



ADVANCED RURAL DEVELOPMENT INITIATIVE (ARDI)

COMMUNITY COMPETITIVENESS ASSESSMENT

Gndevaz



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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.



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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 Gndevaz community.

2. COMMUNITY PROFILE

Gndevaz is located near the Arpi River in an area surrounded by mountains on the southern plateau of Vardenis mountains in Vayots Dzor marz. The community has a very rich history and is one of the oldest communities in the region.

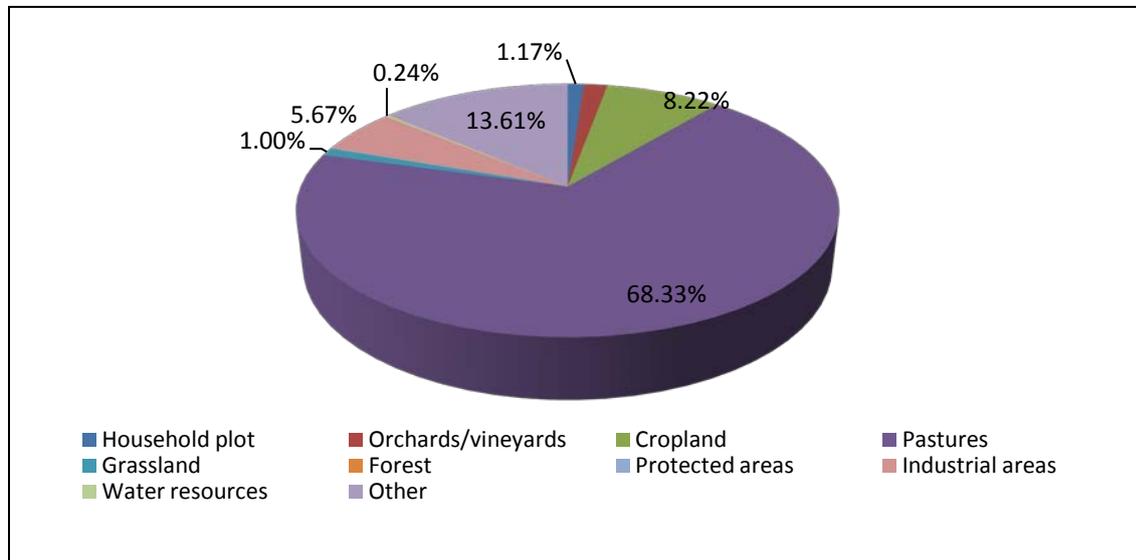
The community is located on an altitude of approximately 1,850 meters above sea level, on a 30 km distance from Yeghegnadzor and 12 km from Jermuk. Gnedvaz borders with Saravan, Artavan, and Her-Her communities. Gndevaz has a relatively mild climate and fertile lands despite the high altitude.

Population of the community is comprised of Armenian families of whom the ancestors moved to Gndevaz from Khoy and Salmast. There are various old monuments in Gndevaz and the surroundings of the community which are popular for tourists. This includes Gndevank (10th-17th centuries) and ljevanatun (historical inn or hostel) from the 10th-13th centuries, a 1 km wall on the southern part of the community (17th century) the Holy Cross chapel, the remaining's of a fortress and various cross stones from the 11th – 19th centuries.

2.1. Community Territory

The total surface area of Gndevaz covers an area of 6000 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: Gndevaz Community Land Register

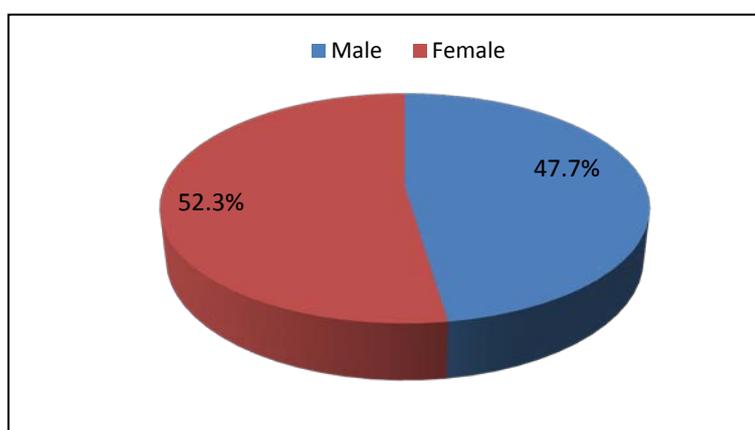
A dominant share of Gndevaz's territory involves large pastures. Pastures and croplands make up about 70 percent of the total community territory and form the first and second largest shares of the total community territory. The make-up of community territory, in particular the very small share of orchards and great abundance of pastures and grasslands have significant influence on the development potential of the community and economic activity of community members.

