MARKETS FOR MEGHRI

Armenia

Markets 4 Meghri

Inception phase

(January – September 2010)

Livelihoods Assessment Report

Bern/Yerevan, October 2010

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1 Introduction

A livelihoods assessment uses a holistic framework for analysing the factors that influence a specific group of people in fulfilling their livelihoods . This report presents the Livelihoods Assessment of households in Meghri region conducted from Dec 2009 to Feb 2010 during the inception phase of the "Markets for Meghri" Rural Development project. "Markets for Meghri project" aims at increasing production and access to markets and thereby generating increased and sustainable income for producers of specific fruits in the horticulture sector in Meghri.

The objectives of this assessment were:

- To understand the different livelihoods strategies of households in Meghri
- To present a typology of Meghri households
- To understand the role of horticulture in the livelihoods of Meghri households
- To contribute to the baseline for monitoring the outcomes of the project against the starting situation

1.1 Methodology

The assessment was designed and conducted according to the SARD (Systemic Approach to Rural Development) methodology. The designed questionnaire covered major livelihoods aspects such as human, social, natural, physical, financial and political capital, access to a variety of services, as well as aspects of the agricultural/horticultural production system (including access to markets).

According to an approved survey methodology[1] (which assures representativeness of obtained data) the region's communities have been grouped into 3 groups where sampling has been done separately. In the first group of 5 communities, where the number of per community households (HH) does not exceed 100, all the HHs were interviewed; in the next group (6 communities having 100-200 HHs) every second household was interviewed; and in 2 towns – every 15th household. As a result it was planned to interview 663 HHs; 620 HHs were effectively surveyed (17% of all households). 63% of respondents were male and 37% female.

Table 1 Survey sampling

№	Community	No of HHs per community	Sample	Coverage %
1	Agarak	1,552	93	6%
2	Meghri	1380	83	6%
3	Lehvaz	171	86	50%

[1] The selection of respondents is done as following. The interviewer knocked the door: If it was an adult, the interviewer explained the purpose of his/her visit and asked who would answer the questions. If it was a child or teenager who opened the door, the interviewer asked if there was an adult in the house; if yes, the interviewer explained to the adult member of the family the purpose of his visit and asked who would answer the questions. If there was no adult in the house, the interviewer came back later.

4	Vardanidzor	130	65	50%
5	Alvanq	112	56	50%
6	Shvanidzor	102	51	50%
7	Karchevan	93	47	50%
8	Lichq	70	34	50%
9	Nrnadzor	44	40	90%
10	Kouris	40	17	42%
11	Tashtun	28	28	100%
12	Vahravar	25	11	44%
13	Goudemis	11	9	81%
	Total	**3,758**	**620**	**16%**

In addition, the assessment was complemented by secondary data collected from community administrations.

1.2 Household typology

In order to understand the general trends and differences in livelihoods strategies and poverty patterns of the households of the region the project categorises them into 4 major groups: poor, low income, middle income and wealthy households. The division was made taking into consideration the current poverty and extreme poverty level set by Government of Armenia. Per capita expenditures have been used as a main parameter for characteristics of a specific group. However, other criteria, such as the geographical location, income sources, land utilisation and access to services and markets were also considered.

Table 2: Main characteristics of Meghri region households disaggregated by 4 types

	Wealthy	**Middle-income**	**Low income**	**Poor**
Percentage of HHs in the total no	4%	27%	35%	34%
Monthly per capita expenditure	> 70,000 AMD	32,000 – 70,000 AMD	20,000-32,000 AMD	< 20,000 AMD
Land owned	average 0.3 ha	average 0.4 ha	average 0.5 ha	average 0.9 ha
Land utilisation	Hire labour for agricultural work, have access to	Orchards predominantly cultivated by family members, in some	Orchards are being cultivated only by family members → much land is idle because of lack of	

	working capital → minimum idle land	cases fellow villagers are hired.	resources (both human and financial) to cultivate it	
Role of horticulture in livelihoods	For majority horticulture plays a minor role	About 30% of family income comes from horticulture	About half of income from horticulture (exception are the mountainous villages who have more income from animal husbandry and Meghri town where more income is from paid work)	Horticulture is predominant part in households' income
Additional income generating activities	Many household members are employed working in industry and service sectors parallel to horticulture		Animal husbandry plays a minor role (though subsistence) in addition to horticulture. Many women are involved in production of home-made dried fruits that brings additional income to their HHs.	
Access to credit	2 out of 10 households have used loans from banks	1 out of 10 households have used loans from banks	No access to loans from formal financial institutions. Using own savings and financial resource from family.	
Access to markets	Inconsistent access to market Possibility to transport to more distant market places (e.g. Yerevan wholesale market)	Inconsistent access to market Possibility to transport to more distant market places (e.g. Yerevan wholesale market)	Inconsistent access to market Very low bargaining power Very low access to market information	Inconsistent access to market Very low bargaining power Very low access to market information
Movable assets	About half of households have a car 2 out of 10 have a truck 2 out of 10 have a computer	About half of households have a car 1 out of 10 has a truck 2 out of 10 have a computer	Less than half of households have a car (4 cars per 10 HHs) 1 out of 10 has a truck 1 out of 10 has a computer	A third of households have a car 1 out of 10 has a truck no computer

Thus about 2/3 of region's HHs belongs to poor or low income groups. Considering that overwhelming majority of them are heavily involved in horticulture this population have potential to become the target of the project alongside with those medium income HHs who's main revenues come from cultivation and trade of fruits.

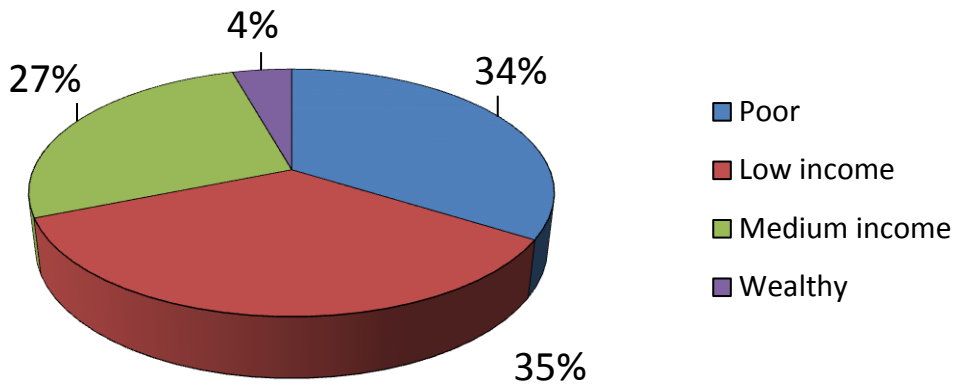

Figure 1: Household groups by per capita expenditures

Zonal distribution of HHs shows that the majority of rather poor population lives in rural areas whereas most of relevantly well-off families live in Meghri and Agarak.

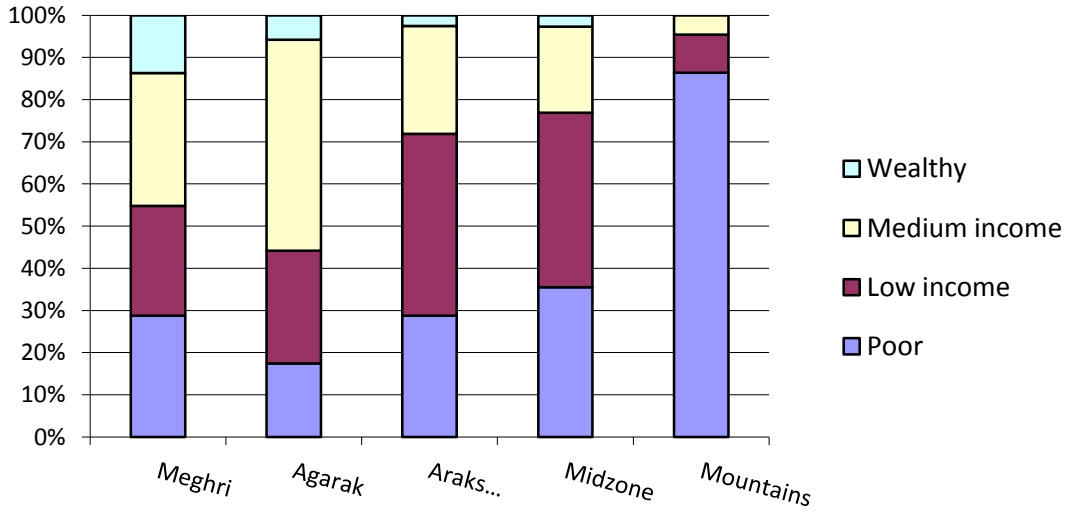

Figure 2: HH types distribution by geographic zones

More detailed description and analysis of Meghri HHs by income groups is presented in the forthcoming chapters of this report.

1.3 Meghri region

1.3.1 Geography

Meghri region is located in Syunik Marz, the far south of Armenia bordering with Iran. It is a mountainous region with steep rocks, small rivers and seasonal creeks. Due to the rugged terrain it has diverse climatic conditions which determine varieties of wild vegetation and cultivated plants. For the purpose of the project the whole region has been divided into three main zones: *Araks riverside zone, mid zone and mountainous zone*.

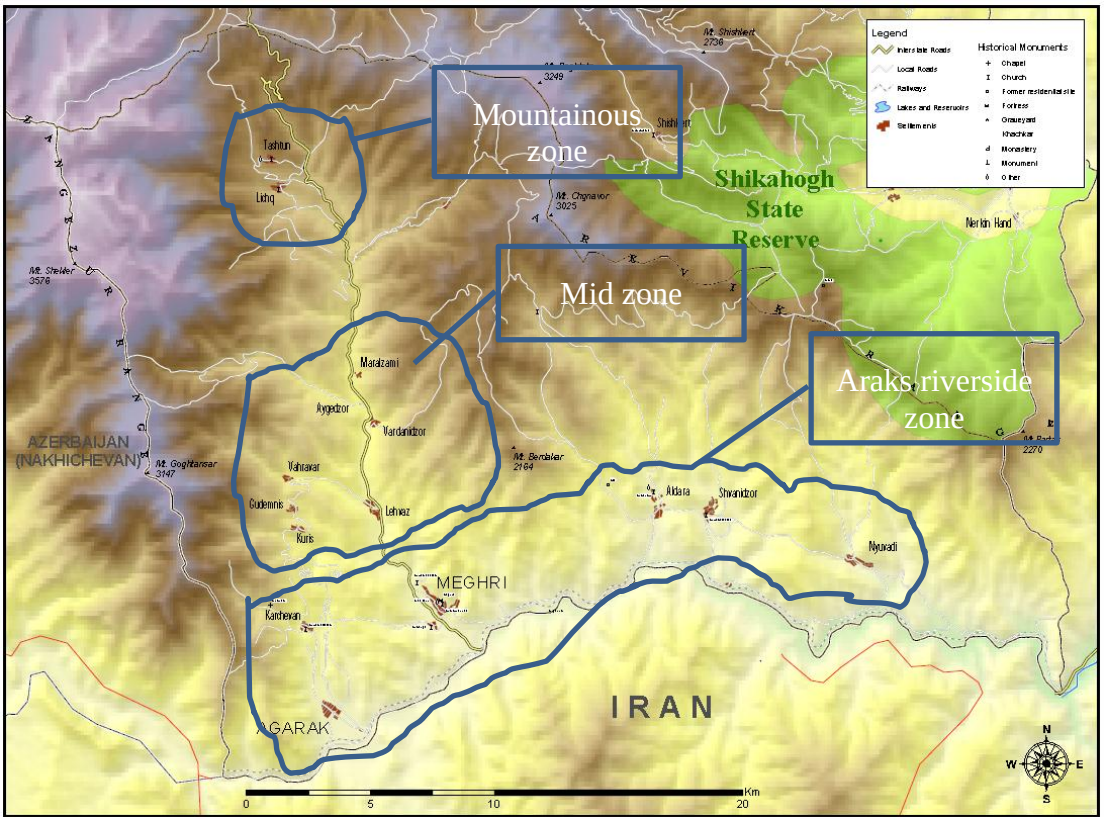

Figure 3: Physical map of Meghri region

1.3.2 Demographics

There are 13 communities in the region of which 2 are urban, Meghri and Agarak.

Table 3: Demography of the region

	Community	No of households	No of population	Sex		Age		
				Male	Female	Up to 18	18-55	Older than 55
1	Meghri	1,200	5,100	2,404	2,696	950	2,644	1,506
2	Agarak	1,218	4,800	2,246	2,554	1,475	2,597	728
3	Karchevan	94	402	190	212	105	207	90
4	Alvank	152	453	232	221	81	245	127
5	Shvanidzor	103	303	159	144	67	134	102
6	Nrnadzor	45	175	90	85	54	100	21

7	Lehvaz	178	609	295	314	158	304	147
8	Vahravar	32	64	34	30	11	37	16
9	Gudemnis	27	43	18	25	13	16	14
10	Kuris	42	83	37	46	12	30	41
11	Vardanidzor	127	360	164	196	94	198	68
12	Lichk	65	188	85	102	38	75	75
13	Tashtun	42	132	74	60	18	35	81
	Total:	**3,325**	**12,712**	**6,039**	**6,672**	**3,076**	**6,622**	**3,014**

Meghri region is not homogenous in terms of age structure. There are aging communities such as Tashtun, Kuris, Lichk, whereas some others have rather young population – Agarak, Nrnadzor, Vardanidzor. Agarak is an industrial settlement (beside the mining factory) which "requires" predominantly young population whereas inhabitants of Nrnadzor and Vardanidzor are mostly former refugees from Azerbaijan and young families from other parts of Armenia. The size of families also differs across the communities with smallest in Gudemnis, Kuris and Vahravar – less than 2 (supposedly most of them are aging couples), and largest in Meghri and Karchevan – 4.3. Male/female proportion varies from 42/58 to 55/45 averaging at 47/53 percent. This ratio fairly corresponds with national average – 48.4/51.6. The lowest percentages of male population are detected mostly in Gudemnis, Kuris and Vardanidzor where working age male villagers migrate to other areas to find job.

