



# ADVANCED RURAL DEVELOPMENT INITIATIVE

## COMMUNITY COMPETITIVENESS ASSESSMENT

### Arpi



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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.<sup>1</sup> 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

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<sup>1</sup> 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 Arpi community.

## 2. COMMUNITY PROFILE

Arpi is located by the Arpi river in an area surrounded by mountains in Vayots Dzor marz. The community was founded in 1965 when it was officially separated from the nearby Areni and Gnishik communities.

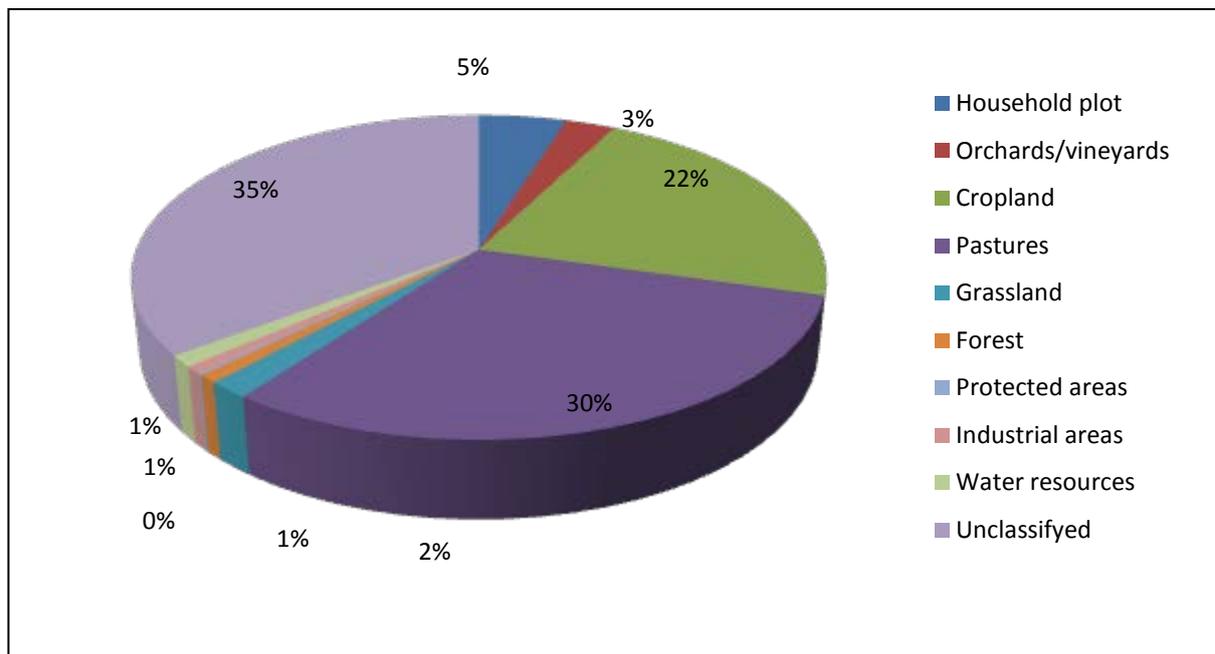
Arpi is located on altitude of approximately 1,100 meters above sea level, on an 8 km distance from marz capital Yeghegnadzor and borders with Areni, Gnishik, Aghavnadzor and Getap communities. The climate is dry and deserted; the community is surrounded by mountains and rocks, which define the economic conditions.

There are a number of old monuments situated in the neighborhood. Some of which attract pilgrim visitors every year. The river is rich with fish such as river trout and “beghlu” a small river type catfish). Moreover, there are two wine factories and a silicate stone mine located on the territory of the community.

