



ADVANCED RURAL DEVELOPMENT INITIATIVE (ARDI)

COMMUNITY COMPETITIVENESS ASSESSMENT

Karaglukh



This study is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of ARDI and do not necessarily reflect the views of USAID or the United States Government.

Disclaimer: The contents of this publication express opinions of community focus groups and are of sole responsibility of the author(s). Heifer Armenia and Fuller Center for Housing grant permission to use this document as long as the text & title are not modified. The source and the author's name (Heifer Armenia) must be displayed.

This material is made available to readers under the provisions of "fair use" in an effort to advance a better understanding of economic and social resources and constraints in rural Armenia. This document is distributed without profit to those who have interest in using it for research and educational purposes.

Please use this suggested citation when referencing to the report or presented data: Heifer Armenia 2013. *Community Competitiveness Assessment: Report on Karaglukh*. United States Agency for International Development's Advanced Rural Development Initiative: Yerevan, Armenia.

INTRODUCTION

This report presents the results of the community competitiveness assessments conducted in the framework of the Advanced Rural Development Initiative (ARDI) program financed by the United States Agency for International Development. The ARDI project is implemented by Fuller Center For Housing Armenia (FCHA) in cooperation with Heifer International Armenian Branch Office (HA). The assessments are conducted using the methodology developed by HA. This is a part of series of assessments conducted in 20 rural communities.

ARDI sets out to increase rural employment by tackling constraints to rural economic development of communities in the Syunik, Vayots Dzor and Lori Marzes (provinces) of Armenia. The project forms partnerships with local governmental and non-governmental organizations (NGOs) to effectively and efficiently enhance value chains and increase incomes through participatory planning. ARDI builds the capacity of institutions and communities, promotes small businesses development and entrepreneurship and invests in select sustainable infrastructure and enterprise projects.

In the framework of the project 20 rural communities undergo community assessments which are aimed to identify the competitive advantages of target communities and high potential value chains in these areas. The evaluations are based on HA's Community Strategic Development Model (CSDM) Methodology and include strong community involvement. Based on the results of the community competitiveness assessments, 12 rural communities are eventually chosen for programmatic interventions and direct investment.

The community competitiveness assessments help us understand what resources a community has, how effective the community is in capitalizing its resources and evaluate the untapped potential of community to leverage its resources. Assessments also involve inventorying of all community assets including physical infrastructure and evaluations of the community environment for economic development, which we refer to as "enabling environment". As a result of the assessments a thorough image is created of the resources and capacities of a specific community.

The community competitiveness assessments and subsequent selection of communities in the framework of the ARDI program will be followed by more in-depth value chain assessments. These assessments will focus on the three main value chains targeted by the ARDI program namely dairy, fruit and rural tourism, and will identify the specifics and the potential of each value chain to create employment opportunities and community economic growth in targeted community clusters.



Table of Contents

INTRODUCTION.....	Error! Bookmark not defined.
1. METHODOLOGY	2
2. COMMUNITY PROFILE.....	4
2.1. Community Territory	4
2.2. Demographic Profile	5
2.3. Economic Profile	6
2.4. Labor Force and Employment.....	7
2.5. Environmental Situation	10
3. COMMUNITY RESOURCES.....	10
3.1. Fruits Sector Capacity	11
3.2. Dairy sector capacity.....	12
3.3. Tourism Sector Capacity	12
3.4. Score of Community Resources	13
4. RESOURCE UTILIZATION.....	16
5. ENABLING ENVIRONMENT.....	18
6. CONCLUSIONS.....	20
7. ANNEX 1: APPRAISAL APPROACH	21
8. APPENDIX 1: INFRASTRUCTURAL INVENTORY (Armenian).....	24

List of Tables

Table 1 <i>De facto</i> Population by Age (number and % of total population).....	5
Table 2 Main Agricultural Outputs of Karaglukh	6
Table 3 Experts In non-agricultural and agriculture related fields.	9
Table 4 Karaglukh Community Resources (on a scale of 1-5).....	14
Table 5 Karaglukh Community Resources Utilization	16
Table 6 Karin Enabling Environment.....	18

List of Figures

Figure 1 Community land classification	4
Figure 2 Gender Classification of the community.....	5
Figure 3 Occupation of Working Age population.....	7
Figure 4 Self Employment sectors.....	8
Figure 5 Community Education level	8
Figure 6 Field of Higher Education	8
Figure 8 Types of Fruit Produced	11
Figure 9 Karaglukh Resource Map	15

1. METHODOLOGY

Traditional community development approaches have often focused on community deficiencies and less on community strengths which often reduced the impact and effectiveness of these initiatives.¹ Such an approach often also leads to narrow targeting of very specific community problems while missing more systematic solutions that may produce more sustainable and effective outcomes.

With this in mind, Heifer Armenia (HA) developed the Community Strategic Development Model (CSDM) which is a unique approach to community development, combining the strengths of asset-based community development approaches with more traditional problem identification methods. Such a holistic approach allows identification of solutions that address existent issues effectively through factoring in the specific strengths of a community. Being fully participatory, HA's methodology allows:

- Effective collection of information on community resources and needs
- Identification and addressing/utilization of actual community problems and strengths, while avoiding the “perceived” vs. “real” problem trap
- Bottom-up community-driven development process along effective top-down planning approach and institutional and community capacity building

HA's model involves four distinct steps, which are logical and organic continuation of each other. These steps facilitate the process of taking the communities from strength and problem identification, assessment of economic development enabling environment, strategizing community development patterns, professional assessment of those patterns in terms of economic feasibility and environmental impact, to development of specific projects and implementation.

The first step of the CSDM model involves Community Competitiveness Assessments (CCAs) which form the primary focus of this report. For the CCA's a series of thorough workshops are conducted which are led by external facilitators and include representative focus groups from the community. The focus groups are formed from 10 to 12 people from the community, who represent different interest groups including local governance bodies, schools, business sector, farmers etc. This enables capturing a broad information base with different perspectives. The four steps of the model are as follows:

- Assessment of Capacity/Resources and Enabling Environment
- Assessment and mapping of community Strategic Direction/Development pattern
- Development and initiation of specific projects
- Management and evaluation

As a result, CCAs involve discussion, analysis and inventory of community capacities and resources, such as human, physical, capital, natural, financial resources, explores Health, Education, Knowledge, Skill, Ability (KSA) capacities of the community, as well as main (previous and current) production patterns, employment situation, infrastructure conditions

¹ McKnight, John L. and John P. Kretzmann. 1993. Building Communities from the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets. ACTA Publications: Chicago.

and major projects implemented in the community by Governmental and Public organizations.

