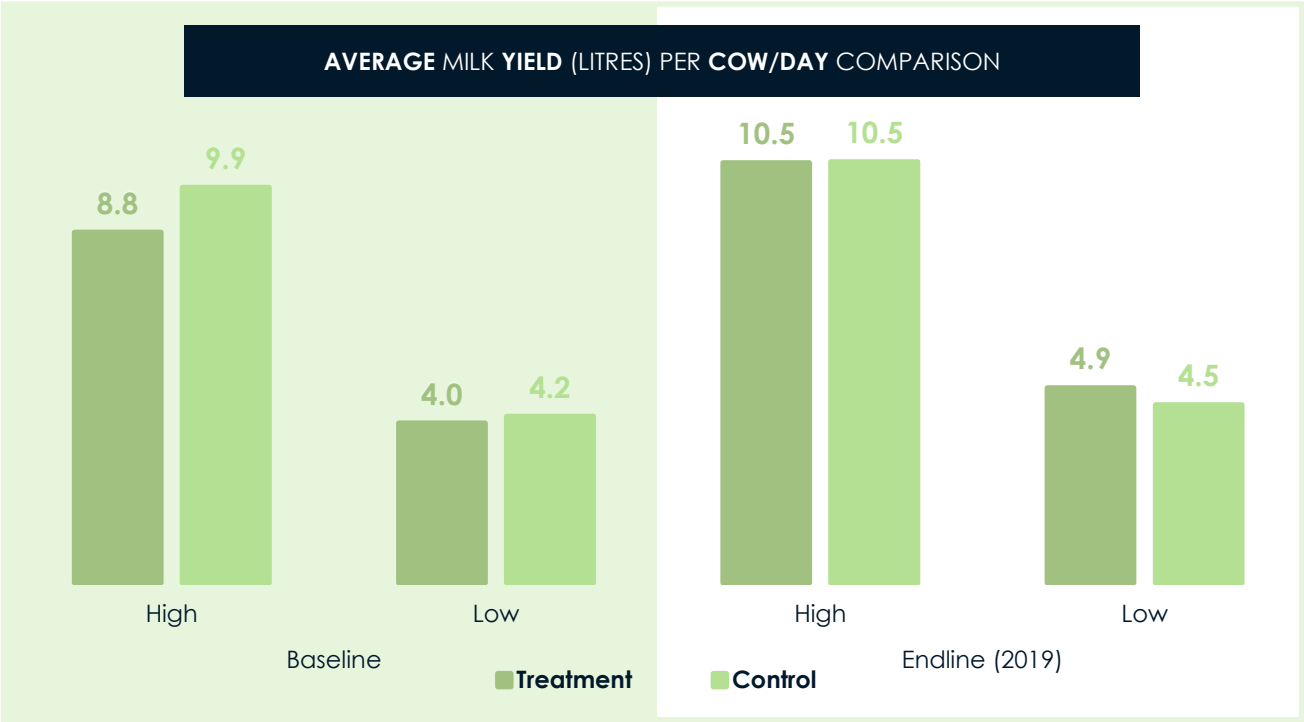


Figure 29 Average Milk Yield (liters) per cow/day comparison by farmer groups, periods and milking seasons

We tried to examine whether the variation could be explained by differences in the application of inputs in treatment and control group farmers. The data shows that one treatment group farmer has used on average four agricultural practices, while the control group farmer has used three: the main difference is in applied nutrition practices: 74% of the treatment group farmers mentioned to have applied at least one of the nutritional practices against 53% of the control farmers. There was a little difference in other two categories, applying breeding (72% treatment, 75% control) and veterinary (75% treatment, 80% control) practices.

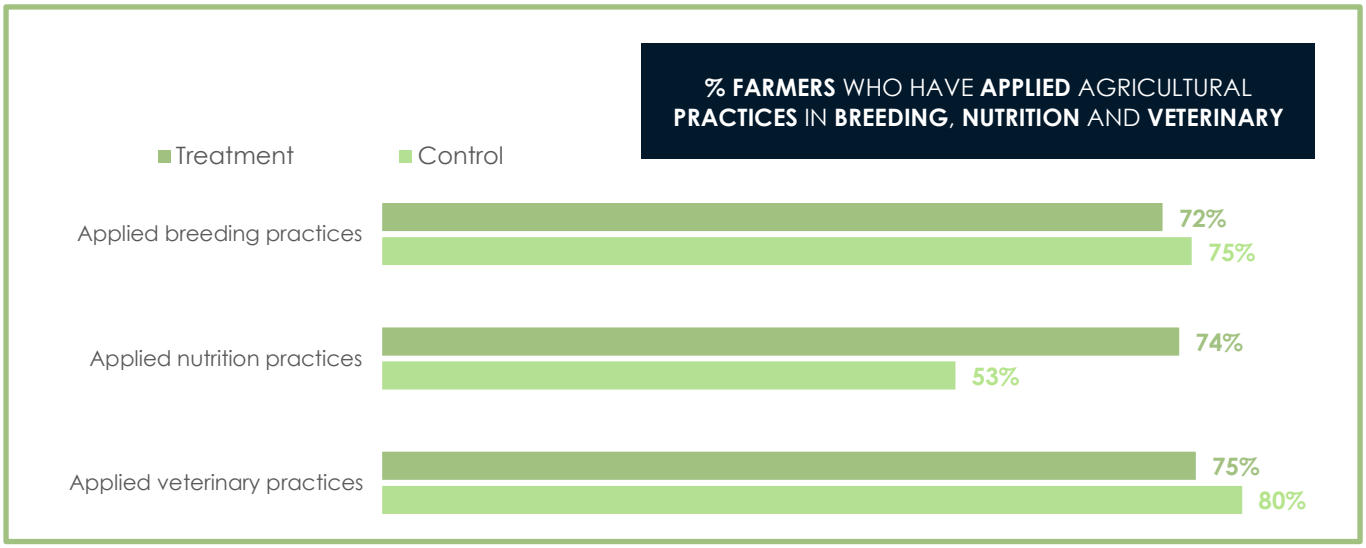


Figure 30 Comparison between treatment and control group farmers usage of three main applied inputs

The data allowed us to look in-depth at each of these components to find out what farmers mean by applying improved livestock husbandry practices. In terms of nutrition, the difference is apparent: the treatment group farmers used more improved nutrition than control group farmers did in every component. They reported that they feed more of existing feeds (e.g. hay, bran, maize stover) and they also added new feeds (e.g. brewers grain, alfalfa, combined feed, milled grains) to their livestock's diet to improve its productivity.

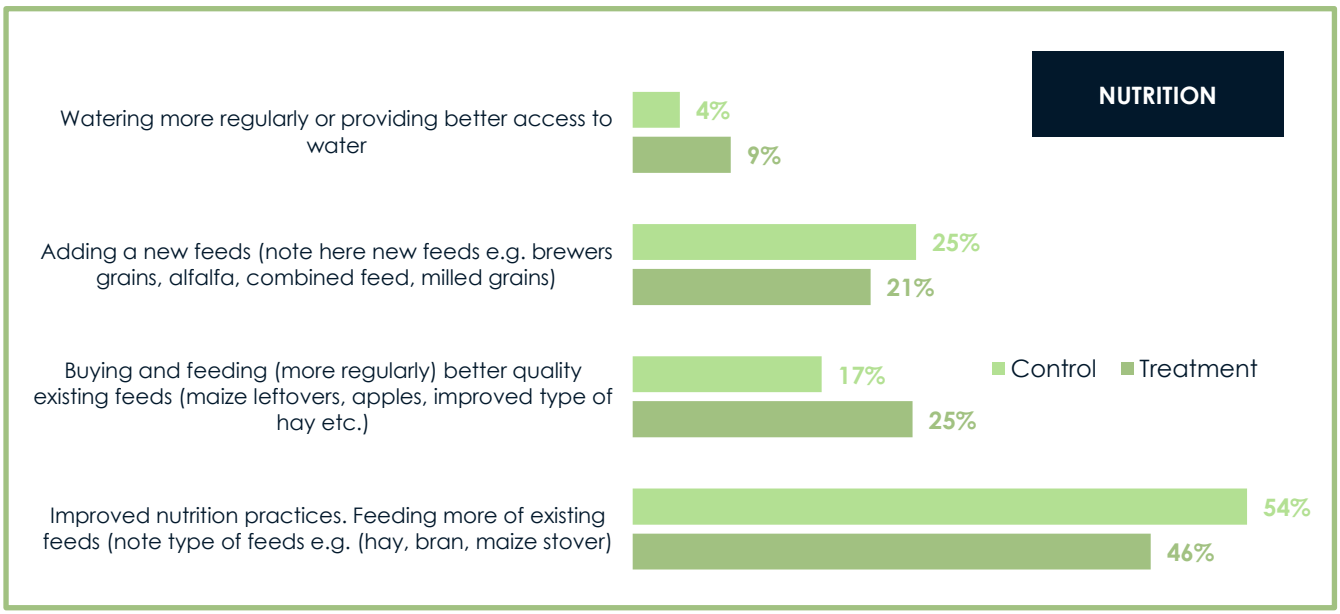


Figure 31 Improved practices in nutrition

Improved breeding and veterinary practices are used by the same percentage of farmers in both groups. However, it seems that the treatment group farmers choose more productive and efficient improved breed and veterinary services than the control group farmers. Selecting and retaining female calves for milking was the most frequently named activity (52%) among treatment farmers. Managing breeding cycles to ensure milk production all year round was most commonly named by control farmers (33%). Around 1 in 4 farmers in both farmer groups had bought better quality milking cows for improved milk productivity. However, the treatment group farmers pay more for better quality cows, which means that they buy higher quality breeds. Also, more treatment group farmers had used improved bull services (18%) than control (6%), with slightly more control group farmers having used AI (%). The ALCP has experience working in both areas and programme data shows that the AI services are not well developed and efficient in Georgia for small farmers, compared to the improved bull services. Hence, it is more likely that treatment group farmers would benefit more from improved bull services than the control group farmers with AI.

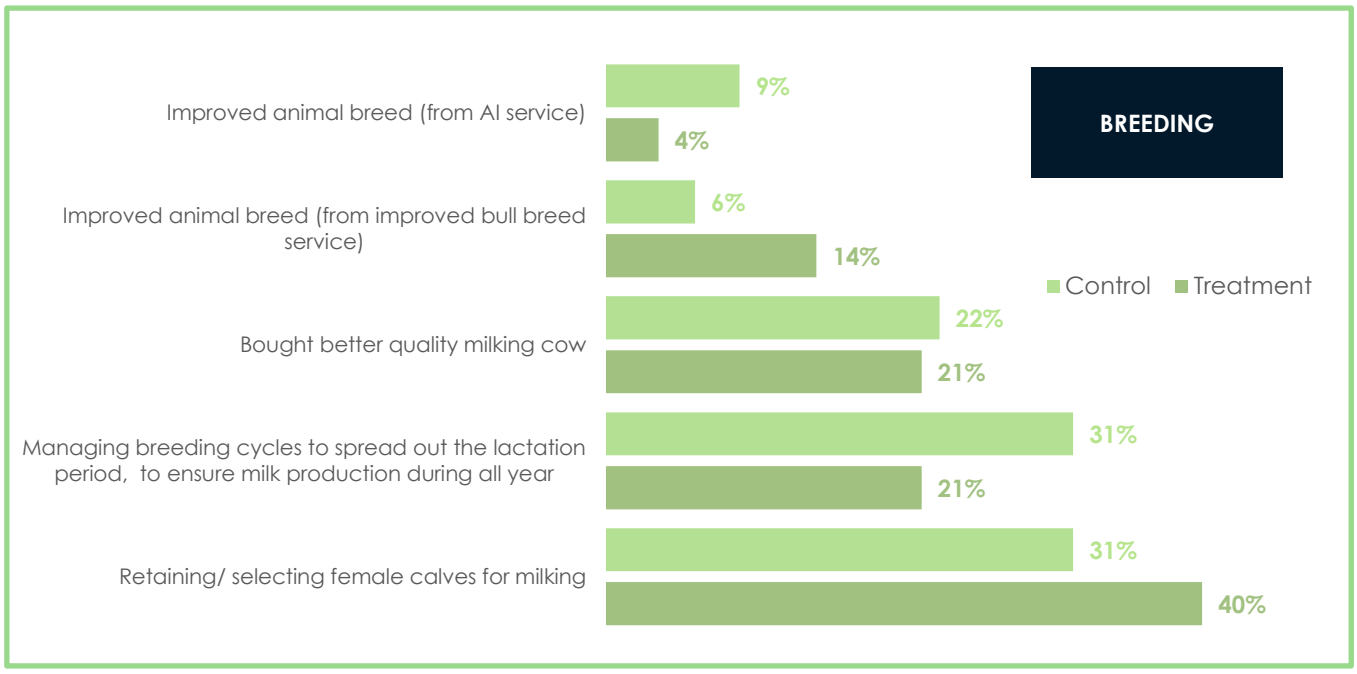


Figure 32 Improved practices in breeding

The majority of farmers in both groups used regular anthelmintic treatment. However, the treatment farmers use veterinary consultation more frequently (51%) compared to the control farmers (27%) which indicates treatment or inputs for other conditions or general health/productivity other than parasites. In most cases, veterinary consultation services are available for free at the ALCP supported ROKI vet pharmacies which are distributed across Georgia.

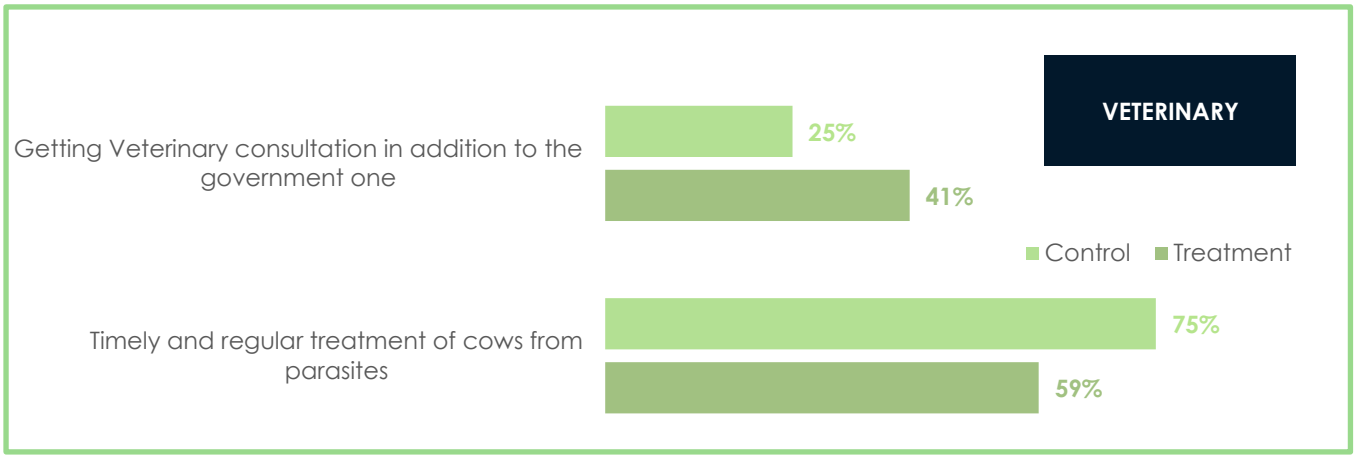


Figure 33 Improved practices in veterinary

LIVESTOCK HUSBANDRY EXPENSES

In terms of the average costs of taking care of one milking cow per year, one treatment farmer spends 24% more per year compared to the control farmer. In total, treatment farmers spend 171 Gel more on one milking cow annually than the control farmers. The major difference comes from the breeding component where treatment farmers have bought a new better breed milking cow more often than the control farmers. Feeding and veterinary costa are almost identical.

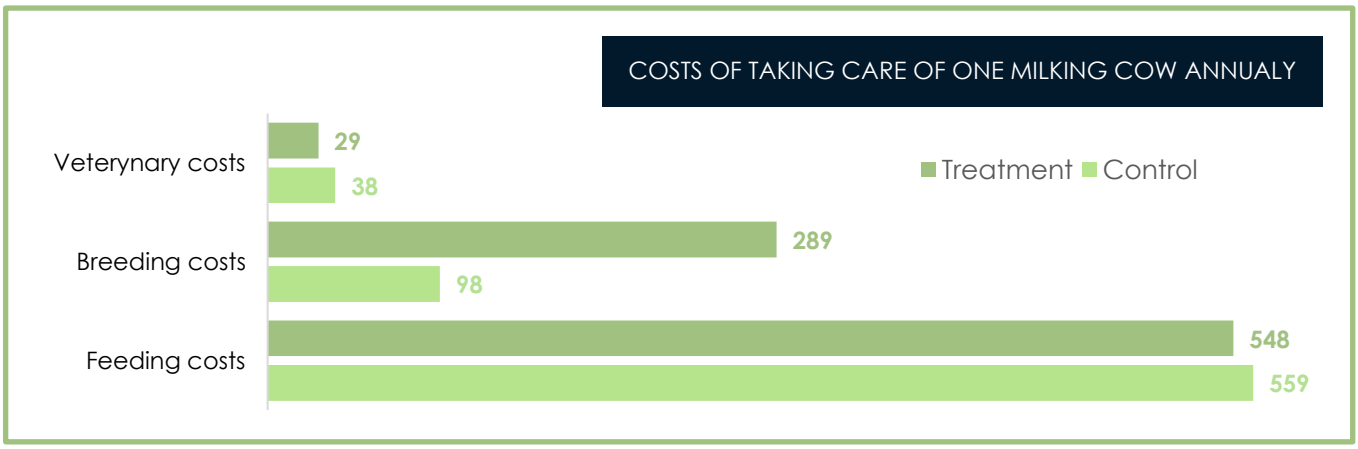


Figure 34 Costs of taking care of one milking cow annually

SUMMARY FINDINGS

Overall, the treatment farmers have had a 20% increase in milk yield per milking cow and control farmers 7%. 69% of treatment group farmers have increased the number of milking cows since the regular sale of raw milk to ALCP dairies compared to 48% of control group farmers, with 14% fewer treatment farmers decreasing their number of cows. Thus as the dairy sector currently stands, regularly selling milk to an ALCP facilitated factory rather than selling milk to another type of entity or making cheese results in 1.3 more milking cows per household producing 2,418 liters of additional milk produced per year per beneficiary farmer[47].

The average price of raw milk is 0.9 Gel, which means that on average treatment farmers generate 2176 Gel from increased milk production[48], however they have increased costs as well (171 Gel per milking cow) amounting to 222 Gel per beneficiary household per year. Hence, the net attributable income amounts to 1,954 Gel.

CONCLUSION

To conclude, the impact assessment showed that the increase in the number of milking cows and milk yield has been higher in dairy beneficiary farmers compared to non-beneficiary farmer. It was observed, that treatment group farmers are more likely to purposefully improve their husbandry practices: they invest more money in nutritional inputs and milking cows; they have more consultations with veterinarians and they have a more secure and stable source of income from selling raw milk, than the control group farmers.

Another important finding is that both groups have improved their husbandry practices and invested more to increase their herd sizes and milk yield. If we compare the current situation with the baseline in 2011, it is obvious that both, treatment and control groups have benefited from the overall development in the livestock sector, because all of them are using improved agricultural inputs, most of them are supplying raw milk, have more cattle and have regular, safeguarded income. This makes

[47] This was calculated as indicated in the methodology of the study, using difference in difference approach which in this case analysed average increase in annual milk produced by cows per household comparing baseline and end line years both for treatment and control farmer groups; The difference between the increase made 2,418 liters of milk to the favor of beneficiary farmer attributable to the program. However, in terms of reporting results, the treatment farmers are probably 100% overlapped with other interventions and some of the control farmers could also be the ALCP beneficiaries of other interventions. Hence, the scale and NAIC from increased productivity and increased milk yields are already captured and reported in the previous impact assessments. Thus, to avoid double counting the programme will not report NAIC from the increased milk yield.

[48] Based on the attributable impact of 1.3 cows and 2418 litres.

it difficult to isolate ALCP attributable impact, but its contribution to the overall development is apparent.

At this point, the trajectory of dairy sector development is promising. Currently, the majority of farmers are investing in dairy and they have access to the means to do so, most farmers have the opportunity to sell raw milk and have access to inputs. For poorer rural inhabitants too dairy farming still provides food security and the lowest risk method of income generation. Cattle are still used as a form of capital that can be liquidized in times of need. All of the above indicates that the formalization of the dairy sector is developing in the right direction.

MEASURING URBAN DAIRY CONSUMERS' AWARENESS OF THE GEORGIAN MILK MARK

INTRODUCTION: PURPOSE OF THE RESEARCH

In recent years, the dairy sector has formalised in Georgia, with the development and growth of small and medium-sized dairy enterprises sourcing milk from small-scale farmers[49]. In 2018, the ALCP from a standpoint of wishing to undertake interventions to further underpin the sustainability of the dairy SME sector, including through product diversification, differentiation and value addition, commissioned a national urban consumers' dairy and beef preferences survey . In the survey urban consumers across Georgia revealed that they wanted to buy dairy products from clean natural milk that comes from healthy grass-fed cattle and compliant enterprises, but the majority (52%) of the consumers could not find such products.