### 1.1. Community Territory

The total surface area of Arpi covers an area of 1347.3 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



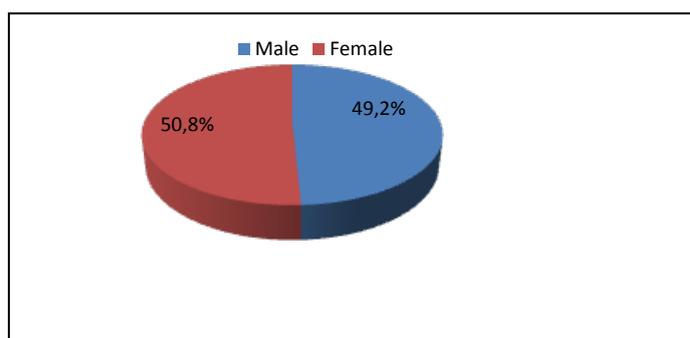
Source: Arpi Community Land Register

A large share (35%) of Arpi’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. That is also why this vast territory is part of the other or “unclassified” area. Pastures and croplands make up about 30 and 22 percent of the total community territory and form the second and third largest shares of total community territory. The orchards and vineyards in community have significant influence on the development potential of the community and economic activity of community members.

On the other hand, Arpi has a very small *animal to pasture* ratio of 1.5 which - is below 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)<sup>2</sup>. The farmers engaged in animal breeding have to buy almost 50% of fodder from other communities. Demographic Profile

Currently Arpi houses 323 families and the community has a *de facto* population of 1278 residents of which 629 or 49 percent are male and 649 or 51 percent are female.<sup>3</sup> If we take into account the population of the community in 2001 which was 1061, the total population of Arpi has grown significantly during the previous decade.

**Figure 2** Gender Classification of the community



**Source:** CCA Workshop Data - Heifer Armenia Calculations

About 27 percent or 345 people of Arpi’s population are young individuals, aged between 15-29. 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 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
<b>Arpi</b>	87 – 7%	119 – 9%	139 – 11%
<b>Vayots Dzor Marz</b>	3359 - 6%	2343 - 4%	1849 - 3%

**Source:** CCA Workshop Data - Heifer Armenia Calculations and NSS data <sup>4</sup>

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.

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

<sup>3</sup> Heifer Armenia database of official statistics provided by community centers.

<sup>4</sup> National Statistical Service of RA (2003), Results of 2001 Population Census OF RA (figures of Vayots-dzor), available at: [www.armstat.am](http://www.armstat.am)

## 1.2.Economic Profile

Results of community assessments point that horticulture, livestock breeding and beekeeping are the main economic sectors of Arpi. A certain part of Arpi's population is also engaged in trade, which mainly involves trading their crops and some local specialties on the nearby market. 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 the Arpi in the livestock breeding sector is 540 tons of milk. This is about 422 liters of milk production per capita which is relatively low compared to communities with animal husbandry focus. The total sale of milk products does not exceed 60 percent of production. This should result in an overall monetary output of about 65 mln AMD per year generated by the sales of raw milk.

Farmers in Arpi also focus on meat production as about 25 tons of beef is produced in the community annually. Compared to raw milk, community members are much more successful in selling meat as about 80 percent of the produced beef is sold, tentatively generating about AMD 49.5 mln per year.\*

**Table 2** Main Agricultural Outputs of Arpi

Economic Sectors	Annual Agricultural output (tons)	Percentage Sold	Monetary Output (mln AMD)*
Livestock breeding	Milk 540 t meat - 25 t	60% – 80%	64.8 – 49.5
Beekeeping	7 t	80%	16.8
Horticulture	Fruit 420 t (apricots 150, peaches 200, pears 40, apples 30)	60%	42,3
	Vegetables 240 t (potatoes 40, tomatoes 60, onions 120, cucumbers 20 t et c)	63%	24,2

\* 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, peaches 130, potatoes 100, tomatoes 150, cucumbers 200, onion 150.

**Source:** CCA Workshop Data - Heifer Armenia Calculations

The community also has about 550 beehives which altogether produce about 7 tons of honey annually. Honey is also one of the products that community members sell relatively easy as about 80 percent of the final production reaches consumers. This generates a monetary output of about AMD 16,8 mln per year if average retail prices are applied.

The rich soil of Arpi and its surroundings is very suitable for horticulture and fruit production. Although the community has limited orchards, nevertheless different types of fruit are cultivated by community members. Currently the community produces about 420 t of fruit of which about 60 percent is sold. The main types of produced fruits in Arpi are apples, pears, apricots and peaches with 30, 40, 150 and 200 tons of production of each type respectively. This generates monetary output of around AMD 42,3 mln annually and indicates a significant potential further develop 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.