Once the *status quo* of community resources and capacities is identified the focus group evaluates utilization level of these resources as low, medium or high. This step identifies how efficient the community is in capitalizing community resources and identifies the potential of the community to leverage and capitalize further on these resources.

Assessments also focus on the enabling environment for economic development in the community. This is a crucial point in community competitiveness assessment process, as the environment (government and policy and ability of the community to reach other) is an overarching issue which directly influences all aspects of community development. Assessment of the environment is done through scoring with scores from one to five, “one” being the lowest and “five” the highest possible score. The scoring is done on selected features which can describe the level of environment supportiveness for community economic development. The features focus on variables, such as local government interest in strategies for community economic development, existing policies and their implementation, interactions between local government and business, existence and supportiveness of specialized economic and business support structures and also the (geographic) position of the community to play a positive role in the region. Communities that score high on these features are considered having enabling environment and having increased competitiveness and low risk for economic development initiatives.

As a result of the assessments a thorough image is created of the resources and capacities of a specific community. Communities that score high on the evaluated areas are considered competitive and communities which score high on enabling environment and score low in resource utilization are considered for economic development interventions and projects. This cross-referencing and cross-assessment allows better targeting of communities where ARDI interventions can have higher impact. This report presents the findings of community competitiveness assessment on Karaglukh community.

2. COMMUNITY PROFILE

Karaglukh is located near the Karaglukh River in an area surrounded by mountains on the southern plateau of Vardenis mountains in Vayots Dzor marz. The community is positioned close to the Gegharkunik Marz yet it is part of the Vayots Dzor province. The community was previously a part of the Yeghegnadzor region.

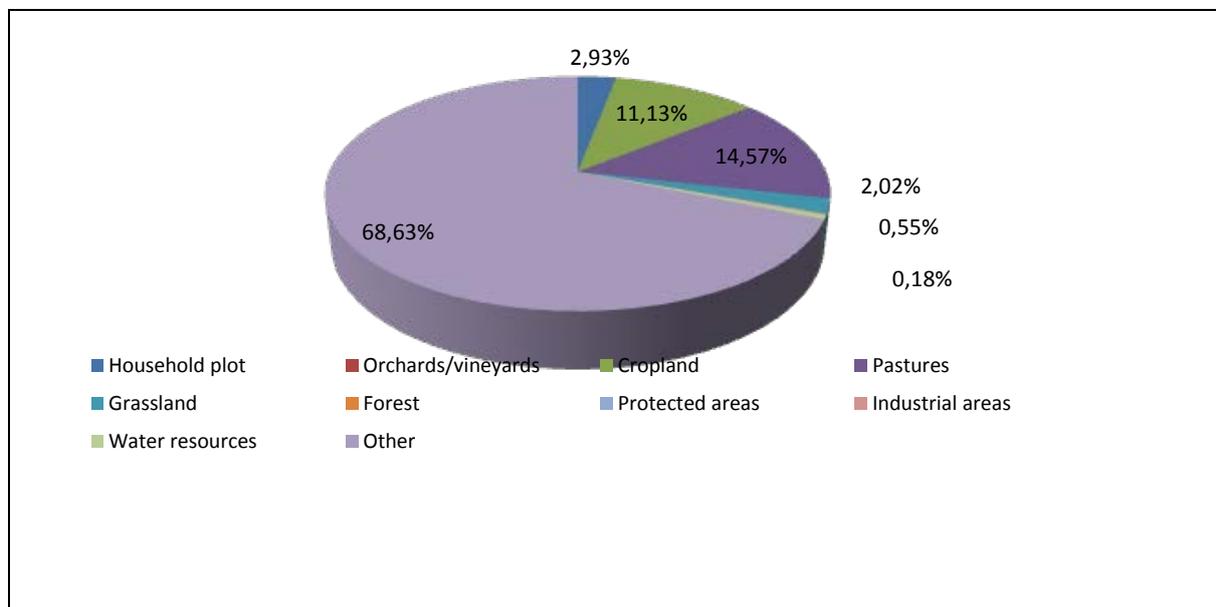
Karaglukh is located on relatively high altitude of approximately 1,650 meters above sea level, on a 17 km distance from Yeghegnadzor and borders with Taratumb, Aghnjadzor, Salli and Hors communities. Karaglukh has a relatively mild climate and fertile lands despite the high altitude.

Significant share of community member's ancestors moved to Karaglukh from Khoy and Salmast. There are various old monuments in Karaglukh and the surroundings of the community. This includes a church dating back to the 19th century and cross stones from the 6-19 centuries. On a 3 km distance from the community there are the remnants of St. Mamas church and the Tukh Manuk Chappel both dating back to the 13th century.

2.1. Community Territory

The total surface area of Karaglukh covers an area of 2745.8 ha of land which includes various land classifications. The official classifications of the community land as registered in the community register are presented in Figure 1.

Figure 1 Community land classification



Source: Karaglukh Community Land Register

A dominant share of Karaglukh's territory involves stony mountainous areas which predominantly are left without any use. This area is often unsuitable for agricultural purposes except for some parts where it is possible to use the land as pastures. Pastures and croplands make up about 15 and 11 percent of the total community territory and form the second and third largest shares of the total community territory. The make-up of community territory in particular the absence of any orchards and share of forest, and relative large

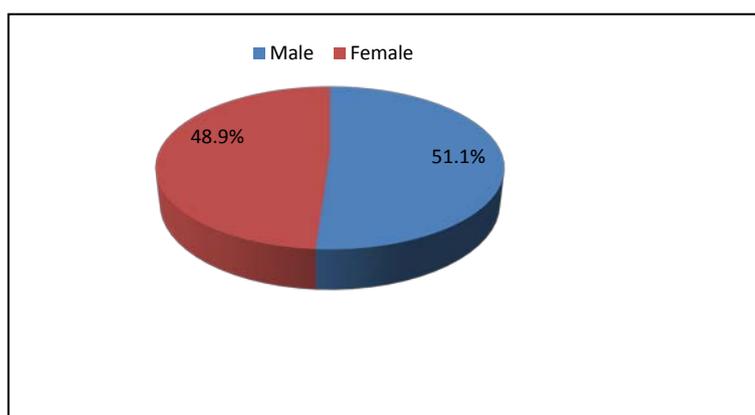
share of pastures and grasslands have significant influence on the development potential of the community and economic activity of community members.

The absence of orchards points towards the low occupation in and focus of community members on horticulture. On the other hand, Karaglukh has an *animal to pasture* ratio of 3.2 which - although is not very high compared to some of the neighboring communities- is again above the 1.89 ha minimum required amount of pasture and grassland for development of adequate fodder base for one cow in Armenia (taking into account average yield of one ha of pasture/grass land)². This points towards the ability of Karaglukh to produce enough fodder for a larger number of animals in case of increased animal headcount in the community.