Gndevaz also has an *animal to pasture* ratio of 13.9 which – by far exceeds 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/grassland)². The very high *animal to pasture* ratio of the community points towards the strong ability of Gndevaz to produce large quantities of fodder which is enough for supplying fodder for the current cattle and much larger number of animals in case of increased cattle headcount in the community.

2.2. Demographic Profile

Currently Gndevaz houses 212 families and the community has a *de facto* population of 1007 residents of which 418 or 52.3 percent are male and 527 or 47.7 percent are female.³ If we take into account the population of the community in 2001 which was 960, the total population of Gndevaz has grown during the previous decade.

Figure 2 Gender Classification of the community



Source: CCA Workshop Data - Heifer Armenia Calculations

About 21 percent or 215 people of Gndevaz’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 average marz level statistics reveal a 13 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
Gndevaz	75 – 7.4%	60 – 6.0%	80 – 7.9%
V.Dzor Marz	3359 - 6%	2343 - 4%	1849 - 3%

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 considerably higher than marz level average. The relatively high number of young individuals

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.

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

in the community will allow planning and implementation of youth specific (long term and sustainable) interventions by the ARDI program.

2.3.Economic Profile

Results of community assessments point that horticulture, livestock breeding and crop production and services are the main economic sectors of Gndevaz. 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 raw milk output of the Gndevaz is 450 tons of milk per year. This is about 447 liters of milk production per capita which is relatively low figure compared to communities with strong animal husbandry focus. The total sales of milk products do not exceed 70 percent of total milk production. This should result in an overall monetary output of about 63 mln AMD per year generated by sales of dairy products. Gndevaz also has a focus on meat production as annually about 40 tons of meat is produced in the community. About 60 percent of the produced meat is sold annually which generates an output of about 59.4 mln AMD.

The community also has about 200 beehives which altogether produce about 2.4 tons of honey annually. Compared to raw milk, community members are much more successful in selling honey as about 90 percent of the final production reaches consumers. This generates a monetary output of about AMD 6.5 mln per year if average retail prices are applied.*

Table 2 Main Agricultural Outputs of Gndevaz

Economic Sectors	Annual agricultural output (tons)	Percentage Sold	Monetary Output (mln AMD)*
Livestock breeding	Milk 450 t – Meat 40 t	70% – 60%	63 – 59.4
Beekeeping	2.4 t	90%	6.5
Horticulture	Fruit 120 + 15 t (apples 20, apricots 100, walnuts 15)	63%	28
	Vegetables 190 t (potatoes 100 and others)	50%	8

* 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, apricots 250, walnuts 1,000, potatoes 100, onion 150

Source: CCA Workshop Data - Heifer Armenia Calculations

The very rich soil of Gndevaz and its surroundings is very suitable for horticulture and fruit production. Although the community has limited orchards, nevertheless different types of fruit are still cultivated by community members. The mild climate and rich soil create perfect conditions for fruit production.

Currently the community produces about 120t of fruit, also walnuts 15t of which about 60 percent is sold. The main types of produced fruits in Gndevaz are apricots, apples and also walnuts with 100, 20 and 15 tons of production of each type respectively. This generates

monetary output of around AMD 28 mln annually. 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.

Along fruit production the community also produces small quantities of vegetables. This mainly involves production of potatoes, tomatoes, peppers, onions, etc. Due to the limited land resources available for cultivation, vegetable production is relatively small and is mainly aimed for own consumption. The monetary output from vegetables sales is around AMD 8 mln in Gndevaz.