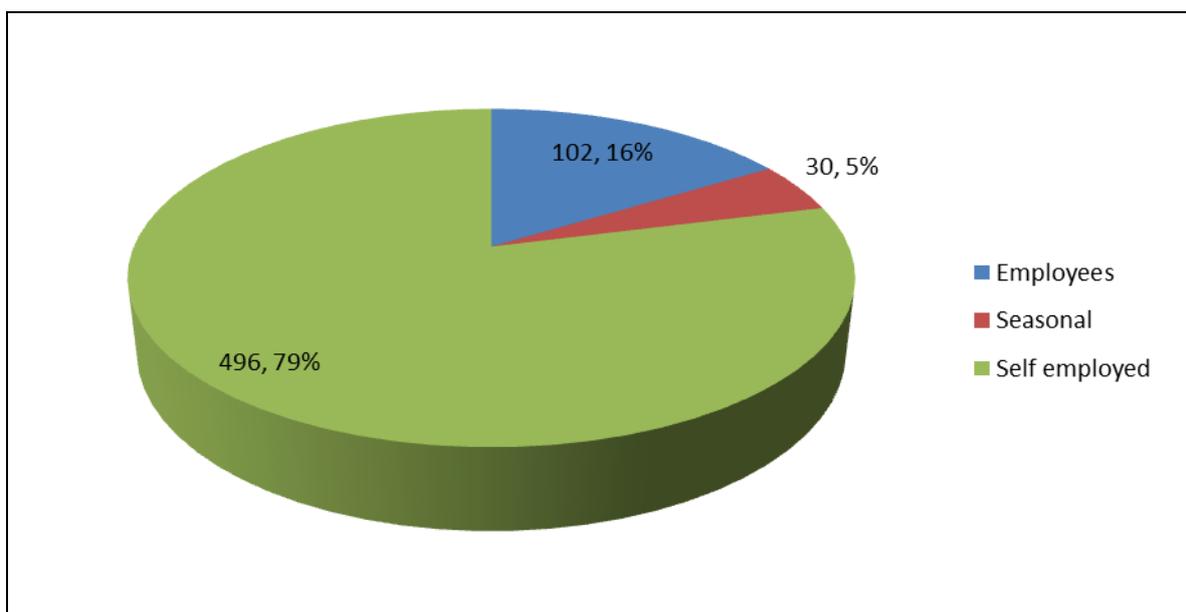
Currently along fruit production the community also produces limited quantities of vegetables. This mainly involves production of potatoes, onions, tomatoes etc. In average about 60 percent of the vegetables are sold in retail markets. This generated additional AMD 24,2 mln for the community members. The rest of the vegetable produce is used by the households for nutrition.

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 developing B&B facilities in their community as they see a rich potential for developing rural tourism. Another opportunity indicated by the community members was to develop dried fruit processing as there is abundance of fruit in the community and developing fruit processing chain will add value to the fruit produced.

### 1.3. Labor Force and Employment

Currently Arpi has a working age population of 628 people (*de facto* population between 16 and pension age 64). 102 individuals or 16 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 (mine workers, wine factory workers etc.), 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:

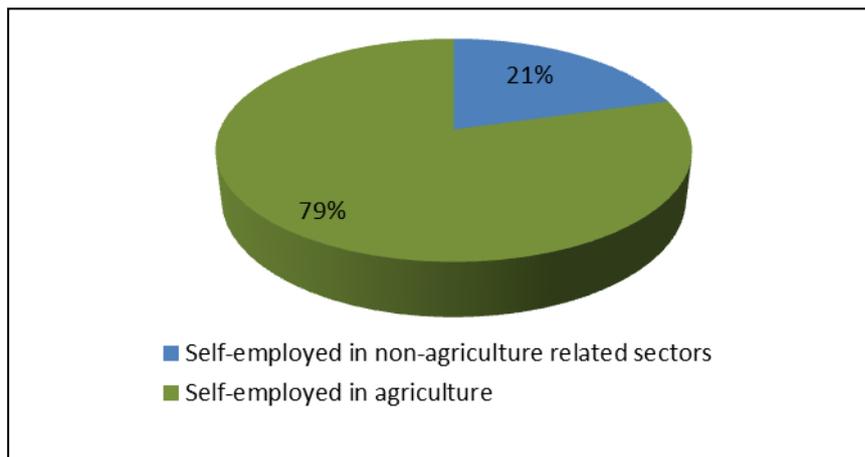
**Figure 3** Occupation of Working Age population