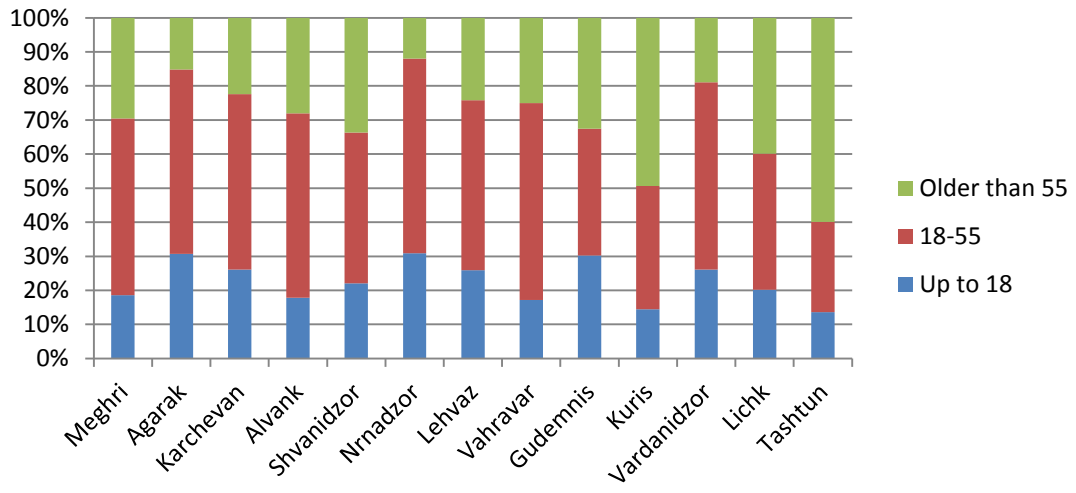

Figure 4: Age composition of Meghri population

Employment in the region is distributed among industry, service, trade and agriculture. Analysis of respective figures shows that distribution among these sectors in the region has a geographic dimension (Fig. 3). Those individuals solely

involved in crop production (they generally own land) are considered as sole proprietors.

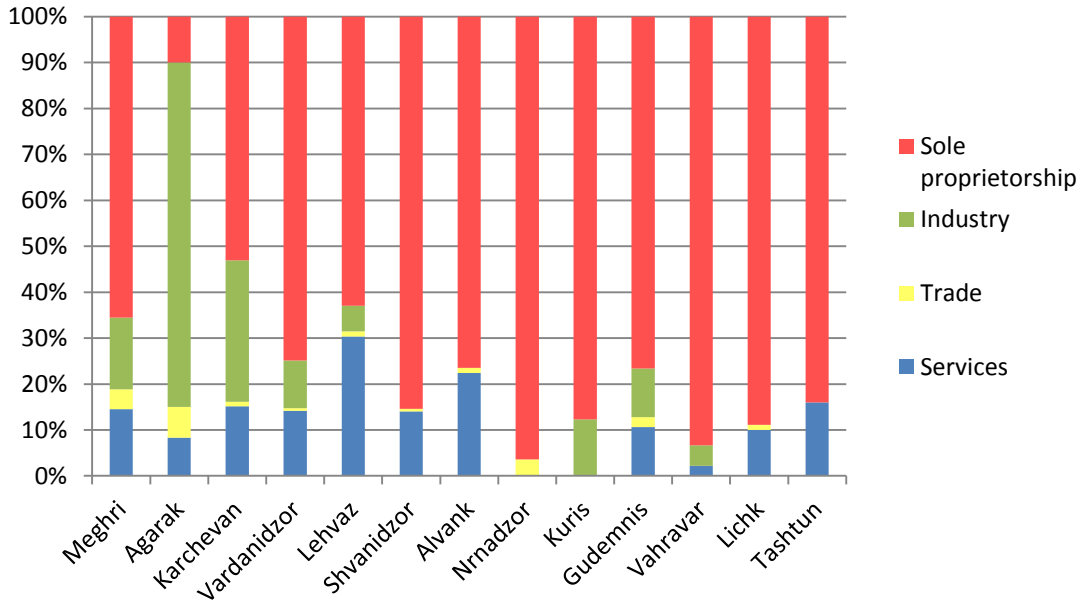

Figure 5: Employment distribution among three main sectors

The majority of Agarak population – about 75% – are involved in industry (see later in this report). Sizeable part of Karchevan (~30%) as well as to a lesser extent Meghri (~15%), Kuris, Gudemnis, Vardanidzor, Lehvaz and Vahravar are also working in industrial entities. Yet almost all of them are involved in crop production (mainly horticulture) as far as they own lands.

1.4 Horticulture in Meghri region

Meghri has strong traditions in development of horticulture firstly due to favourable agroclimatic conditions of the region. During the Soviet period when several industries (mining, production of construction materials) were established, horticulture was still playing a significant role in the livelihoods of the local population both for HH consumption and sale. Since the collapse of the Soviet Union, Armenia's industry and agricultural sector have undergone dramatic changes, and horticulture has become more important than ever for population of Meghri region.

According to secondary data obtained from municipalities about 1,800 HHs are involved in fruit cultivation on 553 ha total area. The total potential additional area for horticulture development is 425 ha.

2 Context of the livelihoods system

2.1 Risks and vulnerability

2.1.1 Risks of natural disasters

Armenia is exposed to a variety of natural hazards such as earthquakes, landslides, hail storms, droughts, strong winds and floods which can cause a considerable damage to horticulture production. Meghri is not an exception in this regards: HHs reported a number of natural disasters that certainly impact their livelihoods , namely, *frost*, *hail*, *drought* and *flood*. The named disasters have different level of severity, period of occurrence and frequency.

The possible impacts of natural disasters on livelihoods of local population are the following:

- Loss of the current and next years' harvests;
- Reduction of marketing potential of fruits;
- Destruction of new planted trees;
- Washing away and destruction of humus layer of soil.

In most of communities the mentioned disasters have a particularly severe impact on socially more vulnerable groups of population such as pensioners, families with one breadwinner (especially where this is the woman), large families, and alike.

Yet farmers apply a number of coping strategies against the abovementioned hazard risks which in most cases prove as low efficient because of their extensive and out-dated nature.

2.1.2 The possible impact of Nagorno-Karabakh conflict

Currently Nagorno-Karabakh conflict is at a frozen state (status-quo). Although Meghri region is not too close to the front line with Azerbaijan on the east (about 90 km from the region's eastern border) it is directly bordering with Nakhichevan, an Azeri enclave between Armenia and Iran (very close to Agarak, Karchevan and three midzone small villages). A possible resumption of military actions between Armenia and Azerbaijan could have especially negative impact on the livelihoods of the population of the region.

2.1.3 Political and economic developments in the country/region

Political and economic development trends have to be taken into account while considering the possible impacts on livelihoods. The following indicators and info reflects possible factors that at various levels may impact the livelihoods in Meghri region.

- **Political freedom and civil rights**. According to Freedom House 2009 World Freedom Report, Armenia ranks as Partly Free, with political rights score – 6 and civil liberties score – 4 and. Armenia's political rights rating declined from 5 to 6. Countries are ranked on a scale of 1-7, with 1 representing the highest level of freedom and 7 representing the lowest level of freedom.

- **Corruption**. Armenia ranks 2.7 and is the 125th among 180 states in the annual Global Corruption Report 2009 of Transparency International. Corruption Perceptions Index (CPI) ranks countries in terms of the degree to which business people and country analysts perceive corruption to exist among public officials and politicians. The countries were assessed on a scale from 1-to 10. In 2008 Armenia took the 114th place in the rating.
- **Economic performance.** Armenia's GDP contracted by 14.4% in 2009, the country's National Statistical Service reported. The agriculture, forestry and fishing fell by 0.1% without any influence on the GDP change. The 3.5% growth in the financial sector and in real property deals had a 0.3% upward impact on the GDP. The country's macroeconomic performance began to improve slowly in September 2009.
- **Poverty rate**. Poverty in Armenia has increased in 2009 for the first time in over a decade as a result of the ongoing economic recession. According to October 2009 analysis of the World Bank, partly based on state statistics, it estimated that the proportion of Armenians living below the official poverty line reached 28.4 percent in the second quarter of 2009. The official poverty rate stood at 25.6 percent during the same period of 2008, meaning that the number of poor people has since risen by at least 90,000. The World Bank reported that the level of extreme poverty has nearly doubled to 6.9 percent, or by over 107,000 in absolute terms, on the year-to-year basis.
- **Social security policy**. Approximately one-fourth of the budget is directed to the social security sector, given Armenia is an aging country with over half a million people receiving old-age pensions. In addition, due to deep poverty, thousands of families continue receiving family benefits. However, the planned rise in government expenditures will not translate into further pay rises for public sector employees. Nor does the government plan to raise pensions. Tax and other revenues in Armenia's state budget made AMD 674.4 billion in 2009, which is 16.4% less compared to the previous year, Ministry of Finance says.
- **Unemployment rate**. As of December 2009, the unemployment rate in Armenia reached 7.1%, while it was estimated 6.3% at the beginning of the year. However the numbers do not reflect the real picture of unemployment rate in the country. Thus according to our calculations (based on the figures obtained from all community mayors) the unemployment rate in Meghri regions comprises 16%.

2.2 Policies, institutions, organisations and processes

The strategy related to support of rural livelihoods in Armenia is formulated in the PRSP Armenia document which is now converted into the Sustainable Development Programme. Agriculture development is specially considered in SDP document where a number of policies are envisaged to enact, viz.:

- Gradual shift from extensive to intensive growth which should be based on marketability, efficiency and potential for export;
- Increase of farm marketability and productivity as well as ensuring the availability of credits;
- Promoting the development of large commercial enterprises;

- Promotion of progressive development of sectors providing services to agriculture, including integrating structures, primary processing enterprises, network of supplying and marketing cooperatives;
- Large government investments into agricultural infrastructure, specifically, in areas of irrigation (which are implemented and will continue to be implemented in parallel with the establishment and strengthening of a new institutional structure of irrigation system) and rural roads as well as other (land improvement; selection of cultivated plants and seed farming; promotion of advanced technologies; development of consulting system);
- Mitigation of natural risks associated with agricultural activities through development of relevant infrastructures (antihail stations; antispate measures; etc.) as well as through development and introduction of an appropriate insurance system;
- Development and introduction of an efficient system for agricultural subsidies aiming at mitigation of objectively existing regional differences and creation of equal conditions for agricultural production as well as impacting farm crop pattern by encouraging production of highly marketable agricultural products;
- With the aim to ensure the most effective use of labor force and increase the labor productivity in rural areas' assistance will be provided to establish small and middle agrarian enterprises in rural areas; increase the possibilities of organic agriculture; develop agro-tourism and other sectors, which would help to ensure employment in rural areas.

Thus it is evident that M4M project objectives are in tune with several major provisions of PRSP Armenia strategy particularly those on increase of farm marketability and productivity, access to finances for agriculture, promotion of progressive development of agricultural services, and mitigation of natural risks related to agricultural activities.

In Armenia social assistance programs are implemented primarily by specialized institutions and by NGOs many of which are largely supported by donor funding. The provision of social services is heavily funded by the international donor community. The Ministry of Social Security and Labor Issues cooperates with NGOs in implementing social programs. The actual number of families included in Family Benefit System is 107,492 (73.4% of total registered families). 81.3% of beneficiary families are families who have children. 12,600 families received emergency aid, average benefit comprised 23,560 drams. 5,697 families were given child birth lump sum, 10,027 on the occasion of child's first class care, and 190 in family member death cases. Child birth lump sum was given to 45,823 families and under 2 years old child care benefit was given to 7,114 families.

2.3 Opportunities

2.3.1 Goods market

There are grocery stores in Agarak and Meghri where locals can buy relatively large variety of both Armenian and imported foodstuff. The food prices including for most of fresh fruit and veg are usually a bit higher compared to those of Yerevan since most of the goods are transported from Yerevan and other central regions of the

country. In addition to these, there are also a few stores of electrical home appliances in Meghri and Agarak. However, the latter ones do not offer post-purchase customer services and if need be one would have to travel to either Kapan or Yerevan to obtain these services.

Except 3 villages in all the other rural communities there are grocery stores selling limited variety of food and non-food goods. Besides, locals usually get food and consumer goods also via bartering their agriproduce with intermediaries traders. This phenomenon is quite common and conditioned by low cash economy existent in remote rural areas of Armenia.

2.3.2 Mobility

Meghri region is connected via regular minibus routes with Kapan and Yerevan. There is no regular public transportation in the region therefore one can move within and/or between communities on a taxi and/or own car. Therefore mobility of local population is strongly dependent on their financial capacities: richer HHs spend 5 times more money on transportation than poor HHs.

In rural areas, the lack of mobility especially impact women since in the absence of regular public transportation services very few of them drive their own car. Indeed, if in towns most of the respondents think that there is no lack of public transportation, in rural areas both men and women agree they suffer from the lack of it though men feel this lack to a lesser extent. This is because in rural Armenia a driving woman is not a common phenomenon.

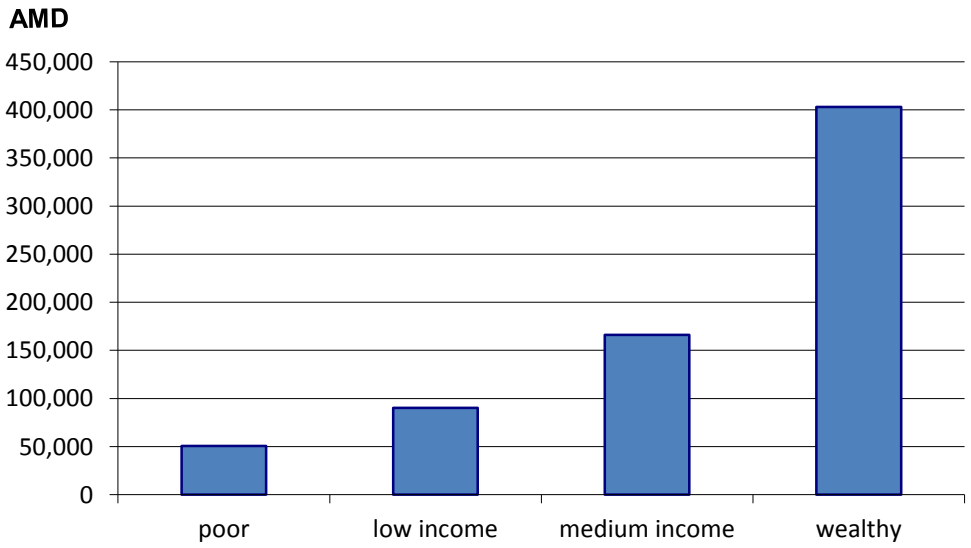

Figure 6: Mean transportation expenditures by income groups for 2009

2.3.3 Education

Education has always been a priority in Armenia - in a country, which has 1600 years' history of literacy. From the very beginning, the school has been the basis of the nation's political and cultural survival and the incentive for national progress.

Armenian educational system is generally based on the one that has been in use in the 20th century. It includes preschool institutions (kindergartens), schools (primary,

secondary and high schools), vocational colleges, higher education establishments (universities, institutes with branches and academies) and post-graduate institutions (scientific institutes).

The education system in Meghri region is based on secondary and high schools operating in all the communities except Kuris, Gudemnis and Vahravar – communities with too small number of pupils (totally 36, see table. 2). The pupils from these communities attend schools in the neighbouring communities or in the towns.

After graduating from the secondary/high schools young people of the region would continue their education in Meghry State College or other vocational colleges and universities either in Syunik marz or in other regions of Armenia. There are 2 State Universities in Syunik marz – namely Kapan and Goris Branches of the State Engineering University of Armenia (SEUA). There are also 6 private institutes/branches and 7 colleges (Kapan State Engineering College, Kapan State Musical College, Kapan State Medical College, Goris State Pedagogical College, Sisian State Economics College, Sisian State Humanitarian College). In addition, there are agricultural colleges in Goris and Sisian to serve the needs of the whole region.