Therefore, in 2018, the ALCP proceeded to facilitate the *Business Institute of Georgia* to create a quality assurance mark backed by an audited system, called the Georgian Milk Mark (GMM). The GMM guarantees that products bearing the label are made from Georgian natural raw milk that does not contain milk powder and/or any vegetable oil and are produced in HACCP certified dairy enterprises, from predominantly grass fed cattle. The *Business Institute of Georgia* registered the *Georgian Milk* mark (GMM) in the *National Intellectual Property Institute* in March 2019. The mark is now protected to avoid falsification and to strengthen the ownership of the *Business Institute of Georgia*, which must regularly audit the dairy enterprises granted a license to use the mark. Seventeen dairy enterprises have been granted use of the mark. Others are currently in the approval process and more yet are seeking to apply.

Consumer Awareness

A national marketing campaign has been underway since January 2019 through the *Georgian Marketing Agency (GMA)*. This has included billboards, social media promotion, flyers, promotions in supermarkets and the creation of a promotional video , which has been shown on various TV channels.

[49] Please, see: International Labour Organization. (2020). Better cheese, better work: The Alliances Caucasus Programme's Impact on Informality and Working Conditions in Georgia's Dairy Sector

The GMM helps consumers to make informed decisions while buying cheese and other dairy products. The promotion of the GMM to consumers is crucial to developing consumer awareness of the mark and is crucial to its success. Hence, it is important for the ALCP to assess changes in consumer awareness and the efficiency of the marketing activities in effecting this change as part of the impact assessment of the GMM intervention.

MAIN FINDINGS

The ALCP survey identified the following key findings:

* 23% of urban consumers in Georgia ***purposefully*** buy GMM banded dairy products.
* 41% of urban dairy consumers buy GMM brands
* 34% of urban dairy consumers know about the GMM, *(out of whom 67% buy GMM products)*
* Of the 66% of dairy consumers who do not know about the GMM 25% buy GMM brands[50]
* Awareness of the GMM is higher in Akhaltsikhe, Batumi and Kutaisi than in Rustavi, Telavi and Tbilisi
* *Tsipora-Samtskhe, Shuamta, Tsintskaro* and *Tsezari* are the most popular GMM brands.
* The majority of GMM consumers who are aware of the mark (34%) and buy GMM products (23%) do so because they are made of raw milk and the products are 'ecologically clean'[51].

METHODOLOGY

The ALCP carried out a survey representative of urban dairy consumers in Georgia using a multi-stage sampling strategy. Fourteen supermarkets representing all the main chains selling in Georgia were selected (see Table 1) as Primary Sampling Units (PSUs) in Tbilisi, Rustavi, Telavi, Batumi, Kutaisi, Zugdidi and Akhaltsikhe. The main criteria for selecting supermarkets was that their size and location offered good coverage in each city and sell GMM labeled dairy products. In each shop every third customer buying dairy products were interviewed. In total 480 interviews were conducted, out of which 56% were women and 44% - men.[52]

Table 4 List of supermarkets and number of interviews

SUPERMARKETS	NUMBER OF INTERVIEWS
Smart	67
Spar	66
Zgapari	63
Ori Nabigi	51
Goodwill	47
Madagoni	34
Nikora	34
Okey	30
GMT	27
Willmart	24
Carrefour	18
Magniti	17
Phenix	1
Daily	1

[50] Based on the previous monitoring data, we can assume that they are customers who like the look and taste of these products and who have been buying these products or some time before the label was introduced.
[51] This is not an internationally accepted term. However, in Georgia '*ekologuriad supta*' is commonly used to denote healthy, clean, natural products. The term was defined in the CRRC consumer survey in relation to dairy, by 'Ecologically clean' people generally mean cheese made from raw milk from healthy cows (CRRC, 2018, p. 2).
[52] However, the results are not disaggregated by gender because no significant difference was observed between men and women respondent's answers.

According to the survey, 34% of dairy consumers know about the GMM. However, the percentage varies across different regions of Georgia: The highest percentage of the customers who know about the GMM was observed in Akhaltsikhe (63%) and Batumi (50%), while the lowest – in Tbilisi (21%) and Rustavi (17%). The ALCP qualitative data and feedback from the field suggest that there are multiply reasons why the regional variation might have taken place: GMM cheese factories, supermarkets and local media had better promotion in Akhaltsikhe, Batumi and Kutaisi, than in other regions.

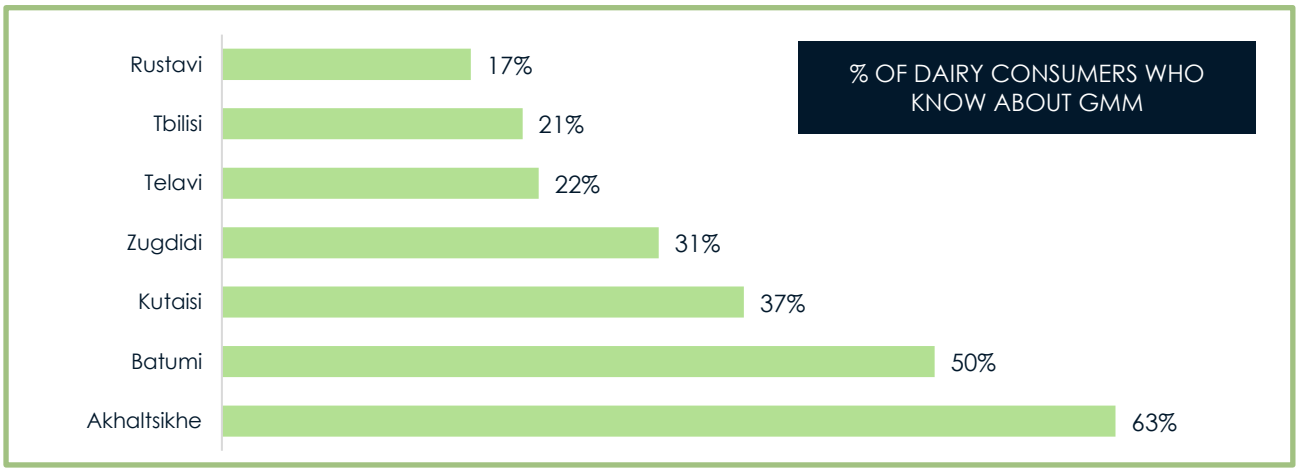


Figure 35 Consumers` Awareness Regarding GMM

The main source of information about the GMM is TV (46%), and then supermarkets (43%), friends/family members (19%) and Facebook (14%).

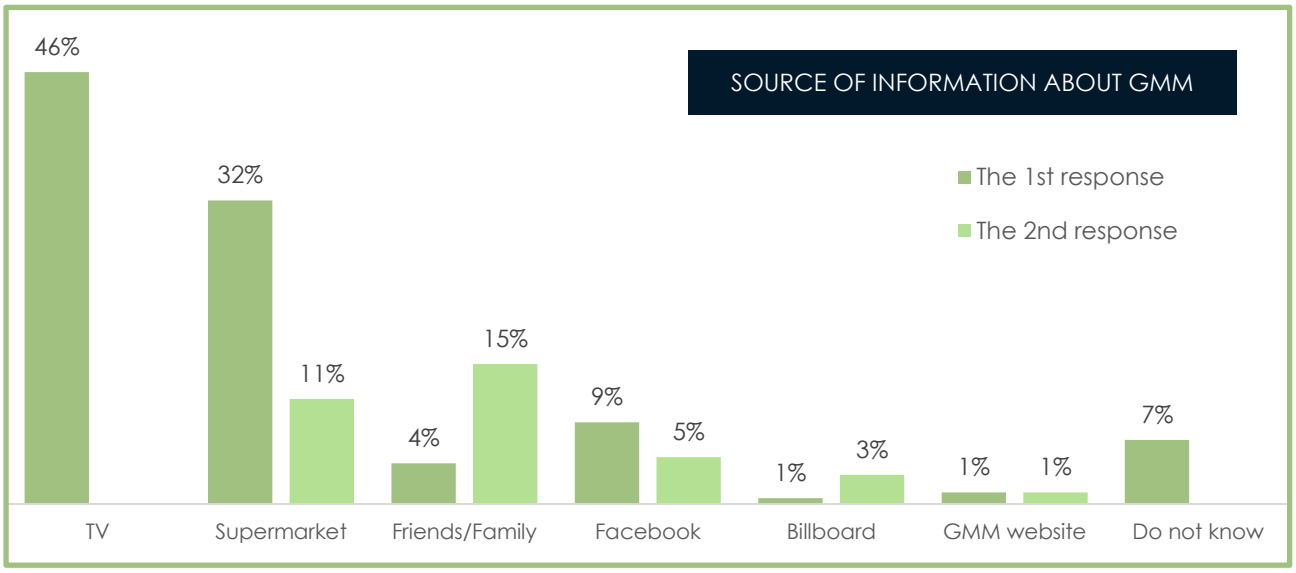


Figure 36 Source of information about GMM

For the question 'What is the GMM about?' in which interviewees could give up to three responses, the majority of consumers mentioned that the mark indicates that GMM products are 'ecologically clean' (57%), natural (56%) and come from villages (26%).

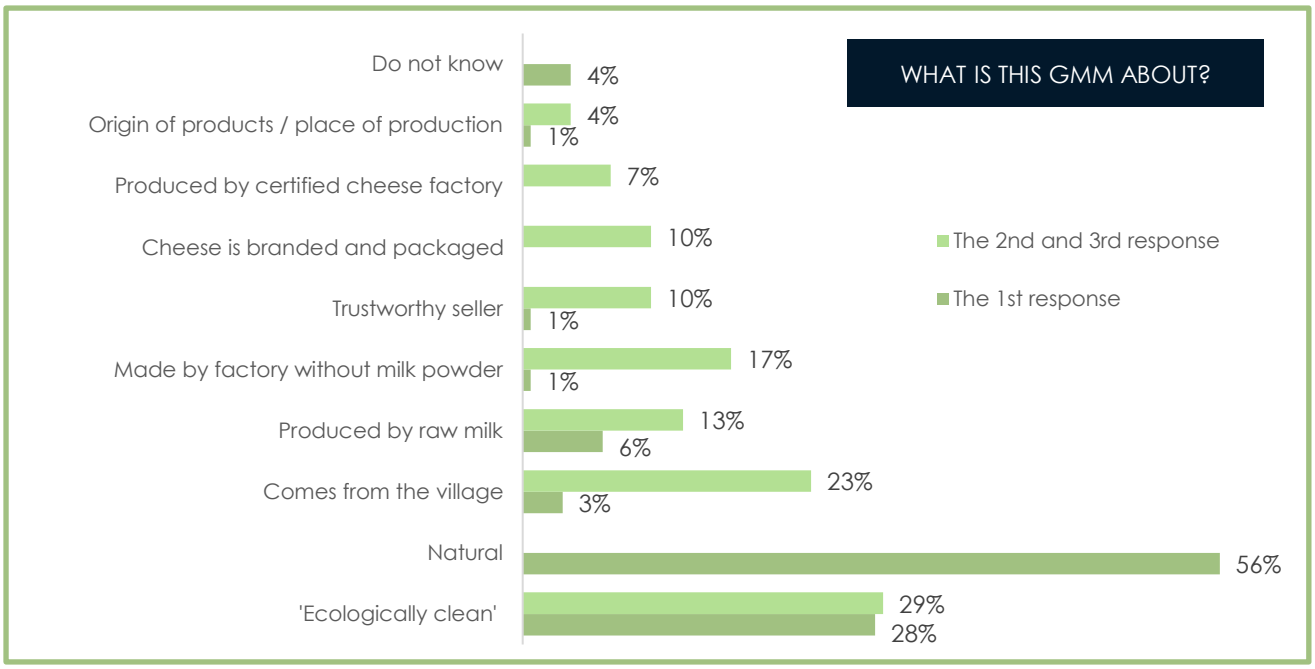


Figure 37 Consumers` indication of GMM

In total, 34% of the urban dairy consumers know about the GMM, out of whom 67% stated that they buy GMM labeled products. The main finding is that overall 23% of urban dairy consumers purposefully buy GMM branded products. It is important to note, that there are also consumers of GMM products who are not aware of the label, but who buy the products (25%). In total, 41% of urban dairy consumers buy GMM labeled products.

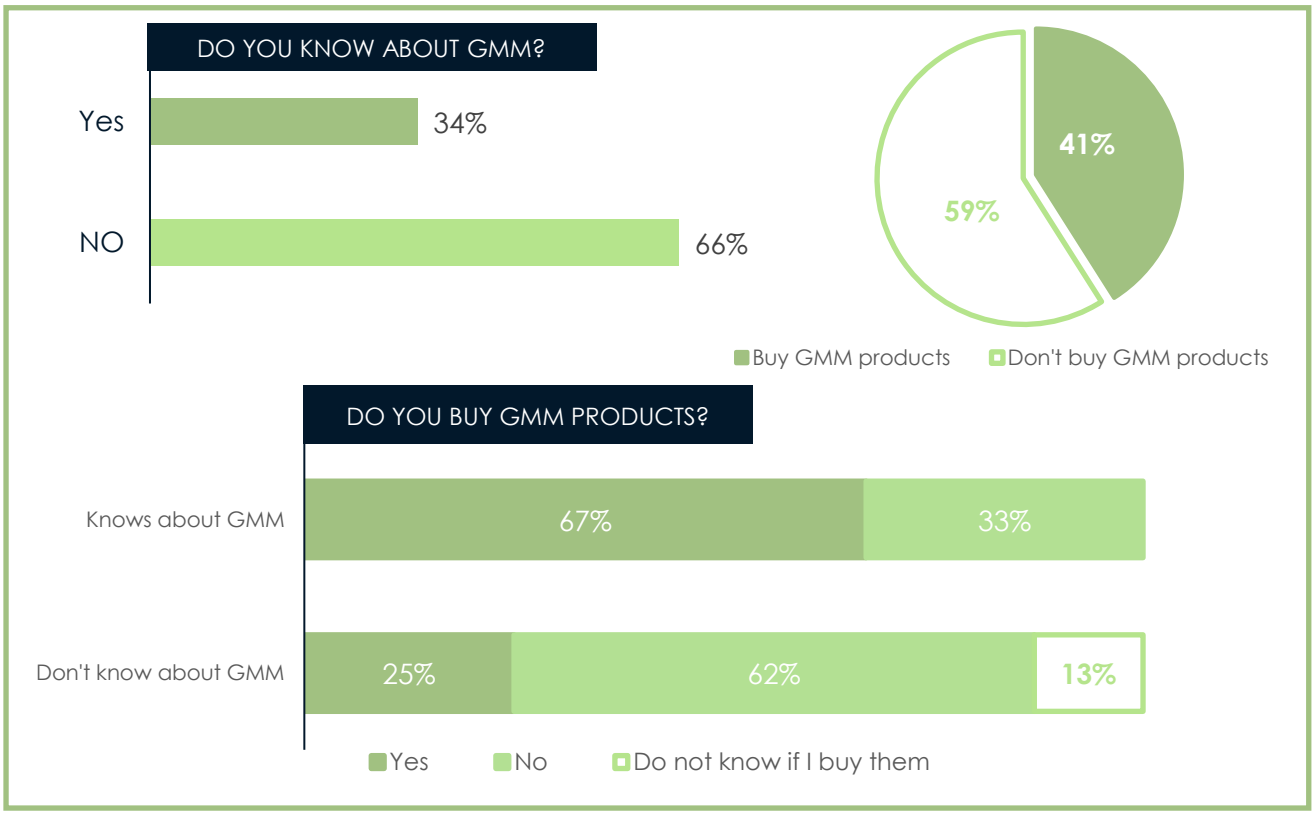


Figure 38 Consumers` awareness about GMM

When it comes to type of products, 91% of GMM consumers buy cheese, 21% - Matsoni (Yogurt), 10% - butter, 9% - cottage cheese and 2% - Clarified butter. Most of the GMM customers buy dairy products made by *Tsipora-Samtskhe* (32%), *Shuamta* (27%), *Tsintskaro* (27%) and *Tsezari* (26%).

Among the main reasons for buying GMM products, the first is the quality of the products: consumers prefer to buy GMM labelled brands because they are 'ecologically clean' / produced by raw milk (87%) and they trust the brands (43%).

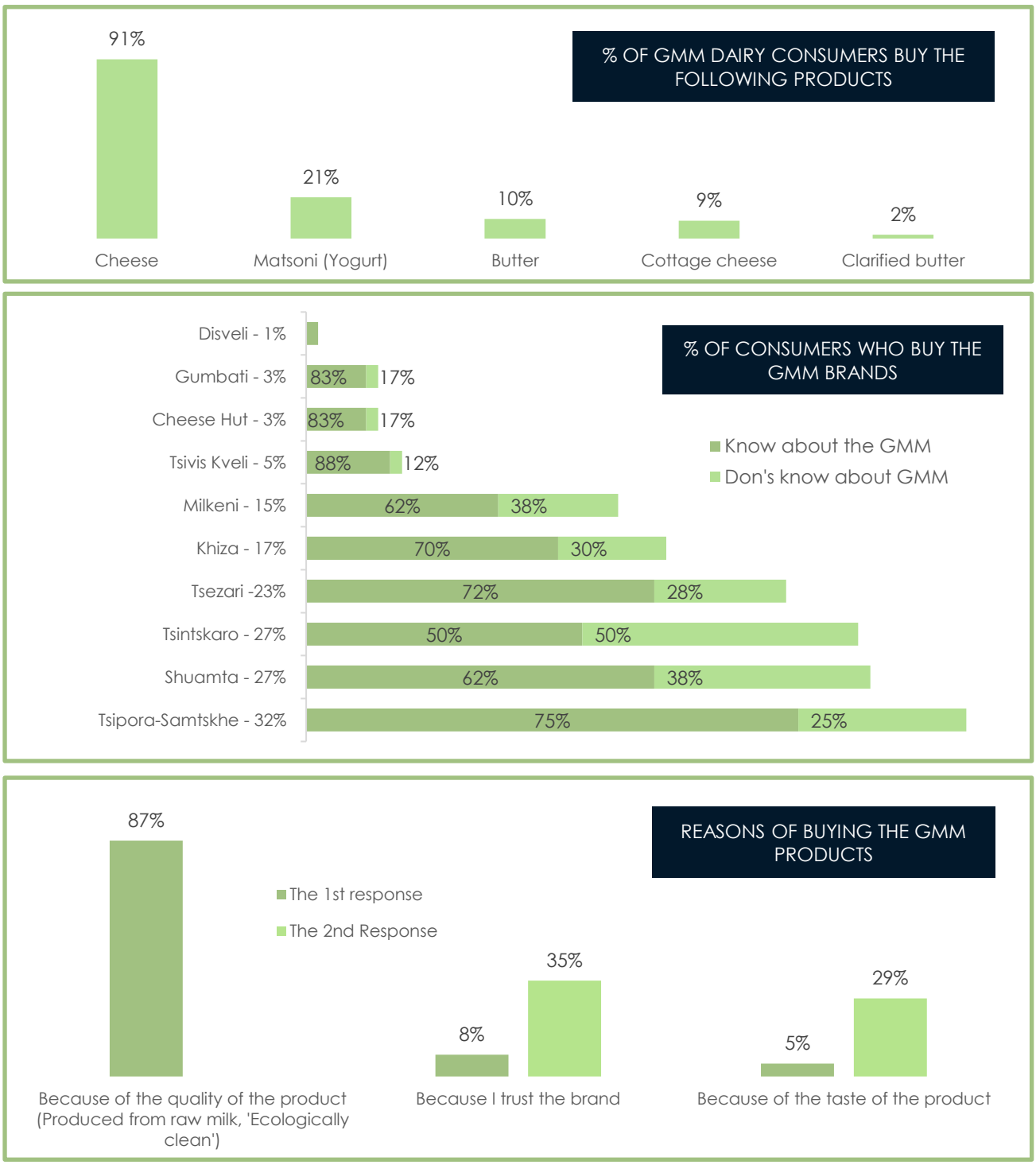


Figure 39 GMM customers preferences

CONCLUSION

According to the survey, 41% of urban dairy consumers buy GMM products and this figure will increase when more people get information about the mark and other dairy factories gain GMM licenses. Regarding awareness, more than a third (34%) of urban dairy consumers know about the GMM, 67% of whom purposefully buy GMM brands. This means that overall 23% of urban dairy consumers purposefully buy GMM branded products. These figures are slightly higher than what was expected by the programme. Awareness in Tbilisi, Rustavi and Telavi is lower than awareness in Akhaltsikhe, Batumi and Kutaisi. The reasons behind this difference may help further target marketing initiatives.

It was observed that consumers prefer to buy 'ecologically clean' and natural products, which are made from raw milk and come from villages. They put less emphasis on FS&H standards and certification or packaging.

Overall, it was apparent that a significant number of consumers are aware of and value the GMM. The results underline the potential of the GMM for value-added dairy production and indicate the growing success of the intervention and need for continuous promotion and availability throughout Georgia.