Source: CCA Workshop Data - Heifer Armenia Calculations

As illustrated in Figure 4, 5 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 80 percent of the working age population in Arpi is self-employed. Of this group 21 percent are occupied in non-agriculture related and 79 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 revealed 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 42 percent of the overall population of Arpi or 540 people have secondary education, and 37 percent completed either college (post-secondary vocational high education) or university (higher) education.

Figure 5 Community Education level

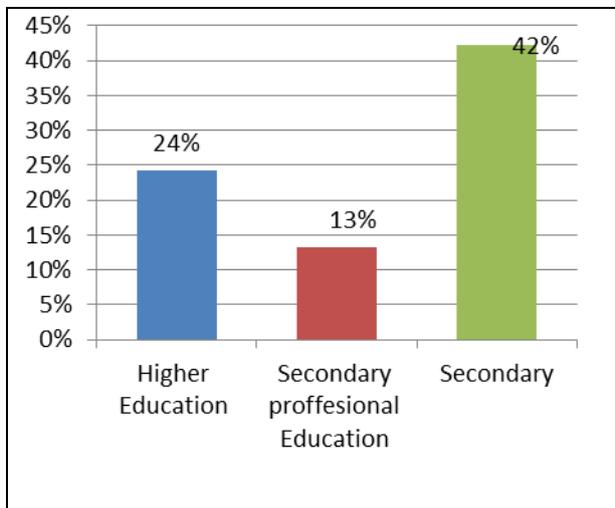
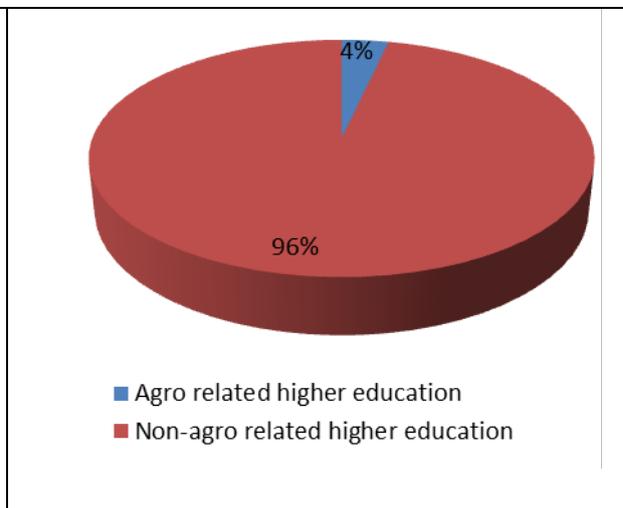


Figure 6 Field of Higher Education



**Source:** CCA Workshop Data - Heifer Armenia Calculations

Although not very large in comparison to the neighboring communities, Arpi 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 4 percent has agriculture related education and the remaining 96 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 are two people in the community with 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	1
Engineering	18	Engineering	3
Management	2	Management	0
Tourism	2	Veterinarians and zoo technicians	3

**Source:** CCA Workshop Data - Heifer Armenia Calculations

With regard to agriculture related education and expertise, there is 1 (milk) technician and 3 engineers in the community. There are no experts with agro-management related education in Arpi. Moreover, there are 3 veterinarians in the community which 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.

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

- Floods
- Landslides

As the main issue threatening the natural environment of the community, focus group members mentioned floods. Arpi is located in a very mountainous area therefore snowmelt flooding occurs very often. During the spring, Herher lake situated in the nearby Herher community is melting and floods Arpi's croplands. As a result the grain crops from these croplands are almost every year lost.