The most serious issue about higher educational institutions is meeting the demand for professional, high-qualified professors and lecturers with scientific degrees. The problem can be partially solved by applying the modern system of distance learning. In the near future RA government and international organisations (IREX/IATP) will undertake the implementation of the project.

Besides their educational role higher educational institutions and colleges operating in the marz have also socio-political importance for the region, since they are playing a vital role in decreasing the migration of the youth, uniting the intellectuals, solving socio-economic problems of the marz and promoting the scientific and technical progress.

2.4 Services

2.4.1 Access to advisory and extension services

Starting from 1993 right after land privatisation in Armenia and with the financial and professional assistance of USAID the formation of the extension system started and found its further development in the periodically implemented World Bank projects. First of them, the Agriculture Reform Support project, allowed founding 10 marz (Marz Agriculture Support Centres, MASCs) and one central (Republican Agriculture Support Centre, RASC) structures and creating adequate conditions for about 150 advisors and specialists to operate within that structure.

However, currently the whole ASC system is partly subsidised by the government meaning that ASCs should seek for other sources of financing. And since the additional sources are very few (sporadic donor moneys, newsletters, etc.) and not sufficient all ASCs barely cover their operational costs and thus functional efficiency of them is very low. Meghri region is served by 3 ASC agents of whom only one is an experienced professional in horticulture.

ACDI/VOCA, in partnership with ARCADIS Euroconsult (Netherlands) and VISTAA (Armenia), was awarded an $18.4 million contract to implement the Water-to-Market (WtM) Activity as part of the Millennium Challenge Armenia (MCA) program. In autumn 2009 within the framework of that project ACDI/VOCA trained totally 243 farmers from Lichk, Karchevan, Shvanidzor, Alvanq and Meghri on efficient irrigation management and 94 farmers only from Shvanidzor and Alvanq – on high value agriculture.

Business advisory services are mainly developed in the central parts of the country yet the majority of potential clients are either ignorant of the importance or cannot pay for those services. This situation is particularly severe in the remote areas of Armenia such as Meghri.

The diagram below representing the assessment of the quality level of consultancy and advisory services by Meghri region farmers is an evident proof of all said above.

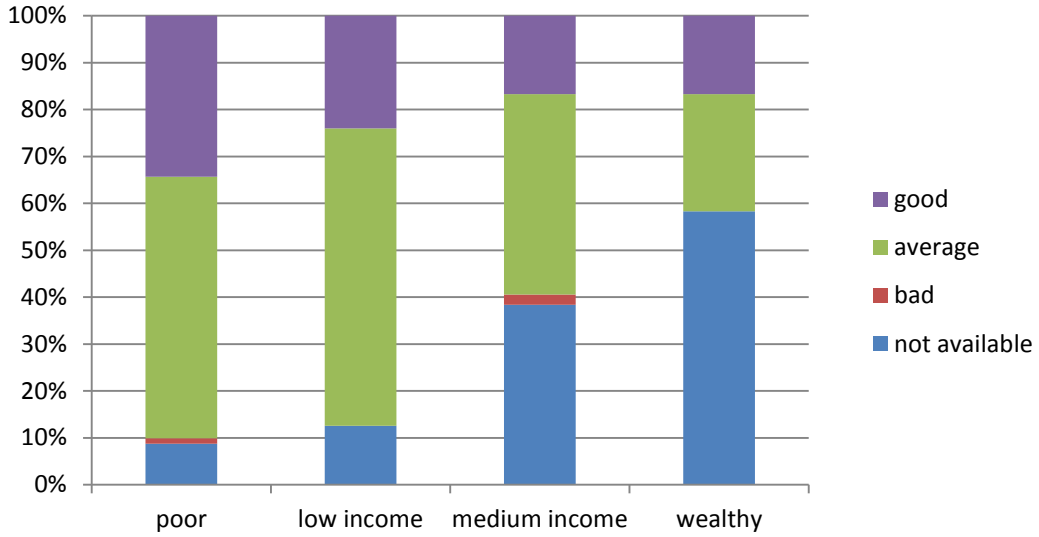

Figure 7: Quality level of consultancy and advisory services assessed by income groups

Thus the wealthier the HH is the higher is the assessment criteria for consultancy and advisory services. The same trend is valid for agronomist's services in the region.

2.4.2 Access to agroinput services

After the collapse of the Soviet Union the centralised system of agroinput supply disappeared in Armenia. Currently the state only oversees the processes related to import and/or production of fertilisers/agrochemicals. Thus according to the law the Ministry of Agriculture is responsible for the control of fertilisers' import but since the control procedures still are not in place it is not being implemented properly.

All fertilisers are imported although there are certain production capacities in Armenia. There are two major fertiliser importers in the country. Yet there are no representations of major multinational chemical companies in Armenia, but some companies such as BASF, Bayer have their offices in Tbilisi, Georgia. Agrochemicals too are mostly imported though there is a local producer of several types of pesticides and herbicides based on imported raw inputs. Imported fertilisers and

agrochemicals are distributed via private vendors mainly in the central regions of the country thus remote regions like Meghri hardly have access to these.

In Armenia one can sell only those agrochemicals approved by the Ministry of Agriculture, registered, licensed for use and listed in the roster of chemical and biological means for plant protection in the country. Hence the Ministry of Agriculture issues a list of items for chemical and biological protection of plants allowed for use in Armenia as well as a list of those prohibited. Furthermore there is a list of legal entities licensed to sell agrochemicals in specific marzes of Armenia. Syunik marz is not included in that list – no licensed entity exists in the marz hence in Meghri region. Thus there is no operating supply system of agrochemicals in the region; therefore, the insufficient and non-professional use of inputs has somewhat a negative impact on crop productivity there.

According to the regulations, the seller has to provide its customers with relevant information about the product upon their request. But the reality is far from being satisfactory: the quality, origin and standards compliancy of agrochemicals are still problematic which impact on efficiency and security of the applied chemicals.

2.4.3 Access to financial services

Banks: There are two banks present in Meghri, **VTB** and **Ardshinvestbank (ASHIB)**, but neither of them is involved in agricultural lending. The two banks provide loans to businesses or individuals (consumer and housing loans). All loans need to be secured by collateral (real estate, cars, jewellery, and/or gold). Both banks offer different types of deposit and money transfer. There are ATMs in Meghri and Agarak.[2] Farmers usually do not use these services. There are a few who have taken out a loan on an individual bases (officially consumption or housing renovation loans, but used them for different purposes). As small farmers are not registered businesses, they have no access to business loans.

ACBA-Credit Agricole: is not (yet) present in Meghri, the closest branch is in Kapan. ACBA is the largest provider of agricultural loans in Armenia. ACBA is structured as a credit union: credit is given either directly to individuals/businesses or to village associations (at a reduced interest rate). Rural associations function as intermediary between the bank and the individual for the disbursement and reimbursement of loans.

ACBA also offers savings (several different deposits), money transfer and leasing services through their branches. ACBA is virtually the only institution offering leasing. The branch network of ACBA is constantly growing. However a branch in Meghri is not planned for the moment. ACBA collaborates with SDA/SDC as well as with CARD: the bank is used that NGOs/projects collaborate to form village associations.

Credit Organisations: The only credit organisation present in Meghri with a representative office is **SEF international** (an MFI founded and funded by World

[2] VTB is supported by the European Bank for Reconstruction and Development (EBRD) through credit lines and technical assistance to provide loans to micro and small enterprises particularly in rural areas as well. Specific loans to MSE should be available in Meghri in the second half of this year.

Vision). SEF has loans for agriculture (but without grace period and monthly repayments) and all loans are individual loans.

SEF international does not offer savings or other financial services.

Aregak has offices in Sisian, Goris and Kapan. The loan officers of Aregak visit the villages, so there is no need to travel to the branches (only one visit to receive the loan). Aregak offers individual and group loans[3] and has specific agricultural loans that offer a grace period of 3 month (for micro loans 9 months). Only farmers with at least 6 months experience are financed (no start-ups). Aregak is willing to visit remote villages (also in Meghri) if 3 groups can be formed.

Aregak does not offer savings or other financial services.

In addition to these formal financial products, many people use informal financial services:

- for short term time borrowings are taken from family, friends, neighbours …
- savings are done at home – with a higher tendency to use the money, and not always save
- Meghri Horticulturist Association offers saplings and inputs to its members, which have to be repaid in the following 3 years.

[3] Aregak group loans are also loans to an individual, but with a group guarantee. The groups are the size of 3-5 people.

3 Assets of a livelihoods system

3.1 Political assets

3.1.1 Political power

Below are presented excerpts of those provisions from the Constitution of RA having a major impact on the general population of the country. Relevant implications are eligible also for Meghri population.

- The people exercise their power through **free elections and referenda**, as well as through state and local self-governing bodies and public officials as provided by the Constitution.
- The **multiparty system** is recognised in the Republic of Armenia. Parties are formed freely and promote the formulation and expression of the political will of the people.
- The **right to property** is recognized and protected in the Republic of Armenia.
- The state shall ensure the **protection and reproduction of the environment** and the **rational utilization of natural resources**.
- Citizens, regardless of national origin, race, sex, language, creed, political or other persuasion, social origin, wealth or other status, are **entitled to all the rights and freedoms**, and **subject to the duties** determined by the Constitution and the laws.
- Every citizen is entitled to **social security during** old age, disability, sickness, loss of an income earner, unemployment and in other cases prescribed by law.
- Everyone is entitled to the **preservation of health**. The provision of medical care and services shall be prescribed by law.
- Every citizen is entitled to **education**. Education shall be free of charge in state secondary educational institutions. Every citizen is entitled to receive higher and other specialized education free of charge and on a competitive basis, in state educational institutions. The establishment and operation of private educational institutions shall be prescribed by law.

At a national level, women in Armenia are underrepresented in terms of seats in the official institutions, in 2008 only 5.3% of parliament representative were women (7 out of 131). According to the Global Gender Gap Report, the results are similar for women in ministerial positions. Armenian has never known a female head of state. According to observations made by the OSCE in the Syunik region, “women (…) recognised politics as a men’s world” this report also states that “the patriarchal structure in politics and business, where the male networks hampered women from relevant knowledge and contacts, was a continuous source of complaints.”

3.1.2 Participation in elections

Meghri population as well as other citizens of Armenia of over 18 has the right to vote. Particularly they participate in the elections of republic’s president, national assembly deputies, heads of local administration (mayors of urban and rural communities) and Council of Elders.

The stated aim of the Government of Armenia is to build a Western-style parliamentary democracy as the basis of its form of government. However, international observers have been critical of the conduct of national elections in 1996, 1998, and 2003, as well as the constitutional referendum of 2005. The new constitution in 2005 increased the power of the legislative branch and allows for more independence of the judiciary; in practice, however, both branches remain subject to political pressure from the executive branch, which retains considerably greater power than its counterparts in most European countries.

3.1.3 Participation in local NGOs

There is only one NGO in Meghri region – Meghri Women Resource Centre, an organisation initiated by OSCE in 2007. This centre should work for empowerment of women in two areas – local government and business – and serve as a meeting place for women and with activities according to the local needs and involving local women. In reality this NGO is the cover for some informal meetings and use of internet for personal matters. There is no real actions lead to empower women in Meghri and nobody is going to villages to present women the opportunity opened to them in Meghri. The MWR centre is not working at all around agricultural business and the role of women in this area. However, the centre provides trainings on computer skills, accountancy and English language which, improved, could be useful in an expanding activity.

3.2 Human assets

3.2.1 Education

All the children of Meghri region receive primary and secondary education although not all the communities (particularly Kuris, Gudemnis, and Vahravar) have primary and/or secondary schools. Children from the latter communities attend secondary schools in Agarak and Meghri for which they relocate temporarily to those two towns. About 5 years ago the government implemented a major optimisation of secondary schools due to which many schools in small and aging rural communities countrywide had been closed down.

Yet parents spend more than 250,000 AMD annually in average on the education of their kids (it includes also university education) but in two villages, Lichk and Tashtun, those figures are too low – about 50,000 AMD. Such a big difference between these two communities and remaining ones could be explained by aging factor of former communities' population.

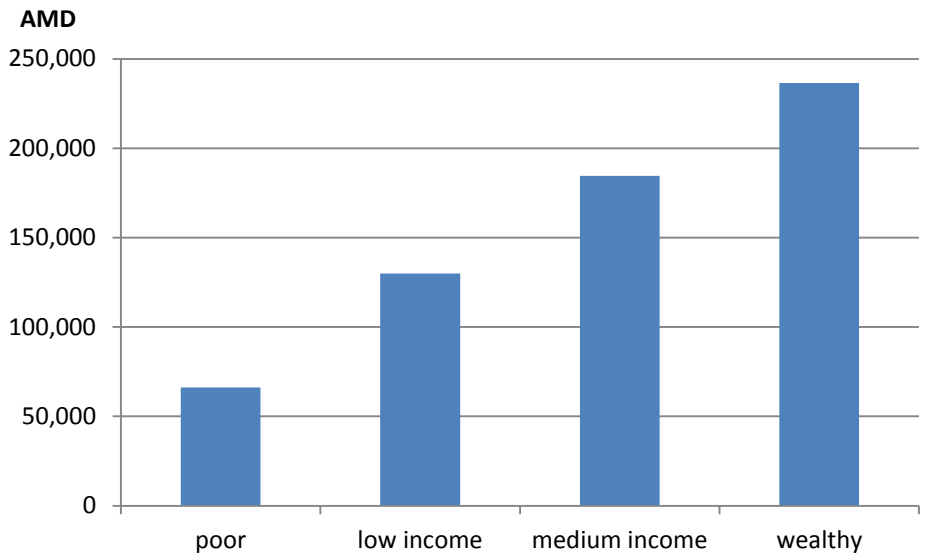

Figure 8: Expenditures on one kid education in 2009 by income groups

However HH expenditures for one child's education significantly vary between poorest and richest ones – more than 3.5 times (Fig. 5).

3.2.2 Nutrition

The state of nutrition in the entire region is in general good. People from all income groups regularly consume different food containing various nutritious values. Only in Tashtun and Lichk meat, fish and other protein-rich food is much less consumed because here the share of poor population is the highest in the region.

As far as Meghri is a fruit producing region it is quite natural that inhabitants of the region consume fruit almost every day, except Lichk and Tashtun – with only apples and pears growing the fruit consumption there is relatively low. Another phenomenon, which becomes evident, is that Araks riverside rural communities – with most developed horticulture - consume relatively less fruit than the two towns and mid-zone villages. This could be explained by the fact that the farmers in this zone are more business-oriented and maximally sell their produce, thus keeping less fruit for own consumption. Moreover relatively higher incomes allow them to have more diverse diet (to buy them from stores and intermediaries who sell/exchange various foodstuffs) compared to mid-zone communities where they consume mostly food produced locally.

Vegetable consumption is relatively different from that of fruit – except from Tashtun and Litchk all the other communities consume almost at the same high rate. They consume mostly "imported" vegetables from central regions of the country though many households cultivate some vegetables at homestead lands only for in-home consumption.