IMPACT ASSESSMENT OF THE GEORGIAN **MILK MARK**

2,204

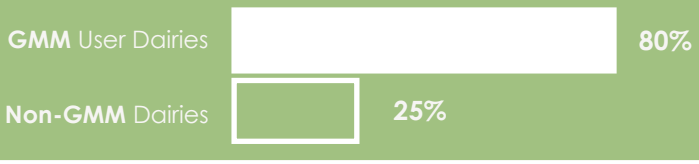
FARMERS **SUPPLYING** GMM DAIRIESS

4.9M

ADDITIONAL **INCOME** (GEL) FOR GMM FARMERS

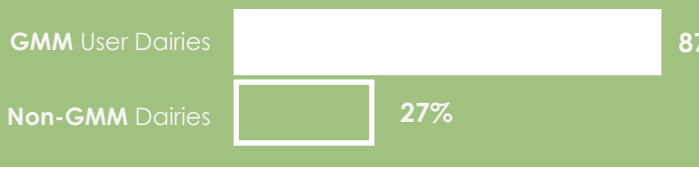
WHAT ARE BENEFITS OF THE GMM FOR DAIRIES?

Percentage **Increase** in the **Number** of Milk **Suppliers** Compared To Baseline



Increased Cheese **Production** Compared to Baseline

Selling Dairy Products at **Supermarket** Chains



Percentage of **Dairies** who are **Going** to Use the **GMM in Future**

2.5M INCOME GMM DAIRIES

NAIC

SUPERMARKET

Better Access to Market

The **dairies** expressed **positive** attitude towards the GMM. Therefore, its **future growth** is **expected**

'We could not sell cheese due to the closure of the HoReCa sector. Another problem was a lack of storage. If we had GMM we would have been able to enter supermarket chains and continue selling cheese uninterruptedly.' **Non-GMM dairy**

'After we received the GMM the sales and awareness of our cheese have significantly increased. Now we are supplying GMM cheese to 655 branches of four supermarket chains. Before the GMM we supplied cheese to one supermarket chain with 200 branches.' – **the GMM user dairy**

EVALUATION OF THE IMPACT OF THE GEORGIAN MILK MARK ON DAIRY FACTORY USERS

INTRODUCTION

The ALCP started facilitating the Business Institute of Georgia (BIG) to introduce and administer the Georgian Milk Mark (GMM) in early 2019 to address unfair competition, add value and thus improve the sustainability of producers of compliant cheese from raw milk. This quality assurance mark, and the audited system which accompanies it, guarantees that cheese is made in a HACCP compliant facility, made from raw Georgian milk from cattle who are predominantly grass-fed and made without the use of milk powder and vegetable oils.

Twenty-two dairies to date have been granted approval to use it and fifteen of them have started selling GMM labelled cheese. Twenty-five more approvals are expected over the next year. Cheese with the Georgian Milk Mark is readily available in supermarkets.

In September 2021, the ALCP conducted an intervention-specific impact assessment to evaluate the impact on dairies of using the Georgian Milk Mark, and in April 2022, the ALCP conducted the farmers level impact assessment component.

METHODOLOGY

The impact assessment for the GMM dairies was divided into two parts: in the first, the programme evaluated benefits on the business level, and in the second, a farmer's level assessment was carried out to double check all assumptions used in the monthly monitoring and output and outcome indicators thus triangulating impact level scale and NAIC.

In September 2021, the ALCP conducted thirty semi-structured interviews with GMM and non-GMM user dairies in Kvemo Kartli, Samtskhe-Javakheti, Ajara and Kakheti. In addition, three non-GMM user dairies in two 'non-GMM regions'[53] Imereti and Samegrelo were covered by the study to capture a broad picture beyond the regions where GMM user dairies currently operate. In total, 80% of the respondents were men and 20% women.[54]

Sampling ensured the representation of all fifteen of the GMM user dairies who are selling GMM cheese; the data was then compared to data collected from fifteen non-GMM user dairies that

[53] I.e. regions in which no other GMM user dairies are operating and the ALCP has not worked in dairy.

[54] This field is female dominated, the majority of the milk suppliers are women, however, the owners of the interviewed dairies tend to be men.

produce and sell similar dairy products in similar market channels[55]. All the interviewed non-GMM user dairies were registered at the Public Registry, ten out of fifteen were HACCP certified.[56]

The quantitative data was analysed in the statistical software SPSS and qualitative data in Excel. The survey included qualitative questions related to the benefits of the GMM; and the dairies' level of satisfaction due to owning the mark and their use of the GMM; questions for the non-GMM dairies included their awareness of the GMM certification and attitude towards applying for it. The questionnaire also included questions related to the effects of COVID-19 and the dairies' coping strategies throughout the pandemic.

The study's main limitation was the ongoing pandemic and a high number of positive cases of COVID-19 during the study, so, the majority of the interviews were conducted by phone. The time of the interviews was agreed upon with respondents in advance. Each interview took about twenty minutes.

In April 2022, when COVID-19 cases decreased, the ALCP conducted a follow-up face-to-face survey to assess benefits for farmers: in total, 38 GMM milk suppliers were interviewed in Kvemo Kartli, Samtskhe-Javakheti, Ajara and Kakheti. The quantitative data was analysed in the statistical software SPSS and qualitative data in Excel.

It should be noted that the programme has a regular relationship with each of the GMM dairies and rigorous client and farmer level data is collected monthly: the impact assessment figures were triangulated with monthly collected data and no significant difference was captured.

KEY FINDINGS

The study captured the following key findings on the farmers' level:

- Sale: 2,204 farmers have supplied milk to GMM dairies.
- NAIC: in total, farmers generated 4,906,780 Gel additional income for their households[57].
- The intervention significantly contributes to women's economic empowerment: in 81% of the households women make decisions over selling raw milk and in 90% of the households they have agency over spending money.
- Since baseline 2018, the farmers increased amount of milk supplied to GMM dairies by 31%.
- All the interviewed GMM dairy milk suppliers are selling milk every day and receiving payment for milk twice a month for on average eight months of the year. The milk suppliers sold 83% of their milk to the GMM dairies in 2021. The income from milk sales represented 44% of the total household budget. The income generated from selling milk was named as vital and the level of satisfaction was high due to receiving money from milk sales on time or whenever they need it, sometimes even in advance. They are feeling more secure as they have a stable and regular income.
- The majority of the farmers named better prices (30%) as one of the main reasons why they are selling milk to the GMM dairies. The price difference is on average 0.10 Gel/litre more compared to other dairies or alternative selling points. The second reason is that those GMM dairies are the most reliable and stable partners for the milk suppliers (26%). The location of those GMM dairies is also convenient for 21% of the milk suppliers.

[55] The main channels for GMM user dairies and non-GMM user dairies are supermarkets, HoReCa, small shops, and agri markets, for example, dairies who are supplying cheese through tenders to public entities such as kindergartens or solely to non-formal markets were excluded. The percentage of the markets covered differs.

[56] Four GMM dairies and two non-GMM dairies from Samtskhe-Javakheti; six GMM dairies and five non-GMM dairies from Kvemo Kartli; one GMM dairy and one non-GMM dairy from Ajara; four GMM and four non-GMM dairy from Kakheti. Three non-GMM dairies were interviewed in two non-GMM regions from Imereti and Samegrelo.

[57] This figure is calculated from monthly data sheets, triangulated by this survey. Additional income for GMM famers over non GMM farmers as the NAIC is calculated using increased price per litre and reduced transaction costs due to supplying GMM dairies.

- Women are responsible for milking and selling the milk, so they decide how to spend money generated from selling milk. However, other family members are also involved in the decision-making. Income from selling milk has mostly been spent on their family and improving their circumstances and includes buying food, medicines, clothes, child-care products, seeds, fertilizers, hay, paying electricity bills, paying study fees for children, covering bank loans, ploughing fees, and attending funerals and wedding ceremonies.

Regarding the dairies, following key findings were captured:

- The impact estimated from monthly collected data is in line with the impact assessment results. The GMM user dairies all report benefit related to increased demand, sales and production and status attributable to the mark.
- Scale for the GMM user dairies is to date 1,507 milk supplier farmers, and net additional income for dairies amounting to 2,553,113 Gel[58]. GMM user dairies have created 62 full-time job equivalents (43 women / 19 men) and 1 m Gel additional income for employees.
- Since the baseline year of 2018, the interviewed GMM user dairies have increased production more than the non- GMM dairies. GMM dairies tend to be bigger, employ more people, collect from more farmers and process more milk.
- GMM user dairies have far greater access to supermarkets as sales channels than non GMM users who tend to supply more informal outlets. They wish to enter these more formal sales outlets as they perceive that these outlets are controlled and therefore unfair competition from unregulated cheese producers is far less.
- A high percentage of non GMM user dairies are aware of the mark and want to apply for it, predominantly to access, new, formal markets.

Milk suppliers: the GMM user dairies have increased their number of milk suppliers by 80%. On average from 128 milk suppliers in 2018 to 231 milk suppliers in 2021. Non-GMM user dairies have had a 25% increase. On average from 40 milk suppliers in 2018 to 51 milk suppliers in 2021.

Amount of milk collected: The GMM user dairies have increased the amount of milk collected by 48%. On average from 2.1 tonnes per day in 2018 to 3.2 tonnes per day in 2021. The same figure for the non-GMM user dairies is 26%. On average from 1.4 tonnes per day in 2018 to 1.8 tonnes/day in 2021.

Amount of cheese produced: The GMM user dairies have increased the amount of cheese produced by 50%. On average from 230 kg of cheese/day in 2018 to 344 kg of cheese/ day in 2021. The non-GMM user dairies have increased cheese production by 19%. On average from 188 kg of cheese per day in 2018 to 223 kg of cheese per day in 2021.

Number of villages covered: The GMM user dairies have increased the number of villages covered by 75%. On average, from 5 to 10 villages and the non-GMM user dairies by 10%, on average, from 3 to 4 villages.

Number of employees: The GMM and non-GMM user dairies have had the same increase in the percentage of employees that is 28%. However, in terms of number of employees the GMM user dairies had a higher baseline number of employees and thus a higher increase than the non- GMM user dairies. The GMM user dairies have increased their employees from 13 in 2018 to 16 employees in 2021, and non-GMM user dairies- from 6 in 2018 to 8 employees in 2021.

Job Creation: In total to date, GMM user dairies have created 62 full-time job equivalents (43 women / 19 men) out of whom 43 are working in the factory and 19 are working as an independent

[58] This calculation for scale and NAIC is based on the monthly collected data. The results were then discussed with the GMM dairies, and they confirmed that the estimated calculation of scale and NAIC was correct. The results were also triangulated with amount of milk collected and amount of cheese produced.

milk collector. The total amount of salaries paid for GMM user dairy employees amounted to 1 m Gel (57% for women and 43% for men). Compared to that non-GMM user dairies created 26 jobs (8 women / 18 men) and additional income for employees amounted to 0.4 m Gel (69% for women / 31% for men).

Perceived benefits: When asked about GMM related benefits, the interviewed GMM user dairies emphasized increasing sales (67%); increasing amount of milk collected (53%); adding more milk supplier farmers (53%); adding new selling points (53%) and better ability to negotiate with supermarkets (40%). In the qualitative narratives, the GMM user dairies acknowledged that the GMM contributed to their business growth: as they explained, the GMM means a positive status and position of their businesses because it guarantees that their cheese is made from raw milk. The interviewed GMM user dairies noted that GMM marketing activities through the BIG and TV adverts, articles, reports, and leaflets have helped the dairies in better promotion of their cheese.

> *'After we received the Georgian Milk Mark the sales and awareness of our cheese have significantly increased. The interest of supermarket chains in our enterprise has also grown. Now we are supplying GMM cheese to 655 branches of four supermarket chains. Before the GMM we supplied cheese to one supermarket chain with 200 branches. The Georgian Milk Mark means quality for consumers, when they see GMM cheese they can make informed decisions.' – GMM* dairy from Samtskhe-Javakheti.

Markets: The three main markets for the interviewed GMM user dairies are supermarkets (87%), HoReCa (47%), and small shops (47%). While three main markets for non-GMM user dairies are small shops (67%), HoReCa (53%), and Agri Markets (33%). All the non-GMM user dairies want to supply their cheese to supermarkets, but currently, only 27% of them can access supermarkets. GMM user dairies have better access to supermarket compared to the non-GMM dairies. The interviewed non-GMM user dairies indicated why they want to supply to supermarkets. Firstly, the demand for cheese from supermarkets is higher than from small shops and agri markets. Secondly, supermarket chains are better controlled by the National Food Agency compared to small shops and agri markets and the interviewed non-GMM user dairies who are registered and producing cheese from raw milk want to sell cheese in a better controlled market in which unfair competition from non-compliant dairies is reduced.

Awareness of the Georgian Milk Mark amongst non-users: 80% of the interviewed non-GMM user dairies are aware of the mark and out of them, 73% are planning to apply for the mark, some of them are waiting for a softening the pandemic, while others are waiting for HACCP certification to become eligible to get the mark. Finding new markets and reaching supermarkets are the main reasons are why non-GMM user dairies are going to apply for the mark. The remaining 20% of the non-GMM user dairies who are not currently going to apply for the mark noted that they would apply for the mark if the National Food Agency (NFA) improved control of the cheese market and the mark gets more recognition.

Unregulated markets: The biggest issue for the majority of the interviewed GMM and non-GMM user dairies is limited state control on unregistered dairies and the sale of unpacked and unlabeled cheese in small shops and agri markets. The interviewed dairies also mentioned that the lack of control has worsened since the pandemic.

EFFECTS OF COVID-19 ON DAIRIES

Since the pandemic money generated from selling milk has helped the interviewed farmers cover the increased price of cattle feed. The majority of them noted that regular income motivated them to keep or increase the number of cows, despite the increased feed prices. All interviewed dairies continued operations during COVID-19, however, they noted that the pandemic had curtailed their

growth. The GMM user dairies had been more resilient during the COVID-19 because of stable and reliable market access, while the non-GMM user dairies struggled more after the closure of the HoReCa sector. 47% of the interviewed GMM user dairies and 53% of the interviewed non-GMM user dairies named the HoReCa sector as their one of the main sales channels. To overcome the decrease in sales caused by the HoReCa sector shut down, some GMM user dairies altered production to suit different accessible markets; others collected more milk during the high milking season and increased their storage for sale in winter when cheese prices are high. The non-GMM user dairies had more difficulties they found new channels in agri markets and small shops, but often had to sell cheese at lower prices, these new markets were also unstable with high competition from unregistered, uncompliant dairies using powdered milk.

MEAT MARKET INTERVENTIONS IMPACT ASSESSMENT 2015-2021

6,722 FARMERS WITH **ACCESS** TO **SLAUGHTERHOUSE** SERVICES

4,8M **INCOME** GENERATED by FARMERS

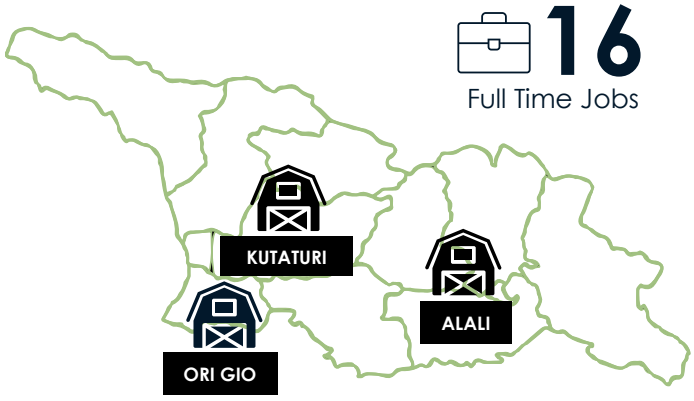
GENDER: In about 65% of the households, decisions how the money should be spent from selling livestock are made by women together with other household members

LIVESTOCK SOLD TO THREE SLAUGHTERHOUSES

126,144

18,041

5,126



ALALI	ORI GIO	KUTATURI
5,649	849	224
4,448,266 ₾	280,845 ₾	36,525 ₾
126,144	6,241	5,126
18,041		

Prices: According to the farmers prices on Cattle (+19%), Sheep (+78%) and pigs (+5%) has increased compared to the previous years.

Covid 19 had a negative effect on most farmers. Most frequently they named having difficulty selling livestock (sheep, cattle, pigs) and deciding not to increase their number of livestock

MEAT SECTOR

EVALUATING IMPACT FROM THREE SLAUGHTERHOUSES IN KVEMO KARTLI, AJARA AND IMERETI

INTRODUCTION

Since 2015 the Georgian meat market has been formalizing domestically, and in terms of the export of processed sheep meat and the live export of cattle and sheep. The processing and export of the fifth quarter e.g. entrails and hides of cattle and sheep have also developed.

Since 2008, the ALCP has worked in the meat value chain and its contribution to its development has been significant. In total, the programme has worked with ten slaughterhouses[59] across five regions of Georgia. Upgraded and compliant enterprise conditions and improved services have ensured farmers access to regular, stable and improved sales of live cattle and sheep.

In the current phase, since 2017, the ALCP has been working with four slaughterhouses: *Alali Ltd, Ori Gio Ltd*, *Kutaturi Ltd and Neazovi*[60], out of which the first three of them were eligible for impact assessments. Among these three slaughterhouses, *Alali* works on sheep meat and entrail export and other two provide cattle and pig slaughtering services to the domestic market.

Of all livestock based sectors, the meat sector was the hardest hit by COVID-19 based closures and restrictions in both export and the domestic sector. The reliance of the domestic sector on HoReCa demand was starkly illustrated. This negative effect is observable in the impact recorded from all three slaughterhouses included in this impact assessment.

***Alali Ltd*:** Since 2015 the ALCP has facilitated *Alali Ltd* to increase throughput and diversify production. Facilitation in 2017/ 2018 and impact from then is being measured in this assessment[61]. Improved quality of supply and export market expansion have ensured the stable growth and financial profitability of the business. Apart from benefits for farmers, the company has also created 12 full-time jobs (2 female, 10 male). In total, net additional income generated for employees amounted to 244,199 Gel.

***Ori Gio Ltd*:** Since 2015 the ALCP has facilitated *Ori Gio Ltd*, the only slaughterhouse in upper Ajara, to improve income for small scale livestock producers through increased access to slaughtering service, reduced transaction costs, reduced risk (of backyard slaughtered meat) and time spent for transporting cattle/meat. Facilitation in 2017/2018 and impact from then is being measured in

[59] Kvemo Kartli (3), Samtskhe- Javakheti (3), Imereti (1), Ajara (2) and Kakheti (1)

[60] Neazovi was financed in January 2020 and it is too early to conduct evaluate impact from the intervention as operations only commenced for sheep meat export in September 2021 due to COVID-19 .

[61] Previous impact was measured in 2016 ALCP Impact assessment.

this assessment[62]. Now the upgraded and compliant slaughterhouse meets with FS&H standards and provides efficient and well-priced services to farmers. From the business perspective it increased the throughput of slaughtered livestock through improved efficiency and slaughtering procedures. The *Ori Gio* slaughterhouse has created 4 full-time jobs (male). Net additional income generated for employees amounted to 52,800 Gel.

***Kutaturi Ltd*:** In 2019 the ALCP co-facilitated *Kutaturi Ltd*, the largest pig and cattle slaughterhouse in Western Georgia, to diversify its production line through increasing throughput and improving the infrastructure of by-product manufacturing. The slaughterhouse was just about to increase throughput but it was drastically affected by the closure of the HoReCa sector . Although the sector has reopened impact expectations are moderate and expected to show evidence of the negative impact of COVID-19.

In September 2021, the ALCP conducted intervention-specific impact assessment to evaluate the actual[63] scale and farmers' benefits from selling sheep, cattle, and pigs to the programme facilitated slaughterhouses.

METHODOLOGY

The ALCP conducted 86 semi-structured face-to-face interviews with sheep, cattle and pig farmers in Kvemo Kartli, Kakheti, Ajara and Imereti: 40 interviews conducted with those farmers who used *Alali* slaughterhouse (sheep)[64], 30 interviews with *Ori Gio* beneficiaries (cattle), and 16 interviews - with *Kutaturi* beneficiaries (pig). The majority of the respondents were men (90% male, 10% female) because meat is a male dominated sector and men play the main role in selling livestock to intermediaries or direct to slaughterhouses.

Respondents were selected using a multi-stage sampling strategy. Firstly, villages were selected where farmers sell sheep, cattle or pigs to the programme facilitated slaughterhouses. Secondly, gatekeepers (slaughterhouse intermediaries) helped interviewers to purposefully select those farmers who used their services.

The data was analysed in the statistical software SPSS using before and after comparison in the beneficiary groups[65] to capture attributable impact and wider benefits of farmers through better access to slaughterhouse services: the ALCP attributed saved transaction costs for farmers which comes from better prices and better weighing systems at the programme supported slaughterhouses (please, see Annex 1 for more information). The data collected through the field work was triangulated with monthly collected qualitative and quantitative data.

KEY FINDINGS

The study captured the following key findings:

Total Scale: These three slaughterhouses repeatedly served **6,722** households, out of whom 83% were from *Alali* slaughterhouse, 13% from *Ori Gio* and 3% from *Kutaturi*. Overall, the scale is a little bit lower than what was estimated based on the monthly collected data. The estimated scale calculation methodology was based on a lower number of average number of sheep, cattle and pigs owned per household based on the general average. As this impact assessment showed, slaughterhouse intermediaries tend to collect sheep, cattle and pigs from relatively larger-scale

[62] Previous impact was measured in 2016/2017 ALCP Impact assessment.

