Chapter 8 Socio-Economic Baseline

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8 SOCIO-ECONOMIC BASELINE

8.1 Introduction

This section of the ESIA summarises the information on the baseline condition of the socio-economic environment that is presented in the Environmental and Social Baseline Report for the SCPX Project (RSK 2012). This section presents a description of the socio-economic baseline conditions in the SCPX Project area and covers the following topics:

- Socio-economic, including demographics
- Health
- Land ownership and use
- Economy, employment, livelihood and skills
- Infrastructure and services
- Traffic and transport

This chapter then concludes with a summary of the key socio-economic sensitivities, the locations of which have also been highlighted on constraint maps within Appendix A.

8.2 Socio-Economic Baseline Survey Methodology

This section presents the methodology for the socio-economic survey and some general demographic information for Georgia, selected municipalities and the SCPX Project area generally, but gives particular consideration to the situation in project affected communities (PACs[1]). Within this local context it compares the situation of two vulnerable groups: the registered disabled/chronic sick and internally displaced persons (IDPs), with the wider population.

This section is largely based on the results of a PAC household survey and the PAC leader interviews (undertaken in September/October 2011). Non local-level data were obtained from a desktop literature survey. While there may be some isolated dwellings, the settlement pattern in rural Georgia tends toward well-defined settlements with few dwellings interspersed between them. It is not expected that the socio-economic characteristics of the residents of such dwellings would differ, significantly, from their neighbours in nearby settlements. In addition, though there are individuals who use land, which could be affected by the SCPX Project, for grazing and who follow different cycles of usage (seasonal or daily), the numbers are small and many live in nearby villages and are not nomadic pastoralists. Thus, even if they live in settlements not surveyed, again, their socio-economic characteristics would not be expected to differ, significantly, from their neighbours. There are no known nomadic pastoralists using land in the SCPX Project area.

8.2.1 Information from Desktop Literature Survey

In preparation for the socio-economic fieldwork, the principal source of information was the socio-economic baseline surveys conducted for the BTC ESIA 2002 and SCP Georgia ESIA 2002 projects. However, given the date of these surveys, it is acknowledged that this information is now likely to be out of date (see further the commentary in Section 8.2.2).

Additional information was derived from:

[1] The term 'PAC' is defined in Chapter 2 Glossary, and the method for identifying PACs for ESIA purposes is presented in the Environmental and Social Baseline Report and summarised in Section 8.2.2

- BP data on community/individual complaints, and Community Investment Programme activities for the BTC/SCP project.[2] These studies provide detailed information about socio-economic conditions in the project area a decade ago, as well as indications of changes that have taken place in some localities in the vicinity of the proposed SCPX Project sites, largely as a result of the BTC/SCP projects
- The BTC project Resettlement Action Plan (RAP) Completion Audit, Draft Final Report (RAP Completion Audit, 2010). This references more recent government socio-economic data and data presented in the World Bank's (2009) Georgia Poverty Assessment. These data sources indicate that the socio-economic conditions in rural and urban areas have altered significantly over the past decade, but with some key differences between these areas. The RAP Completion Audit found the key demographic changes to be:
    - Rural population dynamics with respect to in/out-migration, and corresponding population distributions, and changes in the demographic structures of village/towns
    - Changes in ethnic mix and populations
    - The conflict over South Ossetia causing economic disruption and large-scale movement of people and the resulting need to 'house' a large number of IDPs/refugees.
- The results of a survey of 700 households in 15 villages undertaken as part of the BTC RAP Completion Audit (RAP Completion Audit, 2010) helped in compiling the baseline data on PACs. It focused on settlements in which land was acquired for the BTC/SCP project. Five of those settlements are also PACs for the SCPX Project (Akhali Samgori, Arali, Vale, Avranlo and Kizilkilisa). Where the SCPX PACs are located in municipalities covered in the survey, legitimate comparisons may be made with other villages covered in the BTC RAP Completion Audit household surveys
- The website of the Georgia National Statistics Office http://www.geostat.ge/index.php?lang=eng
- Reports prepared by international agencies (e.g. UNDP) and the multilateral banks (e.g. World Bank).

8.2.2 Data Gaps and Field Survey Methods

Data gaps

Primary and secondary sources

The comprehensive socio-economic baseline information presented in the BTC and SCP ESIAs is now considered likely to be out of date. Moreover, there was uncertainty involving the available socio-economic data.

For example, some data from the RAP Completion Audit household survey (RAP Completion Audit, 2010) can only be used with care, and on the assumption that the socio-economic conditions of all rural villages are relatively homogeneous. The data are from 2008, so they are not current. The sample contained more villages dominated by ethnic minorities than the SCPX PAC list and was structured to include equal numbers of households that received land acquisition compensation payments and those that did not. In essence, the sample is made up of two large quotas. Therefore, it does not provide generic credible data for all inhabitants, but it can provide credible data on land ownership and land uses as it is considered likely that those landowners who happened to be included in the sample are unlikely to be significantly different from other landowners in their own villages or indeed similar settlements nearby.

[2] Selected data on complaints for various years were extracted from BP records and made available in Excel format. Also, summaries of CIP activities were made available in tabular format.

There are still some significant difficulties obtaining up-to-date, comprehensive official social and economic data in Georgia, and the statistics are not always reliable. Georgia has experienced considerable socio-political and socio-economic upheaval since its independence from the former Soviet Union. The political and institutional changes undergone (including localised and militarised ethnic conflicts) have adversely affected the collection, analysis and collation of data into accessible formats. Data sets do exist on certain topics, but the data have not always been analysed. The last national census was undertaken in 2002.

Available reports by organisations such as the World Bank reports provide considerable detailed data on socio-economic conditions at the national level, but they are not always exhaustive or consistent, and they are not directly applicable to the targeted focus of the SCPX ESIA, which is on a series of PACs in a range of specific locations throughout Georgia.

Owing to practical difficulties of access, limited data have been obtained for the regions and municipalities within which the PACs are located. Thus, this component of the socio-economic context, within which the PACs are embedded, is weaker than the national-level data set. Many useful and meaningful comparisons can be made between PACs within the same group, between PAC groups and between all PACs, PAC groups and the national level situation. However, there is only a limited capability to make such comparisons between PACs and the regional/municipal situation.

Despite these data gaps and uncertainties, selected use of existing results from all sources has provided useful data on the current situation/trends for the PACs and for vulnerable people.

The existing data gaps and uncertainties imposed some limitations on the scale, depth and extent of a socio-economic baseline that could be prepared for the SCPX PACs, and they limited credible and justifiable assessment of some social impacts. Therefore, a new comprehensive socio-economic baseline study was carried out for the SCPX Project to provide data to:

- Identify and describe the current socio-economic conditions and key trends in those SCPX PACs that can be expected to have experienced population change and migration over the past decade
- Understand the perceptions of PAC residents in respect of the SCPX Project, given the role pipeline construction and operation have played in the development of certain rural areas in recent years (to be presented in the SCPX ESIA Report)
- Act as a baseline against which SCPX socio-economic impacts can be monitored and evaluated during both construction and operational phases.

Field survey methods

PAC identification

It was necessary at the outset to prepare a definitive list of PACs. A PAC is a community based on an inhabited settlement (i.e. for ESIA purposes a permanently, temporarily or intermittently inhabited settlement that can be identified from maps, satellite images or aerial photographs consisting of at least five dwellings).

To be identified as PACs, communities must lie within clear boundaries (e.g. within a specified distance from a SCPX Project site) and meet defined criteria.

Work to identify such boundaries and criteria was based on the following three key principles:

- Need for consistency and coherence between SCPX ESIA boundaries and criteria and those applied in previous ESIAs for BP-initiated pipelines in Georgia:

  - Where previous ESIAs were consistent in boundaries and criteria, and the boundaries and criteria were considered still be reasonable and applicable, and had not been subject to challenge, then these were applied
  - Where there was inconsistency for instance as occurs with respect to access roads – a balance was determined between previous boundaries, some of which were considered to be too narrow (100m) and others as being too broad (2km)
- Need to take account of lessons learnt from implementation of previous pipelines, such as studies focusing on the BTC experience (for example, impact monitoring and analysis of complaints/grievances):
  - This dictated a flexible, practical approach to defining PACs, including allowing exceptions to general rules where evidence from the field indicated that certain communities should be classed as PACs, even if they were not "technically" PACs (in terms of boundaries) – for example, if they owned or had access to land and/or natural resources within the boundaries
- Good international practice with respect to onshore pipelines (including recent ESIA Reports) that are in accordance with guidance issued by the World Bank Group such as the World Bank's (1999 et seq.) *Environmental Assessment Sourcebook* and accompanying periodic *Updates* and IFC's (2012 set of *Performance Standards for Environmental and Social Sustainability* (and accompanying *Guidance Notes*) and the World Bank Group's (2007) generic *Environmental, Health, and Safety General Guidelines* and the targeted *Environmental, Health, and Safety Guidelines for Onshore Oil and Gas Development*.

Applying these principles to the SCPX Project, a PAC was defined as a community that falls within:

- 2km either side of the pipeline ROW centre-line, block valves, and pigging station
- A 5km radius from the centre point of a construction camps, compressor station or pressure reduction and metering facility
- A 2km radius from the centre point of a pipe lay-down and storage yards
- 300m either side of the centre-line of a new or upgraded temporary or permanent access road in respect of the SCPX Project. An access road is defined for these purposes as being any specific route, to be used during construction and/or operational phases by the operator and/or contractors that is needed for preparatory work, pipeline laying, pipeline operations and/or maintenance and which:
  - Does not regularly carry heavy construction or maintenance vehicles, or
  - Needs widening and/or surface improvement works along some, or all, of its length before it can be used for pipeline-related access purposes.