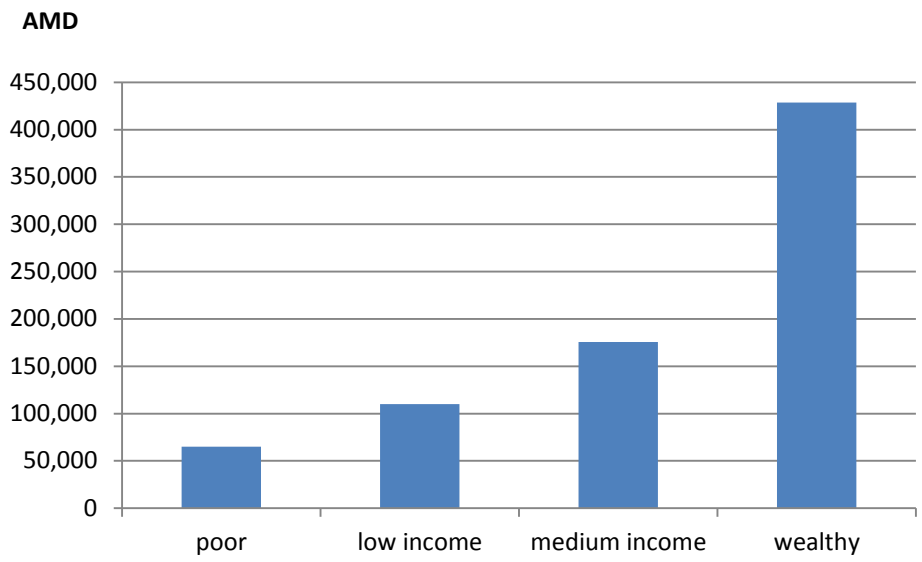

Figure 9: Per capita annually food expenditures by income groups

However there is strong correlation between HH types and food expenditures – the richest HHs spend 6.5 times more money on food than the poorest ones.

3.2.3 Public health

The public health system in Meghri region is based on public hospitals (in towns) and polyclinics/ambulatories (in towns/villages). In case of specific diseases the locals visit hospitals in Syunik marz and/or Yerevan.

In more than half of the region's households there were people having health problems of which almost 60% used paid medical services. On one hand it speaks of low efficiency of state free health care system but on the other hand it allows us to assume that Meghri population has certain purchasing capacity to use paid medical services. The average cost of medical services used by a household – about 127,000 AMD – also proves this assumption. Obvious difference in health expenditures registered in Lichk/Tashtun vs. other villages and towns speaks about much lower purchasing power and consequently much worse economic state of those communities rather than better health condition of its inhabitants.

There is also strong correlation between household typology and money spent on healthcare (Fig. 10) – the richest families spent almost 8 times more than poorest ones.

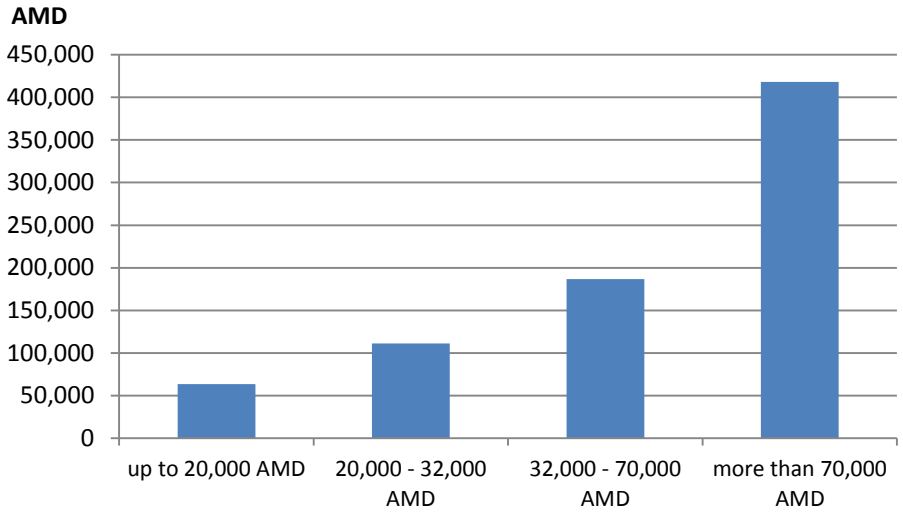

Figure 11: HH expenditures spent on healthcare in 2009

Sicknesses were reported mostly in Agarak and Araks riverside zone (more than 80% of HH). Further studies revealed a major problem conditioned by the tailing dams of Agarak mining factory located near Agarak town. Usually once such storage facility is filled and completed, the surface can be covered with topsoil and revegetation commenced. In the case of Agarak tailing dam it has never been done for many decades and thus fine tailings (small particles containing various toxic substances, heavy metals, etc) are being transported by wind into the nearby communities – Agarak town, Karchevan, Alvanq, Shvanidzor, Meghri town and Nrnadzor – communities situated alongside Araks river gorge (see the map below). According to the responses local people suffer from various oncological diseases. As a result it heavily impacts on the livelihoods of the HHs: there are specific instances when the HH would take relatively big and expensive loans (e.g. 1 mln AMD) for treatment of their family members.

Figure 12: Propagation of fine tailings by wind alongside Araks River gorge

The chart below shows quite an articulated inverse proportion of sickness frequency in separate communities on distance from the tailing dam.

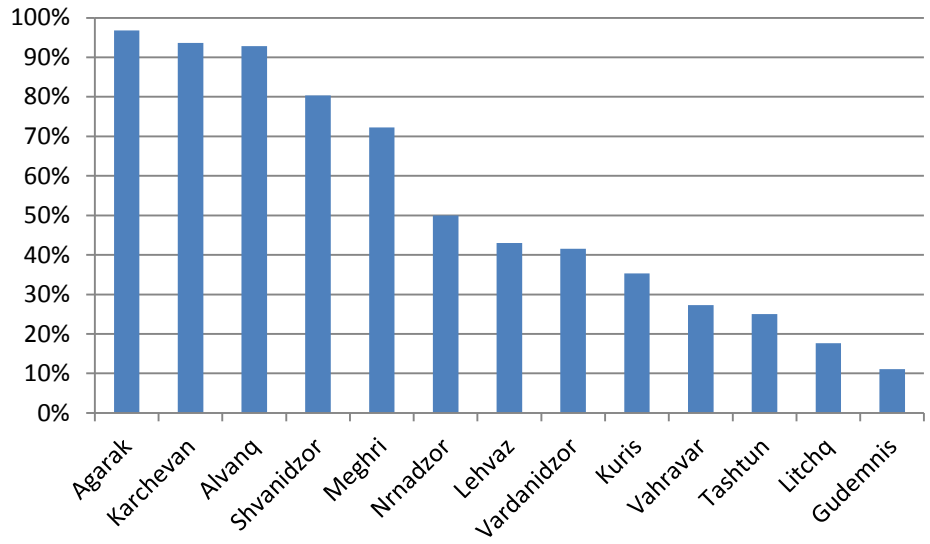

Figure 13: Percentage of HHs where health problems were registered in last 3 years

3.3 Natural assets

3.3.1 Land tenure

According to the secondary data obtained from municipalities about 1,800 HHs are involved in fruit cultivation on 553 ha total area. The total potential additional area for horticulture development is 425 ha.

Land tenure in Meghri region is characterised by fragmented plots and very small average land size. In towns the average area per HH is less than 0.25 ha; in Araks riverside zone – about 0.75 ha, in mid-zone – more than 0.5 ha, and mountainous zone – more than 2 ha (here the lands are mostly pastures and hayfields as well as cereal fields). Since the mountainous zone is relatively sparsely populated (see above) the average size of lands per HH is highest in the region.

In rural areas, lands are almost equally distributed among households of different income Whereas in Meghri town richer HHs own a bit larger areas and in Agarak the poorest HHs have almost 4 times larger landplots. Such big difference in Agarak could be explained by the fact that most of well-off HHs are young families who work in the local mining factory and get smaller plots of land compared to older families (who are mostly poor, former employees of Agarak mining factory) or do not own any land at all (part of them could be those who possibly moved to Agarak from nearby communities).

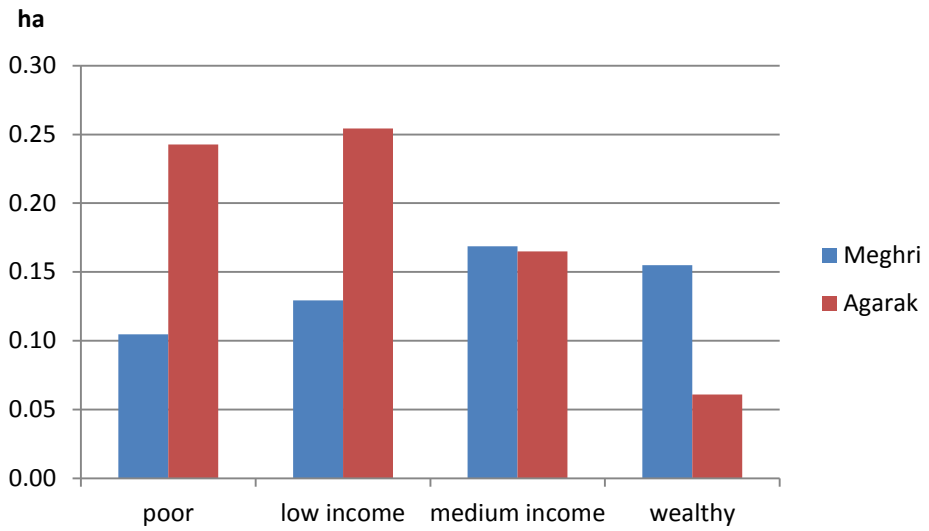

Figure 14: HH land tenures belonging to different income groups from Meghri and Agarak

60-70% of HHs regardless of their income size cultivate all the lands they own. Non-cultivated areas are mostly left idle. More than 90% of middle income/wealthy HHs do nothing with their non-cultivated lands. It can be assumed that these are families whose main incomes come from non-agricultural paid jobs. Renting of private lands in Meghri is very rare, and the common pattern is to let idle land to relatives for free (the latter would only pay the land tax).

However percentage of cultivation of owned lands for *horticulture* varies significantly from zone to zone. Most efficiently – for horticulture development, the lands are used in Araks riverside zone (92%) following by Agarak and Meghri towns (83% and 52% correspondingly). However in mid zone communities the cultivated orchards comprise quite small part of all agricultural lands – only 22%. Considering the average size of land in these communities (0.58 ha) as well as the total number of HHs (406) there is sizable potential to increase the agriculture production volume in case appropriate land efficiency actions are done – improved irrigation schemes, implementation of intensive farming technologies and alike. The percentage of land use for horticulture in the two mountainous communities is so small that it is worthless considering horticulture development there especially taking into account the reasons mentioned earlier (aging communities) in this report.

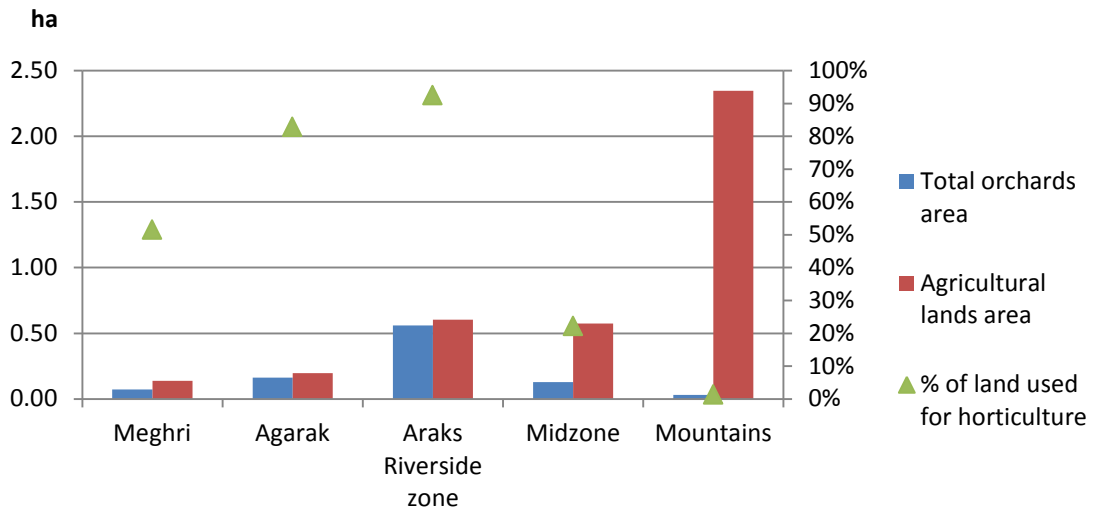

Figure 15: Orchards' areas by zones in the whole agricultural lands

3.3.1.1 Fruit orchards

Horticulture has key importance for the livelihoods of most of HHs in the region. Traditionally many types of fruits are being cultivated there but several fruits play major role in horticulture development. Among them are pomegranate, persimmon, fig, grape, walnut and apple which will be discussed further in more details.

Pomegranate is being cultivated in the whole Meghri region (except the villages of the mountainous zone) by 1,210 farmers on 154 ha total area. According to official sources, it is estimated that another 161 ha could be used for pomegranate orchards. Among other crops cultivation of pomegranate is the most profitable activity and it is especially profitable in Araks riverside zone communities following by Agarak and Meghri towns (see Fig. 28).

The average orchard area per household in Araks riverside villages is the largest in the region – 3,200 m^2 (0.54 ha according to secondary data calculation). The smallest plots start from 50 m^2 whereas there are farmers who own large orchards starting from 20,000 m^2.

Mid-zone average orchards are smaller – 300 m^2 (70 m^2 according to secondary data calculation); most of them reach up to 50 m^2, though there are also many households having pomegranate orchards up to 1,000 m^2.

The pomegranate orchard sizes are more widely distributed among the households of Meghri and Agarak towns – from 25 to 3,000 m^2, average ~870 m^2 (0.50 ha according to secondary data calculations), ending with up to 5,000 m^2.