[63] The ALCP DCED audited RM system uses ongoing quantitative and qualitative monitoring to report estimated data, farmer level impact assessments then determine actual data.

[64] It should be noted surveying sheep farmers is often challenging in the Georgian context. Transhumance practices make it difficult to conduct fieldwork and collect data directly from sheep farmers. The majority of sheep farmers are Azeri and there is a language barrier as well as trust-related issues: the programme experience shows that sheep owners often hide information about the actual number of sheep they have. To minimize possible bias of the study, gatekeepers who have direct contact with sheep owners (sheep intermediaries & collectors) accompanied interviewers during the fieldwork.

[65] In this case, the programme used DCED attribution strategy Before and After Comparison + Opinion (BACO)

farmers first as the transaction costs are lower, and that when the market shrinks[66] as it did due to border closure and the shutdown of the HoReCa sector, smaller farmers with fewer animals are the first affected. This change in calculation methodology decreased the scale.

Gender: Meat is a male-dominated business, and commonly men take a decision over selling sheep, cattle or pigs. However, women have a voice when it comes to decision-making over how the money should be spent from sales: in 63% of the households, decisions are made by women together with other household members (*Alali* – 63%; *Ori Gio* - 57%, *Kutaturi* - 71%)

- *Alali Ltd*: 1,587 sheep owner households have repeatedly sold sheep to programme facilitated slaughterhouse/ sheep collectors[67]. This number is 22% lower than what was estimated based on the monthly collected data from the client (2,022 farmers). Apart from that *Alali Ltd* provided repeat cattle slaughtering services to 4,062 households.
- *Ori Gio Ltd*: 849 LHP households have repeatedly sold cattle to programme facilitated slaughterhouse/ collectors[68]. This number is 69% lower than what was estimated based on the monthly collected data from the client (2762 farmers)[69].
- *Kutaturi Ltd*: 224 LHP households have repeatedly sold pigs to programme facilitated slaughterhouse/ collectors[70]. This number is 72% lower than what was estimated based on the monthly collected data from the client (788 farmers)[71].

Total NAIC: These three slaughterhouses generated 4.8 m Gel as additional income for farmers. 93% of NAIC comes from *Alali* slaughterhouse, 6% - *Ori Gio* and 1% - *Kutaturi*.

- *Alali Ltd*: Total net additional income for these farmers amounted to 3,153,600 Gel[72].
- On average, compared to the baseline one beneficiary farmer sold 76 more sheep and lambs combined per year. The baseline figure was 188 (46 sheep, 142 and lambs) and endline – 265 (102 sheep, 163 lambs). This means 2,469 Gel additional income per year per beneficiary household. Apart from that *Alali Ltd* generated 531,000 Gel additional income for bull owner farmers.
- *Ori Gio Ltd*: Total net additional income for these farmers amounted to 280,845 Gel. This number is 10% higher than what was estimated based on the monthly collected data from the client (254,295 Gel).
- *Kutaturi Ltd*: Total net additional income for these farmers amounted to 36,525 Gel. This number is 26% lower than what was estimated based on the monthly collected data from

[66] It should be mentioned that Covid-19 terribly affected meat sector, because of the closure of the HoReCa and border closures and trade restrictions, during the recovery period, slaughterhouses restarted collecting sheep, cattle, and pig from large scale farmers first.

[67] For calculating scale, the number of sheep sold to the programme facilitated client Alali slaughterhouse were divided on the average amount of sheep sold per household and divided on overlap rate.

[68] For calculating scale, the number of cattle sold to the programme facilitated client '*Ori Gio*' slaughterhouse were divided on the average amount of cattle sold per household.

[69] Again, the reason for such difference in scale is that impact assessment identified that the clients who benefit from slaughterhouse services tend to be larger scale farmers owning on average 17 cows, while in estimations a lower figure was taken as a proxy indicator which resulted in a higher scale.

[70] For calculating scale, the number of pigs and piglets sold to the programme facilitated client '*Kutaturi*' slaughterhouse were divided on the average amount of pig/ piglets sold per household.

[71] The reason for such difference in scale is that impact assessment identified that the clients who benefit from slaughterhouse services tend to be large scale farmers owning on average 30 pigs, while in estimations a lower figure was taken as a proxy indicator which resulted in a higher scale.

[72] This figure adjusted according to the external evaluator's recommendation: instead of attributing 14% of benefits from increased sheep prices due to the Alali's export (sectoral growth), we attribute 25 Gel saved transaction costs per sheep (Alali's better prices and better weighing system). As the result, we reduced NAIC by 19% from 3,917,266 Gel to 3,153,600 Gel.

the client (49,641 Gel) due to a higher proportion of piglets being slaughtered than estimated.

Alali Ltd:

- The average price of 1 sheep amounted to 320 Gel and lambs- 300 Gel which is a 78% increase compared to baseline year prices for sheep 180 Gel and Lambs 170 Gel. The key reason for such change was named increased export/demand for sheep from the importers. The devaluation of Georgian Lari was also mentioned as another reason for increased prices.
- Currently, 71% of the interviewed sheep farmers tend to sell sheep directly to intermediaries, while 29% take sheep to the slaughterhouse themselves. Transportation cost to the slaughterhouse is on average 3 Gel per sheep charged by the intermediaries or truck service provider.
- On average one farmer has 426 sheep and 287 lambs which is 33% higher than the baseline figures for both sheep 320 and lambs 216. This has been an integral outcome of supporting sustainable growth related to the increased demand in recent years for processed chilled carcasses and live export with subsequently increased prices for sheep.
- The average weight of sheep and lambs was named 20kg and 15kg[73] respectively.

Ori Gio Ltd

- On average, compared to the baseline year 2018, one beneficiary farmer sold 1.4 more cows per year: The baseline figure was 6.4 and Endline – 7.9.
- The average price of 1 cow amounted to 2,293 Gel and calves- 673 Gel which is a 19% and 11% increase compared to baseline year prices respectively.
- Currently, 30% of the interviewed sheep farmers tend to sell cows directly to intermediaries, while 63% take cows to the slaughterhouse themselves and 7% take it to the market.
- On average one farmer has 14 cows and calves which is lower by 28% compared to the baseline figure (20)
- The average weight of cow and calve was named 288kg and 93kg respectively.

Kutaturi Ltd

- On average, compared to the baseline year 2018, one beneficiary farmer sold 14 more pigs and piglets combined per year: The baseline figure was 11 and Endline – 25.
- The average price of 1 pig amounted to 613 Gel and piglets- 112 Gel which is a 5% and 14% increase compared to baseline year prices for pigs 583 Gel and piglets 93 Gel.
- Currently, 93% of the interviewed pig farmers tend to sell sheep directly to intermediaries, while 7% take sheep to the slaughterhouse themselves.
- On average one farmer has 28 pigs and piglets slightly higher (10%) higher than the baseline figure[74].
- The average weight of pig and piglets was named 82kg and 12kg respectively.

[73] When asking the question about lambs weight, lambs aged 6 months and over was considered

[74] 2020 and 2019 years were taken for comparison for more validity of the figure provided by respondents

EFFECTS OF COVID-19 ON THE SHEEP MEAT MARKET

Alali Ltd

- The majority of the interviewed farmers mentioned that COVID-19 negatively affected their business. 61% of farmers said that they did not increase the number of sheep, 18% said that they decreased feeding expenses for sheep and 16% said that selling sheep has become more difficult.
- In 2019 sheep sales reached their peak when the interviewed farmers sold 43% of their sheep and lambs, while in 2021 sales percentage was slightly lower (37%). Despite COVID-19 sheep sales are still considerably higher than in the baseline year. Increased percentage during the pre-covid period was 75% and post-covid is - 41%.
- *Ori Gio Ltd*
- The majority of the interviewed farmers mentioned that COVID-19 negatively affected their business. 83% of farmers mentioned that it has become difficult to sell cow during the pandemic.
- *Kutaturi Ltd*
- The majority of the interviewed farmers mentioned that COVID-19 negatively affected their business. 29% of farmers said nothing had changed for them in their agricultural activities.

CONCLUSION

Currently, the slaughterhouses are recovering from the impact of Covid-19. After the opening of the HoReCa sector and export markets, they restarted collecting sheep, cattle and pigs from farmers. However, it seems that at the first stage, when the market is still restricted, they are working mainly with relatively large-scale farmers, but it is expected that soon they will restart work with low-scale farmers too.

Overall, the figures are promising: farmers have tended to increase their number of sheep, cattle, and pigs. Simultaneously, prices for meat have increased, and farmers are generating more income from selling livestock. Hence, there is a big potential for the future growth of these slaughterhouses.

ALCP **WOOL** MARKET **INTERVENTIONS** IMPACT **ASSESSMENT** 2018-20

1,578T **WOOL COLLECTED**

900T EXPORTED

3 WOOL FACTORY **FACILITATED**

4,158 FARMER SUPPLIERS

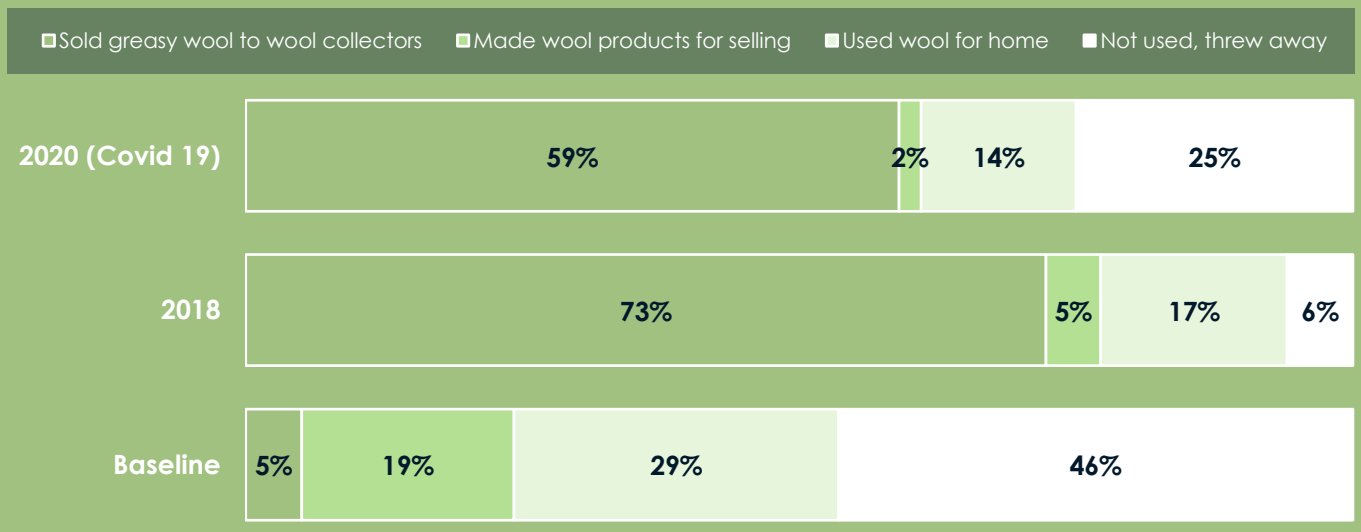
63% **WOMAN**

FARMERS HAVE **STABLE** AND RELIABLE **MARKET** TO SELL

FARMERS ADDITIONAL **INCOME**

1.03M

Prior to ALCP Interventions Farmers Sold only 5% of the Greasy Wool. In 2018 this Reached 73%. Due to Covid-19 In 2020 this Decreased to 59%.



"Washing wool is difficult as there is no running water in my village. Also, washing and drying wool depends on the weather, and I can do it only from May until September. So, selling wool at the agri markets is hard work. I always try to sell greasy wool if there are buyers." ***Women, 55, Irganchai***

"Why should we throw wool away? No country should waste its products. Farmers cannot get rich by selling wool, but it is additional money for us. Wool collectors come directly to our pastures, and it is easy to sell. Nobody should throw it away." ***Man, 60, Iormuganlo***

"We were just about to start exporting washed wool in 2021, but after Covid-19 demand for wool decreased internationally: prices are low and transportation costs are high. Currently, we collect wool mainly for the domestic market." ***Georgian Wool Company***

WOOL SECTOR

EVALUATION OF ALCP WOOL MARKET INTERVENTIONS

INTRODUCTION

Since 2013 the ALCP has been working in the wool value chain to improve farmers access to regular and reliable sales opportunities for greasy/unwashed wool. The baseline situation was not promising: Georgian farmers had very limited opportunities to sell their wool and much of the wool was thrown away and wasted and the rest sold in local agrarian markets or to itinerant and irregular traders. The wool sold in agrarian markets was usually carded and washed thus also incurring significant labor for women and transaction costs as well as being time consuming. Thus, the programme's goal was to establish stable and reliable wool markets from scratch.

Since 2013 the programme has facilitated what became the *Georgian Wool Company Ltd* but was originally the most reliable and local buyer of greasy wool, sheep skins and cattle hides, to collect larger amounts of wool for export. Georgia was entered into the third country list for export of wool necessary for the company's entry in the TRACES system and access to EU and UK (prior to Brexit) markets. The company acquired EU standard packaging equipment and a compliant enterprise building, opened new wool collection centres in Kakheti and Samtskhe-Javakheti and introduced mobile shearing on the collection site with improved equipment and technique. The company has to date exported 900 tonnes of wool to the UK, India, Ukraine, Italy, Belarus and Kazakhstan. In 2019 the company was facilitated to invest in a wool washing facility, to diversify operations as an exporter of washed wool as the greasy wool market was highly sensitive to currency fluctuations and global prices. With the onset of COVID-19 export markets for greasy wool became untenable, first with border closures, then with currency fluctuation, low prices and a huge increase in the cost of shipping. Fortunately the diversification into washed wool opened a lucrative domestic market for large amounts of well washed wool as synthetic materials imported for use in making mattresses locally also went up hugely in price and the Georgian Company's wool washed professionally to be 'without smell' and able to reliably deliver on larger orders provided a local 'natural' option. A small amount of export of greasy wool has occurred and when factors once again become more favourable it will recommence in tandem with the domestic washed wool market.

Apart from the export market, the ALCP has also supported two other local regionally based companies to collect wool for local production. In 2013 and 2014, the programme started facilitating *Khrami Ltd* and *Wool House Ltd* to collect wool for local production of mattresses and blankets.

As a result of the ALCP interventions, more farmers have a stable and reliable market for the sale of greasy wool which has become an additional source of income for their families. Apart from benefits for farmers, the wool companies also created 10 (1 woman / 9 men) full time jobs and 43

(5 women / 38 men) seasonal jobs. In total, net additional income generated for employees to date amounted to 503,749 Gel (42,506 Gel for women / 461,243 Gel for men).[75]

In July 2021, the ALCP conducted an intervention-specific impact assessment to evaluate the *actual*[76] scale and farmers' benefits from selling greasy wool to the *Georgian Wool Company*, *Krami* and *Wool House*.

METHODOLOGY

The ALCP conducted fifty-four semi-structured face-to-face interviews with sheep farmers in Kvemo Kartli, Samtskhe-Javakheti, and Kakheti. In total, 85% of the respondents were men and 15% women.

Respondents were selected using a multi-stage sampling strategy. First, villages were selected where farmers sell wool to the programme facilitated companies[77]. Secondly, interviewers used a random walking strategy to identify those farmers who sold wool to the programme clients. *Georgian Wool Company* (24), *Khrami* (15) and *Wool House* (15) respondents.

The data was analysed in the statistical software SPSS using before and after comparison in the beneficiary groups[78] to capture attributable impact and wider benefits of selling greasy wool.

It should be noted that surveying wool farmers is often challenging in Georgian context. Transhumance practices make it difficult to conduct field work and collect data directly from sheep farmers. The majority of sheep farmers are Azeri and there is a language barrier as well as trust related issues: programme experience shows that sheep owners often hide information about actual number of sheep they have. To minimize possible bias of the study, gatekeepers who have direct contact with sheep owners (wool intermediaries & collectors) accompanied interviewers during the field work. Also, the data was triangulated with monthly collected qualitative and quantitative data.

KEY FINDINGS

The study captured the following key findings:

- 4,158 sheep owner households have sold wool to programme facilitated wool collectors[79]. This number is 10% lower than what was estimated based on the monthly collected data from the client (4,628 farmers).
- Total net additional income for farmers amounted to 1,034,891 Gel, which is 30% more than the programme estimated figure (800,000 Gel). Thus, during the intervention lifetime one beneficiary household generated 249 Gel as an additional net income.
- Selling wool is a male-dominated business, although women are also involved in the decision-making process: in 62% of the households, decisions over selling wool are made by women independently (4%) or together with other household members (58%).
- The shearing cost per sheep is around 1.5 Gel and farmers shear twice a year. Farmers reported that selling wool is an opportunity for them to cover this cost, which they would have anyway. Farmers also stated that selling greasy wool to the ALCP facilitated entities does not incur additional transportation or storage costs: 62% of farmers sell wool either directly from pastures

[75] There are 3 indirect jobs created by a crowding in entity, generating 44,496 Gel as an indirect additional income for farmers. Also, in the previous phase 13 (9 women / 4 men) full time jobs created generated 135,896 Gel (101,922 Gel for women / 33,974 for men) for employees.

[76] The ALCP DCED audited RM system uses ongoing quantitative and qualitative monitoring to report estimated data, farmer level impact assessments then determine actual data.

[77] SJ- Akhaltsikhe and Akhalkalaki villages: Klde, Koteli, Arzmana; Kvemo Kartli: Irganchai, Dmanisi; Kakheti: Iormuganlo, Sagarejo

[78] In this case, the programme used DCED attribution strategy Before and After Comparison + Opinion (BACO), instead of Comparison Groups (CG) because before the ALCP intervention the market for the wool was very limited and counterfactual would be the same.

[79] For calculating scale, amount of wool collected by the programme facilitated clients was divided on the average amount of wool sold per household and divided on overlap rate.

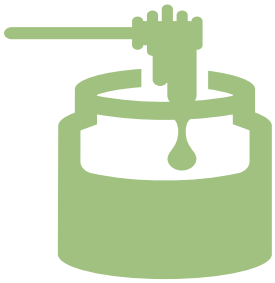
or from their homes: 36% of farmers take wool to wool collecting centres, and in these cases transportation costs are covered by the wool collectors.

- The average price of 1 kg wool amounted to 0.6 Gel. However, the price significantly varies across the different qualities of wool – starting from 0.25 Gel to 1 Gel. 57% of farmers confirmed that buyers pay more for the better quality of wool. Most of the farmers mentioned that price of wool is low, and they expect better offers from the companies. Nevertheless, everyone acknowledged that selling wool to collectors is a convenient way of getting additional income for their families.
- On average, compared to the baseline, one beneficiary farmer sold 236 kg more wool per year: The baseline figure was 112 kg and endline – 348. This means 152 Gel additional income per year per beneficiary household.
- In 2020 48% of the farmers sold wool once a year, 44% twice a year, and 8% - more often.
- Currently, only 2% of the interviewed farmers sell washed wool in agrarian markets, the baseline figure was 19%. This is proxy indicator indicating that once farmers have access to a stable and regular greasy wool market, they prefer to sell greasy wool directly to the collectors, instead of washing and selling it at market which entails significant labour and transaction costs and is very time consuming - mainly for women who process the wool and sell it at the markets.
- Only 3% of the farmers mentioned that they received training/information about better production practices of wool (e.g., shearing, sorting, washing, storing). However, around 20% of the farmers have access to the new electric shearing service[80] provided on the pasture by the *Georgian Wool Company*. The sheep shearing machines prevent damaging of wool fibre and respectively, the quality of wool has been improved.
- On average one farmer has 210 sheep, which is 29% higher than the baseline figure (163 sheep). Regular selling of greasy wool is a healthy part of the sheep industry and contributes to its growth. An integral component of supporting sustainable growth related to the increased demand in recent years for processed chilled carcasses and live export with subsequent increased prices for sheep.

EFFECTS OF COVID-19 ON THE WOOL MARKET

- In 2018 selling greasy wool reached its peak: farmers sold 73% of their wool in 2018, while the same figure before the ALCP intervention was only 5%. In 2020, the percentage of greasy wool sold decreased to 59%, because of the Covid-19: still, this figure is significantly higher than the baseline 5%.
- Most of the farmers mentioned that Covid-19 negatively affected their business and only 18% said that nothing had been changed: 39% of farmers said that they invest less in sheep, 22% found it more difficult to sell sheep and 20% said the same about selling wool.

[80] In 2018, while thinking about improving the quality of supplied wool, the Georgian Wool Company purchased twelve sheep shearing machines and trained a group of twelve shepherds, to provide a shearing service to sheep farmers. Around 830 farmers have used the service for free to date and supplied wool at a lower price to Georgian Wool Company.



HONEY SECTOR

HONEY IMPACT ASSESSMENT

INTRODUCTION

The ALCP has been actively working in the honey market system since 2014 and its contribution towards the development of the sector has been significant. Since then, successive interventions have been implemented in the domestic and export sector targeted at improving the image of Georgian honey, the confidence of Georgian consumers and producing entities in Georgian honey, developing improved coordination and sector representation, improved service provision to eliminate barriers to export and creating high value branded products for export. All of this has been in conjunction with Georgia's admission to the third country list for honey, annual Residue Monitoring Plan, investment in state laboratory services and willingness to engage with constructive sector dialogue, have resulted in a more dynamic domestic sector and an increasing trend of Georgian honey export from 2019.