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

### 3. COMMUNITY RESOURCES

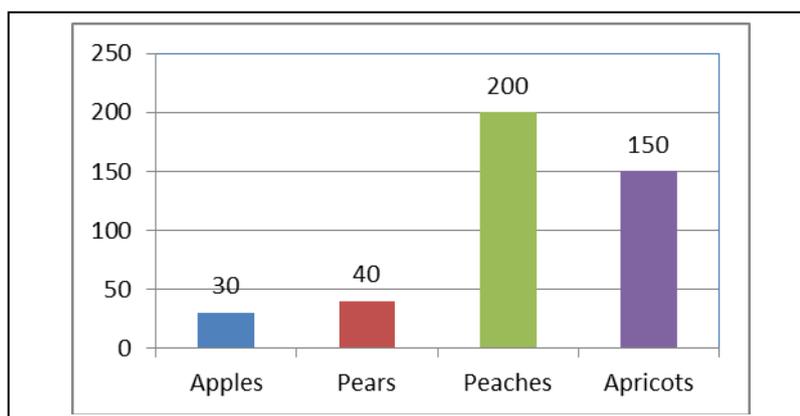
This section of the community assessments focuses on the resources and capacities of target communities in the three main target sectors/value chains of the ARDI program. This involves the Dairy, Fruit and Rural Tourism value chains. The results presented in this subsection will allow us to narrow down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

#### 3.1. Fruits Sector Capacity

Fruit production volumes in Arpi 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 and peaches with 30, 40, 150 and 200 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 very small in Arpi.

Sales of fruit are mainly targeted at small middle men and retailers in local markets in other marzes and provinces of Armenia, such as Martuni, Sisian and Nagorno Karabagh. The location of the community on the main highway connecting Northern and Southern provinces

is creating favorable conditions to organize sells of agricultural produce on the on –road markets.

There is currently one consolidation/cooling unit present in the community, but it belongs to a sole entrepreneur and other community members cannot benefit from it. However it obviously shows the profitability of such an undertaking in the community.

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

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

However the community has significant land resources to produce high quality agriproduct.

### **3.2. Dairy sector capacity**

As illustrated in the economic profile, livestock breeding is currently one of the main economic sector of Arpi. Currently about 53 small holder farmers exist in the community who primarily are active in this value chain. Community members have about 360 cows and tentatively produce about 540 tons of raw milk. Sales of raw milk is however insignificant as only about 10 percent of the produced milk is sold as raw milk generating about AMD 10.8 mln annually at best (retail prices, please see Table 2). This 10 percent is collected by a local processor “Golden Goat” for cheese production.

The remaining part of the milk is processed by the households into cheese and other dairy products and is sold on an irregular basis. Again in Arpi, 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.

Arpi has limited pastures and grasslands which are barely enough to provide adequate fodder for the animals for the summer period. For the rest of the year the farmers have to buy fodder from other communities. Arpi however does not have a problem regarding drinking water of the animals.

Currently one veterinarian is active in Arpi, which according to focus group members covers 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 is currently one milk collection/cooling unit in the community which is mainly providing milk to the mentioned above processor. This unit is private and belongs to a sole entrepreneur.. This is 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 individuals who come to the community and the remaining part is processed to a cheese and other dairy products.

To conclude, the community has some potential to produce milk, but not like horticulture, also, relatively small pastures and grasslands hamper milk production and sales by the community.

### **3.3. Tourism Sector Capacity**

Arpi currently attracts about 50 foreign and local Armenian tourists annually. Tourists mainly hear about Arpi 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 Arpi. Yet, due to proximity of Arpi to the neighboring Areni village, currently some of the tourists manage to find shelter in Areni.

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

- Beautiful nature which is a rich wildlife habitat with rare and diverse range of animals
- Mountainous surrounding and waterfalls and water springs
- Natural caves of archaeological and touristic value (Trchkan and Mozrov)

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:

- Spring Water Church (Jrov Vank) 12<sup>th</sup> century
- Ertij fort (13<sup>th</sup> century)

As the population of Arpi has come from Gnishik, they do not have any Arpi specific specialties or delicacies. However, community members highlight the exceptional quality of their produce and exceptional taste of food.

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. There are also no established links with external tourism related markets and agencies which promote and link Arpi 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 minimum required living conditions including renovated bedrooms and toilets etc.