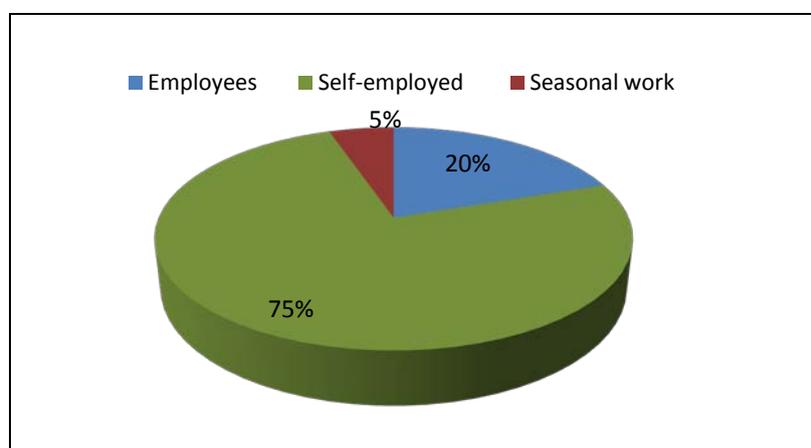
To identify possible alternative economic development directions, focus group members were also requested to highlight possible alternative economic sectors for their community. This includes sectors or fields of occupation which currently are not tapped into adequately. These sectors provide further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

In response community members indicated to see potential for rural tourism, fish breeding and tobacco production. According to focus groups members, the impressive natural resources which surround the community and various cultural and historical monuments of the Gndevaz can attract much more visitors to the community and its surroundings than currently is the case. The resources of the community regarding tourism are described in more detail in chapter 3.

2.4. Labor Force and Employment

Currently Gndevaz has a working age population of 707 people (*de facto* population between 16 and pension age 64). Hundred forty individuals or 20 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.

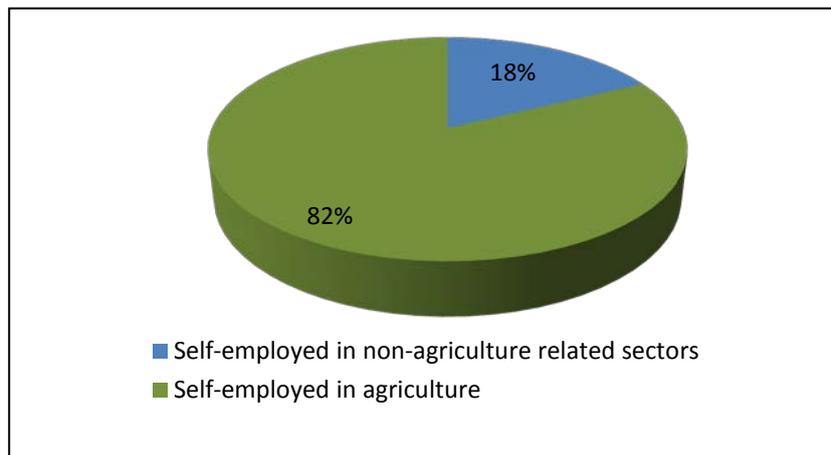
Figure 3 Occupation of Working Age population



Source: CCA Workshop Data - Heifer Armenia Calculations

As illustrated above, 5 percent of the working age population is engaged in seasonal work mostly within Armenia. About 75 percent of the working age population in Gndevaz is self-employed. The community therefore mainly relies on self-employment and entrepreneurship. Of the self-employed, 18 percent are occupied in non-agriculture related and 82 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 reveal 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 60 percent of the overall population of Gndevaz or 600 people have secondary education, and 25 percent completed either college (post-secondary vocational high education) or university (higher) education.