2.2. Demographic Profile

Currently Karaglukh houses 210 families and the community has a *de facto* population of 883 residents of which 451 or 51.1 percent are male and 432 or 48.9 percent are female.³ If we take into account the population of the community in 2001 which was 801, the total population of Karaglukh has grown slightly and remained stable during the previous decade.

Figure 2 Gender Classification of the community



Source: CCA Workshop Data - Heifer Armenia Calculations

About 19 percent or 169 people of Karaglukh’s population are young individuals, aged between 15-29 years old. This is considerably higher than the share of young individuals in this age group in rural areas of the Vayots-dzor marz as marz level statistics reveal a 14 percent population share in this age group. Table 1 presents the age segmentation of young population groups at community and marz level in more detail.

Table 1 *De facto* Population by Age (number and % of total population)

	15-19	20-24	25-29
Karaglukh	76 – 8.6%	45 – 5.1%	48 – 5.4%
Vayots Dzor Marz	3359 - 6%	2343 - 4%	1849 - 3%

² Sahakayan Razmik, Productive Pasture Management training Material, Community Agricultural Resource Management and Competitiveness (CARMAC) Project

³ Heifer Armenia database of official statistics provided by community centers.

Source: CCA Workshop Data - Heifer Armenia Calculations and NSS data ⁴

The average share of the all three age groups of the total community population is higher than marz level average. The relatively high number of young individuals in the community will allow planning and implementation of youth specific (long term and sustainable) interventions by the ARDI program.

2.3.Economic Profile

Inhabitants of Karaglukh are mainly active in animal husbandry and horticulture. Results of community assessments point that livestock breeding, horticulture, and beekeeping are the main economic sectors of Karaglukh. The remaining share of the total income comes from salaries of civil servants in the community. Community members may have income from temporary labor migration and irregular employment from other sources/sectors, which are not covered in this section.

As presented in Table 2, the total average output of Karaglukh in the livestock breeding sector is 250 tons of milk and 30 tons of meat per year. This is about 283 liters of milk production per capita which is relatively low compared to communities with an animal husbandry focus. The total sale of dairy products does not exceed 40 percent of milk production. This should result in an overall monetary output of about 20 mln AMD per year generated by the sales of dairy products. Farmers in Karaglukh also focus on meat production. Compared to raw milk and dairy products, community members are much more successful in selling meat as about 85 percent of the produced beef is sold, tentatively generating about AMD 63 mln per year.*

Table 2 Main Agricultural Outputs of Karaglukh

Economic Sectors	Annual Agricultural output (tons)	Percentage Sold	Monetary Output (mln AMD)*
Livestock breeding	Milk 250 t – Meat 30 t	40% – 85%	20 – 63
Beekeeping	8 t	80%	19
Horticulture	Fruit 215 + 20 t walnuts (apples 150, pears 50, apricots 15)	60%	30.5
	Vegetables 65 t (potatoes 40, cabbages 20, onions etc. 5 t)	80%	5.7

* The output calculations are based on average (retail) sales prices of specific products and reflect retail prices (actual milk and meat prices received by farmers are likely to be lower than official average retail prices). AMD prices per kg/l: milk 200, beef 2,477, honey 3,000, apples 100, pears 100, apricots 250, walnuts 1,000, potatoes 100, cabbages 100, onion 200

Source: CCA Workshop Data - Heifer Armenia Calculations

The community also has about 530 beehives which altogether produce about 8 tons of honey annually. Honey is also one of the products that community members sell relatively

⁴ National Statistical Service of RA (2003), Results of 2001 Population Census OF RA (figures of Vayots-dzor), available at: www.armstat.am

easy as about 80 percent of the final production reaches consumers. This generates a monetary output of about AMD 19 mln per year if average retail prices are applied.

The very rich soil of Karaglukh and its surroundings is very suitable for horticulture and fruit production. Although the community has very limited orchards, yet still different types of fruit are cultivated by community members. The mild climate and rich soil create perfect conditions for fruit production. Currently the community produces about 215 t of fruit of which about 60 percent is sold. The main types of produced fruits in Karaglukh are apples, pears, apricots with 150, 50 and 15 tons of production of each type respectively. Besides the community members produce some 20t of walnuts which are also successful sold. This generates monetary output of around AMD 30.5 mln annually and indicates a big potential in the community to further develop the fruit value chain. The remaining fruit grown in the community is mainly used for consumption (subsistence) and as fodder for animals. The fruit value chain is explored in more detail in the following chapters.

Currently along fruit production the community also produces limited quantities of vegetables. This mainly involves production of potatoes, cabbages, onions, tomatoes etc. Yet, due to the geographical conditions which cause the vegetables to be ready for harvest only late in the season and the limited land resources available the total production volumes are small. The monetary output from vegetables sales is around AMD 5.7 mln.

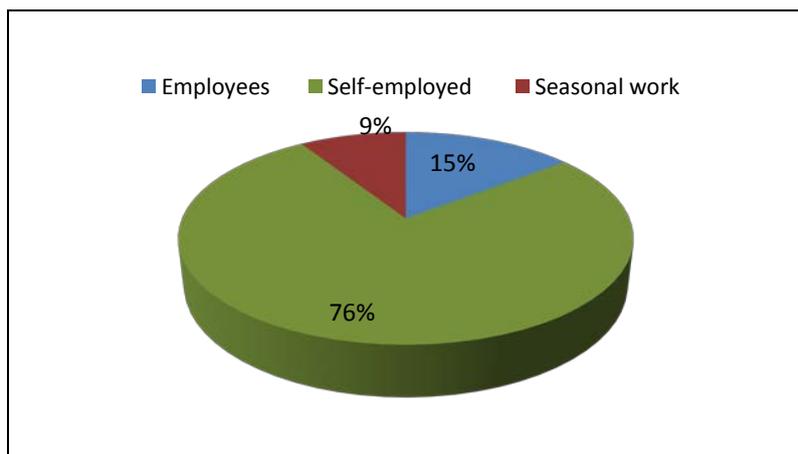
To identify possible alternative economic development directions, focus group members were also requested to highlight possible alternative economic sectors for their community. This includes sectors or fields of occupation which currently are not tapped into adequately. These sectors provide further opportunities for the community to capitalize existing resources, boost entrepreneurship and eventually generate higher community output.

Rural tourism was identified as high potential alternative sector. In response community members indicated to see potential for enhanced sheep breeding. As mentioned, the community has a vast territory of rocky mountainous areas which currently is not suitable for cultivation. Yet, these areas can be suitable for breeding sheep as sheep are more flexible regarding fodder compared to cows.