  An access road is considered to begin at its junction with a more major road that does not meet any of the above characteristics.

PACs were identified in two stages using the most up-to-date available base maps and social data on settlements (hamlets/village/towns):

- Stage 1: Any community that lies clearly entirely within the boundaries above or is traversed by an access road is a PAC
- Stage 2: Consideration of communities that either fall on one of the boundaries noted above or are located nearby.
  - On the boundary - even if only one inhabited dwelling (whether temporary or permanent) is within the boundary then the decision was taken that the relevant community should be classed as a PAC; and

- Located nearby – a case-by-case analysis was undertaken, taking into account the following factors, before making a decision as to whether a community should be classed as a PAC:
  - Number of private land plots owned and worked by residents of the community, and their total surface area, located within a boundary
  - Surface area of communally owned land, or municipal or state-owned land, which is used as if it were communal land (irrespective of whether such use is by legal or non-binding agreement between the state and the community) and is located within a boundary
  - Evidence from impact monitoring studies/grievance logs that the community has been affected by BTC/SCP, or an associated facility, in the past
  - Judgement by the ESIA team (with the final decision resting with the lead social author) that, on basis of previous experience and available data, there was reasonable likelihood that the community might be affected.

Applying the boundaries and criteria and the two-stage approach resulted in the identification of 39 PACs. Table 8-1 shows that there are 21 CSG1/pipeline loop PACs, 9 CSG2/access road PACs and 9 PRMS PACs.

Following this identification of PACs, further project design work resulted in the relocation of the pipeline camp and identification of the CSG2 Access Road camp location immediately prior to and during the ESIA disclosure phase. When these locations became known, the PAC identification approach was applied again and resulted in the identification of six additional PACs; three near the construction camp in the vicinity of the pipeline loop (Gamarjveba, Poladaantkari, and Karajalari) and three near the CSG2 Access Road construction camp (Sakdrioni, Kushi and Gantiadi).

These PACs are located near some of the PACs in Table 8-1 and based on a review of their size, ethnicity and location, were considered to be similar socio-economically and ethnically to these nearby PACs. Therefore, it was not considered necessary to undertake additional PAC (and household) level survey work. The PAC list below has therefore not been updated and the current list of PACs can be found within Chapter 9 and Appendix C1, PCDP. These PACs were consulted in two separate clustered meetings in Sakdrioni and Gamarjveba respectively (see Chapter 9). This chapter therefore presents the results of the socio-economic surveys undertaken for the original 39 PACs.

Maps of the PAC communities are contained in Appendix A.

Table 8-1: List of PACs (bold italics), with Population, 'Interview' Language, PACs Surveyed and HH-Level Survey Distribution Details

Project Zone	Municipality	Territorial Organ	PACs (39)	Population/ Ethnicity	Population	Language	PAC survey (34)	PACs for HH Survey (34)	HH Survey Sample Distribution (Total 1200)
CSG1/ loop PACs	Gardabani	Vakhtangisi	Vakhtangisi (former Ulyanovka)	2980/AZ & GEO	2980	RU	3 (Nazarlo, Vakhtangisi, Kesalo)	Vakhtangisi (former Ulyanovka)	20
	Gardabani	Nazarlo	Nazarlo	6000/AZ	6000			Nazarlo	40
	Gardabani	Kesalo	Kesalo	5700/AZ	5700			Kesalo	40
	Gardabani	Jandari	Jandari 1	3120/AZ	3120	RU	1 (Jandari 1)	Jandari 1	20
	Gardabani	Lemshveniera	Mzianeti	355/GEO	355	GEO	2 (Mzianeti, Lemshveniera)	Mzianeti	10
	Gardabani	Lemshveniera	Lemshveniera	2469/GEO	2469			Lemshveniera	20
	Gardabani	Lemshveniera	Nagebi	560/GEO	560				No HH interviews
	Gardabani	Gardabani	Gardabani (town)	16200/AZ & GEO	16200	GEO	2 (Gardabani [town], Pobeda)	Gardabani (town)	60
	Gardabani	Gardabani	Pobeda	115/GEO	115			Pobeda	5
	Gardabani	Gardabani	Tbiltskaro	420/AZ & GEO	420				No HH interviews
	Gardabani	Akhali Samgori	Akhali Samgori	2900/GEO	2900	GEO	2 (Akhali Samgori, Gamarjveba 1)	Akhali Samgori	20
	Gardabani	Gamarjveba 1	Gamarjveba 1 (former Sovkhoz Samgorski)	350/GEO	350			Gamarjveba 1 (former Sovkhoz Samgorski)	10
	Gardabani	Aghtakla	Aghtakla	5600/AZ	5600	RU	2 (Aghtakla, Karatakla)	Aghtakla	40
	Gardabani	Karatakla	Karatakla	3000/AZ	3000			Karatakla	20
	Gardabani	Krtsanisi	Krtsanisi	5230/GEO	5230	GEO	1 (Krtsanisi)	Krtsanisi	40
	Gardabani	Gardabani	Akhali Kumisi (former Kumisi summer houses)	650/GEO	650				No HH interviews

Project Zone	Municipality	Territorial Organ	PACs (39)	Population/ Ethnicity	Population	Language	PAC survey (34)	PACs for HH Survey (34)	HH Survey Sample Distribution (Total 1200)
	Rustavi	Rustavi	Rustavi	111000/GEO	111000	GEO	1 (Rustavi)	Rustavi	80
	Marneuli	Marneuli	Marneuli (town)	20000/AZ & GEO	20000	RU	2 (Marneuli [town], Jandari 2	Marneuli (town)	60
	Marneuli	Marneuli	Jandari 2 (Jandari of Marneuli)	1750/AZ	1750			Jandari 2 (Jandari of Marneuli)	15
	Tetritskaro	Marabda	Kotishi	21/GEO	21	GEO	0		No HH interviews
	Tetritskaro	Khaishi	Khaishi	560/GEO	560				No HH interviews
CSG2 PACs	Tsalka	Avranlo	Avranlo	1400/GEO & GR	1400	GEO	3 (Avranlo, Rekha, Khando)	Avranlo	70
	Tsalka	Rekha	Rekha	520/GEO & GR	520			Rekha	30
	Tsalka	Khando	Khando	180/GEO	180			Khando	10
	Tsalka	Kizilkilisa	Kizilkilisa	1700/ARM	1700	RU	3 (Kizilkilisa, Ozni, Burnasheti)	Kizil Kilisa	70
	Tsalka	Ozni	Ozni	750/ARM	750			Ozni	30
	Tsalka	Burnasheti	Burnasheti	460/ARM	460			Burnasheti	30
	Tsalka	Berta	Berta (former Oliangi)	120/GEO	120	GEO	1 (Berta)	Berta (former Oliangi)	10
CSG2 access road PACs	Tsalka	Sakdrioni	Aiazmi	590/ARM	590	RU	2 (Aiazmi, Nardevani)	Aiazmi	30
	Tsalka	Nardevani	Nardevani	1500/ARM	1500			Nardevani	70
PRMS PACs	Adigeni	Arali	Arali	48/GEO	48	GEO	3 (Arali, Tsarbastumani, Ude)	Arali	5
	Adigeni	Arali	Tsarbastumani	90/GEO	90			Tsarbastumani	5
	Adigeni	Ude	Ude	3500/GEO	3500			Ude	90
	Akhaltsikhe	Vale	Vale	5030/GEO	5030	GEO	1 (Vale)	Vale	100
	Akhaltsikhe	Tskaltbila	Tsinubani	425/ARM	425	RU	5 (Tsinubani, Tskaltbila, Naokhrebi, Julda, Abatkhevi	Tsinubani	30
	Akhaltsikhe	Tskaltbila	Tskaltbila	1550/ARM	1550			Tskaltbila	50

Project Zone	Municipality	Territorial Organ	PACs (39)	Population/ Ethnicity	Population	Language	PAC survey (34)	PACs for HH Survey (34)	HH Survey Sample Distribution (Total 1200)
	Akhaltsikhe	Tskaltbila	Naokhrebi	750/ARM	750			Naokhrebi	30
	Akhaltsikhe	Tskaltbila	Julda	250/ARM	250			Julda	20
	Akhaltsikhe	Tskaltbila	Abatkhevi	330/ARM	330			Abatkhevi	20

Survey methods

Data were gathered through key activities, implemented in the following order:

- Obtaining information from reconnaissance visits to the SCPX Project areas
- Field surveys at PAC level
- Field surveys at household level.

Objectives

The objective was to understand not just the key demographic conditions, but also the current social, health, cultural, economic and political conditions and trends that are discussed in Sections 8.4 to 8.7 of this report. The surveys also aimed to obtain information that can be used in the preparation of the LACF and accompanying updated GLAC, the key documents relating to land acquisition and compensation.

The survey at PAC level aimed to obtain primary data and to acquire reliable secondary data on population size, migration, employment, skills, livelihoods, incomes and presence/absence of social (for example, schools) and physical (for example, water supply network) infrastructure.

The survey at household level aimed to obtain primary data and acquire reliable secondary data on household composition, educational attainment, land ownership/use, incomes/expenditures, health status, access to utilities/infrastructure and facilities/services, and expectations and concerns of respondents with regard to components of the SCPX Project to be developed nearby.

PAC sample selection

The PACs were in the three groupings shown in Table 8-1:

- PACs in the vicinity of CSG1/pipeline loop
- PACs in the vicinity of CSG2 and its access road
- PACs in the vicinity of the PRMS.