To achieve sectoral results the programme used a systemic approach and throughout the honey sector lifetime it has supported and worked on different levels of the honey value chain: farmers, clients, associations (supporting functions). See the Honey Sector Business Model[81] below:

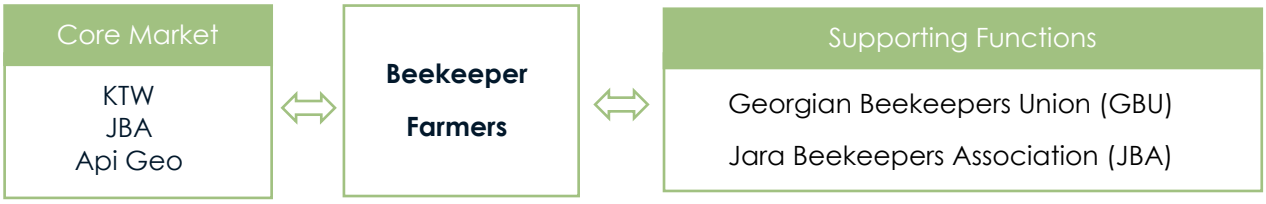


Figure 40 Honey Sector Business Model

The aim of this Impact Assessment was to measure how the programme facilitated interventions have impacted beekeeper farmers in Georgia, namely whether beekeeper's access to regular, stable and improved honey sales has happened, how access to relevant agri information has affected their knowledge and practices in beekeeping, if any and what challenges they have encountered are still encountering (e.g. Covid) and how they are coping with them. Data was gathered from all parties mentioned above.

[81] KTW is a program client with who the programme has worked since 2018.

METHODOLOGY

The ALCP conducted 60 semi-structured face-to-face and 40 phone interviews with beekeepers in Georgia. Out of 100 interviewed beekeepers, 45 were Jara beekeepers. The respondents were randomly selected from the ALCP beekeepers' database and from the GBU's beekeepers' database[82]. Within the HH men are mainly responsible for honey production and represent the HH regarding honey production and the majority of the respondents were men (89% male/11% female), however many other honey related tasks are carried out by women e.g. bee product production and sales[83]. The programme has a rigorous monthly data collection system, data is frequently double-checked and validated through phone calls and field visits at the beekeepers' level, particularly when scale is relatively low. The data collected through the impact assessment was triangulated with the monthly collected data. The quantitative data was analysed in SPSS and qualitative - in Excel.

To calculate NAIC for beekeepers, the ALCP attributed price difference between the programme clients and alternative market price.

KEY FINDINGS

Core Market

105 beekeepers generated monetary benefits due to improved access to the honey core market earning 235k Gel[84] net attributable income. These beekeepers have guaranteed access to markets, which has increased their confidence in the growth of the sector. They now sell honey in higher volumes (1 tonnes/beekeeper from a baseline of 300kg/beekeeper). Jara beekeepers now benefit from selling directly after harvest. Beekeepers now have access to diversified markets; bulk, brand and niche markets, opening up new opportunities for sales.

Gender: Commonly men make the main decisions over honey production. However, women are involved in many other tasks e.g. bee product production and have a voice when it comes to decision-making over how the money should be spent from sales in almost half of the households, decisions are made by women together with other household members on how to spend money from sales of honey.

COVID-19: The majority (70%) of the interviewed farmers mentioned that COVID-19 negatively affected their business in terms of sales as they had a more limited domestic market due to the closure of the HoReCa sector and limited international tourism. In the domestic market, the honey wholesale price for medium and large beekeepers[85] reduced by 30%. However, opening up the new export markets for bulk honey in 2021 has created market for "unsold" honey[86] instilling confidence in beekeepers about the sector growth.

Supporting Functions

5,500 beekeepers benefited from receiving information, trainings, consultation and SMS notifications from the GBU. 23 live Facebook sessions on export, prevention of bee diseases, beekeeping by-product production and use of antibiotics held by the GBU had 101,900 views with 3,090 Q&A. The GBU has increased trust among beekeepers, showing the power of cooperation and tackling distrust regarding the role of associations. More than half of the interviewed beekeepers have changed their beekeeping practices after the GBU consultations, which has resulted in decreasing mortality rate on average by 60% and increasing productivity by about 40%.

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[82] The database currently includes up to 5,500 Georgian beekeepers (10% female), and is updated regularly by the GBU

[83] *A National Gendered Survey of the Honey Sector in Georgia*

[84] Includes farmers' net attributable income from KTW (84,270 GEL), Api Geo (86,800 GEL) and the JBA (18,260 GEL) interventions.

[85] Who produce more than 500kg of honey.

86 Honey that was harvested in the previous year and was not sold in the same year.

98 beekeepers benefited from receiving Jara honey harvest service, bee-treatment service, information, trainings and consultations from the JBA. the JBA has brought hope and a feeling of pride to those beekeepers who are continuing or are now taking Jara beekeeping up. 95% of the interviewed Jara beekeepers are using the JBA bee treatment service and 70% of the interviewed beekeepers have changed their Jara beekeeping practices resulting in increased productivity by 56% per Jara hive, hive ownership has more than doubled per beekeeper. 100% of the Bio certified Jara beekeepers are motivated to have more Jara hives after benefiting from the stable market for four years now.

Note: The following sections provide detailed information, achieved results by programme clients and benefits received by beekeeper farmers from the respective interventions (from core market and supporting functions)

CORE MARKET

Table 5 Aggregated results for KTW, Api Geo and JBA since programme facilitation

	KTW	API GEO	JBA
Number of beekeepers	70	35	16[87]
Total net additional income generated for beekeepers (GEL)	84,270	86,800	63,850
Total volume of honey aggregated (Tonnes)	18.9	65.8[88]	6.4
Variety of honey	Acacia, Chestnut, Linden, Blossom, Alpine, Jara[89]	Blossom, Acacia[90]	Bio Jara honey
Volume of honey exported (Tonnes)	7.9	65.8	1

Kakhetian Traditional Winemaking (KTW) Agro-Keda Ltd[91]: Apart from benefits for beekeepers, the company has created 2 full-time jobs (male). In total, net additional income generated for employees amounted to 34,690 Gel. Total net additional income generated for the company amounted to 344,435 Gel. Other honey producers and aggregators have started to aggregate compliant honey from KTW's supplier beekeepers, who are now able to validate their compliance by showing their lab test results provided by the KTW. They now sell honey in higher volumes (1 tonnes/beekeeper from a baseline of 300kg/beekeeper). Previously companies used to aggregate honey which had not been tested. The company now sells and exports company brand honey of all types[92] in the USA, Canada, Japan, UAE, Qatar, Hong Kong and Azerbaijan. KTW is the first company in Georgia that produces and exports Bio certified Jara honey. In total, 1,799 kg of Jara honey was exported in 2020-2021 from a baseline of 0 in 2018. *Nena Chestnut* and *Nena Jara honey* received Silver Quality Award at the London International Honey Awards (LIHA) 2021. All this shows new trajectory for growth and development of Georgian honey sector.

[87] These beekeepers also benefited from KTW, hence there is 100% overlap between JBA and KTW and we do not add up this figure to the total.

[88] Api Geo Ltd has created a market for those supplier beekeepers, who had unsold crop of honey from previous year.

[89] Acacia – 4,040 kg; Chestnut – 4,010 kg; Linden – 700 kg; Blossom – 2910 kg; Alpine – 2,490 kg; Jara – 4,823 kg.

[90] Exported to France. 1st batch: Blossom honey – 20t in 2020; 2nd batch: Acacia honey – 23.8t and 3rd batch: Acacia Honey – 22t in 2021.

[91] In 2018, the ALCP facilitated KTW to improve the capacity of the factory in honey aggregation and processing, to increase their knowledge of international requirements, conduct required honey testing in the international laboratories, create improved packaging and branding of their honey which was compliant and attractive for international export markets. The investment also covered the first commercial harvesting and packaging of Jara honey.

[92] Chestnut, Acacia, Linden, Blossom, Jara (Bio and non-Bio).

Api Geo Ltd*[93]*: The company created one full-time job (male) with 22,000Gel in NAIC for this employee. Total net additional income generated for the company amounted to 301,168 Gel. A major development has been the establishment of a permanent contract for wholesale bulk honey between Api Geo Ltd and Naturalim France Miel[94] a large honey company in France. The company is also providing a homogenization service to other honey producers and exporters. In 2021-2022, the company provided the homogenization service for 39 tonnes of honey[95] which was aggregated from approximately 35 beekeepers throughout Georgia. Expansion and improvement plans are underway.

Challenges: *COVID reduced tourism to Georgia and significantly reduced domestic markets for Jara and other honey, international markets initially contracted at the onset of Covid and imported materials and equipment were unavailable.* The ALCP facilitated honey company KTW has expanded its export markets, but the volume of orders remains a challenge. During the pandemic, domestic tourism honey sales decreased Therefore, the company included Jara honey in the company's export catalogue resulting in more export orders. COVID-19 delayed the opening of the programme facilitated honey company Api Geo Ltd, which was just about to start operations. After the outbreak, imported equipment from Turkey was delayed. However, they started to export bulk honey in July 2021.

SUPPORTING FUNCTIONS

The Georgian Beekeepers Union (GBU): The ALCP facilitated the creation of the GBU in 2018 which is an umbrella association advocating for and representing beekeeper's interests and the health and development of the honey sector in Georgia. Formed in 2018, the Union currently unites 24 members; 9 beekeeping associations and 15 commercial beekeeping companies. The GBU has taken on the role of creating an international image of Georgian honey[96]. The honey sector has seen huge gains, under the auspices of the GBU, which is leading efforts to remove pervasive constraints to growth such as the widespread use of prohibited antibiotics and performing the role of non-governmental national representative of the honey sector. When asked about the GBU, all interviewed beekeepers have a high trust towards the GBU and are satisfied with the service received. They think the GBU addresses and advocates the most relevant issues, which has a positive impact on overall honey sector development.

In 2019 the GBU carried out the national information campaign through dissemination of *Do's and Don'ts of Antibiotic Use* infographic and facilitated breakthrough legislation adopted by the Government of Georgia, which prohibits registration of the beekeeping vet medicines containing restricted antibiotics. Only 6% of honey samples tested positive for prohibited substances in 2020, compared to 56% in 2017. When asked about use of antibiotics, the majority of the interviewed beekeepers reported that they are now aware of the negative influence of antibiotics used in beekeeping and 8% have stopped using antibiotics for bee treatment after the campaign.

[93] The company was established in Imereti in 2019 by the two largest beekeepers in Georgia. They wanted to enter the international bulk honey market but lacked the capacity and knowledge to diversify export markets. With ALCP facilitation, Api Geo Ltd now has a new factory and equipment capable of homogenizing 20t of honey at a time, which makes it the first and currently only factory in Georgia which complies with the production standards for the international bulk honey trade.

[94] The company of the largest beekeeping cooperative in France *Les Compagnons du Miel.*

[95] By export company Gebulit Ltd, which has been exporting honey to Bulgaria since December 2020

[96] Two promotional websites www.jarahoney.com and www.honeyofgeorgia.com; Georgian honey promotion video. Reports and articles by healthywithhoney.com, Deutsches Bienenjournal, Thehoneyroad, Al Jazeera English, Apimondia Official Twitter, Radio Free Europe/Radio Liberty (RFE/RL); online journal Plantings; Georgian honey showcase at Apimondia 2017 and Apimondia 2019, Gulfood 2018, World Bee Day (London) 2018, London Honey Awards 2022.

In May 2021, the GBU initiated nationwide trainings in tandem with the Rural Development Agency (RDA) as a response to massive collapse of bee colonies[97]. The GBU delivered a Training of Trainers for 85 beekeepers who then conducted two-day online trainings on bee treatment practices for more than 2,000 from 60 municipalities. The GBU's Trainer's Handbook and Varroa Treatment Guidelines were translated and disseminated to Azerbaijani and Armenian beekeepers. The GBU has provided up to 3,700 consultations and 72 trainings. 5,500 Georgian beekeepers (10% female) have been entered in the GBU's database and receive regular SMS notifications on bee treatment. Increased contact with members has seen the GBU holding online weekly Q and A sessions since August 2021. 23 sessions were held on export, prevention of bee diseases, beekeeping by-product production and use of antibiotics, which has reached 101,900 views with 3,090 Q&A during these sessions. The interviewed beekeepers thought the online sessions helpful and important source of information which they lacked before. According to them the sessions are easy to access from every region and provide comprehensive information from trusted practitioners, saving time for beekeepers who are usually busy with work in the apiary and do not have enough time to attend meetings or beekeeping trainings. 65% of the interviewed beekeepers have changed and improved beekeeping practices according to the GBU's consultation and which has resulted in decreasing bee mortality rate on average by 60% and increasing productivity by about 40%. These beekeepers have received information from the GBU on how to promote their products and establish linkages with potential buyers. 30% of the interviewed beekeepers have already seen early signs of honey sale increase[98] and based on a GBU Facebook survey[99], 41% of beekeepers have increased honey sales by up to 10% and 47% by 10-40% since 2020.

65% of the beekeepers have **changed** and improved **beekeeping practices** according to the GBU's consultations, which has resulted in **decreasing** bee **mortality** rate on average by **60%** and **increasing productivity** by about **40%**.

50% have switched to using natural compounds, such as Formic Acid, Oxalic Acid, Thymol, essential oils. Before they were using vet medicines such as, *Rulamit, Ecostop, Varokom*, which were not effective against Varroa and did not prevent bee collapse. Bee colonies are healthier and stronger and overwintered successfully.

30% of the beekeepers have applied disease prevention methods, such as brood break and drone trapping methods.

10% of the beekeepers have started replacing frames in the hives with new ones annually and now follow hygiene rules for disease prevention

Most of the interviewed beekeepers noted that they are more careful when buying vet drugs, paying more attention to ingredients and instructions for using the medicine.

Figure 41 Changed Practices in Beekeeping

National and international access to quality beekeeping information is increasing. Over the last nine months, 31,311 people have visited the GBU's website www.geobeekeepers.ge. The Jara movie is being used to promote Georgian honey, 500 DVDs, have been disseminated. The Ministry

[97] According to the GBU online survey of beekeepers, in 2020 Varroa disease caused loss of 60% of bee colonies translating into about six million Gel through Georgia.

[98] Selling of honey from 2021 harvest is still ongoing.

[99] 105 people responded to the question posted online on the GBU Facebook page.

of Foreign Affairs of Georgia who is responsible for the promotion of Georgia overseas through consulates and embassies, uploaded the movie on its internal database for use in outreach.

Interviewed beekeepers were asked how the GBU's work, namely services have affected their behavior and practices related to beekeeping:

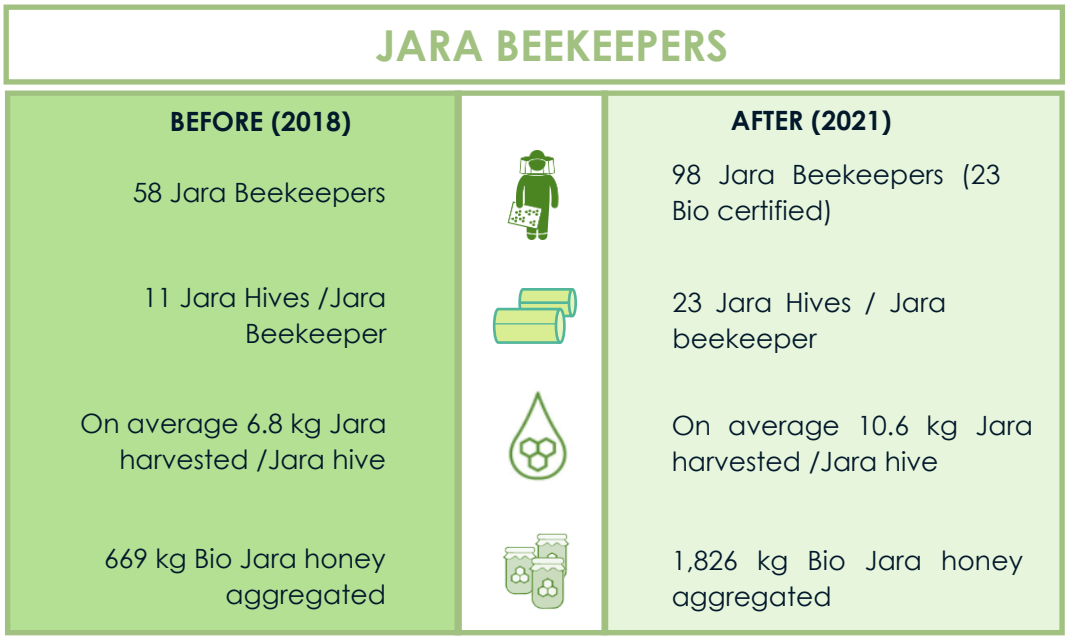


Figure 42 Behavior change in beekeepers

The Jara Beekeepers Association (JBA): The ALCP facilitated the creation of the JBA in 2018. Jara is traditional wild beekeeping, a practice that almost died out but since 2014 has begun a slow revival with the facilitation of the ALCP. The JBA is the only organization in Georgia uniting Jara beekeepers and preserving and promoting this traditional type of beekeeping and is the main focal point between Jara beekeepers and honey aggregators, negotiating and facilitating sales including collection, aggregation and packaging. Uniting Jara beekeepers under the JBA has brought hope and feeling of pride to those beekeepers who are continuing or are now taking Jara beekeeping up.

The JBA facilitates Jara honey supply to domestic and export markets while ensuring sustainable income for Jara beekeepers. It made a breakthrough in the sector introducing Bio honey production and directly negotiating a contract in Japan for its export. Jara itself has been in the vanguard of bolstering the image of Georgian honey. It initiated and mentors the process of Bio certification and provides services such as consultations, bio appropriate bee treatment[100] and honey harvest services to Jara beekeepers securing the sustainability of the association. Jara beekeepers have benefited from access to regular sales and better prices[101] with the association paying them a higher price (5-10 Gel/kg more) compared to market price which earned them **63,850 Gel NAIC in total**. According to the interviewed bio-certified Jara beekeepers the demand for Jara honey has increased and the price paid is higher than the price for other types of honey. Thus, they feel motivated to have more Jara hives.

Apart from benefits for farmers, the company has created 1 full-time job (male). In total, net additional income generated for the employee amounted to 22,000 Gel. Total net additional income generated for the association amounted to 28,805 Gel.

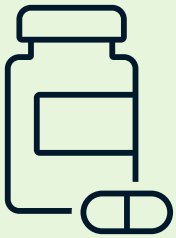
[100] Applying a Bio vet medicine (Oxalic acid) through a vaporizer allowed by the BIO standard.

[101] The average wholesale price for 1 kg Bio Jara honey paid by the JBA is 25 Gel. The retail price is on average 30 Gel/kg, but it is not stable. Jara beekeepers prefer to sell Jara honey to the JBA as regular sales market and they are able to sell entire crop of honey at once.

Expanding Jara through Vocational Educational Training: A Jara Honey Production Handbook was created, 13 VET college representatives received Jara honey production know-how through three-day training of trainers in Ajara in June 2021 and Jara inventory to start Jara teaching. 27 students have already received Jara know-how and 80 students are studying in 7 VET colleges. 6 more VET colleges will start teaching Jara beekeeping from Spring 2022. The production of Jara honey is becoming attractive among both beginner and experienced beekeepers across Georgia. The JBA has undertaken the role of promoting the know-how[102] of producing Jara honey via VET colleges throughout Georgia to make it accessible for beekeepers.

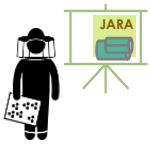
BEHAVIORAL CHANGE IN JARA BEEKEEPERS

All of the bio certified Jara beekeepers said that they now sell Bio Jara honey as soon as it is harvested. Before the market was unstable, and it usually took at least several months for beekeepers to sell their entire crop of Jara honey.



70% of the interviewed Jara beekeepers have changed their Jara beekeeping practices. They are now using a Bio vet medicines and they feed bees with Bio honey contributing to increase on productivity and improving the health of bees.

The majority of the interviewed Jara beekeepers are using the JBA bee treatment service (applying a Bio vet medicine through a vaporizer) which is effective and saves beekeeper's time (on average 10 min/per Jara hive).



65% of the new Jara beekeepers interviewed were **motivated to start** Jara beekeeping after seeing Jara promotion materials and media reports.

30% of the interviewed new Jara beekeepers **started** Jara beekeeping for **tourism** purposes.