2.4. Labor Force and Employment

Currently Karaglukh has a working age population of 552 people (*de facto* population between 16 and pension age 64). Eighty individuals or about 15 percent of this group have permanent employment; this excludes the number of people who are self-employed and mainly involves civil servants and those who receive regular salary from private institutions/organizations, including teachers and staff of the local school. The occupation of the working age population in terms of regular employment, self-employment and or seasonal work is illustrated in Figure 4:

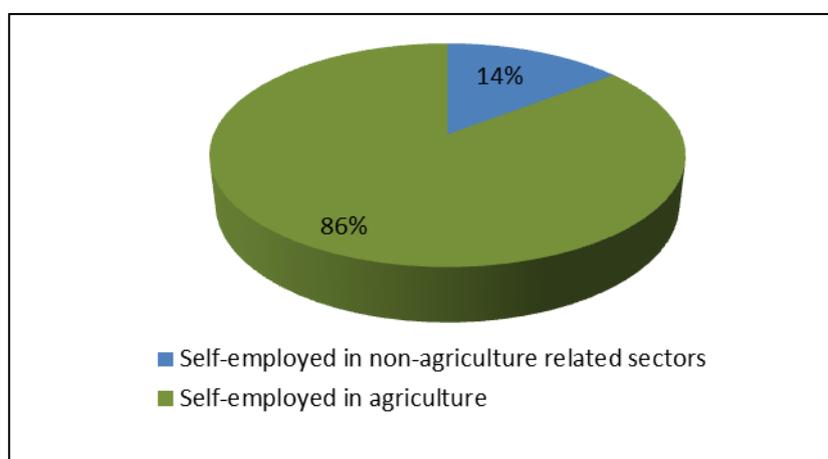
Figure 3 Occupation of Working Age population



Source: CCA Workshop Data - Heifer Armenia Calculations

As illustrated above, 9 percent of the working age population is engaged in seasonal work mostly outside of Armenia. The community therefore mainly relies on self-employment and entrepreneurship, as there are no other job opportunities available. About 76 percent of the working age population in Karaglukh is self-employed. Of this group 14 percent are occupied in non-agriculture related and 86 percent are self-employed in agriculture related fields of occupation (See Figure 5). The vast majority of the community population is therefore self-employed in the agricultural sector.

Figure 4 Self Employment sectors



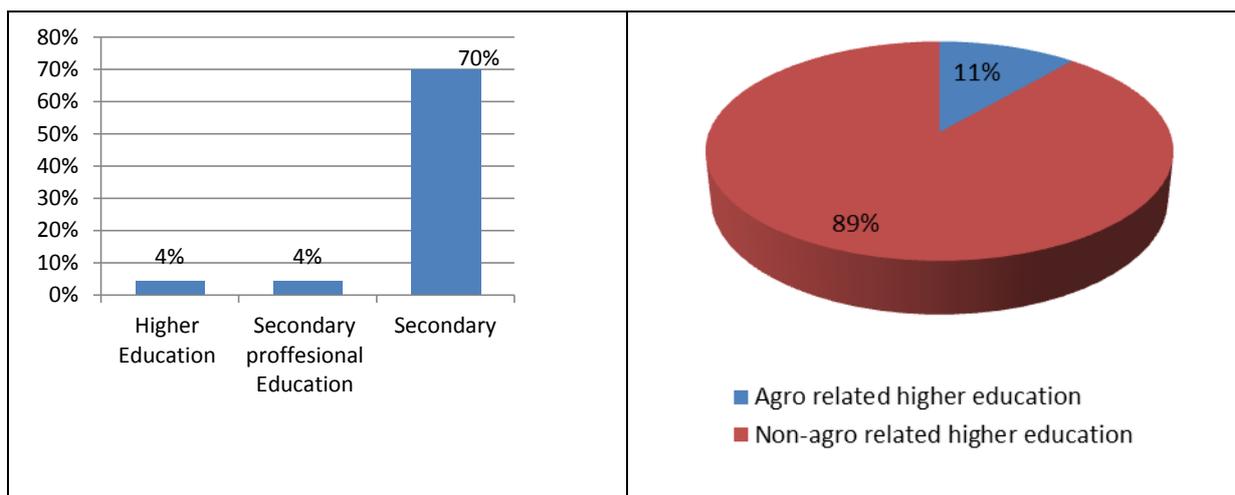
Source: CCA Workshop Data - Heifer Armenia Calculations

Self-employment however does not necessarily mean regular income; this is made even more obvious by the results of community consultations. The latter reveals that a negligible share of the self-employed in agriculture have sufficient access to buyers in terms of regular sales with appropriate volumes and so the remaining majority is often mainly involved in subsistence farming.

In terms of education, around 70 percent of the overall population of Karaglukh or 617 people have secondary education, and 8 percent completed either college (post-secondary vocational high education) or university (higher) education.

Figure 5 Community Education level

Figure 6 Field of Higher Education



Source: CCA Workshop Data - Heifer Armenia Calculations

Although not very large in comparison to the neighboring communities, Karaglukh has human resources in both agriculture and non-agriculture related fields. As presented in the figures above, of the population with professional education (post-secondary vocational high education and/or higher education) about 11 percent has agriculture related education and the remaining 89 percent is educated in non-agriculture related fields, mainly finance and engineering. Financial education is particularly important for setting up/development of rural businesses including cooperatives where adequate financial management is crucial. There is nobody in the community who has formal tourism related education.

Table 3 Experts In non-agricultural and agriculture related fields.

Non-agricultural related	Number of Experts	Agricultural fields	Number of Experts
Finance	4	(Milk) technicians	3
Engineering	8	Engineering	10
Management	0	Management	0
Tourism	0	Veterinarians and zoo technicians	1-4

Source: CCA Workshop Data - Heifer Armenia Calculations

With regard to agriculture related education and expertise, there are 3 (milk) technicians and 10 engineers in the community. There are no experts with agro-management related education in Karaglukh. Moreover, there is one veterinary and four zoo-technicians in the community who cover the need of community members for these services. Existence of adequate number of vets in the community is significantly important for advanced development of animal husbandry.

2.5. Environmental Situation

This sub-section of the assessment is mainly aimed at evaluating the exposure of the community to various kinds of environmental threats. Community members were given the opportunity to highlight the main issues that currently threaten the natural environment of the community and evaluate the level of these issues on Karaglukh's development. Focus group members highlighted the following issues as the main factors threatening the natural environment of Karaglukh:

- Floods
- Landslides
- Construction of Hydro Power Station

As the main issue threatening the natural environment of the community, focus group members mentioned floods. Karaglukh is located in a very mountainous area therefore snowmelt flooding occurs very often. During the spring, when the snow covers on the mountains are melting the community is very susceptible to snowmelt flooding which can affect the lives of community members in various different ways.