Design of the PAC-level and household-level surveys also took account of the ethnicity of the communities. The communities close to CSG1 and the pipeline loop display less ethnic diversity (Azerbaijani and Georgian population only) than communities around CSG2 and the PRMS. The survey design for this area followed the approach taken in the BTC ESIA, selecting a certain percentage of PACs, i.e. 35%, taking into account a range of factors, such as ethnicity, population size and administrative area which include a certain specified percentage of the overall population, i.e. 70%. Sixteen of the twenty-one PACs in the vicinity of CSG1and pipeline loop were selected as providing a representative sample of this PAC group for survey purposes whereas all PACs in the vicinity of CSG2 and the PRMS were selected. In total, 34 PACs were included in the design of the PAC- and household-level surveys from a total of 39 PACs.

Household sample selection

Not all households could be surveyed, so it was necessary to select a sample that was considered likely to be representative of all PACs. Standard statistical sample design methods were applied, based on the key parameters of a 95% confidence level and associated sampling error of +/- 2.82%. This resulted in a sample of 1200 households. The household level survey was undertaken in the same 34 PACs as the PAC level survey. Following the precedent set by the BTC/SCP ESIAs, setting quotas for specific communities, social groups or categories (e.g. vulnerable groups/people) was considered. A range of potentially vulnerable groups was considered to estimate the likelihood that they would be fully represented in the survey sample. After consideration of each potentially vulnerable group it was decided that most were sufficiently numerous in the rural villages, in

the vicinity of the SCPX Project, that the survey would 'capture' them. The two exceptions were the registered disabled/chronic sick and IDPs; therefore, quotas were set to ensure these groups were represented in the survey sample:

- Registered disabled[3]/chronic sick[4] (15%)
- IDPs/refugees (15%).

Quotas were not set for women, because it was considered that random sampling would enable women to be represented adequately. Previous experience indicated that 42–58% of the total number of respondents could be expected to be women. Similarly, quotas were not set for pensioners, because previous experience indicated that approximately 25% of the total number of respondents could be expected to be pensioners.

Project affected people

Finally, to assist with the related work on land acquisition and compensation, a quota of 70 registered landowners (known from BP records to reside in some of the PACs) was identified and incorporated into the sample of 1200 households.

Field survey at PAC level

Following notification of regional and municipality authorities of the proposed SCPX Project and the need to undertake PAC and household-level surveys as part of the ESIA, meetings were organised with official PAC leaders (mainly trustees). All PAC leaders met were officials in post within the local government hierarchy. Thirty-four interviews were held, based on a pre-prepared semi-structured discussion guide (see Appendix I for a list of PACs, PAC respondents and their status, and a copy of the discussion guide). The discussion guide was used by interviewers to try to provide consistency in all interviews in terms of topic coverage and recording responses.

The utility of the PAC-level survey relies on the accurate and up-to-date knowledge of the PAC leader regarding not only PAC 'facts' such as population level and existing infrastructure status, but also his/her perception of trends and their key characteristics. Therefore, to make this survey as effective as possible, PAC leaders were given advance guidance on the types of information to be requested at the interview, so that they had time for preparation or research prior to the interview.

In the advance guidance, PAC leaders were requested to present information on the identity and location of vulnerable individuals and households at the interviews. This information was used to try to make sure that pre-established quotas for such individuals and households could be applied in the household-level survey.

Field survey at household level

Interviews were conducted face-to-face by trained interviewers. Based on the PAC sizes, and the overall quotas (15%), specific quotas for vulnerable people (in terms of actual numbers) were set for each PAC. This work was assisted by a prior request to PAC leaders that they identify vulnerable people and provide this information during the PAC survey. Using this information, interviewers were able to conduct the necessary number of interviews and fulfil the quotas.

[3] Disabled = person with difficulties in at least one of the core set of basic activities – seeing, hearing, walking, cognition, communication, and self-care that imposes functional limitations. Not necessarily a medical condition. In Georgia, the focus was on the 'registered' disabled.
[4] Chronic sick = person with long-term medical condition that imposes functional limitations.

The household interviewers used a structured questionnaire (see Appendix J). To try to maximise the synergy in baseline data acquisition across a number of projects, the household questionnaire incorporated:

- Questions from the BTC ESIA Turkey pipeline household questionnaire
- Questions relevant to assessing impacts to livelihoods from the RAP completion audit questionnaire
- Questions from the Shah Deniz 2 household questionnaire,

which were considered most relevant to the SCPX Project.

Following the approach taken in the BTC ESIA, the household survey questionnaire contained a section asking for respondents' views, perceptions, issues, concerns and expectations relating to the SCPX Project to supplement information gained at the stakeholder consultation events. Three slightly different versions of this section of the household survey questionnaire were used for households in the three PAC groups.

The interviewers had a target number of households to be interviewed in each PAC. They followed a random walk procedure, applying the following step sizes criteria:

- In urban apartment block buildings, a starting point is defined and every fifth household is selected for interview
- In rural areas, every third household is selected for interview.

If there was no one in a house, or the householder refused to participate in the survey, then the interviewer moved to the next nearest household in the same direction. The interviewer stopped once the target number of household interviews in a PAC had been conducted.

The completed household survey questionnaires were analysed using the latest appropriate version of the Statistical Package for the Social Sciences (SPSS 15.0, version 15.0). SPSS software is designed to enable database preparation through techniques such as aggregation and cross tabulations to produce a range of visual aids (bar, pie, and other charts) to present the baseline data collected.

Uncertainties

Even when PAC leaders are given advance notice of topics to be covered in survey interviews, it is possible that some of the information they provide is not accurate. Where PAC leaders responded to questions on certain trends/changes in their settlements, it should be noted that information given by them in the form of perceptions, beliefs or understandings might not have been shared by other inhabitants or supported by official statistics.

8.3 Baseline Demographic Conditions

Population characteristics

National level

The estimated current population of Georgia is approximately 4.5 million. This figure is higher than the two most recent peaks reached in 2006 and 2010, but the previous fluctuations are too recent to indicate that that the current positive trend is stable (see Table 8-2).

Table 8-2: Total Populations: Georgia and for Urban and Rural Areas, 2005–2011 (millions)

Parameters	Years						
	2005	2006	2007	2008	2009	2010	2011
Population at beginning of the year	4.3215	4.4013	4.3947	4.3821	4.3854	4.4364	4.4692
Urban	2.2575	2.3104	2.3089	2.3038	2.3091	2.3505	2.3713
Rural	2.0640	2.0909	2.0858	2.0783	2.0763	2.0859	2.0979

National Statistics Office of Georgia, 2011

The rural population has also increased relative to 2005, but its share of the total population is down from 47.8% in 2005 to 46.9% in 2011. This probably reflects the scale of continuing out-migration to cities and overseas, particularly as the natural increase rate of population growth has been above 3% in the period 2008–2010 (2011 data were unavailable at the date of this ESIA). In earlier years it was under 2%.

Although population numbers indicate a natural increase trend, its effect is considered likely to be reduced by continuing relatively high outward migration. The current negative net migration rate is -4.06 migrant(s)/1000 people (CIA, 2011 estimate). The International Organization for Migration (2011) predicts a higher rate (-6 migrant(s)/1000 people) for the period 2010–2015. The net negative migration is probably due to the uneven distribution of the benefits of economic growth, with many people remaining in poverty and many others, especially the young, not being able to obtain employment and only being able to fulfil their expectations by out-migration to localities with better opportunities.

Government-sponsored in-migration has occurred where people who were internally displaced by natural disasters (dating back to the 1980s) and by Georgia's various ongoing territorial disputes were resettled into pipeline-affected villages. Some of the land and dwellings vacated as a result of Greek out-migration have subsequently been reallocated by the government to IDPs (RAP Completion Audit, 2010).

Within the population there are fewer males than females in all age groups from age 15 upwards. This disparity ratio is even more pronounced among the older segments of the population:

- 15–64 years: 0.93 male(s)/1 female(s)
- 65 years and over: 0.66 male(s)/1 female(s).

Below the age of 15, males predominate with the ratio being 1.15 male(s)/1 female(s) (CIA, 2011).

Sumbadze (2008) reports that 23.6% of families consist of four persons; 19.2% of families consist of five persons; and 7.1% of families have six members or more. Therefore, on the basis of these data, about 50% of households are likely to have 4 or more members.

The pension age is 65 for men and 60 for women. For 2010, the Georgian government estimated that there were 835,900 pensioners in Georgia (18.99% of the population assuming a population of 4.4 million)[5]. This is relatively high and is considered likely to have resulted from the falling birth rate following the break-up of the Soviet Union, (now reversed) and continuing out-migration of young adults.

The 2002 census shows a national ethnicity/nationality breakdown as follows: Georgian 83.8%, Azeri 6.5%, Armenian 5.7%, Russian 1.5% and other 2.5% (CIA, 2011). Ethnic and

[5] http://www.geostat.ge/index.php?action=page&p_id=200&lang=eng

national groups are not distributed evenly throughout the population. Instead, they tend to occur in ethnically homogenous communities (e.g. at national level, in areas such as Abkhazia and South Ossetia and at local level in villages or clusters of villages), which encourage the preservation of cultural traditions and languages. Despite this dominant tendency there are many mixed communities, in which the majority of the population is Georgian.

Regional and municipal level

Different municipalities have experienced very different levels of population change (Table 8-3). Five out of the six municipalities, and the city of Rustavi, in which the SCPX Project is proposed to be implemented, have experienced increases in population over the period of 2005–2011, ranging from +0.3% in Adigeni to +12% in Tetritskaro. Gardabani is the exception as it has seen a population decline of -15.2%.