Figure 5 Community Education level

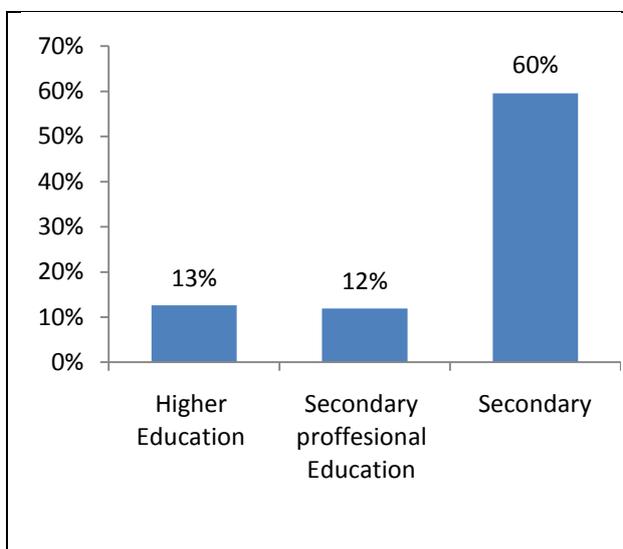
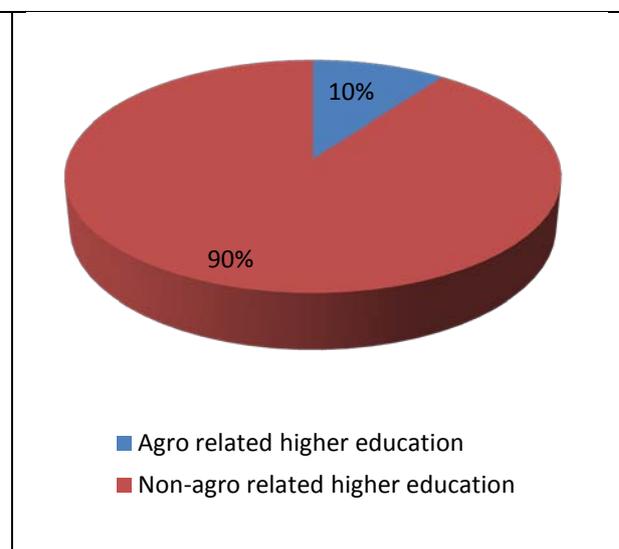


Figure 6 Field of Higher Education



Source: CCA Workshop Data - Heifer Armenia Calculations

Gndevaz has human resources in both agriculture and non-agriculture related fields, yet, the number of people educated in non-agro related fields is significantly larger. As presented in the figures above, of the population with professional education (post-secondary vocational high education and/or higher education) about 10 percent has agriculture related education and the remaining 90 percent is educated in non-agriculture related fields, mainly finance and engineering. From the group with non-agriculture related education community members have mainly Engineering, Management and Finance related education. The latter is particularly important for setting up/development of rural businesses including cooperatives where adequate financial management is crucial. There is nobody in Gndevaz 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	5	(Milk) technicians	0
Engineering	12	Engineering	2
Management	2	Management	0
Tourism	0	Veterinarians and zoo technicians	12

Source: CCA Workshop Data - Heifer Armenia Calculations

With regard to agriculture related education and expertise, there are 2 engineers and 12 veterinaries and zoo technicians in the community which cover the need of community members for these services. Existence of adequate number of vets and zoo technicians in the community is significantly important for advanced development of animal husbandry. There are however no milk technicians and people with agro-management related education in the community.

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 Gndevaz's development. Focus group members highlighted the following issues as the main factors threatening the natural environment of Gndevaz:

- Amulsar gold mining project

The Amulsar project is a new gold and silver mining project located in the community and its surroundings. The deposits are located on the ridge peaks in the region of Mount Amulsar, in the Northern Zangezur mountain chain. The mining process will be an open pit and the extraction of the gold and silver will be carried out using heap leaching technology.

In 2005, the RA Government granted a free-of-charge, 25-year license to Geoteam, a subsidiary of Lydian International Ltd, a company in which the International Finance Corporation and the European Bank for Reconstruction and Development are major stakeholders. The company eventually hopes to extract the 2.5 million ounces of gold from Amulsar Mountain. Operations are expected to begin in 2014.

Critics warn that an open-pit gold mine in the location will inevitably result in hazardous emissions that can create ecological hazards for Jermuk and five nearby villages, as well as threats to Armenia's second-largest reservoir, Spandarian, also situated some two kilometers away Kechut reservoir.

The actual impact of Amulsar mining project on the community is currently not clearly studied yet community members fear for the worse and believe that the impact on the development of the community will be large.