The second environmental issue relates to occurrence of land slides, the mountainous location of Karaglukh with wide spreading steep and not often convex slopes causes frequent occurrence of landslides.

The third issue threatening the natural environment of the community was mentioned to be construction of hydropower stations which can impact the water flow of the nearby rivers by reducing it significantly. Disturbance of the natural water flow may have significant impact on the nature in the area. The eventual impact of the power stations on the flora and fauna of the region is currently not clear but community members fear for the worse.

3. COMMUNITY RESOURCES

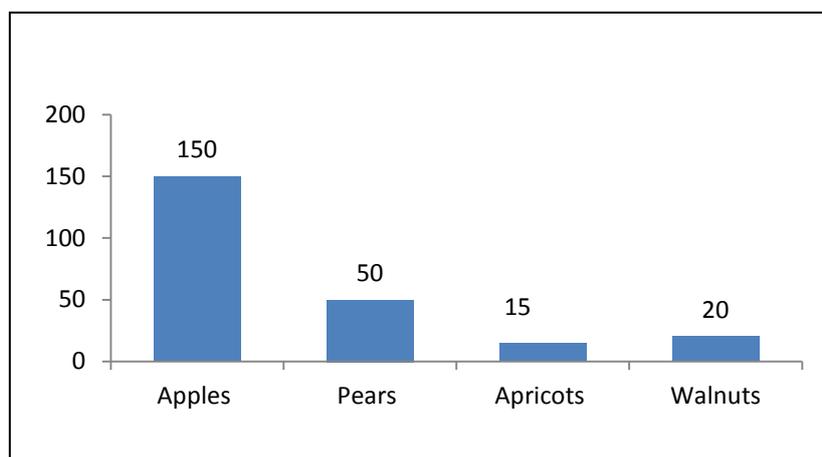
This section of the community assessments focuses on the resources and capacities of target communities in the three main target sectors/value chains of the ARDI program. This involves the Dairy, Fruit and Rural Tourism value chains. The results presented in this sub-section will allow us to narrow down the focus of community assessments and evaluate the potential of a community or community cluster to receive ARDI specific investments.

Community resource assessments also involve evaluation of community infrastructural resources. This will include inventory of community infrastructure in terms of existence and condition of community infrastructure including but not limited to drinking and irrigation water systems, community and intra community roads, educational cultural and community governance buildings, community centers, IT and communication infrastructure, leisure and sport facilities, agricultural resources and technologies such as anti-hail systems and other infrastructure. An overview of the existent infrastructural assets of the Karaglukh community is provided in ANNEX 2 of this report.

3.1. Fruits Sector Capacity

Fruit production volumes in Karaglukh are relatively large, particularly if we take into account the limited land resources of the community. Currently the main types of fruits produced in the community are apples, pears, apricots, smaller quantities of other fruit with 150, 50, 15 and 20 tons of annual production of each type respectively.

Figure 7 Types of Fruit Produced



Source: CCA Workshop Data - Heifer Armenia Calculations

About 40 percent of the produced fruit is used for consumption and the remaining share is sold on nearby markets. The share of the grown fruit that is not sold or consumed and is used as fodder for animals and/or production of liquor, etc. is small in Karaglukh. Sales of fruit are mainly targeted at small middle men and retailers in local markets on the other side of the mountain in Gegharkunik marz. The proximity of Karaglukh to Gegharkunik provides the community with a good selling opportunity as fruit prices are generally higher in Gegharkunik.

There is currently no fruit sector specific infrastructure in Karaglukh such as fruit consolidation units and or processing facilities. This also limits the capacity of the community to better use any existent potential of the fruit value chain.

Members of the community focus group indicated the following issues as the key issues hampering fruit production and sales in Karaglukh:

- Lack of market access
- Low prices
- Climate, as large risks of hail and absence of hail stations
- Lack of related knowledge and experience

Although land in and around Karaglukh is considered to be fertile, land resources of the community are relatively small and there is a large risk of hail during the cultivation season. Absence of hail stations in the community and its surroundings increase the risk of damage to the crops during rainy season.

According to community members Karaglukh has never had a fruit production background as the community has always mainly concentrated on animal husbandry. As a consequence community members also do not have vast experience or specific knowledge of the fruit

value chain. Lack of related experience, knowledge and experience is therefore one of main factors that hampers fruit production in the community.

3.2. Dairy sector capacity

As illustrated in the economic profile of the community, livestock breeding is currently one of the main economic sectors of Karaglukh. Currently many small holder farmers exist in Karaglukh who primarily are active in this value chain. Community members have about 200 cows and tentatively produce about 250 tons of raw milk annually. Sales of raw milk is however insignificant as only about 5 percent of the produced milk is sold as raw milk generating about AMD 2.5 mln annually at best (retail prices, please see Table 2).

The remaining part of the milk is processed by the households into cheese and other dairy products and is sold on an irregular basis. In Karaglukh such as in many other communities the inability of farmers to sell raw milk on a consistent basis, forces small holders to make much larger time and resource investments in to milk processing. This also results in higher sales related costs and much more irregular and unpredictable income from selling the dairy products.

Karaglukh has limited pastures and grasslands, yet the available land area provides the community with adequate fodder base for the existent and more cattle headcount. Community members however currently do not tap into this potential completely. The community makes use of distant pastures and grasslands and does not have a problem regarding drinking water for the animals.

Currently one veterinarian and four zoo technicians are active in Karaglukh, which according to focus group members cover the need of the community in this regard and availability of veterinary services does not hamper operations of farmers in the community. Access to veterinary medication is somehow limited as community members need to travel to the nearest town to purchase medication.

In terms of sector related infrastructure, there are currently no milk collection/cooling units in the community. This is also one of the main reasons why the community is not able to sell raw milk effectively. Only very small quantities of raw milk are sold to interested individuals who come to the community and the remaining part is processed into a cheese and other dairy products.

One main issue hampering milk production in this community is the fact that the winters in this region are relatively long and therefore a large effort is needed to gather enough fodder for animals. To this end, the community has considerable potential to produce milk, however, the lack of value chain related infrastructure such as consolidation units, and relatively small pastures and grasslands hamper milk production and sales by the community.

3.3. Tourism Sector Capacity

Karaglukh currently attracts about 10 foreign tourists annually next to a group of locals about 60 annually who come to the surrounding areas of the community. Tourists mainly hear about Karaglukh from word of mouth as there are no professional tour agencies which promote the community and organize tours to the village and its surroundings.