Table 8-3: Population Figures for Municipalities/City of Rustavi with PACs: 2005–2011

Town	Population (Thousands)							Variance 05-11
	2005	2006	2007	2008	2009	2010	2011	
Gardabani	113.7	116.4	116.5	95.4	95.7	97.6	98.7	-15.2%
Adigeni	20.1	20.5	20.4	20.3	20.4	20.7	20.7	+0.3%
Akhaltsikhe	45.4	46.9	46.9	46.8	46.9	47.7	48.2	+6.2%
Rustavi	115.5	118.2	117.9	117.3	117.4	119.5	120.8	+4.6%
Tetritskaro	25.0	26.4	26.2	25.8	25.6	27.7	28.0	+12%
Marneuli	117.9	121.0	121.8	122.5	123.5	126.3	128.1	+8.7%
Tsalka	20.8	22.1	22.0	21.7	21.7	22.5	23.0	+10.6%

National Statistics Office of Georgia, 2011 (variances calculated for ESIA)

Vulnerable people

National level

The number of disabled people in Georgia is estimated at being approximately 400,000, constituting 9.1% of the population assuming a total population of 4.4 million (Sumbadze, 2008). In a comparative review of poverty and disability, the World Bank found that in Georgia poverty was much higher than 'average' for households with disabled family members (Braithwaite and Mont, 2008).

UNHCR (2011) reported that there are 359,716 IDPs in Georgia; that figure having risen from 222,100 IDPs in 2007, mainly due to the August 2008 conflict. The majority of IDPs live in areas near the conflict zones, specifically in the Gori municipality as well as in the Samegrelo and Imereti regions and in Tbilisi. In general, it is thought that IDPs experience a higher rate of unemployment; while lower indicators of economic activity have been observed in municipalities densely populated by IDPs (Government of Georgia, 2007).

PAC level

The key results from the household survey relating to the two quotas, the registered disabled/chronic sick[6] and IDPs, are summarised below for each of these vulnerable social categories. The results in each case are compared to the results for the PAC population as a whole (which includes the responses from respondents classified as either registered disabled/chronic sick or an IDP).

[6] The term' registered' applies to the disabled only not to those described as the 'chronic sick'.

Registered disabled/chronic sick

Key findings in relation to registered disabled/chronic sick surveyed for the purposes of this ESIA are summarised below:

- The percentages of registered disabled reported in the household survey results for CSG1/pipeline loop PACs was 2.1%; for CSG2/access road PACs 5.5% and for the PRMS PACs 7.2%: these percentages are all less than the estimated national figure for the disabled (about 9%). However, the household survey reports on those with the official status of being 'registered' disabled and it may be that the national estimate used a broader set of criteria for identifying the disabled
- A significant proportion of registered disabled/chronic sick were found to live in alone in single person households (30%) or in two-person households (15%). The general population figures for HH size indicate that a four-person household is the most common household size
- A significant proportion of registered disabled/chronic sick were found to be older (65 years or more) than the general population, thus less likely to be able to get a job (if able to do a job, although 66.4% state that they are seeking a job) and to be more dependent on pension/social payments
- Fewer registered disabled/chronic sick people were found to have higher (tertiary) educational qualifications then the general population.
- Homes of registered disabled/chronically sick were found to be more in need of repair (45% state that their house was last repaired more than 20 years ago compared to about 15% for the general population)
- Fewer registered disabled/chronically sick were found to have access to mains (piped) gas. Access to electricity was found to be the same as for the general population
- Significantly more registered disabled/chronically sick people were found to use fuel wood for cooking and, especially, heating compared to general population
- About 25% of registered disabled/chronically sick were found not have access to potable water in their home (most do have water in their garden/yard) compared to about 10% of the general population
- More registered disabled/chronic sick people were found to own a land plot (about 82%) than is the case for the general population (about 44%). Also, more registered disabled/chronic sick people own livestock, but the numbers owned are less than is the case for the general population
- Registered disabled/chronic sick were found to be almost entirely dependent on pensions/social payments for their incomes, thus there is less seasonal variation in incomes
- Households with a registered disabled/chronic sick at the head were found to have incomes significantly lower than the general population (163 GEL per month compared to 400 GEL)
- Registered disabled/chronic sick were found to consume more of their own food production (26% of households) compared to the general population (10% of households)
- Registered disabled/chronic sick were found to have fewer loans (one-third) and the average loan size is less when compared to the general population (about 2200 GEL compared to about 3800 GEL)
- Almost twice as many of the registered disabled/chronic sick noted that they consider that they do not have enough money for purchase of necessities such as food when compared to the general population. They were also found to own fewer household appliances.

Essentially, the results of the baseline work undertaken in respect of this ESIA indicate that registered disabled/chronic sick are more socially isolated, less well educated, live in less robust housing, have less access to key utilities (mains gas and potable water); are significantly poorer and, thus, more vulnerable to external socio-economic and climate shocks (having little 'money in the bank' and higher dependency on growing their own food and on forest resources for cooking and heating) than an average individual in the general population. However, they are not without land assets that could perhaps be turned into cash should the need arise.

IDPs

Key findings in relation to IDPs surveyed for the purposes of this ESIA are summarised below:

- Almost 60% of the IDPs surveyed were located in four PACs: Lemshveniera (15%), Gardabani (18%), Krtsanisi (13%) and Marneuli (13%) all in the vicinity of the proposed pipeline loop. Approximately 19% are located in four of the CSG2/access road PACs (Vale, Avranlo, Khando and Berta). The remaining IDPs occur in small numbers in the other PACs
- A significant proportion of IDPs were found to live in larger households (25% live in households with 5 members and 15% in households with more than 6 members). This probably reflects a situation where, in some cases, IDP individuals/families are staying with relatives (15% of IDP households)
- Almost one-third (31%) of IDPs were found to have been provided with accommodation by the government, mostly in apartment buildings
- Average living space for IDPs was found to be smaller than for the general population, again reflecting the situation of those living with relatives
- IDPs were not found to have higher unemployment levels than other PAC residents
- Fewer IDPs were found to have access to mains (piped) gas in comparison to the general population. Access to electricity was found to be same as for general population
- Significantly more IDPs were found to use fuel wood for cooking and, especially, heating compared to general population
- Slightly more IDPs were found to own a land plot (50%) than is the case for the general population (about 44%)
- More IDPs own livestock than was found to be the case for the general population. However, the numbers owned were found to be similar, except for cows (IDPs own on average 3 cows compared to 2.4 for the general population)
- IDPs were found to be more dependent on social payments for income support than the general population
- IDP households were found to have an average monthly income of 282 GEL compared to average for general population of 400 GEL
- IDPs were found to have a larger number of loans (about 40% more), but the average loan size is less when compared to both the registered disabled/chronic sick households and the general population (about 1900 GEL compared to 2200 and 3800 GEL respectively)
- More IDPs (about 67%) than members of the general public (about 45%) noted that they consider that they do not have enough money for purchase of necessities such as food.

Essentially, the results of the baseline work undertaken in respect of this ESIA indicate that IDPs are poorer, are more dependent on government-provided accommodation or on relatives, occupy less 'living' space, have less access to key utilities (mains gas and potable water) and have more outstanding loans than the general population. However, a higher

number of IDPs surveyed (about 6% more than the general population figure) own a land plot.

However, the household survey does not give results that include the socio-psychological reality for many IDPs.

PAC-level demographics – CSG1/pipeline loop

Although there are three PAC groups in relation to the main SCPX Project components, the PACs may be divided, usefully, into two categories for comparative purposes: the lowland PACs consisting of those in the vicinity of the proposed CSG1/pipeline loop; and the mountain PACs consisting of those in the vicinity of the proposed CSG2/access road and PRMS PACs. In this and subsequent sections, comparisons between these two categories are made to highlight similarities and differences between the PACs included in these two categories. The results presented below are derived directly from the household surveys of the PACs in the vicinity for the different SCPX Project components. However, as the survey sample has been determined as providing statistically valid results, applicable to all the PAC residents, the data can be accepted as being applicable for all PAC residents in each of the three PAC groups.

The PACs in the vicinity of CSG1/pipeline loop exhibit ethnic diversity overall, but many of the smaller PACs within this sample are relatively homogenous ethnically and socio-economically. Some of the PACs are towns (e.g. Marneuli with a population of 20,000 and Gardabani with a population of 16,200) and one is a city (Rustavi with a population of 111,000). The relatively high number of household survey respondents living in towns, and in Rustavi, means that a significant number of urban, rather than rural, dwellers are included in the survey sample. This is considered likely to mean that survey results reflect an urban rather than a rural situation and set of trends.

The gender profile shows that there are slightly more females than males (about 51.4% and 48.6% respectively) giving a more even balance than in the mountain PACs in the vicinity of CSG2/access road and the PRMS. The household size and age profiles are closer to the national profile than is the case with the mountain PACs. However compared to the mountain PACs there is a lack of individuals in the 35–44 age range, probably reflecting earlier levels of out-migration, in these PACs. The number of people aged 65 or over is 6.5% (less than the number identified as pensioners: about 10%) and is significantly lower than in the mountain PACs (see Figure 8-1).