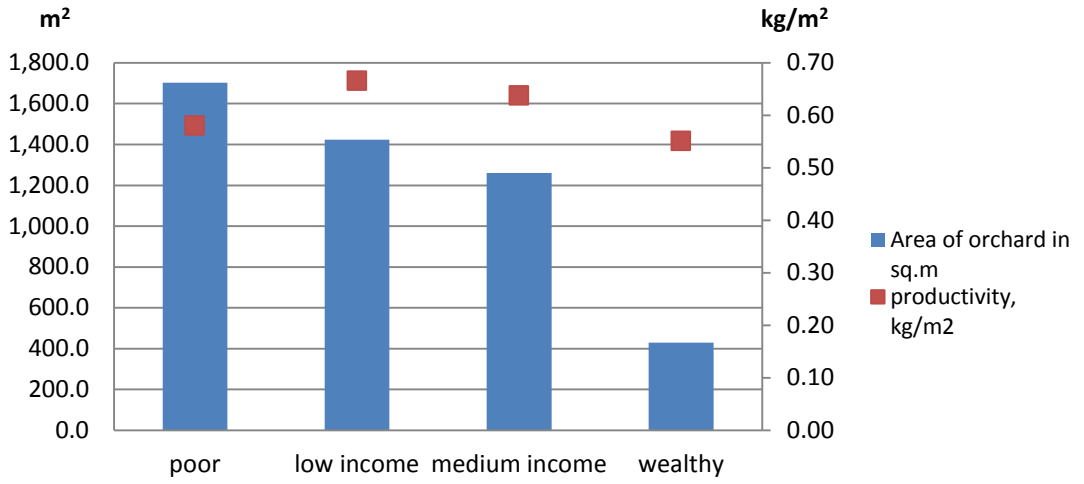

Figure 16: Pomegranate orchards area and its productivity by income groups

However pomegranate orchard sizes vary across the HHs types: poorer HHs own larger orchards whereas richer-owned orchards are more than 4 times smaller in area. This accounts for the fact that the rich HHs are mainly in Agarak and Meghri (see above), where land plots are smaller (see above). This assumption is applicable for some other fruits as well presented below.

Persimmon is also cultivated in the previous three zones. According to secondary data about 1,240 farmers cultivate persimmon on totally 104 ha area. There is another 47 ha lands appropriate for persimmon trees. Persimmon is perhaps the second important crop in the region and cultivation of it is almost equally profitable in Meghri town, Araks riverside zone communities, Agarak town and mid zone communities (see Fig. 28).

However, unlike the pomegranate, the average size of lands under persimmon orchards in towns and Araks riverside zones is almost the same – ~360 m^2 (90 m^2 according to secondary data calculation) and in mid zone – almost 600 m^2. In towns as well as in mid-zone villages there are small orchards which occupy areas of up to 20 m^2, whereas in Araks riverside zone the smallest persimmon orchards start from 20 m^2. In all the three zones the largest areas where persimmon is cultivated are in the range 1,000-5,000 m^2.

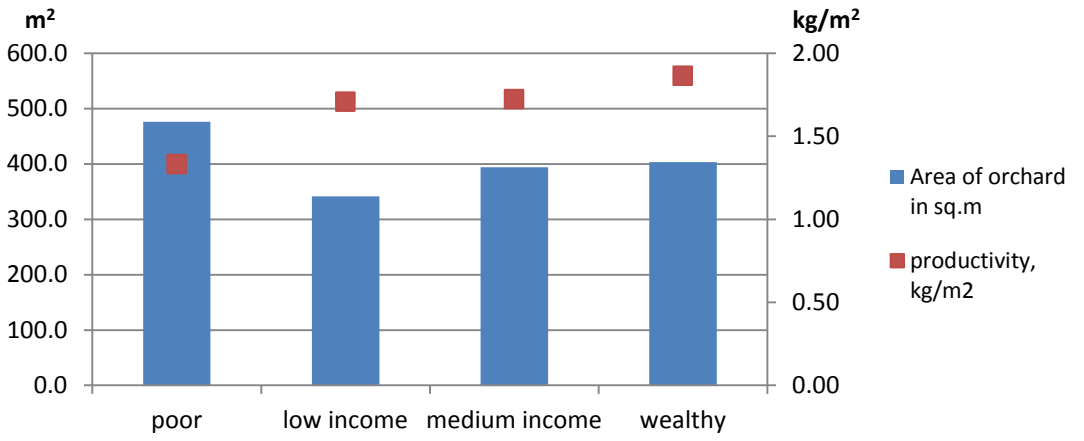

Figure 17: Persimmon orchards area and its productivity by income groups

Fig is largely cultivated in Araks riverside and Meghri/Agarak towns, though in mid-zone there are fig orchards too totally occupying lesser area compared to those of previous two zones (totally 1,082 farmers on 77 ha area). It is estimated that 26 ha idle lands could be used for cultivation of fig. It is the third fruit in the region by its profitability (Fig. 28).

In Araks riverside and mid-zone the average size of fig orchards per household is almost the same – about 300 m^2 (70 m^2 average by secondary data). But in towns most of fig trees are planted on plots starting from 20 to 1,000 m^2 but average size is about 200 m^2 (70 m^2 average by secondary data). As with other fruits the largest areas under fig (more than 1,000 m^2) are mentioned by several households from Araks riverside zone.

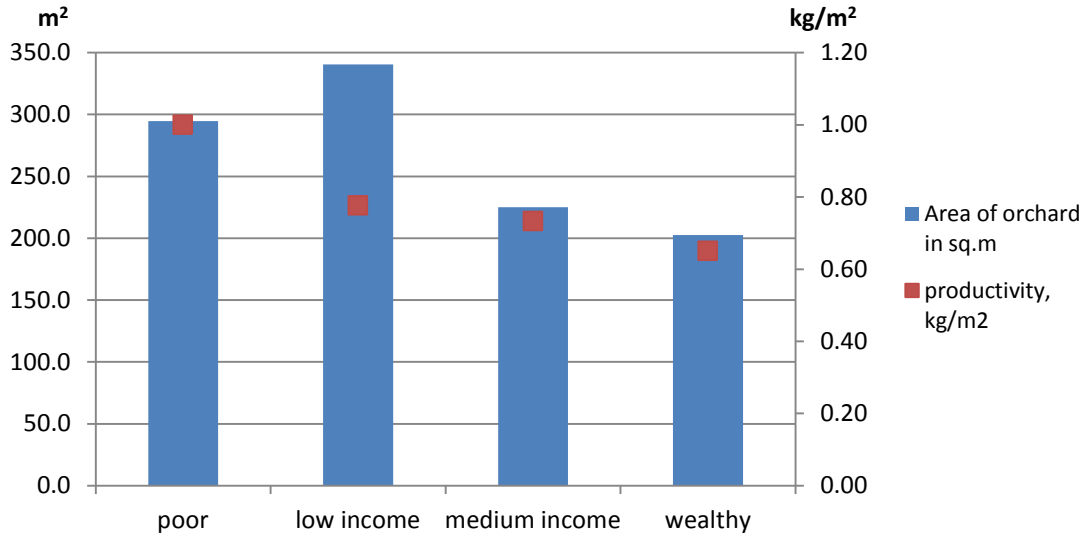

Figure 18: Fig orchards area and its productivity by income groups

Grape is perhaps the oldest crop cultivated in Meghri region. Except the high mountainous region it grows on even steep rocks and hills where it is possible to bring a minimum amount of water. 20 years ago vineyards in Meghri occupied large areas but nowadays due to irrigation and marketing problems they have drastically shrunk. Today the total area of vineyards is about 70 ha owned by 765 farmers. In case better irrigation is in place the vineyards' area could be increased by another 60 ha.

The largest vineyards are in Araks riverside zone – ~1,750 m^2. The average size of vineyards owned by one household in this zone is quite large and varies from 500 to 5,000 m^2. The smallest plots in these villages are more 50 m^2 whereas there are several household whose vineyards occupy more than 5,000 m^2 area. The second average largest vineyards are in mid-zone – ~700 m^2. Compared to the first zone here there are smaller vineyards – up to 50 m^2 and largest plots vary around 1,000-5,000 m^2. And in towns the vineyards are smallest – in average 480 m^2: the size of the vineyards of 37% responded households from towns is rather small and does not

exceed 50 m^2 and the same figure for another 41% of responded households varies between 100 and 500 m^2.

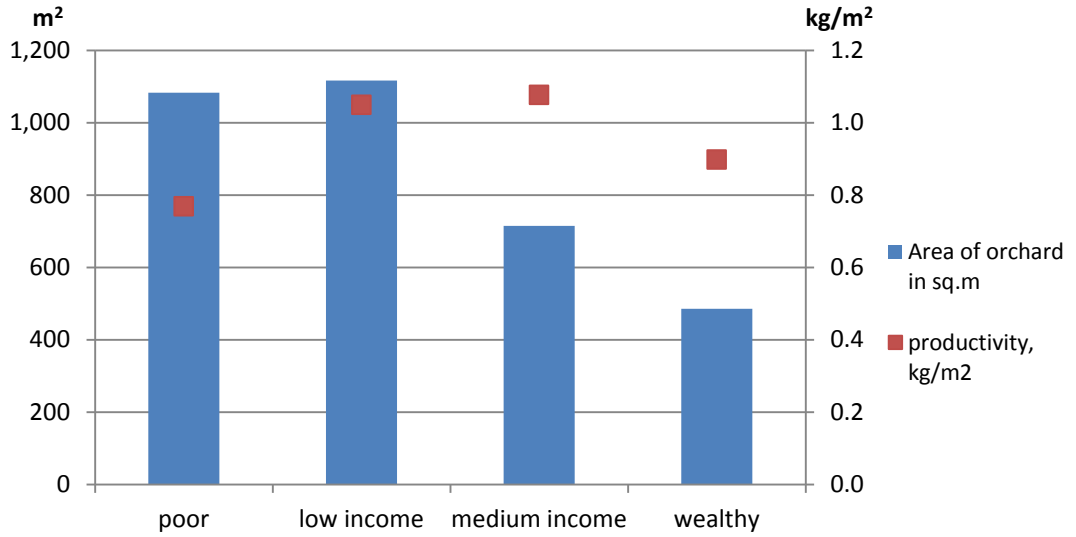

Figure 19: Vineyard area and its productivity by income groups

Apple is the only widespread fruit cultivated in all the zones of Meghri region. But due to suitable agroclimatic conditions it mainly grows in mid-zone villages: the total area of apple orchards is the largest one there. Thus only 655 farmers from Meghri region have apple orchards on totally 52 ha area. Still there is more area (an estimated 64 ha) suitable for apple production. But the profitability of apple cultivation is negligent mainly due to lack of market (Fig. 28).

The average size of apple orchards in mid-zone varies from 20 to 300 m^2 averaging at almost 150 m^2. There are very few plots smaller and/or larger of the mentioned range. Contrary to this zone the cultivation of apple in Araks riverside zone is marginal – only 6 respondents answered that they have apple orchards. However Meghri and Agarak farmers have many apple orchards and its average size is about 100 m^2. And lastly, large orchards exist in the mountainous zone averaging at 370 m^2. But here the orchards are almost not maintained because most of the HHs there do not have necessary resources (mostly old population) and do not have access to apple market.

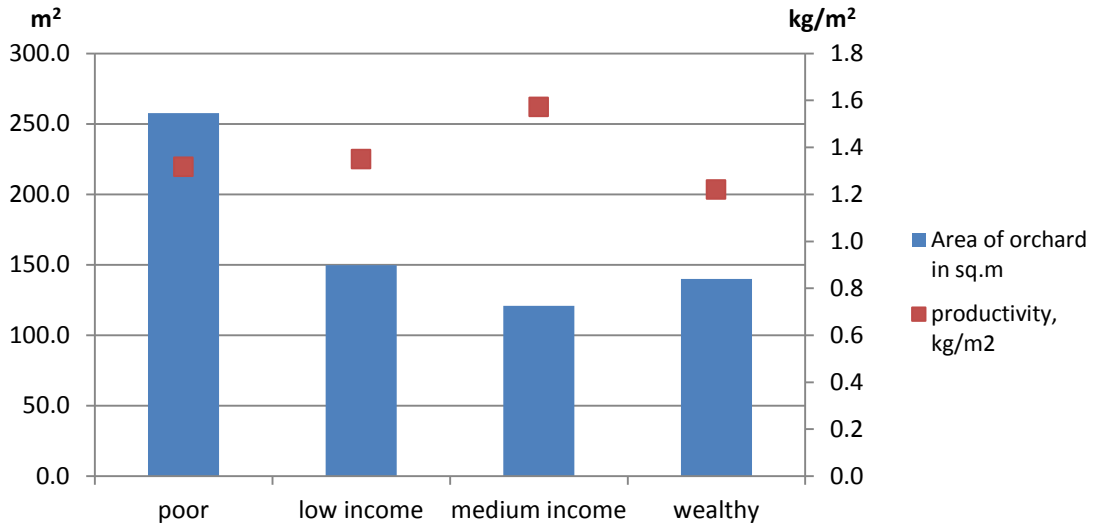

Figure 20: Apple orchards area and its productivity by income groups

Poorest HHs have almost 1.7 times larger apple orchards than HHs of other income groups and they are mostly from Lichk and Tashtun.

Walnut is another traditional crop being cultivated in the region. Some 443 HHs have walnut orchard on totally 33 ha area. It is estimated that almost the same area is available to plant new walnut trees. The age of most of the trees is reportedly 100 and more years. The main area where walnut cultivation is most developed is mid zone. Here it is the most important crop by its profitability. Moreover, walnut revenues per HH for the mentioned communities are *second* to that of pomegranate in the whole region (see Fig. 28).

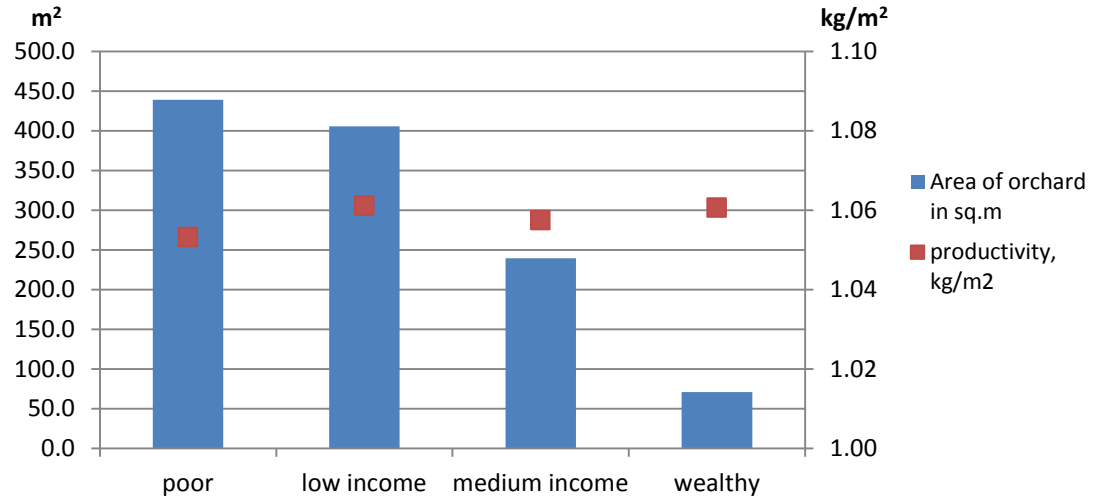

Figure 21: Walnut orchards area and its productivity by income groups

The average size of walnut orchards in mid-zone is about 380 m^2. In mountainous villages they are a bit smaller – 300 m^2. However, despite relatively large areas of walnut orchards there it doesn't bring much money if any to local HHs for the same reason as with apple trees (Fig. 28). In Araks riverside communities walnut orchards

are about 260 m^2. And in the towns most of HHs have only 1-2 trees on about 50 m^2 area.