Currently there are no B&Bs or any other formal accommodation services offered in Karaglukh. There are, however, three B&Bs and hotels located in Shatin, and Yeghegnadzor which approximately are about 20 km distance from the community. These facilities together have the capacity to accommodate about 200 guests.

Karaglukh has vast natural resources. The following are some of the main natural resources of the community with a touristic value:

- Mountainous surrounding and waterfall

Next to natural resources the community also has various cultural and or culinary heritages. The following are the main cultural and culinary resources of the community:

- Cross stones designed and carved by St. Momik
- Tukh Manuk Chappel both dating back to the 13th century
- Special soup in Clay pot
- Pasmus Dolma (vegetarian dolma specialty for the fasting season)
- Gorovi (lamb barbequed in Armenian oven with rice)

As products or features that can be featured as local specialties of Karaglukh; or interesting events with touristic value, community members highlighted the following:

- Products such as honey, walnut, cheese, rose hip
- Annual harvest festival on October the 2nd

Community members have previous informal experience regarding provision of accommodation (B&B) services to relatively large groups of visitors. But there are currently no formal hospitality service providers in the community such as restaurants, hot water spas etc. except for few small restaurants close to the community on a 8 km distance. There are also no established links with external tourism related markets and agencies which promote and link it with tourists. As the main issues hampering tourism development in the community focus group member indicated:

- Distance of the community from the capital
- Lack of targeted advertising

Yet, despite the mentioned issues, community members believe that Karaglukh has a large potential for development of tourism in the community and this can serve as an alternative economic sector and income source for community members.

3.4. Score of Community Resources

This sub section presents the quantitative summary of Karaglukh resource assessment as evaluated in the framework of the ARDI Program. The evaluations are mainly based on primary data collection through community consultations. The following table presents the scores of Karaglukh regarding various general and value chain specific resources. The maximum possible score on community resources is 200. The scoring is done based on mathematical assessments and ratios and expert evaluations. The scores are on a scale of 1 to 5, where 1 is low and 5 is maximum high. The weights add up to a total of 10 in each category where 1 is low and 10 is high. The exact appraisal approach and relevant description is provided in APPENDIX 1.

Table 4 Karaglukh Community Resources (on a scale of 1-5)

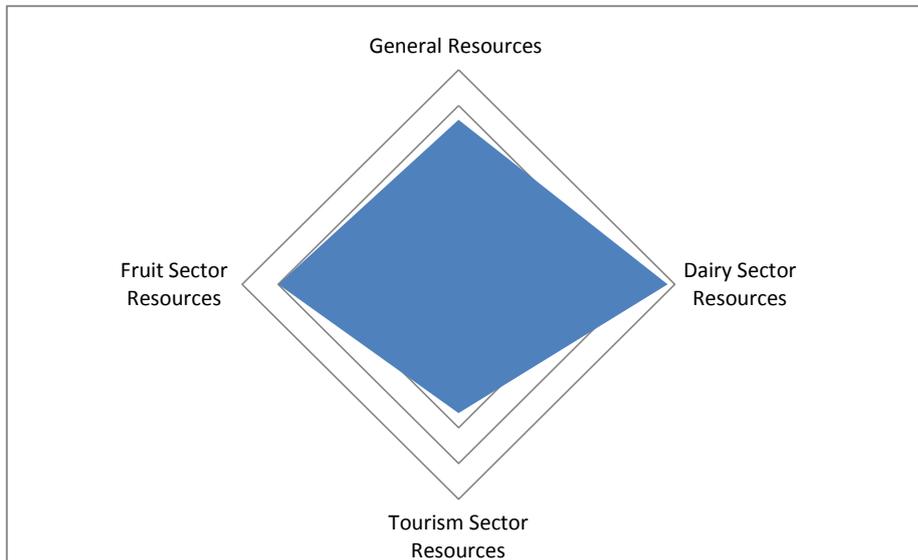
Indicator	Score	Weight	Weighted Score
General Community Capacity			
Community Educational level	2	3	6
Community vitality	3	3	9
Community infrastructure (existence and condition of roads, water, energy sewage etc.)	2	2	4
Community Natural resources	2	2	4
Total Score General Community capacity			23
Dairy sector capacity			
Milk Production (Milk production/per capita)	3	4	12
Milk Productivity (Milk production/animal head ratio)	2	2	4
Fodder Availability (Animal/pasture)	3	3	9
Dairy sector related experience and infrastructure	4	1	4
Total Score Dairy Sector Capacity			29
Fruits sector capacity			
Ability to produce quality fruit	3	4	12
Fruit quality	3	3	9
Existence of Fruit infrastructure (hail centers etc.)	1	2	2
Fruit sector related experience and knowledge	2	1	2
Total Score Fruit Sector Capacity			25
Tourism Sector Capacity			
Tourism related resources as natural, cultural etc	3	3	9
Current tourist visits to the community	1	2	2
Existence of tourism infrastructure (B&Bs, restaurants etc.	1	3	3
Existence of tourism related experience and knowledge	2	2	4
Total Score Tourism Sector Capacity			18
Total Score Community Resources			95

Source: CCA Workshop Data - Heifer Armenia Calculations

The highest scores of Karaglukh regarding Community Resources relate to dairy and fruit sector with respective scores of 29 and 25. The third highest score of the community in this evaluation involve general community resources which equaled to 23. With a weighted score of 18 the tourism

sector related capacities of the community scored the lowest. The total weighted score of Karaglukh on community resources is 95. The following figure presents a visual illustration of the community resources in the four indicated areas.

Figure 7 Karaglukh Resource Map



4. RESOURCE UTILIZATION

As a main part of HA's community assessment model, this subsection of the assessment focuses on evaluating the utilization level of community resources. Evaluating utilization levels will allow us to better understand the need of the community for programmatic interventions in the evaluated areas.

The following table presents the resource utilization scores of Karaglukh community regarding various general and value chain specific resources. The scoring is again done based on mathematical assessments and ratios and expert evaluations. The utilization scores involve a scale of 1 to 5, where 1 is low and 5 is the maximum high. Consequently, low weighted scores on resource utilization indicate that resources of the community in a specific field are under-utilized. The included weights add up to a total of 10 in each category, where 1 is again low and 10 is high.