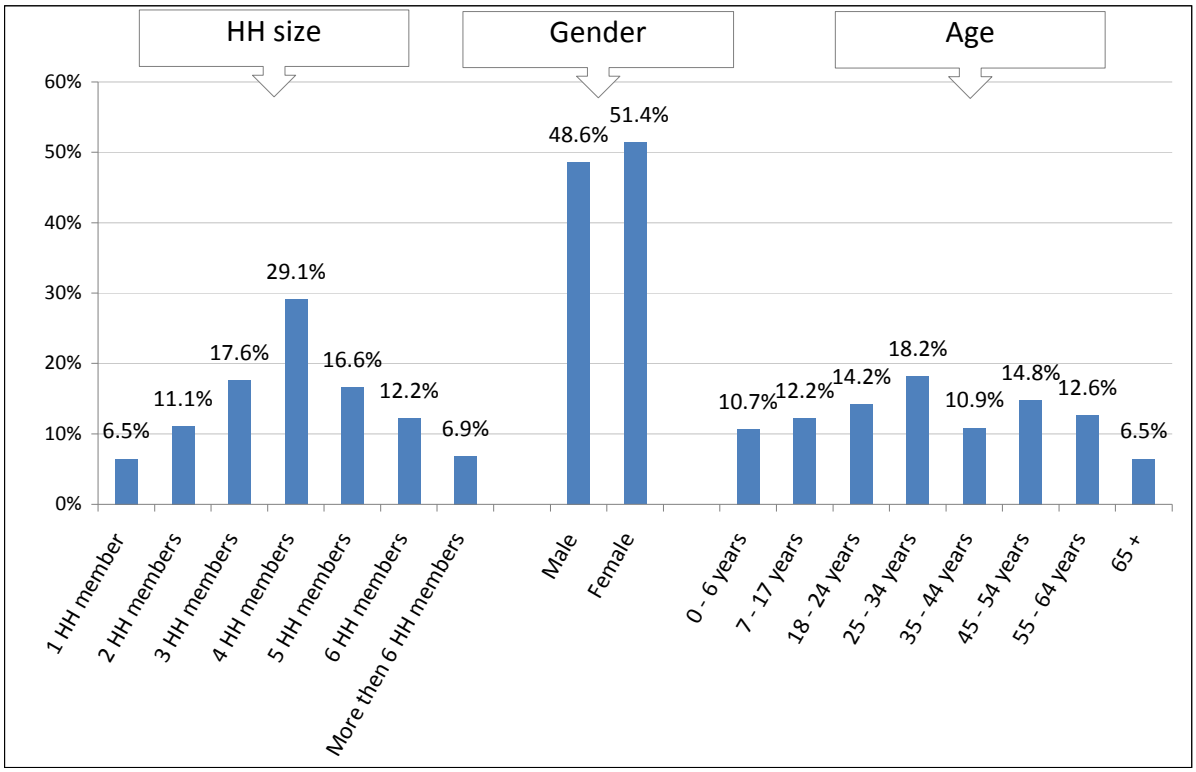

Figure 8-1: CSG1/Pipeline Loop Household Structure

Nearly 35% have attended higher (tertiary) educational institutes and about 21% have a university-level qualification and another 11% a 'technical' qualification. These figures are significantly higher than in the mountain PACs and result from the inclusion of the city of Rustavi and a number of towns amongst the PACs. The numbers with no education is a little higher at almost 10.3% compared to the mountain PACs, but the numbers who have only completed primary education is lower (see Figure 8-2). Finally, about 50% are married and just over 41% are unmarried. The numbers that are divorced or are either a widow or widower are low at 2.5% and 6.6% respectively (see Figure 8-2). The numbers who are unmarried/married are a little lower than for the mountain PACs, whereas the numbers who are either a widow or widower are significantly lower than the mountain PACs where the equivalent figure is just over 15%. This reflects the fact that the lowland PACs have a 'younger' population profile. Georgians are the biggest ethnic group at nearly 70%, followed by Azerbaijanis at almost 27%. There are a small number of Russians (2.4%) and Ossetians (almost 1%) with very small numbers of other ethnic groups. Religious affiliation parallels ethnic identity (see Figure 8-3).

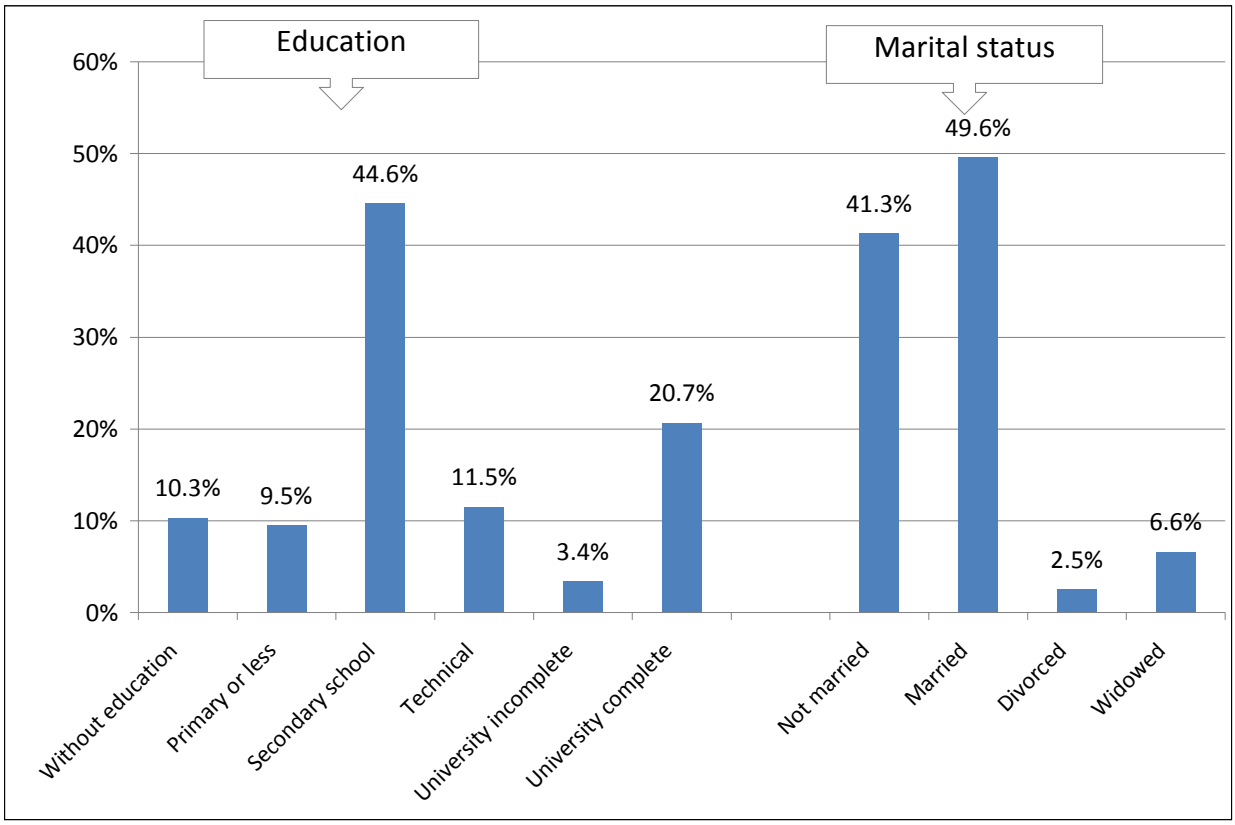

Figure 8-2: CSG1/Pipeline Loop Education Level and Marital Status

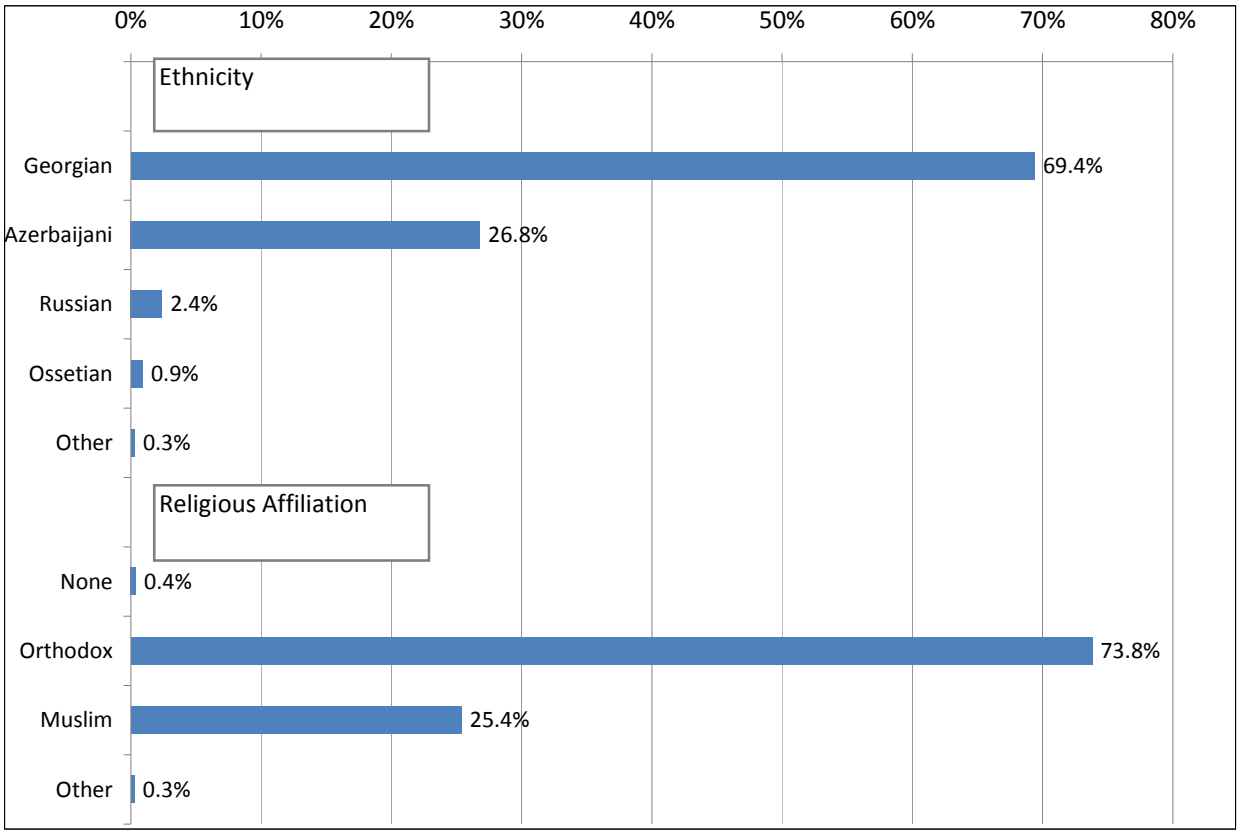

Figure 8-3: CSG1/Pipeline Loop Ethnicity and Religious Affiliation

About 75% of the respondents have lived in their place of residence for 21 or more years, and about 7% have moved into their current place of residence in the past 5 years. However, unlike the mountain PACs there has been in-migration over the past 15 years, but at a declining rate. Of those who have moved in the past 4 years about 40% just over half (about 59%) moved to seek low-cost housing and about 26% moved because of military conflict in their previous locations. Only 20% moved because they considered that their new place of residence offered more favourable economic conditions (see Figure 8-4 and Figure 8-5).