3.3.1.2 Fruits productivity

Pomegranate productivity calculated using secondary data is 3.3 ton/ha whereas HHs reported it almost 2 times higher figure – 6 ton/ha. It speaks of the harvest data collected by municipality authorities being understated. As we will see further the data provided by households for other crops are always (only in case of grape it is the same) higher than those provided by municipalities. We suppose that the real productivity data for different crops indeed are higher than official ones but not necessarily as high as stated by the HHs because it is just an assessment that bears a certain level of subjectivity.

Persimmon per area productivity is the highest among the main fruits and is 8 ton/ha calculated using secondary data (according to primary data calculations – about 17 ton/ha).

Fig per area productivity is 1.34 ton/ha calculated using secondary data (according to primary data calculations it is about 8 ton/ha).

Grape per area productivity is about 9 ton/ha calculated using secondary data (according to primary data calculations it is almost the same figure).

Apple's per area productivity is about 2.6 ton/ha calculated using secondary data (according to primary data calculations it is about 12 ton/ha).

Walnut's per area productivity is about 0.8 ton/ha calculated using secondary data (according to primary data calculations it is about 12 ton/ha which is non-realistic and can't be considered in our estimations).

3.3.2 Livestock, poultry and apiculture

The nature of animal husbandry is rather subsistence agriculture which plays just supportive role in the livelihoods of the region. Almost 57% of all households don't have any cow. Of those having cattle 58% keep only 1 cow and 35% - 2-3 cows. Consequently such small quantity strongly speaks of subsistence mode of the animal

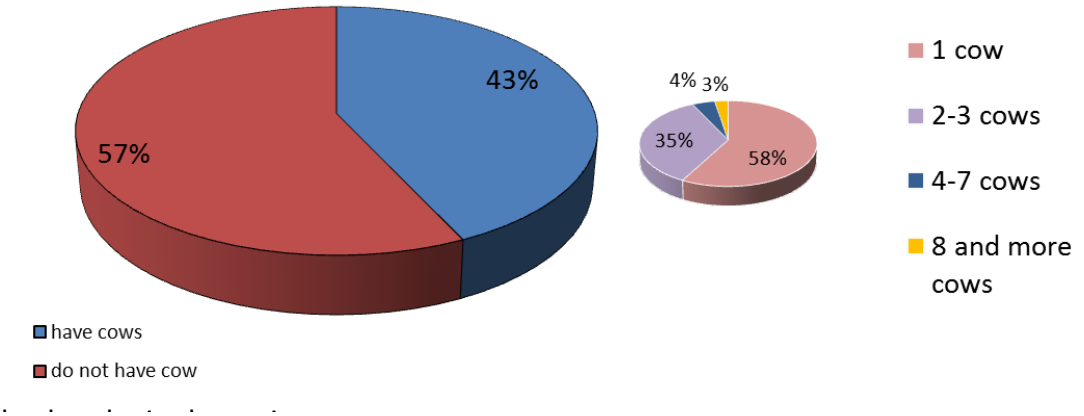

Figure 22: Number of cows per household

Significance of **pig breeding** is just negligent in Meghri region. 94% of interviewed households do not keep pig. And of those having pig 66% keep only 1-2 pigs which usually consume internally.

Sheep and goat breeding also plays a marginal role in the livelihoods of the region. 89% of interviewed do not have any sheep or goat.

Apiculture is present in Meghri as in any other region of the country. However most of interviewed households (88%) do not have any beehives. And most of them (56%) who are involved in apiculture have up to 9 beehives and those households use produced honey mainly internally though some small quantities could be sold or given to relatives. Only 18% of households have 20 and more beehives and it is expected could be assumed that for those farmers the apiculture plays a somewhat commercial role.

Generally poorer HHs are involved in apiculture (15%) compared to wealthy ones (about 4%). But wealthier HH have more beehives than the poorer ones.

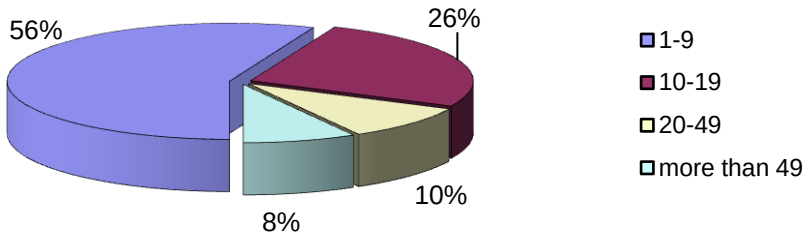

Figure 23: Number of beehives per household

In terms of geographic differences between communities Lichk, Tashtun and Karchevan are the leaders in terms of average number of beehives per household. Lichk and Tashtun have favourable agroclimatic conditions for apiculture. In Karchevan, reportedly several years ago, the President of Armenian Union of Apiculture established large orchards on the community lands and intensively developed apiculture there. The very presence and significant support (transfer of hands-on knowledge, delivery of beeswax, special medicines, and other relevant apiculture related items) to local beekeepers boosted the development of apiculture in Karchevan.

Poultry farming is a common activity across the rural households of Armenia and Meghri region is not an exception in this regard. Thus only 40% of interviewed households do not breed poultry. Most of them are from Agarak since here unlike Meghri (mansions comprise significant part of Meghri housing) most of inhabitants live in multi-storey buildings.

Of those keeping chicken about 60% have no more than 10 and 35% have up to 20 chicken. Only 5% of households keeping chicken have more than 21 chickens.

Poor and low income HHs versus rich ones generally are more involved in animal husbandry except for apiculture where the richest HHs have about two times more beehives than the poor ones.

3.3.3 Water resources (irrigation)

Irrigation in Meghri is realized via both mechanical and gravity schemes. The mechanical irrigation schemes are managed by Meghri Water Users Association whereas gravity schemes are on balance of respective municipalities which do not collect any money from local farmers for the system maintenance which results in the poor state of irrigation and, correspondingly, sizeable areas of non-cultivated lands (see above).

The main source of irrigation water in the region is Araks River. 12 high pressure pumping stations are lifting water up to 300-400 m and have high energy consumption. Besides this, due to high concentration of sediments in Araks River the rotors very soon break down and therefore its maintenance is costly. All Araks riverside communities including two towns use mechanical irrigation from Araks River. Water Users Association collects money from its members and manages the mentioned mechanical irrigation scheme but generally it is limited to the maintenance of pumps and main pipelines.

Meghri River flows from the mountains and irrigates the lands of Vardanidzor, Lehvaz and Meghri (partly) communities. The other mid zone communities receive their irrigation water from smaller rivers and creeks. The internal networks in those communities are mostly deteriorated and since it is formally managed by respective municipalities **for free** almost no maintenance works are done in any of those villages. On the other hand according to estimations Meghri River has enough flow/pressure to irrigate all the lands of the region.

Most of the households have access to irrigation regardless the income groups they belong to.

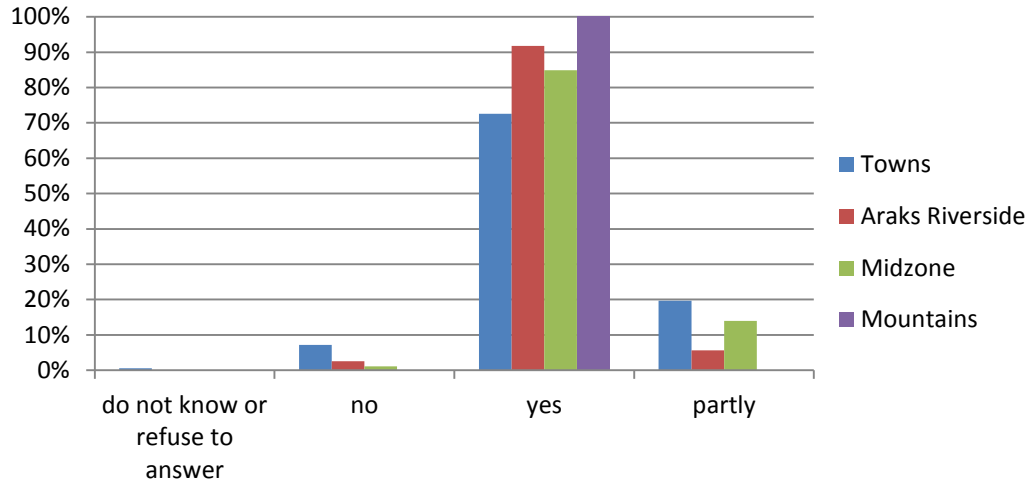

Figure 24: Access to irrigation by zones

However the quality of the service is still an issue with half of the households not satisfied with it. Most Irrigation problems are in AR villages and towns. Due to reliance on mechanical irrigation and poor state of the network not all orchards receive sufficient irrigation. The main problem is insufficiency of water.

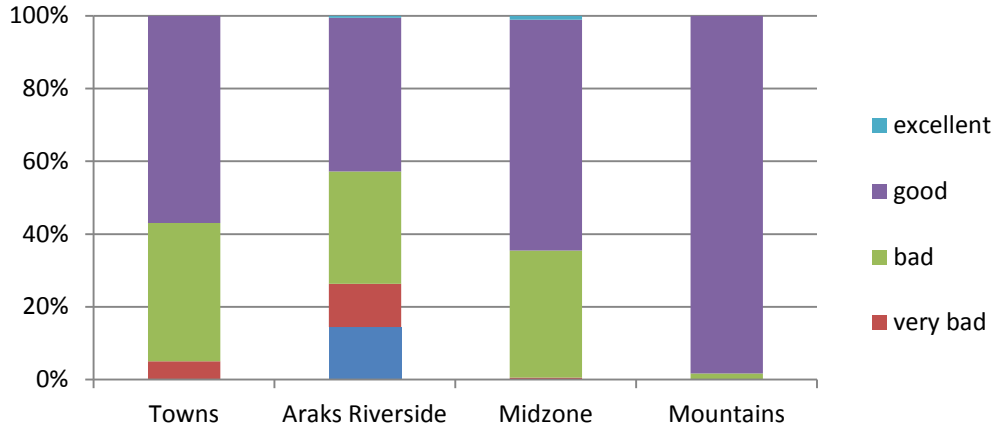

Figure 25: Quality of irrigation

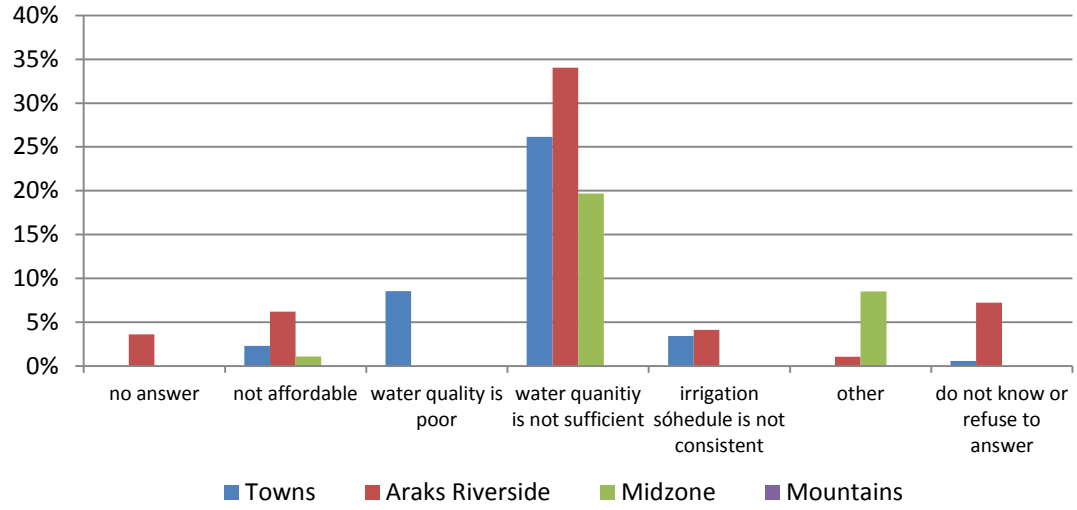

Figure 26: The reasons of dissatisfaction with irrigation quality

As a result today only some 600 ha are irrigated and in case irrigation schemes are reconstructed/established and system management is "reinforced", another 600 ha orchards could be revived/planted.

3.4 Financial assets

3.4.1 Household general income trends

As expected crop production is mentioned as a major household income source in Meghri region – 33%. As a matter of fact in the majority of region's communities horticulture is the main if not the only type of crop production but some mid zone and mountainous communities are generally engaged in farming of perennial crops

and some veg also. Trade of agriproduce could be partially added to crop production since according to our observations and checks some respondents while mentioning the former meant selling agriproduce grown on their land plots.

Animal husbandry is the second important source of income (18%). It is predominantly subsistence agriculture for the local households because as we saw above it is based on 1-2 cows, about 10 chickens, some 10 beehives, and so.

Paid non-agricultural works come third with 11%. In towns people work at municipalities, schools, in fruit processing company (Meghri), copper-molybdenum factory (Agarak), and a number of grocery stores, restaurants, and other services.

And the fourth main income source mentioned is pension – 9%. Almost the same significance (8%) has work outside the community or labour migration.

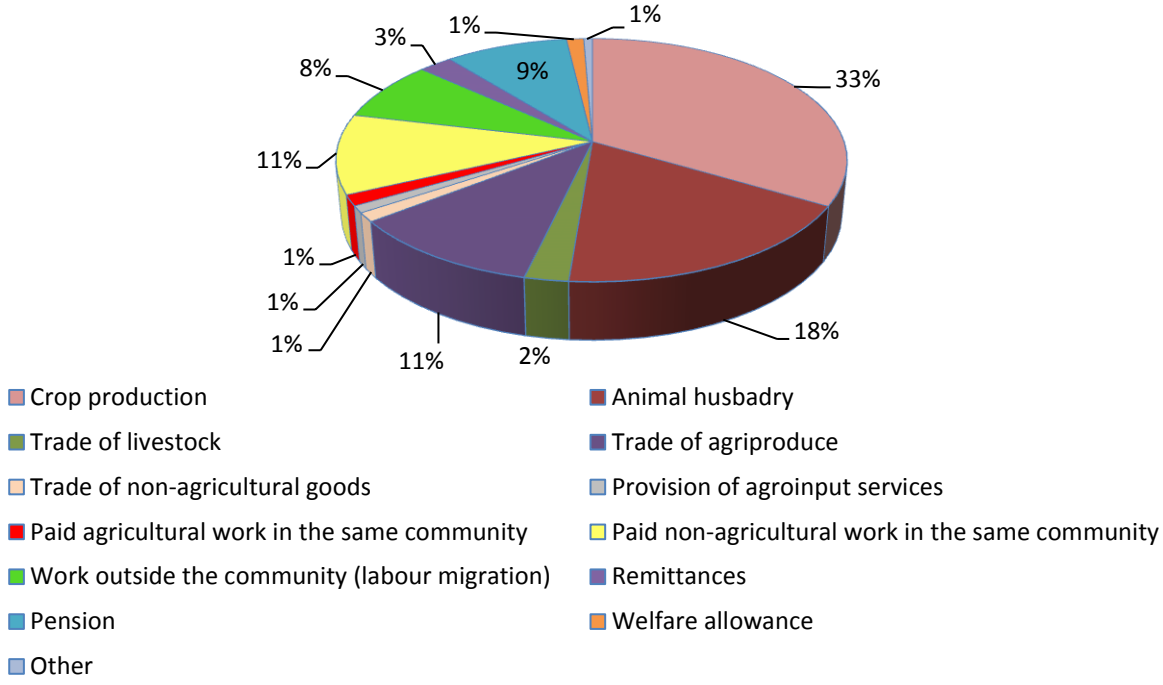

Figure 27: Income sources for HHs in Meghri region

It is interesting to look into income generating activities in each of the four zones. Crop production and sale of agriproduce is the most significant source of income even in towns – totally 53%. But here the weight of next important source of income – paid non-agricultural works – is higher than the region average – 18%. It is conditioned mainly by Agarak Copper-Molybdenum Factory, Meghri Customs' Office, service at municipal administration, schools, hospitals and alike.