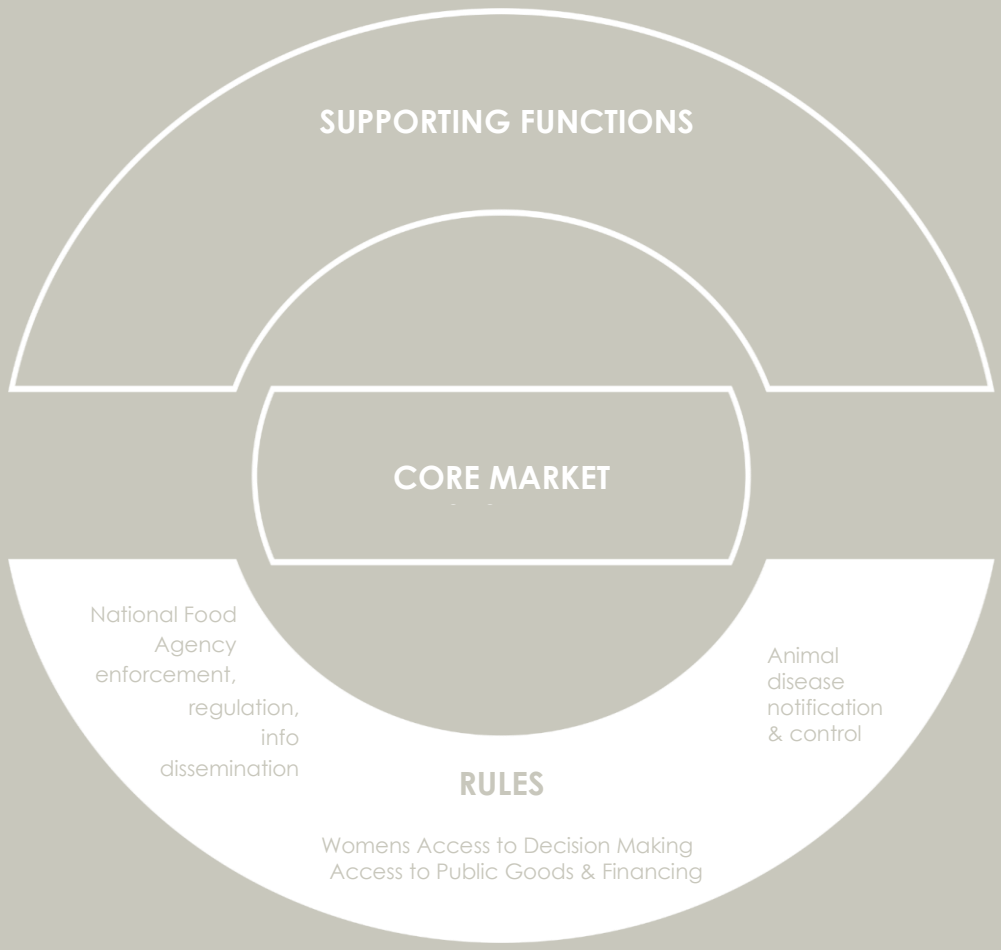
Figure 43 Before and After Comparison of Jara beekeepers' data

CONCLUSION

Overall, the survey captured several positive trends: beekeepers have higher motivation and willingness to increase production and quality of honey. Hence, the main benefits from the honey interventions should be expected in the following years pushing up scales and sustainability of the sector. The impact assessment showed that the estimated figures from the datasheets are in line with the impact assessment data.

[102] In January 2021, producing honey in Jara hives was officially granted Intangible Cultural Heritage status by the National Agency for Cultural Heritage Preservation of Georgia. The JBA applied to the Agency in 2020.

RULES



Animal disease notification and control, WEE, access to public goods including financing and environmental sustainability were key elements of the programme's work in the rules part of the donut where the programme engaged with the public sector and civil entities in the interventions.

SUSTAINABLE LOCAL RURAL DEVELOPMENT

EVALUATION OF THE IMPACT OF THE GODERDZI ALPINE GARDEN

INTRODUCTION

In 2015, with the facilitation of the ALCP, the Batumi Botanical Garden (BBG)[103] began the foundation of the Goderdzi Alpine Garden (GAG) in one of the most stunning mountain regions of Georgia – the Goderdzi Pass, Khulo. Since then, the GAG has begun the conservation of the Caucasian flora in subalpine and alpine zones. Fifteen different zones of the garden including a rock garden, lake, beech and spruce fir forests, beekeeping, eco-education and recreational zones, picnic and camping areas provide a special experience for the garden visitors. The GAG is a pioneer in showcasing traditional Jara beekeeping still practiced in Ajara region, with its bio-certified apiary of Jara hives aiming at publicizing Jara beekeeping and teaching people interested in taking it up. With a strong interest and support to develop GAG from a number of stakeholders including government at regional and local level, private sector and civil society, it has high potential to become a powerful representative of sustainable eco-friendly development in the mountainous regions, especially where rural tourism development is either ongoing or has a high potential.

This impact assessment was designed to capture the impact to date of the ALCP facilitation of the GAG to stimulate rural tourism in Ajara and diversify the image of Ajara, as a rural and agro-tourism destination, diversify tourism activities and source of income for local farmers. The programme believes that the GAG created additional value to the Goderdzi Pass in terms of rural tourism destination and instilled hope in local farmers, businesses and government in the potential of the mountainous Ajara to become a tourist/ecological/educational hub.

METHODOLOGY

The ALCP Impact Assessment of the Goderdzi Alpine Garden is based on desk research and qualitative interviews conducted in February 2022. The main aim of the study was to assess outcome level results achieved by the intervention and to assess sustainability, Covid resilience and future potential of the project. During the desk research; quantitative data provided by the client, intervention progress reports, mid-term qualitative assessments 2017-2021 and *A Survey of Conservation Sector Stakeholders Throughout Georgia 2021* were analysed. The ALCP then conducted 25 in-depth telephone interviews[104] with representatives of the GAG, the BBG and

[103] Founded in 1880, the Batumi Botanical Garden (BBG) is one of the most popular tourist destinations (311,666 visitors in 2019) in Georgia. The BBG is also important education center for agriculture and biology. One of the main goals of the BBG is to introduce and distribute new income-generating crops to the farmers of the region as well as supply seedlings for the restoration of degraded forests and support the conservation of ecosystem and biodiversity in highlands of Ajara region.

[104] In total, we interviewed twelve guesthouse owners, one hotel representative in Khulo, six local farmers, two Khulo Municipality City Hall representatives, three BBG representatives, and one GAG representative.

local businesses and local farmers, to double-check themes and assumptions outlined during the desk research. 72% of the respondents were men and 28% women.

SUMMARY

With 47, 000 visitors since its opening in 2019, the GAG has become an integral part of the must-visit tourist attractions in Khulo promoted through various media channels, by local government and government tourism agencies All the interviewed local farmers and guesthouse owners noted that the GAG had created additional value for the Goderdzi Pass as a rural tourism destination attracting more visitors and bringing new market opportunities for their livestock products. The GAG has established itself as an educational and scientific destination by hosting and creating relevant space for different audiences including students, school children, botanists, botanical garden and local business representatives.The pandemic period has negatively affected BBG and its operations, decreasing number of visitors, thus limiting the budget allocated for the GAG for educational activities and infrastructural works for its further development. From the point of view of major conservation stakeholders in the region [105], they regard the GAG as a successful and highly important project creating an excellent example, focal point and research base for sustainable development and stakeholder organizations.

KEY FINDINGS

LOCAL DEVELOPMENT

Farmer level

- 13 FTE jobs (one woman) have been created by the GAG since its opening. The value of salaries for FTE jobs created amounts to 220,272 GEL. All the employees are local, working in security and gardening.
- All the interviewed local farmers and guesthouse owners noted that the GAG had created additional value for Goderdzi Pass as a rural tourism destination attracting more visitors and bringing new market opportunities for their livestock products, especially for the farmers in summer pastures close to the GAG.
- Local farmers (five) sell their local traditional dairy products *Kaimaghi, Chechili cheese, Kuruti,* and *artisanal butter* to the GAG visitors with the help of the GAG.
- All the interviewees are proud of and rate the GAG as one of the exceptional attractions in Khulo, which highlights the beauty of local nature. They have increased their awareness of the value of biodiversity conservation and care more about keeping the area nearby clean.
- There are signs of increased interest from the locals to start new businesses near the GAG. For example, one local was motivated to lease a 11,000 m^2 land plot[106] next to the garden to build cottages.

Business level

- In total 47,000 visitors[107] (90% from Georgia) have visited the GAG since 2019. In 2020, there was a 100% increase in the number of visitors compared to 2019 in spite of the COVID-19 outbreak.
- In total 16 rural guesthouses and 2 hotels provide accommodation to GAG visitors. This generates additional income from sale of own livestock products, as all of the guesthouses offer their home-produced products to their visitors.

[105] Based on the interviews with the stakeholders: World Wildlife Fund (WWF) Caucasus, Caucasus Nature Fund (CNF), Fauna and Flora International (FFI), Centre for Biodiversity Conservation & Research (NACRES), Caritas Czech Republic in Georgia and Caucasus Environmental NGO Network (CENN).

[106] For 49 years.

[107] 2019- 10,000 visitors, 2020 – 20,000 visitors and 2021 – 17,000 visitors.

- 400 visitors used the GAG camping area as it is the only place in Goderdzi Pass offering camping with access to water, WC, electricity and security. A Taxi service was created for the provision of transportation from the GAG to nearby attractions (Green Lake, Beshumi, pastures) to these visitors.

BIODIVERSITY AND CONSERVATION

- 79 new species have been recorded in the garden. The 161 plant species first recorded on opening the garden in 2019 have increased to 240, which represents 34% of the plant species spread in Ajara highlands (702 in total). The 79 new plants have been catalogued and introduced in the garden nursery. These are plant species requiring special alpine habitat far from the coastline. The gardens showcase Ajara highland plant species in the Alpinarium a key attraction in the garden.
- The GAG is significantly contributing to the protection and maintenance of a *Colchis Refugium*[108] and it may serve as a repatriation center for rare or endangered species. As an example, *Salix kikodseae* protected under the Red List of Georgia was under threat of extinction due to ongoing infrastructural development on the Goderdzi Pass. Thus, it was taken to the GAG for conservation.

A TOURIST, EDUCATIONAL AND SCIENTIFIC DESTINATION

- *Nationwide promotion:* The Department of Tourism and Resorts of Ajara (DTRA) included the GAG in 2 media tours to promote the garden to a wider audience. The DTRA also added the garden to its tourist route with signposts and on maps. . Since its official opening[109], local media outlets (TV, print and social media) in their articles/videos[110] (40) about the GAG have enthusiastically discussed and promoted it. In 2019-2020, 35 new tours were organized by travel agencies. The GAG became an integral part of the must-visit tourist attractions in Khulo.
- *The GAG has created a location for conducting field practice*. In 2017-2020, the GAG hosted 184 bachelor students from the faculty of Natural Sciences and Agriculture of Tbilisi Free University and Tbilisi Agricultural University for mandatory field practice and increasing awareness of protected areas and eco-systems. The students were involved in cleaning, plant inventory and other works in the garden.
- *The GAG serves as an educational spot in the high mountains*. In September 2020, the GAG hosted 15 guesthouse owners (12 women) from Keda, Shuakhevi and Khulo at a seminar on how biodiversity, conversation and Jara beekeeping can be used for business promotion and attracting more tourists. Two participants plan to set up their own Jara apiary. In 2020, the Department of Youth and Tourism of the Khulo Municipality City Hall organized field visits to the GAG for 30 local schoolchildren and 20 Batumi State University and Tbel Abuseridze Teaching University students to raise awareness of tourism potential and biodiversity.
- *The GAG is increasingly known within the international botanical community*. Botanists from twelve countries visited GAG within the *International Symposium: Botanical Excursions in Colchis* organized by the BBG in June 2019. The beekeeping showcase was one of their favorite experiences. In 2019, scientists from the Nantes Botanical Garden, France and the National Botanical Garden of Tbilisi visited the GAG. The International

[108] Refers to a location which supports an isolated or relict population of a once more widespread species
[109] July 2020
[110] The content covered the GAG opening, its importance and value for local development, biodiversity and conservation.

Association of Alpine Botanical Gardens has selected the GAG as a location for the *International Congress of Alpine and Arctic Botanical Gardens 2022*.[111]

SYSTEMIC CHANGES

This section provides examples of wider changes occurring due or linked to GAG development. They indicate the sustainability of the GAG initiative as it embeds into and catalyzes changes within the system. Changes include crowding in, business expansion and sectoral change.

CROWDING IN:

- In April 2019, the GAG was awarded a 28,000 Gel grant from the ENPARD II programme in Khulo to purchase solar panels for the administrative building in the garden.
- In June 2019, the Ministry of Finance and Economy of Ajara arranged infrastructure, paths and parking areas, in one of the tourist attractions areas around *Green Lake* Khulo municipality. An engineer of the GAG supervised works around Green Lake. He copied the same model of paths and parking area from the GAG.
- After visiting the GAG, the *Zugdidi Botanical Garden* has started working on the idea of creating an alpine garden towards Egrisi Ridge, Chkhorotsku on the road connecting Samegrelo and Svaneti regions.
- The DTRA is now conscious about the use of eco-friendly materials in constructions/projects financed by them and pay more attention while reviewing and selecting final project designs.

SECTORAL CHANGE

- *Goderdzi Pass Sustainable Development:* a stakeholders group was created, who closely studied an announcement made by the MEPA on August 5th, 2021, which included a 'Scoping Report of the Strategic Environment Assessment of the Development of the Goderdzi Resort Nearby Territory'. On August 26th the group sent initial collective feedback in the form of a signed letter to promote a more transparent, inclusive and constructive dialogue concerning the future development of the Goderdzi Resort. Eleven stakeholders[112] signed the letter. A response letter from the MEPA was received on September 24th, 2021, stating that their concerns would be considered in future planning. The advocacy process continues by the leading of the Black Sea Eco Academy[113].
- The DTRA is promoting the GAG under their social campaign for internal tourism encouragement *#DiscoverGeorgia*. It allocated 10,000 USD in its 2021 budget for the placement of information signs and boards in the GAG.
- The DTRA created a new *Chirukhi-Khikhani-Goderdzi* tourist route to include the GAG and distributed GAG promotion flyers to tourism agencies.

BUSINESS EXPANSION

The BBG plans to establish a ticket selling system for ensuring financial income for the GAG. Until now the costs related to the GAG are fully covered by the BBG budget. The Batumi City Hall covers

[111] The event will be held in August 2022. The Garden was presented to the audience in the previous congresses in Pont-de-Nant, Switzerland in 2016 and Villers-les-Nancy, France, in 2019.
[112] From Black Sea Eco Academy (BSEA); Mtirala and Machakhela Protected Areas Friends Association, (BSEA); Goderdzi Alpine Garden of the Batumi Botanical Garden; Environmental Association Psovi; Geographic Travel Ltd; Eco Tours Georgia Ltd; Eco Films Ltd; Caucasus Environmental NGO Network (CENN); Botanic Society of Georgia.
[113] A local NGO.

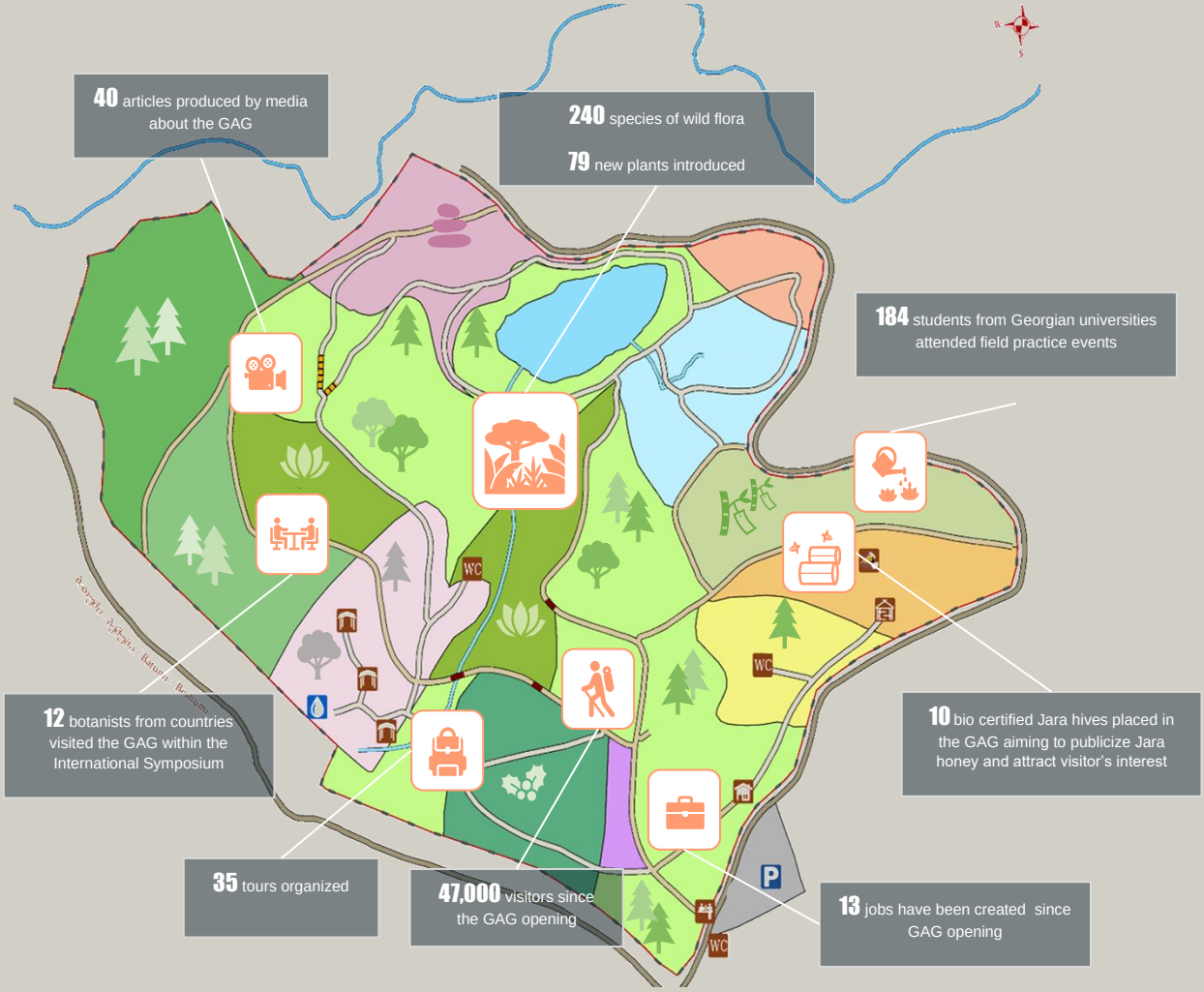
the costs for the salaries which is fixed, while additional budget for programme and infrastructural works is allocated quarterly from the BBG's budget.

IMPACT OF COVID 19:

The number of tourists in the BBG decreased due to the imposed restrictions during Covid 19 pandemic, which negatively impacted the income of the BBG. Therefore, planned infrastructural works in the BBG as well as in the GAG were hindered. Lack of finances [114] hindered the development process of the Alpinarium (rock garden), as the GAG could not hire seasonal workers. It limited some of the planned educational activities and trainings for locals.

[114] Estimated budget was 12,800 Gel.

Goderdzi Alpine Garden Impact Assessment 2022



SUSTAINABILITY

Department of Tourism and Resorts of Ajara (DTRA) is promoting the GAG under their social campaign for internal tourism encouragement #DiscoverGeorgia

Recently created tourist route by the DTRA Chirukhi-Khikhani-Goderdzi includes the GAG in it

The Batumi Botanical Garden (BBG) is planning to establish ticket selling system for ensuring financial income for the GAG

SYSTEMIC CHANGE

The International Association of Alpine Botanical Gardens has selected the GAG as a location for the International Congress of Alpine and Arctic Botanical Gardens 2022

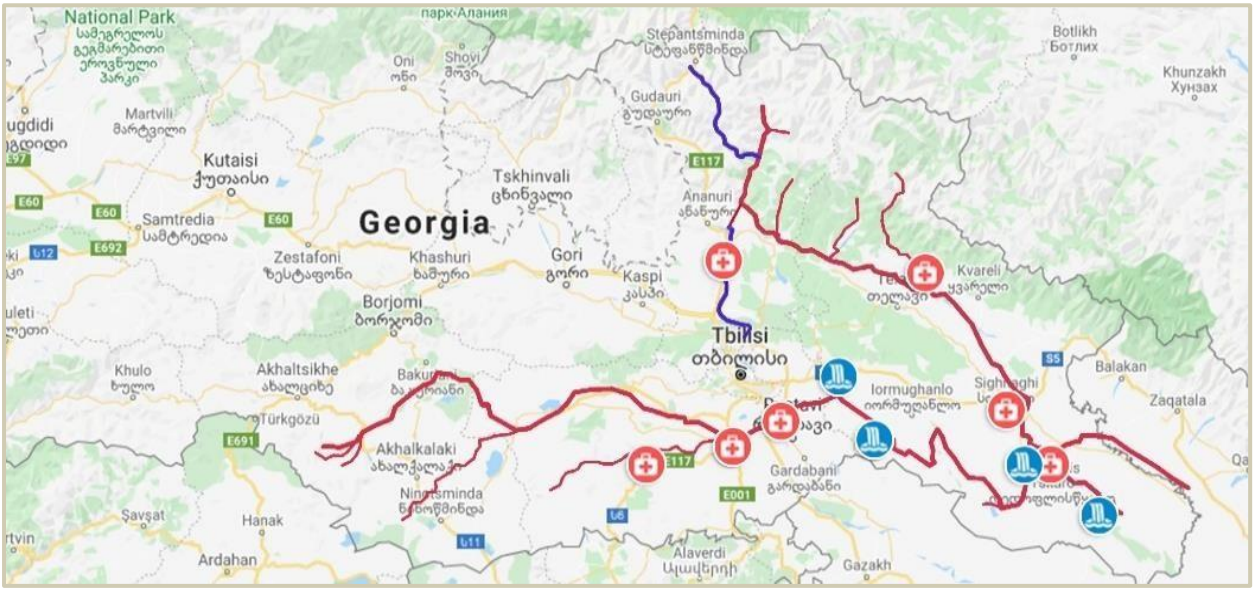
A stakeholder's group was created (2021) who is advocating more transparent, inclusive and constructive dialogue with the MEPA concerning the future development of the Goderdzi Resort.