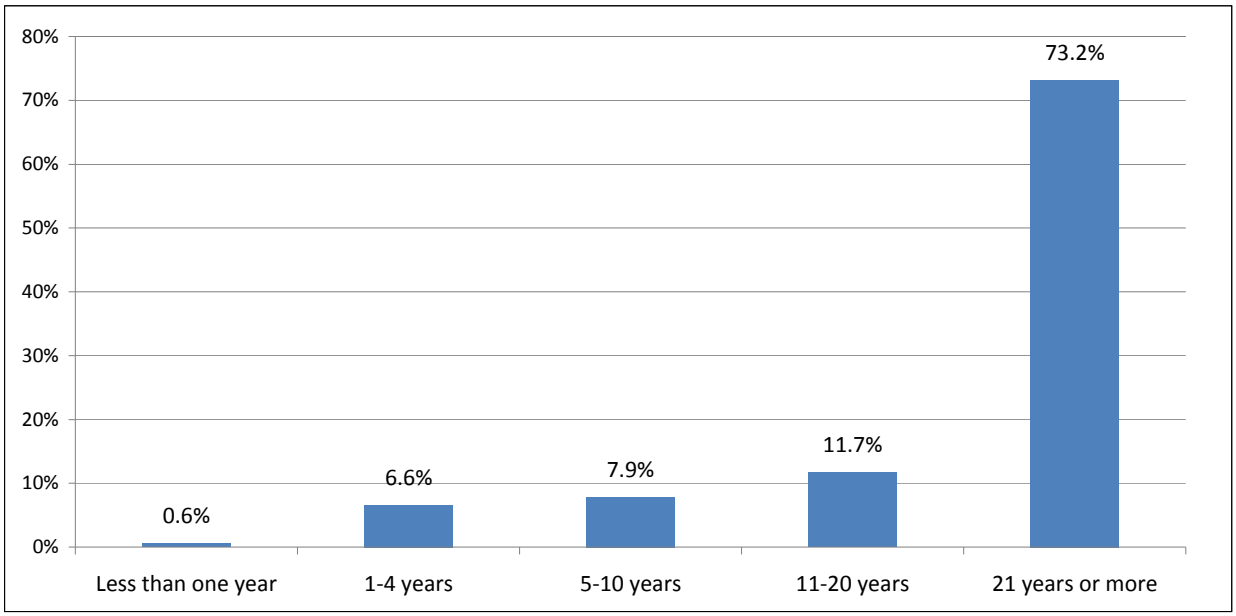

Figure 8-4: CSG1/Pipeline Loop Number of Years Lived in PAC

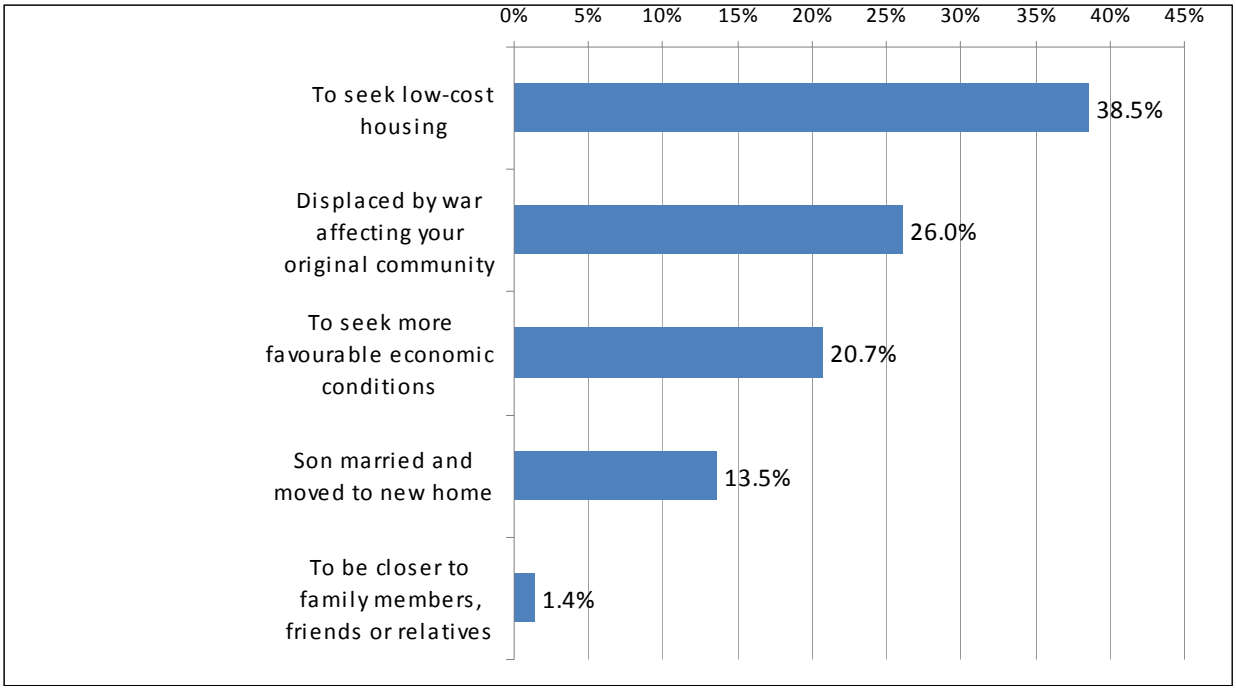

Figure 8-5: CSG1/Pipeline Loop Reasons for Moving to Current Community (Those Moving During the Last 4 Years)

Alcohol and crime are the only social problems considered significant and widespread. The numbers of respondents expressing this viewpoint are relatively low at 1% and 3% respectively. Crime, alcohol, other drug abuse and family breakdown are considered significant amongst certain groups, but again the number of respondents with this opinion is low, except for the issue of alcohol abuse. Overall, alcohol abuse is the main social problem followed by family breakdown and crime. The incidence of violence seems low (see Figure 8-6).

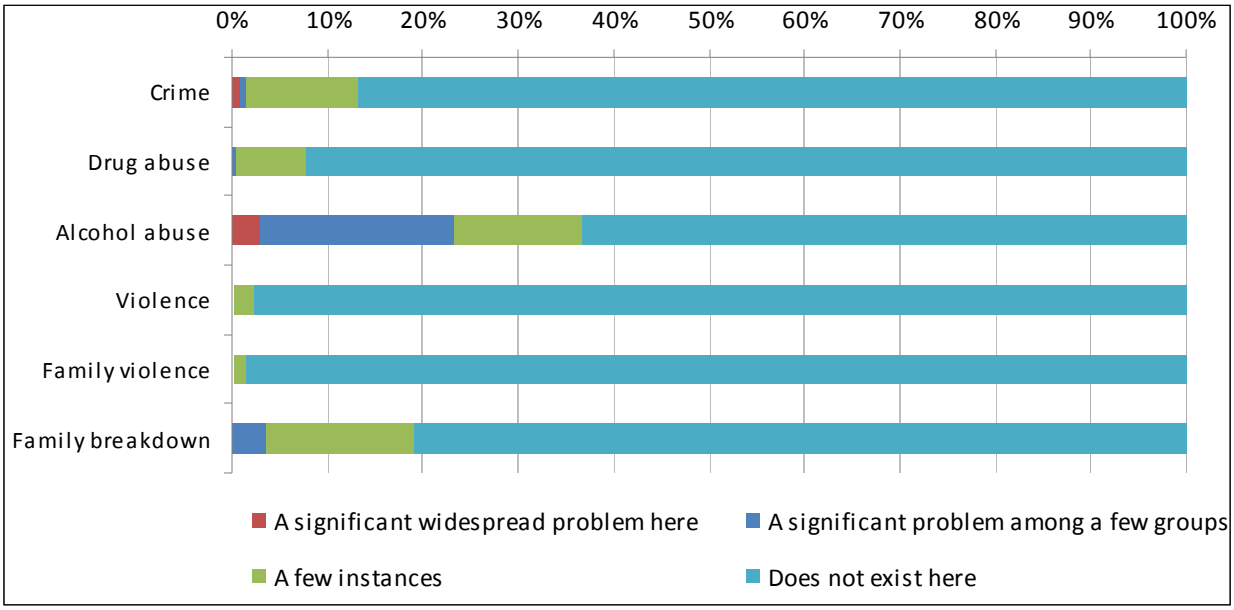

Figure 8-6: CSG1/Pipeline Loop Social Problems

PAC-level demographics – CSG2/access road PACs

The CSG2/access road PACs consist mainly of relatively small, rural villages in upland areas. The largest, Kizilkilisa and Avranlo, have populations under 2000 people. The main comparison that can be made between groups of PACs is between the 'lowland' CSG1/pipeline loop PACs and the two groups of mountain PACs. However, a number of key differences between the two sets of mountain PACs should be noted.