Community members indicate to see limited potential for development of tourism in the community and ability of this sector to 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 Arpi 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 Arpi 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 ANNEX 1.

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

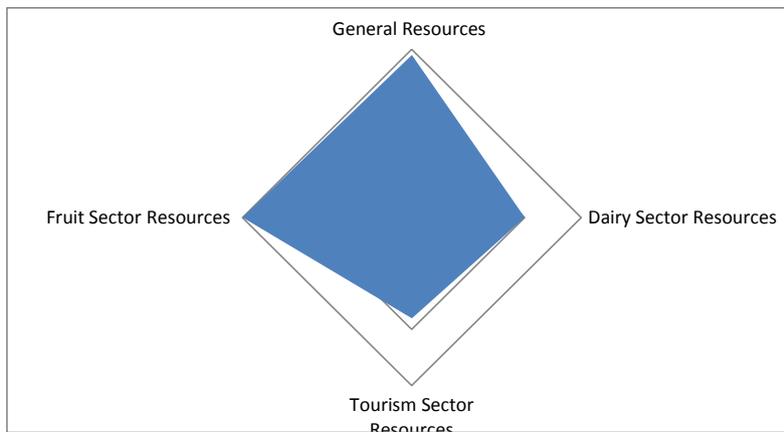
Indicator	Score	Weight	Weighted Score
<b>General Community Capacity</b>			
Community Educational level	3	3	9
Community vitality	4	3	12
Community infrastructure (existence and condition of roads, water, energy sewage etc.)	2	2	4
Community Natural resources	2	2	4
<b>Total Score General Community capacity</b>			<b>29</b>
<b>Dairy sector capacity</b>			
Milk Production (Milk production/per capita)	2	4	8
Milk Productivity (Milk production/animal head ratio)	2	2	4
Fodder Availability (Animal/pasture)	2	3	6
Dairy sector related experience and infrastructure	2	1	2
<b>Total Score Dairy Sector Capacity</b>			<b>20</b>
<b>Fruits sector capacity</b>			
Ability to produce quality fruit	3	4	12
Fruit quality	4	3	12
Existence of Fruit infrastructure (hail centers etc.)	2	2	4
Fruit sector related experience and knowledge	2	1	2
<b>Total Score Fruit Sector Capacity</b>			<b>30</b>
<b>Tourism Sector Capacity</b>			
Tourism related resources as natural, cultural etc	2	3	6
Current tourist visits to the community	2	2	4
Existence of tourism infrastructure (B&Bs, restaurants etc.)	2	3	6

Existence of tourism related experience and knowledge	1	2	2
<b>Total Score Tourism Sector Capacity</b>			<b>18</b>
<b>Total Score Community Resources</b>			<b><u>97</u></b>

Source: CCA Workshop Data - Heifer Armenia Calculations

The highest scores of Arpi regarding Community Resources relate to Fruit sector capacities (30) and general community resources (29). Dairy sector and tourism sector capacities score relatively low with 20 and 18 relatively. The total weighted score of Arpi on community resources is 97. The following figure presents a visual illustration of the community resources in the four indicated areas.

Figure 8 Arpi 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 Arpi 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** Arpi Community Resources Utilization

Indicator	Score	Weight	Weighted Score
<b>Dairy sector capacity</b>			
Utilization of fodder base (Animal/pasture on a scale of 1-5) 1.5	5	3	15
Milk collection level (production/collection)	2	4	8
Community milk Productivity	2	1	2
Overall dairy sector resource utilization *	2	2	4
Total Dairy Sector (Max 50)			<b>29</b>
<b>Fruits sector capacity</b>			
Utilization of quality production capacity	4	3	12
Current sells of quality fruit production	3	3	9
Professional Fruit processing	2	2	4
Overall fruit sector resource utilization	2	2	4

Total Fruit Sector Max 50				<b>29</b>
<b>Tourism sector capacity</b>				
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				<b>14</b>
<b>Total Score Resource Utilization</b>				<b><u>72</u></b>

**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 Arpi community was 72 out of 150. The lowest score of the community in this regard relates 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 29, dairy sector and fruit sectors followed tourism. Currently among others milk collection levels are very low as hardly 10 percent of milk is collected and sold in the community. The poor fodder base and limitation of pastures and croplands are to be considered as well.