Table 5 Karaglukh Community Resources Utilization

Indicator	Score	Weight	Weighted Score
Dairy sector capacity			
Utilization of fodder base (Animal/pasture on a scale of 1-5) 2,3-1.8=0,4	4	3	12
Milk collection level (production/collection)	1	4	4
Community milk Productivity	3	1	3
Overall dairy sector resource utilization *	4	2	8
Total Dairy Sector (Max 50)			27
Fruits sector capacity			
Utilization of quality production capacity	3	3	9
Current sales of quality fruit production	3	3	9
Professional Fruit processing	1	2	2
Overall fruit sector resource utilization	1	2	2
Total Fruit Sector Max 50			22
Tourism sector capacity			
Use of natural, cultural and other resources for community development)	2	4	8
Revenue generation through hospitality services (as B&Bs, restaurants, etc.)	1	3	3
Professional use of tourism related Knowledge and HR capacity	1	2	2
Overall Tourism sector resource utilization	1	1	1
Total Tourism Sector Max 50			14

Total Score Resource Utilization			<u>63</u>
---	--	--	------------------

Source: CCA Workshop Data - Heifer Armenia Calculations

* The general evaluations of each sector involve expert evaluation of various components of influence to sector capacity and its utilization. Regarding the dairy sector, for example, the following factors were taken into account: knowledge and experience of the community in this specific sector, willingness of the community to invest in the sector, etc.

The total resource utilization score of Karaglukh community was 63 out of 150. The lowest score of the community in this regard related to the tourism sector resource utilization as similar to many other rural communities in Armenia there is hardly any economic activity in this sector. Natural, cultural and other resources of the community with touristic value are not being utilized for commercial purposes. With a total weighted score of 14, tourism sector is the most under-utilized sector of the community evaluated in this framework.

With a score of 27, dairy sector had highest score regarding resource utilization. Currently scores on milk collection levels are very low as there is hardly any raw milk collected/sold in the community. If the necessary conditions exist, next to potential for increased production and productivity, there is enough fodder base in the community which still can be exploited for animal husbandry and milk production.

With a weighted score of 22, the fruit sector scored second regarding resource utilization. Fruit sector evaluations involve utilization of production capacities regarding high quality (marketable) fruit. The capacities of Karaglukh regarding high quality fruit production are relatively low as the community has small land resources which can be utilized as orchards aimed at fruit production. Scores also take into account the relatively large volume of walnuts sales in comparison to the total fruit production.

.

5. ENABLING ENVIRONMENT

A very important factor for community development and consequently a focus point of the community competitiveness assessment is the environment. Enabling environment is an overarching factor that involves a set of broad issues which directly influence all aspects of community development. The factors assessed by our model involve five main indicators that assess the environment from different specific perspectives relevant to the ARDI program. These factors involve:

- Willingness of community members and local officials to commit and invest resources (time and money) in community development.
- Willingness of community members to cooperate with one another towards common gain and development.
- Coverage of the community by other development projects/initiatives.
- Linkage of community with existent (business) support structures, both public and private.
- Position of the community to serve surrounding communities

These factors are assessed by focus group members on a scale of one to five where “one” is the worst score and “five” the best. The total maximum score on enabling environment is 100. Communities that score high on these features are considered having enabling environment on the features that are of crucial importance for the ARDI program. Moreover these factors all have certain weights which to some degree stress the importance of each specific factor to the program. Table 6 presents the scores of Karaglukh in relation to the mentioned indicators and the total weighted score of the community regarding enabling environment.

Table 6 Karin Enabling Environment

Indicators	Score (1-5)	Weight	Weighted Score
Willingness of community members and officials to invest and activity participate in the program	2	6	12
Willingness of community members to cooperate towards common gain and development	3	4	12
Coverage of the community by other development projects/initiatives.	2	1	2
Linkage of community with existent (business) support structures	2	1	2
Position of the community to serve surrounding communities	4	8	32
Total Score Enabling Environment			<u>60</u>

Source: CCA Workshop Data - Heifer Armenia Calculations

The total score of Karaglukh on enabling environment is 60. The highest score of Karaglukh regarding enabling environment relates to the position of the community to serve surrounding communities as a cluster center and contribute to the development of nearby communities.

The second highest scores of the community namely 12 related to the willingness of community members to cooperate towards common gain and development and the motivation of community members and officials to invest resources and actively participate in the program. The ability to work with each other is important in case cooperative approaches such as milk producer or fruit processing cooperatives are to be established in the community. This was also made obvious during community assessment sessions and focus group discussions as community members participated very actively in these meetings as focus group members and observers.

Furthermore, the community has limited links to existent (business) support structures and there are currently very few other development programs being implemented in Karaglukh. Consequently the community scored relatively low on these factors.

6. CONCLUSIONS

Karaglukh is located near the Karaglukh River in an area surrounded by mountains on the southern plateau of Vardenis mountains in Vayotsdzor marz. The community houses 201 families and 883 residents, of which the vast majority is involved in animal husbandry, followed by horticulture and beekeeping activities.

The total competitiveness assessment score of Karaglukh was 92. This is the product of the accumulated score of Karaglukh on community resources and enabling environment minus the score on resource utilization. In general, the community scored relatively high on community resources and lower on enabling environment. Regarding general community resources, the community among others scored high on community vitality and community education level. Community vitality relates to the relatively large population of young individuals that can get involved and contribute to the development of the community.

In terms of sector or value chain specific resources Karaglukh scored the highest on dairy sector capacity (27) which involved relatively high quality of the produced milk in the community. Fruit sector related capacities of the community followed the Dairy sector and the tourism sector related capacities of the community scored the lowest. Taking into account the resources of the community regarding animal husbandry, this sector have strong potential for contribution to Karaglukh's development.

With regard to resource utilization; similar to the surrounding communities in the region, utilization of resources was the lowest in the tourism/hospitality sector as there are hardly any professional tourism services offered. The second most under-utilized sector was the dairy sector as there is still more potential for raw milk production and sales. The lack of sector related infrastructure such as collection/consolidation points in the community and organized sales of raw milk are some of the main factors hampering sector growth.

The fruit sector had the highest score regarding resource utilization. The capacities of Karaglukh regarding high quality fruit production are nevertheless limited as the community has limited land resources. Therefore existent resources for high qualitative production are currently utilized to the maximum.

Karaglukh scored relatively high on enabling environment. Though the community has relatively limited links with existent business support structures and is not sufficiently covered by development organizations, the community is very well positioned to serve as a community cluster. The position of the community to serve surrounding communities has a large importance to ARDI program as the potential impact of the direct investments made by the program into a community is very much dependent on the ability of the community to serve surrounding communities and contribute to the development of these communities as well. The community also scored relatively high on factors related to the willingness of community members to cooperate towards common gain and development, and the motivation of the community population to invest resources and actively participate in the program.