The PACs in the vicinity of CSG2/access road and PRMS are ethnically diverse. Armenians are the largest ethnic group at 49.8%, followed by Georgians at 46. 5%. The ethnic Greek population is now small at 3.4% compared to 20 years ago. In general, religious affiliation parallels ethnic identity. However, there are 11% who classify themselves as Muslims, but who are ethnically Georgian (see Figure 8-7).

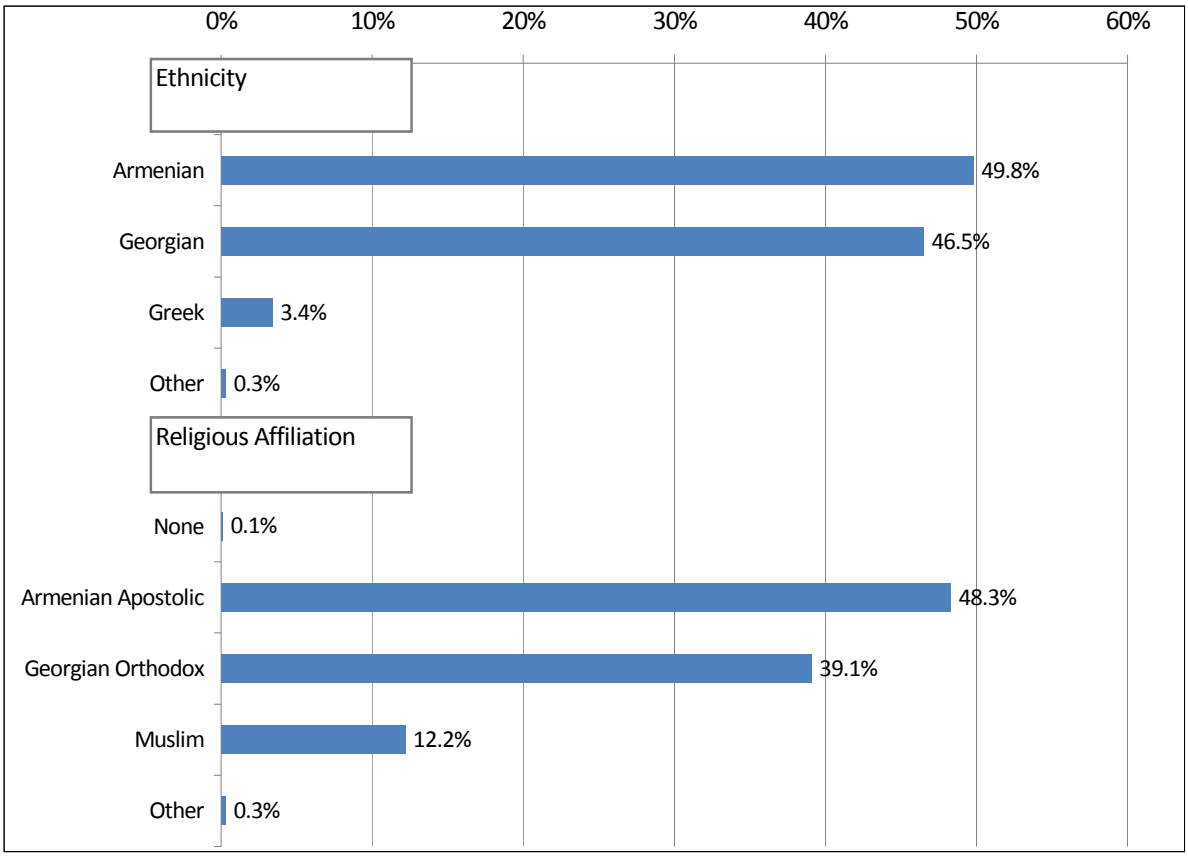

Figure 8-7: CSG2/Access Road Ethnicity and Religious Affiliation

The gender balance shows 54.6% of the population being female and 46.4% being male. This is a greater imbalance than was found to occur in the CSG1/pipeline loop PACs, and at national level, and is considered likely to be due to the age structure of the local population, which differs from that of the national "average" in a number of ways. There is a high proportion of people aged 65 and over with almost 53% of the population being either not married or a widow/widower (latter being just over 15%). Given this demographic profile it is not surprising that the household structure is different from the national situation with about 38% of households consisting of only one person (compared with the national figure of under 10%).

The age profile is also not typical of the national 'picture', as there were found to be significantly fewer individuals in the 18–34 age range than would be expected. The decline is considered likely to reflect the extent of out-migration, particularly to Greece/Cyprus (Greeks), the Russian Federation (Armenians) and other parts of Georgia (Georgians).

About two-thirds of the respondents were found to have completed secondary education (65%), but the number with post-secondary or higher (tertiary) educational qualifications is very low, with just under 3% having a university degree (see Figure 8-8 and Figure 8-9).