Fruit sector evaluations involve utilization of production capacities regarding high quality (marketable) fruit. The capacities of Arpi regarding high quality fruit production are high as very good quality apricots and peaches are produced here. The only limitation for the farmers to produce more are market prices. During the season, when there is an abundance of the mentioned fruit the farmers cannot store it in large quantities and have to sell it on lowest market prices. Whereas being able to store it for a couple of weeks would give them a chance to sell their produce at much favorable prices and generate much better revenues.

## 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 Arpi in relation to the mentioned indicators and the total weighted score of the community regarding enabling environment.

**Table 6** 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	2	4	8
Coverage of the community by other development projects/initiatives.	3	1	3
Linkage of community with existent (business) support structures	4	1	4
Position of the community to serve surrounding communities	5	8	40

<b>Total Score Enabling Environment</b>	<b><u>67</u></b>
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**Source:** CCA Workshop Data - Heifer Armenia Calculations

The total score of Arpi on enabling environment is 67. The highest score of the community relates to the position of the community towards neighboring communities and possibility of it to serve as a community cluster.

The second highest score of the community relates to the position of the community towards neighboring communities and possibility of it to serve as a community cluster. 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 scored 12 and 8 respectively. 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 good links to existent (business) support structures and though there are currently few other development programs being implemented in Arpi. Consequently the community scored relatively high on these factors.

## 6. CONCLUSIONS

Arpi is one of the communities located in Vayots Dzor Marz in Armenia. The community houses 1278 residents, of which the vast majority is mainly involved in horticulture and animal husbandry, followed by beekeeping.

The total competitiveness assessment score of Arpi was 92. This is the product of the accumulated score of Arpi 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 resource utilization. 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 Arpi scored the highest on fruit sector capacity (30) which involved good climate conditions and high quality of produced fruit. Tourism sector related capacities of the community in terms of natural cultural and other resources scored low, due to lack of sector related infrastructure as well as very few places of clear touristic relevance. Dairy sector related capacities of the community scored relatively low as well namely 20 this was mainly due to very small fodder base available in the community. The experience existing in the community as well as favorable climate conditions make fruit sector the most promising for the further 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 tourism sector was followed by the dairy and fruit production value chains. There is still more potential for raw milk production and sales. The limited land resources and lack of sector related infrastructure such as collection/consolidation points in the community are some of the main factors hampering dairy sector growth.

Regarding enabling environment Arpi 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. The highest score of the community regarding enabling environment related to the geographic position of the community to serve as a cluster center. The latter 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.

## 7. ANNEX 1: APPRAISAL APPROACH

<b>Community Resources</b>	
<b>Indicator</b>	<b>Appraisal Measures</b>
<b>General Community Capacity</b>	
<b>Community Educational level</b>	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]
<b>Community vitality</b> (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]
<b>Community infrastructure</b> (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]
<b>Community Natural resources</b> (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]
<b>Dairy sector capacity</b>	
<b>Milk Production</b>	(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]
<b>Milk Productivity</b>	(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]
<b>Fodder Availability</b>	(Animal/pasture ratio on scale of 1-5 where [0 - 1=1] – [1- 2 =2] – [2-3=3] [3-4=4] – [4+=5]
<b>Dairy sector related experience and infrastructure</b> (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]
<b>Fruits sector capacity</b>	
<b>Ability to produce quality fruit</b>	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]
<b>Fruit quality</b>	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]
<b>Existence of Fruit infrastructure</b>	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]
<b>Fruit sector related experience and knowledge</b> (on scale of 1-5)	Existence of educated people and people with professional experience in this sector including landscape experts etc.
<b>Tourism Sector Capacity</b>	
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.

<b>Resource Utilization</b>	
<b>Indicator</b>	<b>Appraisal Measures</b>
<b>Dairy Sector</b>	
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.
<b>Fruits Sector Capacity</b>	
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 sells of quality fruit production	Percentage of quality production sells 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.
<b>Tourism Sector Capacity</b>	
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.