Crop production and trade of agriproduce are named as the first main source of income in Araks riverside rural communities, totally comprising 44%. The second important source is animal husbandry – in average 14%. This figure is well dispersed across the villages from 6% (Alvank) up to 24% (Nrnadzor). Such a high weight of animal husbandry in Nrnadzor is explained by the origin of the locals – mostly resettled people from western Azerbaijan where they had been involved in cattle and sheep breeding. Thus, the tradition of animal husbandry brought by the

resettled together with the existence of large pastures resulted in the fact that the former became one of the main income generating activities. The next two income sources named are paid non-agricultural works and trade of non-agricultural goods – 10% and 9% respectively.

The distribution of main income activities is less diversified in mid-zone communities. Again the main source of income is crop production – 35%, followed by animal husbandry – 24%. And the third significant type of activity for the villages of mid-zone is work outside the community (13%) – labour migration. It speaks on relatively worse economic state in those communities that forces the local population seek additional income sources outside of their communities. Here the pension is also considered as an essential source of income (11%) which comes to prove that in these communities the share of senior citizens is relatively higher compared to other zones. The demographic situation is especially worrying in Gudemnis and Vahrevar where pension is named as an important source of income by about 26% of respondents.

The last group of communities presents a certainly different picture. Here livestock breeding is named as the first important source of income – about 47%, which comprise of animal husbandry and trade of livestock. Horticulture is less frequent – 33%. In these high mountainous communities crop production includes cultivation of perennial crops, potato and alike vegetables as well as apple and pear. As an observation it should be mentioned that apple and pear tree stocks of Litchk and Tashtun are old (come from the Soviet times), farmers barely maintain the orchards, therefore a very small amount of grown apple and pear if any are sold for cash. And the third important source of income mentioned here is pension – 11%. This figure is another evidence of aging population of these two villages.

The analysis of income sources for different income groups shows the following picture. Crop production is almost equally important for all groups though for wealthier HHs it is less important. However for most of other income sources we can see certain differences across the income groups. Animal husbandry is almost twice more important for poorer HHs compared to the richer ones. Rich HHs are more involved in trade of agriproduce than the others which speaks about different market access ability. As we noticed above non-agricultural works are especially important for urban population where most of well-off people live. And we clearly detected that correlation below. Job migrants are mostly from low income HHs. And as it could be expected most of pensioners are from poor and low income HHs. Welfare allowance receivers are only from poor and low income HHs.

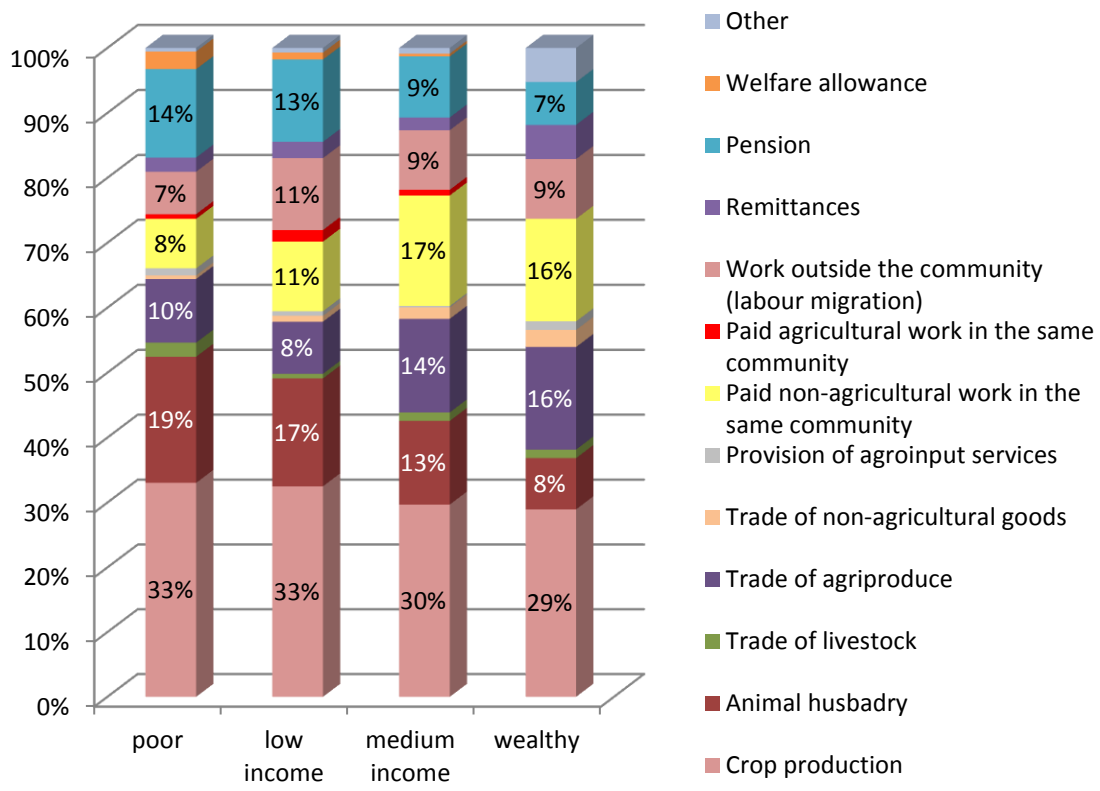

Figure 28: Income sources by income groups

3.4.2 Agricultural revenues

As it was mentioned above agriculture plays a vital role for the majority of Meghri region HHs. And horticulture is the main type of agricultural activities that brings cash revenues. It plays especially significant role for poor HHs from Agarak town, Araks riverside and mid zones. Except Agarak where poor households are mainly those who do not work at mining factory, those in Araks riverside and mid zones are destined to rely predominantly on horticulture because local economies in those communities are exceptionally based on horticulture.

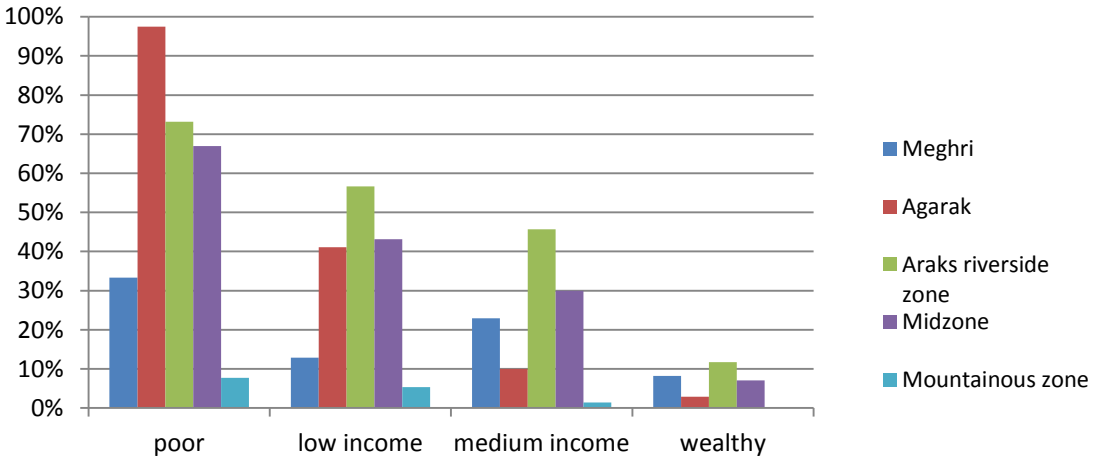

Figure 29: Ratio of horticulture revenues versus household total expenditures

However, while designing livelihoods strategies it is necessary to distinguish the values of different crops being cultivated in the region. Yet different fruits occupy different place in the HHs budget depending on where the HH lives and to what income group it belongs.

3.4.2.1 Specific fruits' revenues

Pomegranate is the main fruit in terms of profitability for Araks riverside zone communities followed by Agarak and Meghri. It is mainly sold (or to smaller extent bartered) to intermediaries and several wine and juice producing companies. The procurement wholesale price varied between 200 and 800 AMD/kg depending on the grade.

Persimmon is perhaps the only fruit that has almost the same high value for the HHs of the entire region except for Lichk and Tashtun. It is also sold (or to smaller extent bartered) as fresh or dried fruit to intermediaries. Fresh persimmon is sold at farm gate for 200-300 AMD/kg and dried fruit about 1,500 AMD/kg.

Due to small areas under cultivation the revenues from fig orchards are less than those from vineyards but in terms of commercialisation fig is much higher than grape: it is sold either fresh or dried – both are high value products. The procurement prices for fresh and dried fruit are comparable with those of persimmon.

Since the market for Meghri grape is almost lost the presented figures are rather indicative because the sizeable part of grape harvest in Meghri is being processed into jug wine and/or vodka mostly for internal consumption, and only small volumes of fresh grape are sold for 200-250 AMD/kg in regional markets (Kajaran, Kapan, Goris).

Apple's revenues are negligible in the whole region for the reasons explained earlier in this report (see Fruit orchards).

Walnut has high importance (even in comparison with pomegranate) mostly for HHs from mid zone. The main buyer of local walnut is Meghri Cannery which produces unique walnut sweet preserve – a product enjoying high demand both in domestic and overseas markets. Walnut is procured at 800-1,000 AMD/kg.

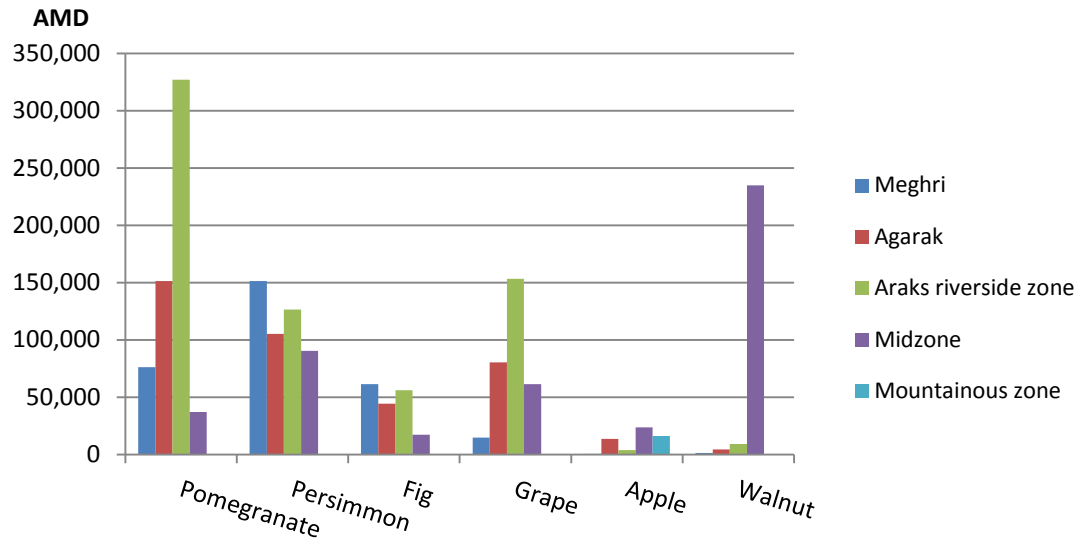

Figure 30: Annual per household revenues from 6 main fruit by zones (est. for 2009)

Importance of fruits by income groups presents a somewhat different picture.

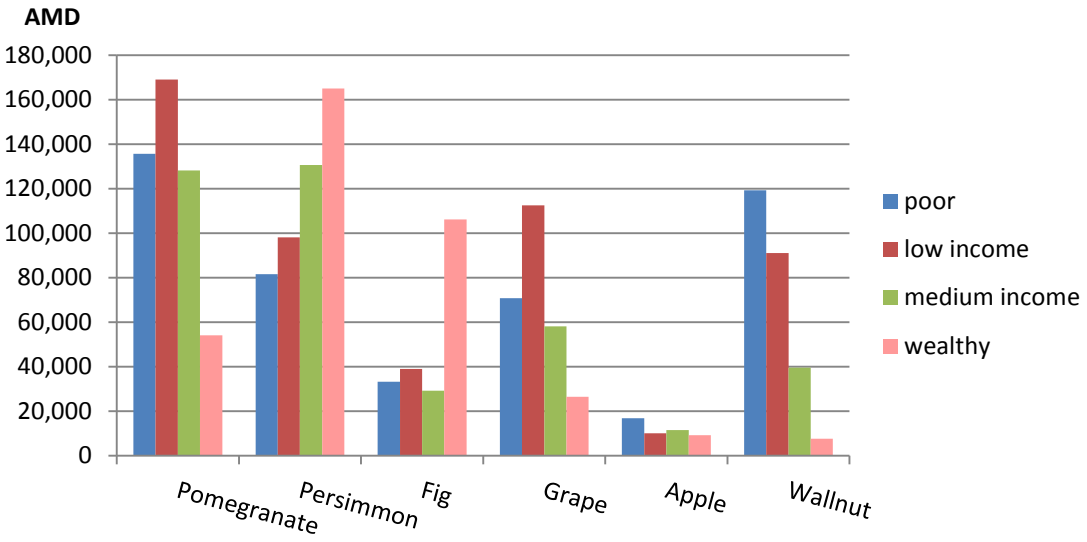

Figure 31: Annual per household revenues from 6 main fruit by income groups (est. for 2009)

As we can see the major part of horticulture revenues for **poor and low income HHs** comes from pomegranate orchards (ca 150,000 AMD per annum). The second important crop for these two groups is walnut (ca 100,000 AMD per annum). As we see above the main walnut producers are from mid zone villages where majority – more than 3/4 of population belongs to poor or low income groups. Grapes are the next important crop for poorer HHs but as we mentioned earlier in the last 15-20 years viticulture has become subsistence farming in Meghri region. Fig and apple have much less share in horticultural revenues of these two income groups.

Both pomegranate and persimmon have almost equally high shares in horticultural revenues of **middle income HHs** – ca 130,000 AMD per annum. Next are grapes, though subsistent – less than 60,000 AMD, and walnut - 40,000 AMD. Fig's share is around 29,000 AMD, which is less than the same indicator for poorer income groups.