COVID EFFECT

Due to lack of finances as well as the imposed restrictions (due to Covid) causing decreased number of tourists in the BBG have negatively impacted planned infrastructural works in both BBG and GAG, while also limiting some of the planned educational activities in the gardens

THE ANIMAL MOVEMENT ROUTE

IMPACT ASSESSMENT (2020) AND BI-ANNUAL MONITORING OF SEASONAL LIVESTOCK MOVEMENT ON THE ANIMAL MOVEMENT ROUTE



INTRODUCTION

The Alliances Caucasus Programme has been facilitating the process of addressing the Animal Movement Route (AMR) issue since 2012, after identifying the AMR as a key constraint for the development of the Georgian sheep sector and as a lynchpin for the implementation of a national animal disease control strategy.

Transhumance is a major part of the livestock system for sheep and to lesser extent cattle in Georgia. Up to a million heads of livestock move twice yearly on the AMR up to summer pastures and back down to winter pastures in spring and early autumn. Since the collapse of Soviet Union there has been little maintenance or development of badly degraded infrastructure or the systems surrounding it on the route. This has included no systematic

health control of migrating livestock contributing for spreading animal diseases and no access to water for long distances on the AMR. It had been considered an insurmountable but pressing problem and source of frustration, symptomatic of the failures of the broader operating environment for years by a complex group of stakeholders including all levels of government, civil society and the private sector as well as those using and living along the route.

As a result of years of complex multi stakeholder coordination, from 2016-2020 the ALCP facilitated and co-financed with the Government of Georgia, in particular with the Ministry of Environmental Protection and Agriculture (MEPA) and the National Food Agency (NFA), the construction of Veterinary Surveillance Points (VSP) and water points on the AMR. In total up to 1 million USD was invested by the Government of Georgia in development and maintenance of AMR infrastructure since 2016.

Table 6 Co-Finance of AMR

DATE	COOPERATION DOCUMENT	CO-FINANCING (USD)	
		ALCP	Government
2015	A Quadrilateral MOU with with MEPA, and a Grant agreement with MEPA and the NFA for developing six VSPs on the AMR	187,220 40%	276,578 60%
2020	MOU A and a co-financing agreement with the NFA to developing four water points in Kakheti region and one new VSP in Mtskheta-Mtianeti region	21,070 24%	65,040 76%

Currently there are seven AMR VSPs in operation for the disinfection of migrating livestock against ecto-parasites with a safe waste management scheme and staffed by veterinarians serving farmers free of charge and four water points at the critical points of the AMR. The Veterinary Surveillance Network marks a serious milestone in the future development of a profitable livestock industry in Georgia. In total, up to 4.3 million heads of sheep and cattle have been dipped/showered at seven VSPs between 2016 and 2021. In addition, up to 500,000 heads of sheep and cattle are benefiting from new water points during each transhumance season.

Table 7 Number of sheep & cattle disinfected at VSPs during 2016-2021

YEAR	2016	2017	2018	2019	2020	2021	2016-2021
# of Livestock	377,212	643,281	721,633	721,399	801,307	1,015,945	4,280,777

IMPACT ASSESSMENT (2020) METHODOLOGY

In June 2020, the ALCP conducted in depth interviews with fifteen nomadic farmers to find out how the sheep/cattle dipping and transhumance process was going and to identity existing issues or trends. The respondents included both - users and non-users of the VSPs. Interviews were also conducted with VSP vets directly involved in the veterinary surveillance and treatment process of nomadic animals.

IMPACT ASSESSMENT KEY FINDINGS

In general, the VSP's are providing the service that they were assigned to provide and the shepherds are satisfied with the service they are receiving. This year maintenance had been carried out and the facilities were fully operational e.g. water troughs full and dips and showers working. Improvements can be made based around some of the observations below pertaining

to information dissemination amongst shepherds, the issuing of a form certifying that dipping has occurred and questions pertaining to those sheep not using the VSP system.

The following trends were observed:

- The number of sheep and cattle moving on the AMR has significantly increased, big herds with 2000 heads of sheep are becoming more frequent. Due to successful export & sales in 2019, shepherds have increased the number of sheep, however temporarily closed export (borders) and local markets, have delayed livestock sales. Currently the shepherds are hoping that the borders will open soon, as the majority of them have bank credit and depend on export opportunities.
- In 2020, due to covid-19 restrictions, transhumance started later than usual and animals stayed at winter pastures longer, which resulted in overgrazing and a dry spring worsened the situation. Due to poor nutrition sheep became weak. Therefore, some shepherds dipped their sheep locally at VSPs' or at a private sheep dipping facilities, rather than on their way to summer pastures. Only after giving a rest to a herd did they start migration. In this way they tried to evade additional stress which would weaken sheep during transhumance.
- Some shepherds did not have information about the VSPs being open, they assumed due to the covid-19 restrictions, that they would not work. They were happy to discover that VSPs are working as usual and they can get sheep dipping service.
- In 2016 the NFA created a special form that should be issued at VSPs as proof that the livestock was treated against parasites. Currently none of the VSP vets are issuing this certificate. Therefore, it is impossible to know whether the herd was disinfected at a VSP or not. We informed the central office of the NFA and they have promised to take measures and make sure all VSP vets issue this forms after dipping.

For more details please see the Monitoring of Livestock Seasonal Movement on the Animal Movement Route Report.

2020 IMPACT ASSESSMENT REPORT FOLLOW UP ACTIVITIES

- Following the facilitation from the ALCP the vet-department of the NFA provided recommendation to the VSP's vets to issue a certificate after the livestock is treated against parasites at the points.
- In November 2020 a follow up study was conducted by the programme on private sheep dipping facilities to identify their locations and owners, the reasons for their use and to find out how they are operating and dealing with environmental and waste management issues.
- Following the results of the study on private sheep dipping facilities, some guidelines were developed for private sheep dip owners and users to limit environmental and health damage. The guidelines provide simple operational and safety instructions for anyone engaged in sheep dipping particularly private sheep dip owners, sheep farmers and shepherds who dip their sheep in these privately owned facilities. *For more details please see Sheep Dipping Guidelines.*
- Following a request by the main AMR stakeholders in 2021 who include the various government ministries and agencies involved in managing the VSP's as well as shepherds, civil society and local government, the programme is preparing an *AMR Development Roadmap* with an action plan and management scheme for ensuring the sustainable development of the AMR.

WOMEN'S ROOMS IMPACT ASSESSMENT
(SUMMARY VERSION)

SUMMARY

In 2011, the SDC project the Mercy Corps implemented Alliances Caucasus Programme's *Gender Analysis* revealed that rural women lacked access to decision making fora at both community and municipal levels. Women did not feel that they were welcome in municipal buildings or community decision making fora and questioned the value of their attendance and the validity of this attendance and of their contribution if they did go. Furthermore, *the Gender Equality Law of Georgia* brought into effect in 2010 was not being enacted at the municipal level. Initial approaches to the three municipality governments of the programme area (Kvemo Kartli region) found that they were open to beginning a series of gender meetings in which mainstreaming the 2010 Gender Law into municipal practice and improving women's access to decision making at all levels of the municipality were discussed. The final plan centered on simplifying the law into easily understandable guidelines[115] for translating Gender Equality law into action including the training of key members of staff who would in turn train village representatives and developing a focal point in the form of a Women's Room situated within the municipal building as a resource centre, and space for women coming into the town.

The programme entry point was based on the idea of government as a system, using the incentive of politicians being under pressure to show action on gender related issues and laws being in place but not in use. Facilitation began with local government to develop guidelines and training for local government representatives with a focal point provided by a Women's Room in each municipal building offering a resource space and information services for rural women.

The first Women's Rooms opened in 2012 in three municipalities of Kvemo Kartli. The Women's Room itself was a new municipal service, a free information-consultation space for rural women and children who visit the municipal building, facilitated by local government, local women and civil society. The Women's Room could form the focal point for a municipality aiming to improve the access of rural women to local government and decision making processes in tandem with mainstreaming national gender policy requirements into local government. For more information about this service see *How to Set Up a Women's Room and Improve Local Decision Making Guidelines.*

Ongoing results measurement since 2012 has collected data against impact indicators including the number of users, number and type of services, public goods accessed, participation and results of community meetings against the 2011 baseline. This review was conducted to:

[115] Guidelines for the Application and Implementation of the Gender Equality Policy of Georgia by Local Self Governments. Endorsed by the Ministry of Rural Development and Infrastructure and available on their website. Created in 2012 with lead gender experts and updated to include new changes to citizens participation, gender equality councils and changes to the law on domestic violence in 2017.

- Further evaluate the functionality and performance of the rooms on a scale of excellent to non-functional and the reasons for the variation in this performance.
- Qualitatively assess the effect of WR access on the lives of those rural women using the rooms,
- Form a picture of the difference between a region and municipality with a Women's Room and those without.

METHODOLOGY

The ALCP conducted semi-structured interviews and focus groups with Women's Rooms representatives, Women's Rooms users, non-users, and other governance related stakeholders to assess the efficiency of current Women's Rooms operations, the enabling or constraining conditions for successful operation, user perception and effect of outreach. In total 44 semi-structured interviews and 8 focus groups[116] were conducted, see Figure 1 below.

The field work was conducted in Kvemo Kartli, Samtskhe-Javakheti, Ajara, and Kakheti regions, where the twenty eight Women's Rooms established between 2012 and 2018 are present and in Imereti and Racha-Lechkhumi regions where currently Women's Rooms are not present (See Annex 1 for map of current Women's Rooms). The respondents were purposefully selected to represent a wide and diverse sampling. The sampling included different ethnic groups, different genders (male / female), different geographical locations (lowland, highland plateau, mountainous) and Women's Rooms with a varying level of performance. The scoring was based on the following criteria; the number of users, the number of services available, the number of meetings held and the percentage of women's participation in local community fora - the village meetings.

MAIN FINDINGS

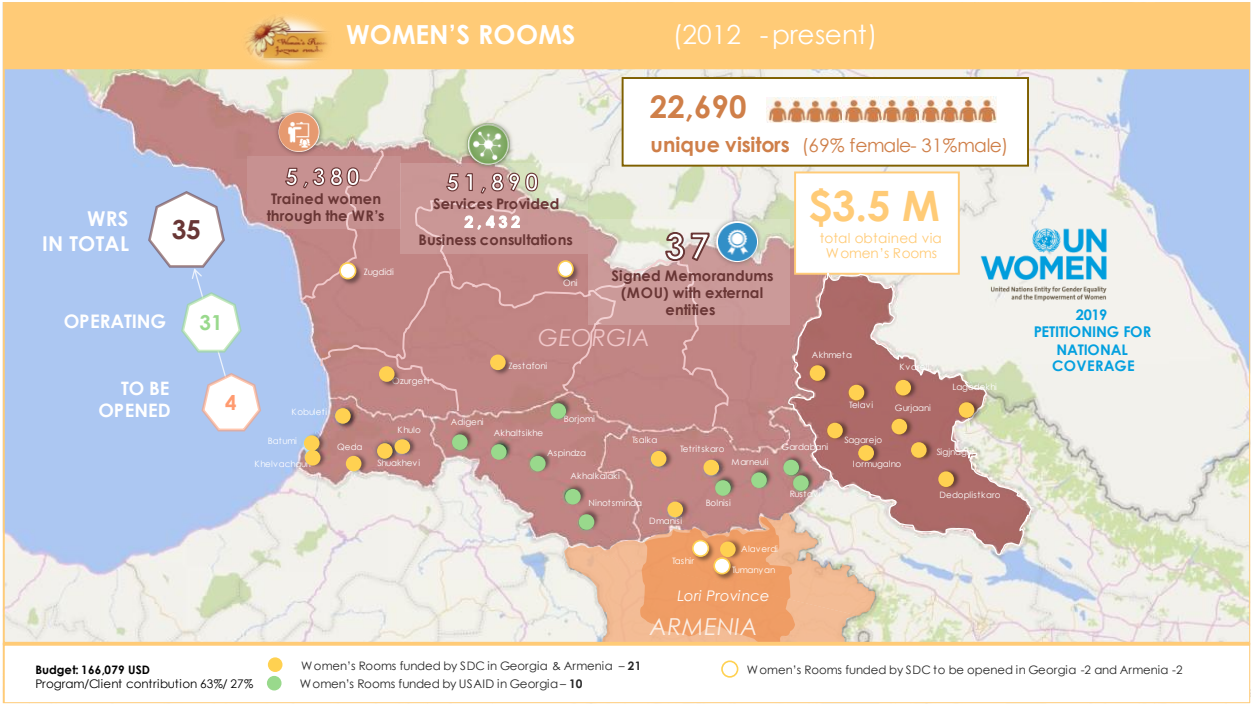


Figure 44 Operational Status of Women's Rooms (established 2012-2022) in Georgia

Ninety-seven percent (27/28) of the twenty-eight rooms opened in Georgia from 2012-2018 are operational. Of these 29% (8/28) are excellent, 39% (11/28) are very good, 18% (5/28) are good,

[116] All focus groups were with users of the room. The focus group with non-users planned for Racha was cancelled due to COVID-19 and interviews were conducted with non-users individually over the phone.

11% (3/28) are poor and 3% (1/28) is non-operational. The one non-operational and three poorly functioning rooms in KK and SJ were set up under a USAID project in which the model was copied for expansion. This three year project finished in 2016 and involved setting up ten Women's Rooms in addition to other activities and ongoing facilitation post-opening was therefore limited. In addition, the ALCP has learned over the years that sustainability is compromised when a model is only partially copied. The pilot rooms were based on the low visibility principle within a clear Market Systems Development (MSD) approach, with emphasis on local ownership of the rooms with the local municipality as the 'face' of the intervention. In the latter project it translated into more of a direct donor-beneficiary relationship in which high visibility is customary and which can tend to detract from local ownership. Lack of ownership particularly where there is disinterest from key decision makers mainly mayors, has been found to be one of the main reasons for poor performing rooms.

The participation of women in community (village) meetings[117] has risen from 3% to around 35%. The voting priorities changed to reflect issues most immediately effecting women's lives, the first and second priority issues voted for at the meetings became water provision and kindergartens. 678 women instigated community initiatives have been funded by municipal budgets, including the building of 275 water points and seventy kindergartens and over 30 civil society organizations have signed MOU's with the rooms to deliver their services or access the communities with whom they wish to work. The best rooms become adapted to and fit for the purpose of their municipalities, reflecting and servicing the needs and nature of individual municipalities and their citizens. They serve a signposting and gateway function to other municipality services, their children's corners provide sometimes vital hours of supervision while professional parents or visitors attend meetings or go to the bank, they are a fora for community projects as diverse as English language lessons, business plan trainings, writers workshops, art classes, dance and poetry groups, special needs self-help groups and charity fund raising for diverse social needs.

The research broke down the conditions dictating whether a Women's Room functions well or not.

In well-functioning rooms:

- Municipal decision makers understand and support gender equality principals, communicate with the Women's Room managers and use the Women's Rooms as intended;
- Women's Room managers are also the municipality Gender Focal Points (stipulated by law) and are situated in the room; have a good knowledge of the Gender Equality Principals; have direct and everyday contact with municipality Mayors and key decision makers and have close contact with local women and NGO's;
- Women's Room managers have good communication skills, high personal accountability and enthusiasm to support local women.
- Women's Room managers are empowered.

In poor functioning or non-functioning rooms:

- Local decision makers lack understanding of the Gender equality policy and acknowledgement of Gender laws or simply do not feel it is important or do not care;
- There is a lack of 'ownership' of the Women's Room service by the municipality.
- The Women's Room manager has another main job to do;

[117] Community (village) meeting is a form of citizens' participation at local decision making. The meetings are held in all villages of Georgia ones in a year, under the Government's Village Support Programme, where the participants are initiating and voting for the village infrastructure projects to be funded that year from the government. In 2017 the Government stopped this programme and after a two-year gap, still restarted in 2019.

- The space allocated for the Women's Room is not respected for its purpose and has been appropriated for other things.
- Women's Room managers are disempowered.

MAIN FINDINGS FOR THE REGIONS WITH WOMEN'S ROOMS

The key constraints identified in 2011 were:

- that women lacked access to decision making fora at both community and municipal levels,
- that women did not feel that they were welcome in municipal buildings or community decision making fora and questioned the value of their attendance and the validity of this attendance and of their contribution if they did go
- and that the *Gender Equality Law of Georgia* brought into effect in 2010 was not being enacted at the municipal level in relation to the above,

The research showed that these key constraints had mostly been eliminated for users of the women's rooms and key local personnel, in the municipalities with an operational Women's Room service and that there is a strong attribution between these changes and the rooms existence. Attribution is related specifically to the constraints listed above. Comparison was also made with regions without women's rooms. The main findings attributable to the Women's Rooms are listed below.

Finding 1: Increased mutual trust and greater sense of entitlement to public goods by local women

Finding 2: Rural women's involvement in local decision making fora has increased

Finding 3: Increased Local government ownership on gender issues

Finding 4: The Women's Rooms connect rural women and increases local networking and local initiatives

Finding 5: The Women's Room foster tangible Women's Economic Empowerment

Finding 6: Women are able to speak-out about domestic violence and early marriages:

Finding 7: Women are able to access what are traditionally considered 'men's jobs'

For the full report including detailed results from the above findings, a discussion of ongoing constraints and *Main Findings for Regions Without Women's Rooms*. Please see A National Qualitative Review of the Municipal Women's Rooms

ANNEX SECTION

ANNEX I ATTRIBUTION STRATEGIES FOR NET ADDITIONAL INCOME OF FARMERS (NAIC)

GMM DAIRIES

ATTRIBUTION STRATEGY

Before and After Comparison + Opinion (BACO) in the beneficiary groups to capture attributable impact and wider benefits of farmers through better access to raw milk market.

It was assumed that improved access to GMM dairies increased price paid for raw milk and farmers would save transaction costs as well.

SCALE (GMM)

CALCULATION INDICATORS	SYMBOL
Total volume of raw milk collected (peak season)	**A**
Average amount of raw milk supplied per farmers	**B**
Baseline: number of farmers supplied to the factory before the intervention start	**C**

Formula

Scale= A/B – C

(Triangulation with monthly collected data from clients)

NAIC (GMM)

CALCULATION INDICATORS	SYMBOL
Total amount of raw milk collected by the GMM dairies	**A**
Price difference on raw milk between GMM dairies and alternative selling points	**B**
Saved transaction costs	**C**

Formula

Scale= (A*B) + (A*C)

(Triangulation with monthly collected data from clients)

PRODUCTIVITY IN ALCP DAIRY SUPPLIERS

ATTRIBUTION STRATEGY

The programme used DCED attribution strategy Comparison Groups (CG) in the beneficiary and non-beneficiary groups to capture attributable impact and wider benefits of dairy suppliers through better access to raw milk market, as well as to improved access to quality veterinary, breeding, nutrition, machinery services and agri information.

It was assumed that farmers selling regularly and securely to programme facilitated dairy enterprises were more likely to invest more to increase their herd sizes i.e. TOTAL YIELD and to improve their husbandry practices i.e. YIELD PER COW (breeding, nutrition, veterinary inputs) than farmers not supplying to the factories. The difference between the control and treatment group farmers is attributable to the programme.

However, in terms of reporting results, the treatment farmers are probably 100% overlapped with other interventions and some of the control farmers could also be the ALCP beneficiaries of other interventions. Hence, the scale and NAIC from increased productivity and increased milk yields are already captured and reported in the previous impact assessments. Thus, to avoid double counting the programme does not report NAIC from the increased milk yield.

NAIC

CALCULATION INDICATORS	RETROSPECTIVE BASELINE	END-LINE
Treatment - Avg. Milk Yields	**B1**	**E1**
Control - Avg. Milk Yields	**B2**	**E2**
Treatment - Avg. No. of Cow	**B3**	**E3**
Control - Avg. No. of Cow	**B4**	**E4**
Increased costs for control group farmers	**C**	
Formula		
Attributable Increase in Milk Yields **A1** = (E1-B1) - (E2-B2)		
Attributable Increase in No. of Cows **A2** = (E3-B3) - (E4-B4)		
Total NAIC = A1 + A2 - C		

HONEY

ATTRIBUTION STRATEGY

Before and After Comparison + Opinion (BACO) in the beneficiary groups to capture attributable impact and wider benefits of beekeepers through better access to honey market.

It was assumed that improved access to honey market would increase income for beekeepers because of the better prices at the ALCP facilitated honey collectors.