3. COMMUNITY RESOURCES

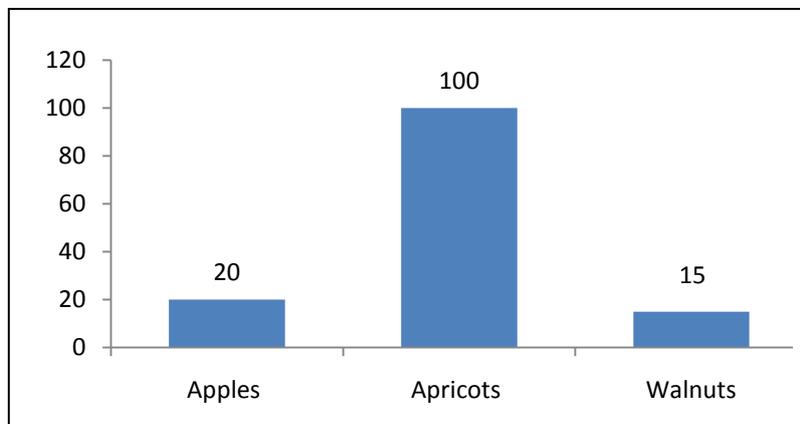
This section of the community assessments focuses on the resources and capacities of target communities in the three main target sectors/value chains of the ARDI program. This involves the Dairy, Fruit and Rural Tourism value chains. The results presented in this subsection will allow us to narrow down 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 Gndevaz community is provided in APPENDIX 2 of this report.

3.1. Fruits Sector Capacity

Fruit production volumes in Gndevaz are relatively small, which reasonable if we take into account the limited land resources of the community. Currently the main types of fruits produced in the community are apricots, apples with 100 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 relatively small in Gndevaz. Sales of fruit are mainly targeted at small middle men and retailers in local markets and sometimes also to Grand Candy JV Co Ltd.

There is currently no fruit sector specific infrastructure in Gndevaz 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 Gndevaz:

- Lack of market access
- Low prices and unstable markets
- Access to adequate machinery and equipment

According to community members limited market (access) and the relatively low sales prices of fruit and high production costs which imply that the return or profit margins are small are the main factors hampering fruit production in the community.

Although land in and around Gndevaz is considered to be fertile, land resources dedicated to fruit production are relatively small and there is a large risk of hail during the cultivation season. Absence of modern machinery and agricultural equipment is according to the community members also one of the main factors hampering the development of the sector.

3.2. Dairy sector capacity

As illustrated in the economic profile of the community, livestock breeding is currently one of main economic sector for Gndevaz. Currently about 20% of the animal holders in Gndevaz are small holder farmers who primarily are active in this value chain. Community members have about 300 cows and tentatively produce about 450 tons of raw milk worth about AMD 90 mln 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 4.5 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 Gndevaz 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 into milk processing. This also results in higher sales related costs and much more irregular and unpredictable income from selling the dairy products.

Gndevaz has vast pastures and grasslands, and the available land area provides the community with abundant fodder base for more cattle headcount. Gndevaz does not have a problem regarding drinking water for the animals and the community makes use of distant pastures and grasslands. Yet, the community does believe that in case of increased headcount it is likely to need more drinking facilities for the cattle.

Currently 12 veterinarians and zoo technicians are active in Gndevaz, 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 sold to processors such as Golden Goat and a milk processing plant in Jermuk.

To this end, the community has potential to produce milk specially having in mind the very large pastures of the community, yet the lack of value chain related infrastructure such as consolidation units hamper milk production and sales by the community.

3.3. Tourism Sector Capacity

Gndevaz currently attracts about 500-1000 foreign and local tourists annually who predominantly on their way to Jermuk come to the surrounding areas of the community. Tourists mainly learn about Gndevaz through professional tour agencies which promote the community, the internet and word of mouth.

Currently there are no B&Bs and/or hotels which offer accommodation services in Gndevaz yet there are many facilities in the 20 km surrounding of the community which are primarily centered in Jermuk. These facilities together have the capacity to accommodate a great number of guests each year.