7. APPENDIX 1: APPRAISAL APPROACH

Community Resources	
Indicator	Appraisal Measures
General Community Capacity	
Community Educational level	Level of education and agricultural targeting of education as percentage of population with Secondary professional and Higher education on a scale of 1-5 where [0-5%=1] – [5-10%=2] – [10-20%=3] [20-40%=4] – [40%+=5]
Community vitality (number of people aged 15-29/community population) on a scale of 1-5	Number of people aged 15-29/community population) on a scale of 1-5 where [0-5%=1] – [5-10%=2] – [10-20%=3] [20-40%=4] – [40%+=5]
Community infrastructure (existence and condition of roads, water, energy sewage etc.) on a scale of 1-5	Existence and condition of infrastructure as water, energy sewage etc.) on a scale of 1-5 where [no-infrastructure=1] – [inadequate infrastructure=2] – [Usable quality infrastructure=3] – [good quality infrastructure=4] – [excellent infrastructure=5]
Community Natural resources (stone, diamond and other precious metal reserves etc.) on a scale of 1-5	Accumulated score of various resources such as forests, stone, diamond and other precious metal reserves etc.) on a scale of 1-5 where [no resources =1] – [forest and water=1] – [Stone mines=1] – [Precious metals=1] – [fossil fuel reserves as coal=1]
Dairy sector capacity	
Milk Production	(Milk production/per capita) on scale of 1-5 where [0-0.2=1] – [0.21-0.4=2] – [0.41-0.6=3] [0.61-0.8=4] – [0.81+=5]
Milk Productivity	(Milk production/animal head ratio etc.) on scale of 1-5 where [0 - 1=1] – [1- 1.5 =2] – [1.5-2=3] [2.1—2.5=4] – [2.5+=5]
Fodder Availability	(Animal/pasture ratio on scale of 1-5 where [0 - 1=1] – [1- 2 =2] – [2-3=3] [3-4=4] – [4+=5]
Dairy sector related experience and infrastructure (on scale of 1-5)	Accumulated score of various resources as educate people and people with professional experience on scale of 1-5 [Milk technicians =1] – [Vets =1] – [Experience in the sector=1] [Consolidation units=1] – [processing plants=1]
Fruits sector capacity	

Ability to produce quality fruit	Quantity of quality fruit production in tons per capita on scale of 1-5 where [0 - 1=1] – [1- 1.5 =2] – [1.5-2=3] [2.1—2.5=4] – [2.5+=5]
Fruit quality	Share of high quality fruit of the total fruit production scale on a scale of 1-5 where [0-10%=1] – [10-20%=2] – [20-40%=3] [40-80%=4] – [80-100%=5]
Existence of Fruit infrastructure	Hail centers and consolidation units etc. on scale of 1-5 in terms of perceptual coverage [0-10%=1] – [10-20%=2] – [20-40%=3] [40-80%=4] – [80-100%=5]
Fruit sector related experience and knowledge (on scale of 1-5)	Existence of educated people and people with professional experience in this sector including landscape experts etc.
Tourism Sector Capacity	
Tourism related resources as natural, cultural etc.	Existence of attractive natural environments, culinary specialties, hospitality of the people etc. on scale of 1-5.
Current tourist visits to the community	Number of visitors visiting the community annually (international and locals) on scale of 1-5 where [0 - 10=1] – [10 - 100 =2] – [100-200=3] [200-400=4] – [400+=5]
Existence of tourism infrastructure (B&Bs, restaurants, spas etc. on scale of 1-5)	Existence of B&Bs, hotels, restaurants, spas etc. on scale of 1-5 where existence of all different services is one extra point so only B&B and or hotel =1 points, Restaurants = 1 points, Spas =1 points, leisure possibilities/night life =1 and if all of these points exists 5 points.
Existence of tourism related experience and knowledge	Previous formal and informal experience with tourism service delivery on a scale of 1-5 where only informal hospitality is 1, informal paid hospitality is 2, formal experience as registered business is 3, formal with established links to local tour operators is 4 and formal with established links with international tour operators is 5.

Resource Utilization	
Indicator	Appraisal Measures
Dairy Sector	
Utilization of fodder base	Ratio of number of animals divided by the existent pasture and grassland – minus 1.8 On a scale of 1-5 where [0 – 0.5=5] – [0.5- 1 =4] –

	[2-3=3] [3-4=2] – [4+=1]
Milk collection level (production/collection on a scale of 1-5)	Raw milk production and regular collection ratio in percentage on a scale of 1-5 where [0-10%=1] – [10-20%=2] – [20-40%=3] [40-80%=4] – [80-100%=5]
Milk Productivity	Milk productivity compared to maximum productivity of Caucasian Grey (local breed of cows in Armenia which is 3.5. On a scale of 1-5 where [0 – 0.2=1] – [0.2- 0.5 =2] – [0.5-0.8=3] [0.8-1=4] – [1+=5]
Overall dairy sector resource utilization (on scale of 1-5)	Independents expert evaluation of various components of influence to sector capacity and its utilization.
Fruits Sector Capacity	
Utilization of quality production capacity	Percentage of quality production compared to actual production of fruits on a scale of 1-5 where [0-10%=1] – [10-20%=2] – [20-40%=3] [40-80%=4] – [80-100%=5]
Current sales of quality fruit production	Percentage of quality production sales compared to actual production of high quality fruits on a scale of 1-5 where [0-10%=1] – [10-20%=2] – [20-40%=3] - [40-80%=4] – [80-100%=5]
Professional Fruit processing	Professional (of farm) processing of fruit in the community as drying, juicing etc. where [0-10%=1] – [10-20%=2] – [20-40%=3] [40-80%=4] – [80-100%=5]
Overall fruit sector resource utilization	Independents expert evaluation of various components of influence to sector capacity and its utilization.
Tourism Sector Capacity	
Use of natural, cultural and other resources for community development of 1-5.)	Regularity of tourist visits to the natural cultural and other resources of the community where very rare=1, rare 2, occasionally =3, often is 4 and very often is 5.
Revenue generation through hospitality services (as B&Bs, restaurants, etc. on scale of 1-5)	Contribution of tourism to community income generation on a scale of 1-5 where [0-10%=1] – [10-20%=2] – [20-40%=3] - [40-80%=4] – [80-100%=5]
Professional use of tourism related Knowledge and HR capacity (on scale of 1-5)	Number of people working and utilizing their tourism related experience in this sector as percentage of total community population where [0-10%=1] – [10-20%=2] – [20-40%=3] - [40-80%=4] – [80-100%=5]
Overall Tourism sector resource utilization (on a scale of 1-5)	Independents expert evaluation of various components of influence to sector capacity and its utilization.

8. APPENDIX 2: INFRASTRUCTURAL INVENTORY



ARDI is a 5-year program funded by the US Agency for International Development. Launched in September 2013; the program aims to increase rural employment by tackling constraints to rural economic development of communities in the Syunik, Vayots Dzor and Lori Marzes (provinces) of Armenia. The program will support interventions in three main rural economic sectors/Value Chains involving Dairy Processing, Fruit Processing and Rural Tourism.