SCALE (HONEY)

CALCULATION INDICATORS	SYMBOL
Total amount of honey collected	A
Average amount of honey supplied per beekeeper *(Varies across different types of honey)*	B
Formula	
Scale= A/B (Triangulation with monthly collected data from clients)	

NAIC (HONEY)

CALCULATION INDICATORS	SYMBOL
Total amount of honey collected	**A**
Price difference on honey between the ALCP facilitated collectors and alternative selling points (Varies across different types of honey)	**B**
Saved transaction costs per kg of honey *(Varies across different types of honey)*	**C**

Formula
NAIC= (A*B) + (A*C) (Triangulation with monthly collected data from clients)

MEAT

ATTRIBUTION STRATEGY

The programme used DCED attribution strategy Before and After Comparison + Opinion (BACO) in the beneficiary groups to capture attributable impact and wider benefits of farmers through better access to slaughterhouse services.

It was assumed that improved access to the slaughterhouse services, stable demand on sheep/cattle/pigs from slaughterhouse would lead towards farmers increasing income. In order to capture net additional income for farmers the programme attributed saved transaction costs which includes better prices, weighting system and transportation service of the ALCP facilitated slaughterhouses.

SCALE (ALALI FARMERS)

CALCULATION INDICATORS	SYMBOL
Total number of sheep sold (exported) by *Alali* during program facilitation period	A
Average number of sheep sold to *Alali* per farmer per year	B
Formula	
Scale= A/ B (Triangulation with monthly collected data from clients)	

NAIC (ALALI FARMERS)

CALCULATION INDICATORS	SYMBOL
Total number of sheep sold by farmers to Alali slaughterhouse	**A**
NAIC per sheep = 25 Gel saved transaction costs (better price and transportation service)	**B**
Formula	
NAIC= A*B	

SCALE (ORI GIO FARMERS)

CALCULATION INDICATORS	SYMBOL
Number of cattle sold by *Ori Gio* annually *by* years 2015-2018	**A**
Average number of cattle sold to *Ori Gio* per farmer annually by years 2015-2018	**B**
Formula	
Scale= A/ B [2015] **+A/B** [2016] **+ A/B** [2017] **+A/B** [2018]	

NAIC (ORI GIO FARMERS)

CALCULATION INDICATORS	SYMBOL
Number of cattle sold by farmers to Ori Gio during programme facilitation period 2015- 2018 (*programme client data)*	**A**
NAIC per cattle = 45 Gel which is a transportation/transaction costs saved by farmers. There are no alternative or other sellers who have transportation services available from Khulo to Batumi Market or nearest slaughterhouse	**B**
Formula	
NAIC= A*B	

SCALE (KUTATURI FARMERS)

CALCULATION INDICATORS	SYMBOL
Number of pigs sold by *Ori Gio* annually *by* years 2020-2021	**A**
Average number of pigs sold to *Ori Gio* per farmer annually by years 2020-2021	**B**
Formula	
Scale= A/ B [2020] **+A/B** [2021]	

Note: There is no overlap between 2020 and 2021 because slaughterhouse entered into new villages

NAIC (KUTATURI FARMERS)

CALCULATION INDICATORS	SYMBOL
# Of farmers using *Ori Gio* slaughterhouse services by years 2020-2021	**A**
Average # of pig sold by farmers annually by years to *Ori Gio* 2020- 2021	**B**
Pig transportation/transaction costs saved by farmers 0.21 Gel/Kilo	**C**
Average pig weight	**D**
Formula	
NAIC= A*B*C*D [2020] + **A*B*C*D** [2021]	

WOOL

ATTRIBUTION STRATEGY

Before programme intervention famers had very limited opportunities to sell their wool and much of the wool was thrown away and wasted and the rest sold in local agrarian markets or to itinerant and irregular traders.

It was assumed that improved and regular access to the selling wool, would lead towards farmers increasing sales and income. The programme used DCED attribution strategy Before and After Comparison + Opinion (BACO) in the beneficiary groups to capture attributable impact and wider benefits of farmers through better access to wool markets.

SCALE (WOOL)

CALCULATION INDICATORS	SYMBOL
Amount of wool (kg) collected by the programme client from farmers by years 2017- 2021	**A**
Average amount (kg) of wool sold per farmer annually by years 2017-2021	**B**
Formula	
Scale= A/ B (Triangulation with monthly collected data from clients)	

NAIC (WOOL)

CALCULATION INDICATORS	SYMBOL
Average additional wool (kg) sold per farmer This is calculated by: Average amount (kg) of wool sold per farmer in end line year [2020] - Average amount (kg) of wool sold per farmer in baseline year [2016]	**A**
Total number of farmers (scale) selling wool to the wool factory	**B**
Price of wool (Gel) in 2020	**C**
Formula	
NAIC= A*B*C	

AGRO TRADING

ATTRIBUTION STRATEGY

The programme used DCED attribution strategy Comparison Groups (CG) in the beneficiary and non-beneficiary groups to capture attributable impact and wider benefits of using Agro Trading's animal nutrition.

It was assumed that improved Agro Trading's products would increase milk yield and liveweight of cattle.

SCALE (AGRO TRADING)

CALCULATION INDICATORS	SYMBOL
Total amount of animal nutrition sold by Agro Trading	**A**
Average amount (kg) of combined feed bought per farmer annually	**B**
Formula	
Scale= A/ B	

NAIC (AGRO TRADING)

CALCULATION INDICATORS	SYMBOL
Total number of farmers (scale) bought Agro trading's products	**A**

Average increase in milk yields due to better animal nutrition	**B**
Average increase in liveweight due to better animal nutrition	**C**
Price of Milk (Gel)	**D**
Price of meat (Gel)	**E**
Additional Costs of feeding	**F**
Formula	
NAIC= (A*B*D) + (A*C*E)-(A*F) (Triangulation with monthly collected data from clients)	

MAR-MOT

ATTRIBUTION STRATEGY

Before and After Comparison + Opinion (BACO) in the beneficiary groups to capture attributable impact and wider benefits of farmers through better access to improved hay-making machinery services. It was assumed that improved access to machinery would increase quality and quantity of hay produced.

SCALE (MAR-MOT)

CALCULATION INDICATORS	SYMBOL
Total number of service providers who brought Mar-Mot's machinery equipment (*programme client data & Impact Assessments)*	**A**
Average number of farmers served per service provider *(impact assessment data)*	**B**
Formula	
Scale= A*B	

NAIC (MAR-MOT)

CALCULATION INDICATORS	SYMBOL
Total number of farmers using Mar-Mot's hay making machinery equipment	**A**
Increased amount of land cultivated compared to baseline (Average per farmer)	**B**
Additional bales produced (Average per farmer)	**C**
Price of one bale	**D**
Additional Costs of haymaking	**E**
Number and percentage of external factors affected haymaking Calculating % based on the qualitative data (opinions): e.g., in 2021 there were two factors influencing haymaking in Armenia – better access to Mar-mot's machinery equipment and increased prices on hay because of the draught: the qualitative data showed that Mar-mot was the main factor, which means that at least 50% of the impact can be attributed to the programme. This figure could be higher but in this case, we try to maintain conservative approach to attribution and give equal weight to both factors (50/50).	**50%**
Formula	
NAIC= (A*C*D*D-E)*50% (Triangulation with monthly collected data from clients)	

ANNEX II ALCP BENEFICIARY DATA REVIEW 2011-2019 CATTLE NUMBERS AND MILK YIELD

AVERAGE FIGURES PER ENTERPRISE BASED ON FIGURES AS RECORDED IN TABLE 1 BELOW	TSEZARI LTD	TSALKA + KAKHADZE	MILKENI	NATURAL PRODUCTSIA	TSINSKARO PLUS
Increase In Number of Cattle %	5.6 to 9.5 Change: **+3.9, 70%**	5.6 to 9.5 Change: **+3.9, 70%**	4.5 to 9.5 Change: **5.0, 110%**	6.2 to 9.9 Change: **3.7, 59%**	6 to 9.5 Change: **3.5, 58%**
Increase In Number of Cattle % **(Non-beneficiaries)**	5.1 to 3.8 [118]Change:-**1.3, -26%**			2.9 to 2.7 Change:-**0.2, -7%**[119]	5.1 to 3.8 Change:-**1.3, -26%**
Increase In Number of Cows, %	1.5 to 4.8 cows; Change: **+3.3, 217%**	1.5 to 5.8 cows; Change: **+4.3, 283%**	2.2 to 5.3 cows; Change**: +3.1, 139%**	2.8 to 4.2 cows; Change**: +1.4, 48%**	4 to 4.8 Change**: +0.8, 19%**
Increase In Number of Cows, % **(Non-beneficiaries)**	2.3 to 3.6 Change:-**1.3, -37%**[120]			1.7 to 1.6 Change:-**0.1, -8%**[121]	2.3 to 3.6 Change:-**1.3, -37%**
Increase In Milk Yield, %	6.5 to 7.8 liters; Change: **+1.3, 21%**		6.5 to 8.3 liters Change: **+1.8, 27%**	6.5 to 6.7 liters Change: **+0.2, 3%**	7.8 to 7.8 liters Change: **+0, 0%**
High season	8 to 9.3 liters; Change: **+ 1.3, 16%**		8 to 10.3 liters Change: **+2.3, 28%**	8 to 9.0 liters Change: **+1.0, 12%**	9.3 to 9.3 liters Change: **+0, 0%**
Low season	5 to 6.3 liters; Change: **+1.3, 25%**		5 to 6.3 liters Change: **+1.3, 25%**	5 to 6.0 liters Change: **+1.0, 19%**	6.3 to 6.3 liters Change: **+0, 0%**

[118] Data from Impact Assessments conducted by the programme in 2014, 2016 in Kvemo Kartli; 2011 and 2016 years' data is compared
[119] Impact Assessment in Ajara 2016, includes comparison of data of 2014 and 2016 years with a recall to 2014 year
[120] Data from Impact Assessments conducted by the programme in 2014, 2016 in Kvemo Kartli; 2011 and 2016 years' data is compared
[121] Impact Assessment in Ajara 2016, includes comparison of data of 2014 and 2016 years with a recall to 2014 year

Table 8 review of all repetitive monitoring data from 2011-2019 for respective enterprises

DATA REVIEW OF MP1+2'S FOR ALL LISTED **DAIRY** ENTERPRISES PLUS FOR **VETERINARY, COMBINED FEED, MACHINERY** AND **BREEDING**	**TSEZARI LTD**	**TSALKA + KAKHADZE**	**MILKENI**	**NATURAL PRODUCTSIA**	**TSINSKARO PLUS**
Intervention dates and measuring period	5/2012 – 4/2017	04/2013- to date	09/2015-to date	09/2015-12/2017	12/2016- to date
Baseline (insert date)	**2011**	**2012**	**2014**	**2015**	**2016**
No of interviewees	35 (30% women)	32 (50% women)	31 (50% women)	6 (50% women)	12 (50% women)
Baseline Statement (inc ref to investment in/increase in number of cattle and milking cows plus use of/investment in inputs that would increase milk yield i.e. feed, veterinary inputs, breed)	No veterinary service nearby		Limited veterinary service nearby		Vet service available
	- Do not use veterinary inputs - Can't afford extra feed - Make hay by hand - Breed is unimproved				- The enterprise collects limited amount of milk Milk supply is higher than demand
	- The enterprise collects limited amount of milk and there are problems with hygiene - Milk supply is higher than demand			- No dairies within the municipality - Farmers do not have access to the raw milk market	
No of cattle	69% - 4; 25% - 8; 6% - 14[122]		72% - 2; 20% - 7; 7% - 24[123]	65% - 4; 26% - 8; 9% - 17[124]	6[125]
No of milking cow	1-2	1-2	2.2	2.8 [126]	4[125]
Amount of milk/cow/day	5 - low milking season	5 - low milking season 8- peak milking season[127]	5 - low milking season 8– peak milking season[127]	5 - low milking season 8 – peak milking season[127]	52%-5.5[128] 14% - 8.5[129]

[122] Focus Group Survey Kvemo Kartli 2011
[123] Focus Group Survey Kvemo Kartli 2014
[124] Focus Group Survey Ajara 2014
[125] MP1&MP2 Tsintskaro Plus. The baseline data is high as *ROKI,* nutrition and breeding interventions had already influenced No of cattle, cows and milk yield in the area where *Tsintskaro* plus has been collecting milk.
[126]MP1, randomly selected 61 farmers from Khulo
[128] The % calculation was taken from *ALCP* Impact Assessment 2016 Kvemo Kartli. As of the milk yield, it was calculated based on *ROKI*'s MP2 intervention result in increased milk yield by 5-15%. The average was taken 10%-0.5 litre/day/cow and added to 5 litre/day/cow baseline data
[129] The % calculation was taken from *ALCP* Impact Assessment 2016 Kvemo Kartli covering those who used veterinary and nutrition. The milk yield data were summed up from results of *ROKI*'s and nutrition's interventions M2s. Those who used veterinary and nutrition together got increased milk yield by 3.5 litres/day/cow and it was added to 5 litres/day/cow baseline.

	8– peak milking season[127]				2% - 9.5[130] low milking season. 52%-8.5 14% - 11.5 2% - 13.5 peak milking season[131]
Measurement 1	**2014**		**No intervention**		
No of interviewees	30 (30% women)	12 (50% women)			
Statement	- Veterinary service exists nearby - Farmers use veterinary inputs - Farmers afford and invest in extra animal feed to increase milk yield and to supply more milk - Make hay by machinery equipment - Breed is improved - SSLP farmers try to keep female newborn improved breed calves to increase milk yield - The enterprise collects more amount of milk. - Farmers have motivation to buy milking cows. - Livestock husbandry became more profitable. - Milk suppliers save and collect some money - Anthelmintics used and preventive measures against external parasites increased resulting in Milking and live weight increase by 5–15 %[132] - 40% of farmers learned about mastitis and other cattle diseases to avoid milk yield decrease.[132]				
No of cattle	Increased by 15%[133] 6.44 on average (+15% increase in cattle)				

[127] Dairy Productivity Measurement of Improved Cows in First Lactation Period- *IAAD*. 2015

[130] The % calculation was taken from *ALCP* Impact Assessment 2016 Kvemo Kartli covering those who used veterinary, nutrition and improved breeds. The milk yield data were summed up from results of *ROKI*'s, nutrition's and improved breed's interventions M2s. Those who used veterinary, nutrition and improved breeds together got increased milk yield by 4.5 litres/day/cow and it was added to 5 litres/day/cow baseline.

[131] The % and milk yield calculation is made in the same way as mentioned above with the only difference of considering increase in milking yield due to high milking seasons based on Dairy Productivity Measurement of Improved Cows in First Lactation Period- *IAAD*. 2015

[132] 15 respondents, 30% female, *ROKI* MP2 KK

[133] *ALCP* Impact Assessment 2014 Kvemo Kartli

	69% - 4.6 25% - 9.2 6% - 16. 1#				
No of milking cows	6.53[133] (+335%)				
Amount of milk/cow/day	7 on average (+8%) 5.5[134] low milking season (+10%) 8.5[135] peak milking season (+16%) 10% [136] -9 low milking season 10% - 12 peak milking season				
Measurement 2	**2016**				**No intervention**
No of interviewees	12 (50% women)	12 (50% women)	12 (50% women)	12 (50% women)	
Statement	- As above - An increased orientation towards livestock husbandry by households is indicated by investments in herd size and facilities, such as cattle sheds in Kvemo Kartli.[137] - Farmers renovated their cattle sheds to make room for new cows.				
No of cattle	10.84[137] (+94%)	10.84[137] (+94%)	-	-	
No of milking cows	5.92[137] (+295%)	5.92[137] (+295%)	-	-	
Amount of milk/cow/day	low milking season. (+25%) 52%-5.5[138] 14% - 8.5[139] 2% - 9.5[140]		low milking season (+25%) 52%-5.5 14% - 8.5 2% - 9.5	5.5[144](-15%)	

[134] The calculation of the milk yield is based on MP2 of *ROKI*'s intervention resulted in increased milk yield by 5-15%. The average was taken 10%-0.5 litre/day/cow and added to 5 litre/day/cow baseline data

[135] Dairy Productivity Measurement of Improved Cows in First Lactation Period- *IAAD*. 2015

[136] The % calculation was taken from CF MP1, covering those who used nutrition and veterinary. The milk yield data were summed up from results of ROKI's and nutrition's interventions MP2s. Those who used veterinary and nutrition together got increased milk yield by 3.5 litres/day/cow and it was added to 5 litres/day/cow baseline.

[137] Testing Tools for Assessing Systemic Change: Outcome Harvesting. The *ALCP* Project in the Georgian Dairy Industry 2016

[138] The % calculation was taken from *ALCP* Impact Assessment 2016 Kvemo Kartli. As of the milk yield, it was calculated based on *ROKI*'s MP2 intervention result in increased milk yield by 5-15%. The average was taken 10%-0.5 litre/day/cow and added to 5 litre/day/cow baseline data

[139] The % calculation was taken from *ALCP* Impact Assessment 2016 Kvemo Kartli covering those who used nutrition and veterinary. The milk yield data were summed up from results of *ROKI*'s and nutrition's interventions MP2s. Those who used veterinary and nutrition together got increased milk yield by 3.5 litres/day/cow and it was added to 5 litres/day/cow baseline.

[140] The % calculation was taken from *ALCP* Impact Assessment 2016 Kvemo Kartli covering those who used nutrition, veterinary and improved breeds. The milk yield data were summed up from results of *ROKI*'s, nutrition's and improved breed's interventions MP2s. Those who used veterinary, nutrition and improved breeds together, got increased milk yield by 4.5 litres/day/cow and it was added to 5 litres/day/cow baseline.

[144] The calculation methodology: based on *ROKI* MP2, ROKI's intervention resulted in increased milk yield by 5-15%. The average was taken 10%-0.5 litre/day/cow and added to 5 litre/day/cow baseline data

	peak milking season [141] (+16%) 52%-8.5 14% - 11.5 2% - 13.5 Average 7.9[142] (+22%)		peak milking season[143] (+28%) 52%-9.5 14% - 11.5 2% - 13.5		
Final	**2018-2019**				
No of interviewees	12 (50% women)	12 (50% women)	12 (50% women)	32 44% women)	12 (50% women)
Latest Statement	- As above - Farmers use veterinary inputs; Veterinary services are more developed; vets do vaccinations on time and the risk of animal diseases is decreased - 53% of the interviewed farmers in Khulo have bought 30-40% more bran after starting to supply milk. [145] - Demand for milk is high				
No of cattle	Average 9.5 [146]	Average 9.5146[146]	Average 9.5146[146]	Average 9.9 [147]	Average 9.5[146146]
No of milking cows	4 [148] Average 5.5[146]	6[148] Average 5.5146[146]	5[148] Average 5.5 [146146]	4 [148] Average 4.3 [146]	4[148] Average 5.5[146146]
Amount of milk/cow/day	52%-5.5 14% - 8.5 2% - 9.5 low milking season. 52%-8.5 14% - 11.5 2% - 13.5		52%-5.5 14% - 8.5 2% - 9.5 low milking season 52%-9.5 14% - 12.5	44% - 5.5[149] 7% - 8.5[150] 1% - 9.5[151] low milking season 44% - 8.5[152] 7% - 11.5[152] 1% - 13.5[152]	52%-5.5 14% - 8.5 2% - 9.5 low milking season. 52%-8.5 14% - 11.5 2% - 13.5

[141] The % and milk yield calculation is made in the same way as mentioned above with the only difference of considering increase in milking yield due to high milking seasons based on Dairy Productivity Measurement of Improved Cows in First Lactation Period- *IAAD*. 2015

[142] Testing Tools for Assessing Systemic Change: Outcome Harvesting. The *ALCP* Project in the Georgian Dairy Industry 2016

[143] The data is the same for *Tsezari Ltd*. and *Tsalka* + , because this data was sourced from IA 2016 and veterinary, nutrition and breeding interventions' impact, which is common for all three enterprises. The OH average data was not added here as OH was conducted only in Tsalka and Milkeni does not supply milk from Tsalka.

[145] Impact in The Livestock Sector In Khulo 2014-2018

[146] Farmers' baseline survey GMM 2018. For Tsintskaro Plus we took the same figures as for Tsalka + and Tsezari as the enterprise started collecting milk from Tsalka.

[147] Impact in The Livestock Sector In Khulo 2014-2018

[148] Dairies' MP1

[149] The % calculation was taken from *ALCP* Impact Assessment 2017 Ajara covering those who used veterinary inputs. The milk yield data were taken from results of *ROKI*'s MP2. Those who used veterinary got increased milk yield by 0.5 litres/day/cow and it was added to 5 litres/day/cow baseline.

[150] The % calculation was taken from *Natural Produktsia* and CF MP1s covering those who used veterinary and nutrition. The milk yield data were summed up from results of *ROKI*'s and nutrition's interventions MP2s. Those who used veterinary and nutrition together, got increased milk yield by 3.5 litres/day/cow and it was added to 5 litres/day/cow baseline.

[151]. The % calculation was taken from *ALCP* Impact Assessment 2017 Ajara covering those who used veterinary and improved breeds. The milk yield data were summed up from results of *ROKI*'s and improved breed's interventions MP2s. Those who used veterinary and improved breeds together, got increased milk yield by 4.5 litres/day/cow and it was added to 5 litres/day/cow baseline

[152] Dairy Productivity Measurement of Improved Cows in First Lactation Period- *IAAD*. 2015

	peak milking season Average 7.9	2% - 13.5 peak milking season	peak milking season Average 5.9[146]147	peak milking season Average 7.9

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