Gndevaz has vast natural resources which according to community members can attract tourists. The following are some of the main natural resources of the community with a touristic value:

- The valley and the beautiful scenery surrounding the community
- Mountainous surroundings

The following are the main cultural resources of the community:

- Gndevank Church

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

- Products such as wine, walnut and fruits
- Chanakh cheese
- Lavash
- Apricots
- Holy cross feast (September of each year)
- Harvest Festival

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

- Bad quality of the roads
- Lack of essential infrastructure such as B&Bs with minimum required living conditions etc.

Yet, despite the mentioned issues, community members believe that Gndevaz 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 Gndevaz 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 Gndevaz 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 Gndevaz Community Resources (on a scale of 1-5)

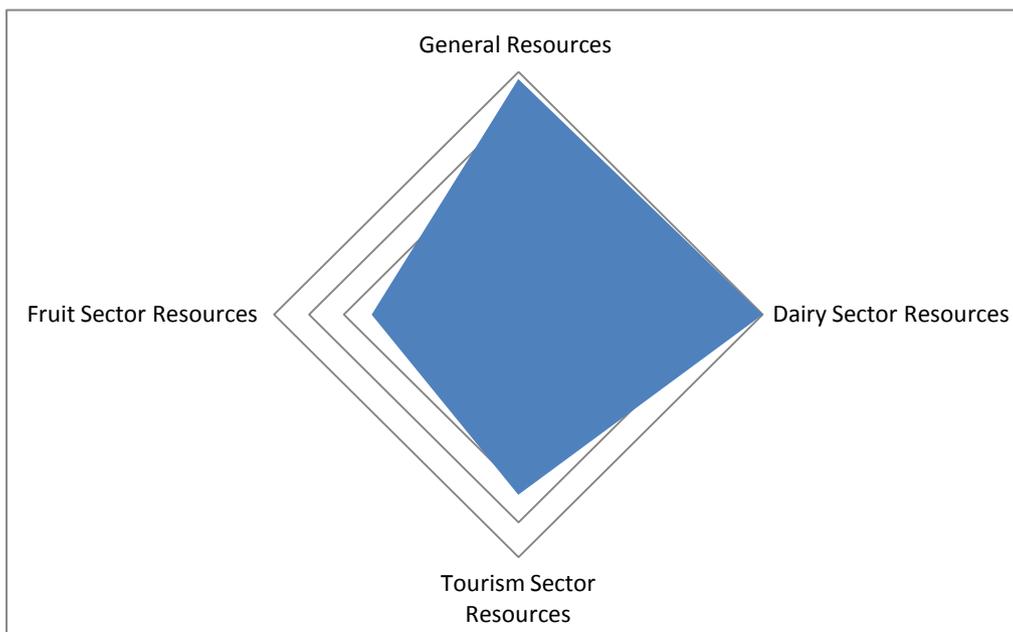
Indicator	Score	Weight	Weighted Score
General Community Capacity			
Community Educational level (25)	4	3	12
Community vitality (21)	4	3	12
Community infrastructure (existence and condition of roads, water, energy sewage etc.)	2	2	4
Community Natural resources	3	2	6
Total Score General Community capacity			34
Dairy sector capacity			
Milk Production (Milk production/per capita) 0.45	3	4	12
Milk Productivity (Milk production/animal head ratio) 2.0	3	2	6
Fodder Availability (Animal/pasture) 13.9	5	3	15
Dairy sector related experience and infrastructure	2	1	2
Total Score Dairy Sector Capacity			35
Fruits sector capacity			
Ability to produce quality fruit	1	4	4
Fruit quality	4	3	12
Existence of Fruit infrastructure (hail centers etc.)	1	2	2
Fruit sector related experience and knowledge	3	1	3
Total Score Fruit Sector Capacity			21
Tourism Sector Capacity			
Tourism related resources as natural, cultural etc.	3	3	9

Current tourist visits to the community	5	2	10
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			26
Total Score Community Resources			<u>116</u>

Source: CCA Workshop Data - Heifer Armenia Calculations

The highest scores of Gndevaz regarding Community Resources relates to the scores of the dairy sector capacities and general community resources, with respective scores of 35 and 34. The third highest score of the community to the tourism sector related resources of Gndevaz which scored 26. With a score of 21 the fruit sector followed the tourism sector. The total weighted score of Gndevaz on community resources is 116. The following figure presents a visual illustration of the community resources in the four indicated areas.