Analysis of **wealthy HHs**' yields thought-triggering results. Rich farmers get *only* 3.1 times less revenue (ca 54,000 AMD) from pomegranate orchards than low income HHs although their orchards are about 4 times smaller and per ha productivity is lower by 30%. Wealthy HHs earn 1.68 times higher revenues from persimmon (ca 165,000 AMD) than low income HHs although the latter's persimmon orchards area is only 1.18 times smaller and per ha productivity 1.08 times lower. This means that in case of **persimmon**, wealthier farmers are at least by **50% more efficient** than poorer farmers. But the most evident difference is with **fig**. Having 1.7 times smaller orchards and 83% per ha productivity compared to low income HHs rich farmers gain 2.7 times higher revenues from fig than low income farmers. In this case they demonstrate **5.4 times higher efficiency**! The remaining three crops have much less importance for wealthy HHs therefore we do not consider them. Thus the above-mentioned analysis leads to a conclusion that **wealthy farmers possess higher selling capacity vs. their poorer counterparts**.

3.4.3 Pension and remittances

Since mid-90's of last century private transfers have a sizable volume in the national budget of Armenia. Therefore special attention has been paid to the issue of remittances in the livelihoods of Meghri households. According to the results of the survey 90% of households do not receive remittances at all: this allows us to state that remittances play insignificant role in livelihoods of Meghri population. The monthly sum of remittances for those 10% varies from 20,000 to 76,000 AMD which is close around the national average – 140 USD (~53,000 AMD).

According to the responses in 2006 the average volume of remittances increases by 38%. In 2007 the trend was also positive – 16% but last year supposedly because of global economic crisis the remittances to households of Meghri region decreased by 26%.

3.4.4 Debt capital (bank loans)

Financial services are too weakly developed in the region. There are only two banks operating in Meghri and Agarak towns – VTB and AShiB and one microfinance institution, SEF International, with however a very limited loan portfolio in Meghri. Only 10% of interviewed HHs obtained loans. And these borrowers represent *only* middle income and rich HHs. The main purposes of loans taken are housing, purchase of agricultural inputs and saplings.

3.5 Physical assets

3.5.1 Housing

Nearly all the respondents have mentioned that they own houses. Even more, the mean of answers is 1.01 which means that there are 101 houses for each 100 residents in the region. This number has been 102 in 2006.

In addition to this, the analysis shows that almost 31% of the respondents own business premises (mostly various shops).

Another indicator of social development is the amount spent on house renovation. Only 19% of total interviewed households answered 'yes' to the question whether they have done any house renovation over past one year. However the zonal breakdown of the same data brings more insight to the state of renovation expenditures. In this regard the leader is Araks riverside zone – 32%, followed by mid-zone communities – 27%, then come the two towns and the least one is the mountainous sub-region – only 5%.

3.5.2 Vehicles & agrimachinery

Less than half of interviewed households replied that they have at least one car. The number of owned motorbikes is negligent – only 1%, whereas the number trucks is a bit more – 8%. However middle income and rich HHs have twice as more cars and trucks compared to low income HHs. The percentage of owned cars (about 40%) allow us to conclude that in Meghri region to some extent there are opportunities for the mobility of passengers as well as goods since in rural Armenia people often use cars for transportation of agriproduce. Yet it is evident that available transportation means in the region (very low percentage of tracks) is not enough for consistent delivery of grown agriproduce to the main markets – Yerevan and other major cities of the country.

The state of agrimachinery in the region is totally unsatisfactory – almost 75% of HHs thinks so. And richer HHs assesses it more categorically – 55 to 70% of them consider that there is no agrimachinery available at all which could be explained by better awareness of those groups on modern agricultural machinery which makes them more demanding compared to their poorer peers. Usually there are several units of agricultural machinery (tractors, combines and tools) in a village owned by a few farmers who offer their services to other farmers from the same and/or neighbouring villages. Recently various donors (mostly via Armenian state/public organisations) provide combines and tractors to rural communities. Besides, some communities would purchase new agrimachinery at privileged prices offered via state channels.

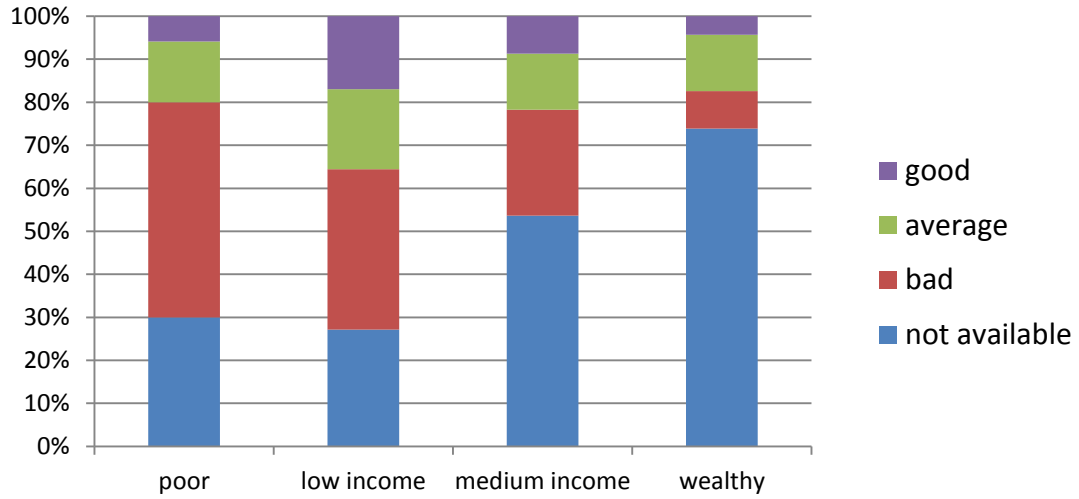

Figure 32 Agrimachinery services assessed by different income groups

3.5.3 Electricity and gas supply

Meghri region as well as the whole country has been totally electrified even from mid-20th century. However natural gas supply is not existent in the region although the recently constructed Iran-Armenia gas pipeline passes through the region. Some households, especially those in the towns, buy liquefied gas mix (propane-butane) in LPG tankers for their everyday needs.

3.5.4 Potable water

The situation with drinking water supply in Meghri region varies from zone to zone. Almost 88% of interviewed households mention that they have access to drinking water supply system. Particularly 96% and 100% of Meghri/Agarak and Litchk/Tashtun respectively, 74% of mid-zone (in Vardanidzor the internal network is being constructed) and 90% of Araks riverside households have access to water.

However, satisfaction with water quality and service per se is different even across the communities. Most of the interviewed households from Meghri/Agarak (67%) and all households Litchk/Tashtun assess the quality of water as good or even excellent. Contrary to that, Araks riverside and mid-zone communities are not satisfied with that. For instance, the internal water network of Kuris and Vahravar is partly damaged which negatively impacts the water quality ('bad quality' option was dominating amongst the answers). In Gudemnis all households have water access and quality of water is good, however the service itself is assessed as bad because the main pipeline feeding the community needs a major repair.

Apart from Karchevan the 3 remaining Araks riverside villages (and partially Meghri) receive their drinking water both from mountain springs and chahrezes[4]. Due to a number of reasons chahrez tunnels are sand-up bridged and polluted over time. The maintenance and cleaning of chahrezes is a special trade, and nowadays there are few professionals (kankans) in the field. Iran has many communities where there are chahrezes in function, and from time to time Araks riverside communities hire Iranian kankans to maintain/restore local chahrezes. But kankan service fee is rather high and since the budget of aforementioned Meghri communities is very limited the maintenance of the local chahrezes is done occasionally. This is why 77% of interviewed households from the named communities are not satisfied with supplied quality of water.

In 2006 SDC financed repair works of chahrezes in Shvanidzor and now it is cooperating with Civilitas for the similar activities in 2 villages of AR zone.

[4] Chahrez is one of the most ancient still existing systems of water supply. Chahrezes were mentioned to have been observed on the territory of Armenia in 721-705 B.C. The system of ancient chahrezes is still preserved in Dizful village in Iran. The depth of these chahrezes in certain cases could reach 400 feet, and their length could reach 20 miles. The chahrezes were first used for water supply in ancient Egypt, approximately in 500 B.C. The name 'chahrez' is a Persian one. The culture of extracting chahrez by means of boring wells is typically Eastern.

3.5.5 Telecommunication

Satisfaction with land-line telephone services varies across the zones. All villagers of Litchk and Tashtun are happy with the service whereas most of residents from Araks riverside communities assess it as bad. Recently Beeline has been introducing a CDMA fixed telephone service in the regions of the country which replaces the old-fashioned and in most cases non-operating telephone exchanges. Thus in Meghri region CDMA telephones are being used.

The service quality of two (Vivacell and Beeline) mobile telephone operators is satisfactory almost in all the zones of Meghri. The third new operator, Orange, reportedly is about to cover Meghri region very soon. All operators have ISP services, and Beeline offers it via both landline cable (dial-up and broadband connection) and mobile network (using USB modem).

Almost all households have at least 1 TV set. Only 5.2% do not have any TV set. However the quality of TV broadcasting service is not satisfactory for almost half of the region's residents. Besides it varies from zone to zone.

The number of computers as an indicator of IT development shows that it is still at an embryonic state. However the trend over the past three years is certainly positive – increase in 47% or 17 more computers. Of those having computer there are households where internet is accessible.

3.6 Social assets

3.6.1 Intrahousehold relationship

Traditional Armenian cultural practices have changed dramatically since the beginning of the 20th century. Many traditional elements still characterize contemporary Armenian life, however, particularly in rural villages of the former Soviet Union.

In this respect intrahousehold relationship in Meghri region differs not much of that in other regions of the country. Armenian families in rural areas are still based on rather male dominated relations. Although in villages the role of women is being changed under current socio-economic trends. Thus the level of education in the region is almost equal among women and men.

In the meantime one may notice men's embarrassment concerning questions about private life or opinion on women's situation if they are with other male. It is also common to find out that being in a group they will give almost the same answers. For instance, one can notice that women always say that they are working less than men are, but by calculating the total amount of working hours (housekeeping work + occupation) it is sometimes the contrary.

Survey results also show that wives usually spend 8 to 10 hours a day working in the house while husbands spend 2 to 4 hours. And some 63% of men are working for a wage vs. 39% of women. This confirms the fact that women spend most of their time at home.

Results also show that if an expansion of their agricultural business would require putting extra burden of one family member, which would rather be the father or the son. Women should not have more work.

Decisions on major household purchases are almost equally made by the wife and the husbands, although female respondents believe that it is mostly done by women.

Regardless the income group in almost all the HHs family members are involved in agricultural activities at cultivating their lands. Those activities are pruning, sowing, watering as well as manual harvesting.

3.6.2 Intracommunity cooperation

A sizeable part of region's HHs – about 37% – from time to time cooperates with each other during their agricultural works. Yet (27%) richer families cooperate more compared to their poorer peers. This could be explained by the fact that richer HHs more often use paid agricultural workforce than poorer ones.

Cooperation between farmers relates to cultivating and harvesting crops, processing/drying fruits (especially middle income HHs) as well as sharing their experience and consulting each other. The experience sharing and consultation activity is quite common especially for wealthy households.

Some HHs hire seasonal workforce for agricultural works such as mowing, manual harvesting, sowing and pruning. The difference between poor and wealthy HHs in this regard is substantial – if 12% of poor HHs use hired workforce then almost more than 25% of wealthy HHs use them. The highest percentage of HHs who hire agricultural workforce is in Araks Riverside zone communities – from 36 to 55% depending on income groups that clearly speaks about the commercial nature of agriculture in those villages. In Meghri town only 5% of poor HHs hire agricultural workers and richer HHs hire more often (33% for wealthy HHs). In Agarak town we observe a reverse phenomenon – the poorer HHs hire more often (23%) than richer ones and wealthy HHs almost do not hire at all.

3.6.3 Formal associations

Involvement level of farmers in any associations is very low in Meghri region. There is an Association of Horticulturists of Meghri region which has 64 members mainly from Araks Riverside zone communities. 4 of them merged together their orchards for joint farming while others are cooperating in joint procurement of inputs and marketing of crops.

4 Strategy development and decision-making in a livelihoods

Based on information and analysis presented above the following livelihoods systems specific to Meghri region could be outlined: HHs predominantly relying on subsistence farming; HHs whose main revenues come from non-agricultural jobs; and, HHs mostly involved in commercial agriculture. Below these three strategies are explained in more details.

4.1 Subsistence farming

Subsistence farming is the main livelihoods strategy that the majority of region's HHs relies on. Geographically these HHs live in all communities of the region though in mid zone and mountainous villages they comprise the vast majority – 76 to 95% of local population. These HHs represent poor and low income groups who own largest land plots – 0.5-0.9 ha (in Lichk and Tashtun – more than 2 ha) in the region though 35-40% of them partially cultivate their lands. About 50% of them has 1-2 cows who are mostly from rural communities. The other half who does not have cattle mainly lives in Agarak and Meghry and generally relies on horticulture. The percentage of senior citizen in this group is substantial – about 44% (assessed for poorest communities – Lichk, Tashtun, Kuris, Gudemnis and Vahravar).

4.2 Non-agricultural paid jobs

These are HHs mainly from Agarak and partially from Meghri. In Agarak most of them work in the mining factory whereas Meghri citizens work in public administration entities, Meghri cannery, schools/kindergartens, service and trade sectors. There are young families from Karchevan, Kuris, Gudemnis and Vahravar whose livelihoods is also based on paid jobs: they mainly work in Agarak mining factory. According to the survey results many of the above-mentioned HHs represent the richer portion of the region's population – 5-15% of all HHs as per zone. The prevalence of income from paid non-agricultural jobs is especially evident in case of wealthy HHs from Agarak, Meghri and mid zone – horticulture revenues here comprise less than 10% in the total HH expenditures. Reliance of Agarak wealthy HHs on non-agricultural paid jobs is additionally conditioned by land tenure: it is the smallest in the region – about 0.06 ha.

4.3 Commercial farming (horticulture)

To identify HHs heavily relying on commercial horticulture we analysed the indicator of hiring workforce for agricultural works since at least those who use paid workforce in their orchards have to be in commercial trade. In this respect we see that even many poor (more than 35% of them) HHs from Araks riverside zone communities hire up to 3 people for seasonal works in their orchards. This trend is getting more evident in case of well-off HHs in the same zone reaching up to the 50%.

Thus HHs involved in commercial farming are generally from Araks riverside zone and partially Meghri and Agarak towns. As it could be expected the lands in these

two areas are being maximally cultivated – from 52% to 92%. These farmers mostly sell their crops for cash either to intermediaries, processors and/or by prepayment.

5 Conclusions and recommendations

- Extremely poor and poor HHs comprise more than 2/3 of region's population. Most of well-off HHs live in towns.
- Horticulture is the main income source followed by animal husbandry. Paid non-agricultural jobs are important in towns.
- More than half of the available lands are not being cultivated due to lack of irrigation.
- Financial services are poorly developed which hinders intensive development of horticulture.
- Shift from non-professional farming to intensive horticulture practices – proper use of inputs and high productive sorts as well as application of modern farming techniques – will bring to higher yields and incomes.