Figure 8 Gndevaz 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 Gndevaz 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 Gndevaz Community Resources Utilization

Indicator	Score	Weight	Weighted Score
Dairy sector capacity			
Utilization of fodder base (Animal/pasture on a scale of 1-5)	1	3	3
Milk collection level (production/collection)	1	4	4
Community milk Productivity	2	1	2
Overall dairy sector resource utilization*	2	2	4
Total Dairy Sector (Max 50)			13
Fruits sector capacity			
Utilization of quality production capacity	4	3	12
Current sales of quality fruit production	4	3	12
Professional Fruit processing	2	2	4
Overall fruit sector resource utilization	3	2	6
Total Fruit Sector Max 50			34

Tourism sector capacity			
Use of natural, cultural and other resources for community development)	4	4	16
Revenue generation through hospitality services (as B&Bs, restaurants, etc.)	1	3	3
Professional use of tourism related Knowledge and HR capacity	2	2	4
Overall Tourism sector resource utilization	3	1	3
Total Tourism Sector Max 50			26
Total Score Resource Utilization			<u>73</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 Gndevaz community was 73 out of 150. The lowest score of the community in this regard related to the dairy sector resource utilization which scored of 13. There are vast pastures and fodder base in the community which still can be exploited for animal husbandry. Also currently among others scores on milk collection levels are very low as there is hardly any raw milk collected in the community.

With a score of 26, the tourism sector was the second most under-utilized sector in Gndevaz. Similar to many other rural communities in Armenia there is relatively little economic activity in this sector. Natural, cultural and other resources of the community with touristic value are not fully utilized for commercial purposes.

With a weighted score of 34, the fruit sector scored the highest regarding resource utilization. Fruit sector evaluations involve utilization of production capacities regarding high quality (marketable) fruit. The capacities of Gndevaz regarding high quality fruit production are relatively high despite the fact that community has limited land resources which can be utilized as orchards aimed at 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 Gndevaz 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	3	6	18
Willingness of community members to cooperate towards common gain and development	2	4	8
Coverage of the community by other development projects/initiatives.	3	1	3
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>63</u>

Source: CCA Workshop Data - Heifer Armenia Calculations

The total score of Gndevaz on enabling environment is 63. The highest score of Gndevaz regarding enabling environment related the position of the community to serve surrounding communities as a cluster center and contribute to the development of nearby communities. The second highest score namely 18 relates to the willingness of community members to invest resources and actively participate in the program.

The willingness of community members to cooperate towards common gain and development and had the third highest score. 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. Furthermore, the community has limited links to existent (business) support structures and there are currently very few other development programs being implemented in Gndevaz. Consequently the community scored relatively low on these factors.

6. CONCLUSIONS

Gndevaz is located near the Gndevaz River in an area surrounded by mountains on the southern plateau of Vardenis mountains in Vayotsdzor marz. The community houses 212 families and 1007 residents, of which the vast majority is involved in animal husbandry, followed by horticulture and beekeeping activities.

The total competitiveness assessment score of Gndevaz was 106. This is the product of the accumulated score of Gndevaz 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 Gndevaz scored the highest on dairy sector related capacities. The community among others has vast pastures that can produce enough fodder bases for a much larger cattle headcount than currently exists. The tourism sector capacities of the community followed the dairy sector with a score of 26. The community already attracts relatively large numbers of visitors and benefits from its proximity to Jermuk. The third highest score was that of the fruits sector.

With regard to resource utilization; resource utilization was again the lowest in the dairy sector. This predominantly involved issues as availability of fodder, milk productivity etc. 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 second most underutilized sector was tourism. Similar to the surrounding communities in the region, utilization of resources was the lowest in this sector as there are limited professional tourism services offered. Resource utilization is the highest in the fruit sector. The capacities of Gndevaz regarding high quality fruit production are nevertheless limited as the community has limited land resources for this purpose.

Gndevaz has relatively high score on enabling environment. The community has limited links with existent business support structures yet it is quite well positioned to serve as a community cluster center. 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 the motivation of the community population to invest resources and actively participate in the program.

7. ANNEX 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. ANNEX 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.