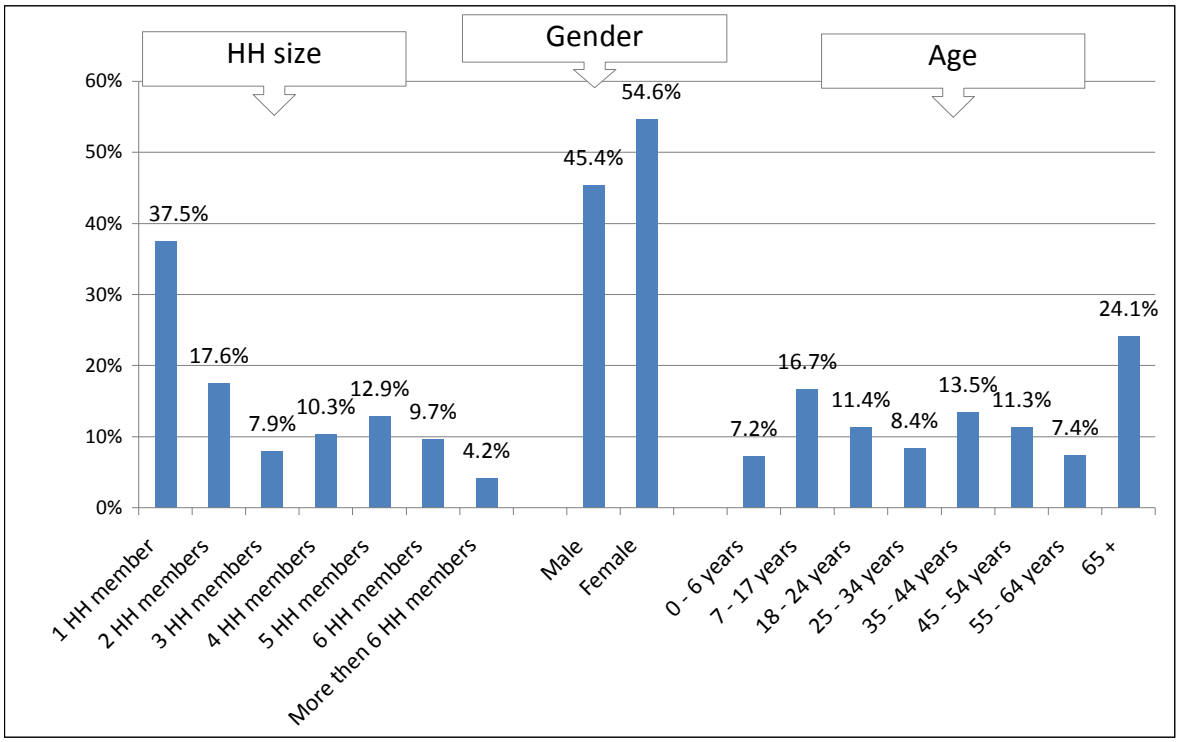

Figure 8-8: CSG2/Access Road Household Structure

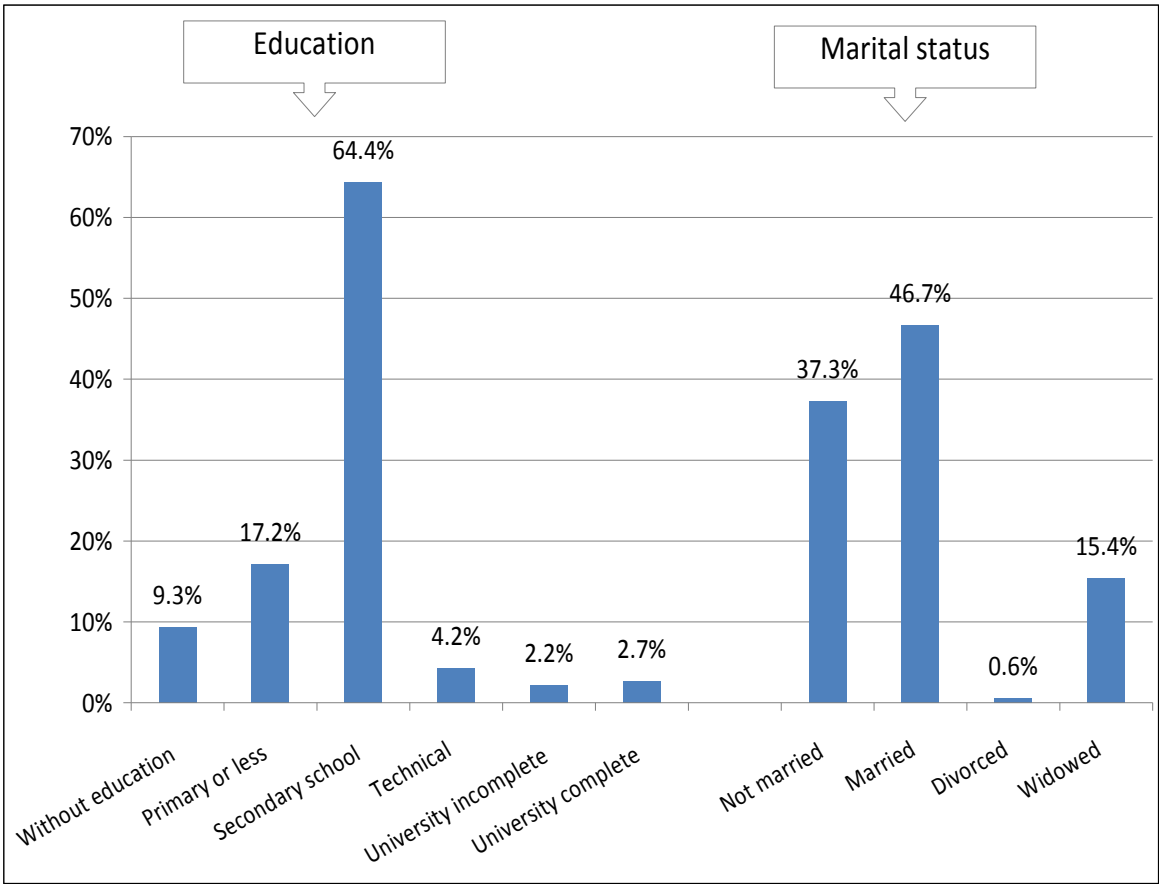

Figure 8-9: CSG2/Access Road Education Level and Marital Status

CSG2/access road PACs were found to be stable in the sense that most people have lived in their villages of current residence for a long time. About 75% have lived in their village for at least 21 years or more, although about 20% of households have been resident for 5–10 years. This 'spike' in numbers seems to indicate a relatively sudden influx of people compared to other periods. This influx is not present in either PRMS or CSG1/pipeline loop PACs. New people have moved into their villages of current residence in the past five years. Of those who have moved just over half (about 59%) moved to seek more favourable economic conditions, while the remainder moved because of natural hazards or 'disaster' in their places of former residence (see Figure 8-10 and Figure 8-11).

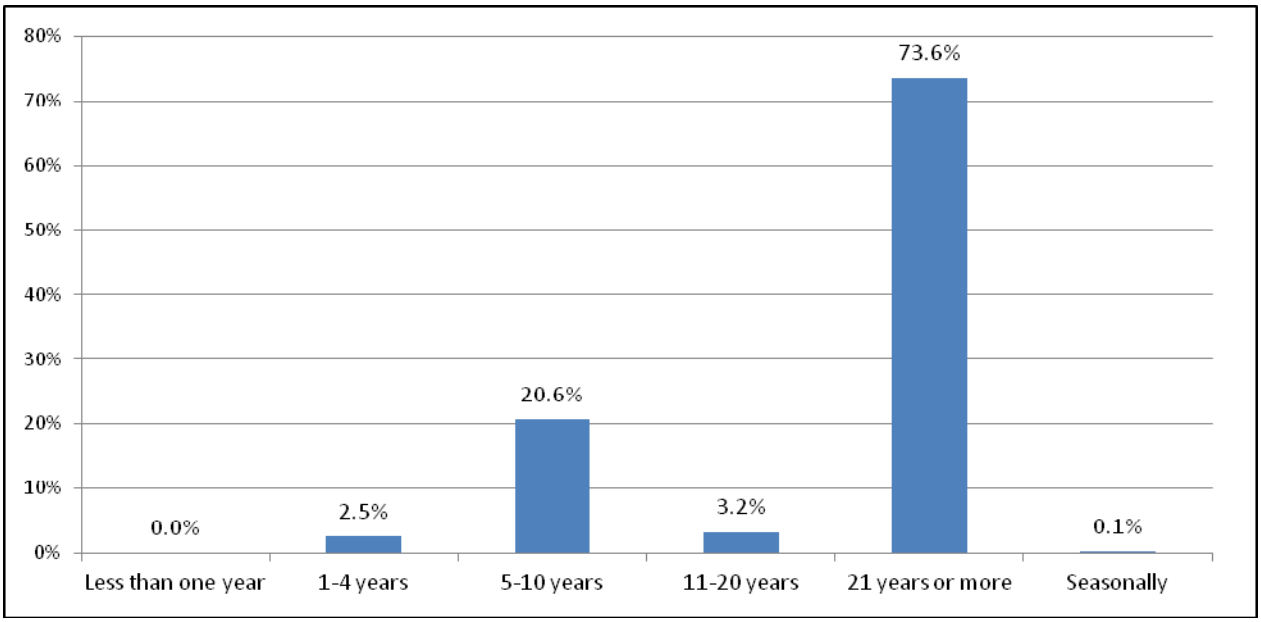

Figure 8-10: CSG2/Access Road Number of Years Lived in PAC

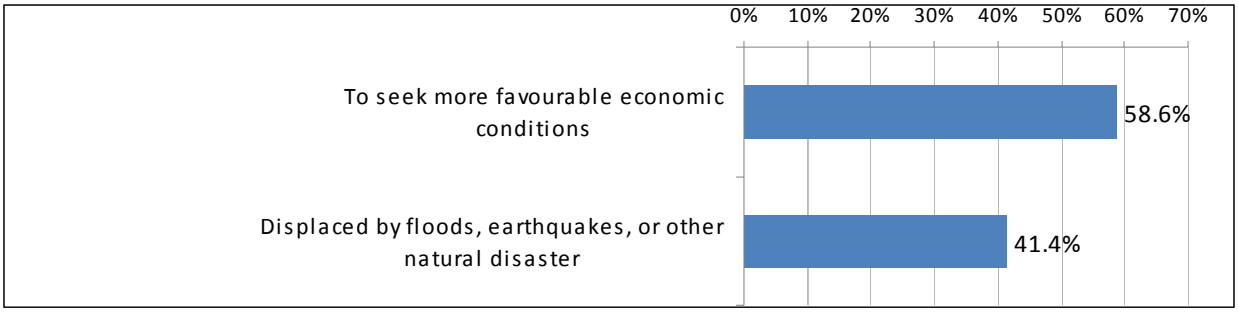

Figure 8-11: CSG2/Access Road Reasons for Moving to Current PAC (for those moving in the last four years)

The only significant social problem mentioned by respondents is alcohol abuse by some groups (reported by about 3% of respondents). A further 10–11% considers alcohol abuse an occasional problem. Violence and family breakdown are cited as is crime, but the number of respondents considering these a problem is very low (in all cases about 3%) (see Figure 8-12).

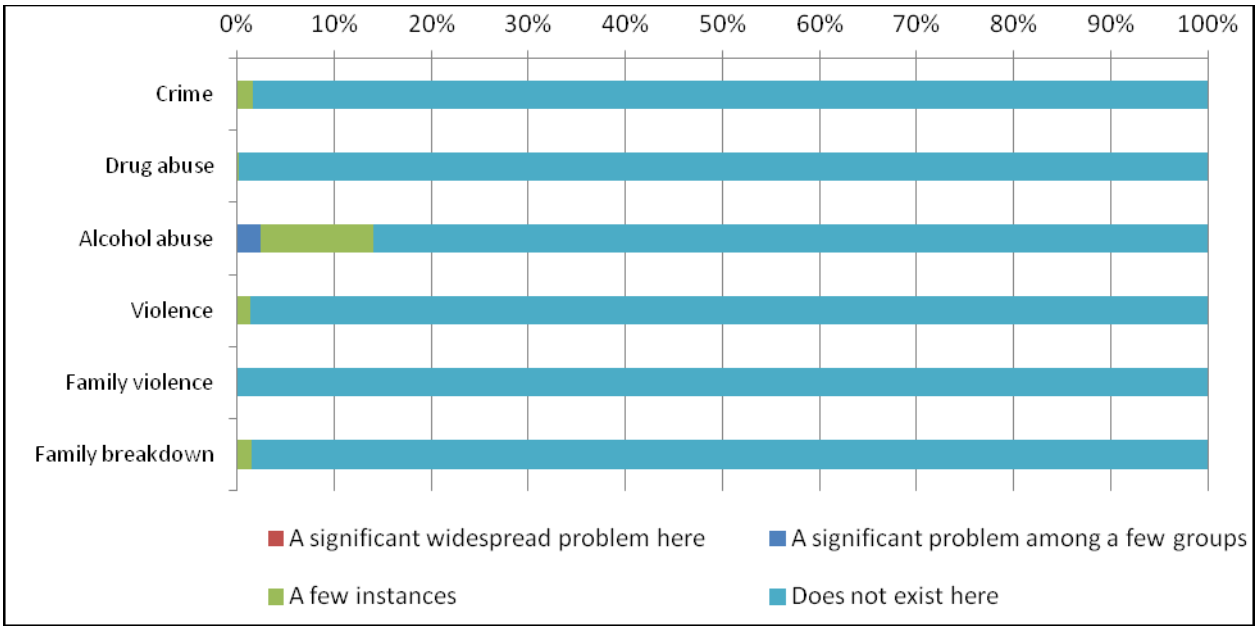

Figure 8-12: CSG2/Access Road Social Problems

PAC-level demographics - PRMS PACs

The PRMS PAC grouping contains two relatively large settlements, Vale (population almost 6000) and Ude (population just over 3500). All the other PRMS PACs are very small in comparison. Therefore, the household survey results for PRMS are considered likely to be influenced by the household characteristics of the larger settlements. These may 'disguise', to some extent, the characteristics of the smaller PACs. However, data on the smaller PACs exists from the PAC leader interviews and, also, it is considered likely that most of information, from other mountain PACs (such as the CSG2/access road PACs), will be applicable to the small PRMS PACs.

Georgians are the biggest ethnic group at 66.1%, followed by Armenians at 32.3%. 'Other' ethnic groups are very small in number comprising in total 1.6% of the population. In general, religious affiliation parallels ethnic identity (see Figure 8-13).

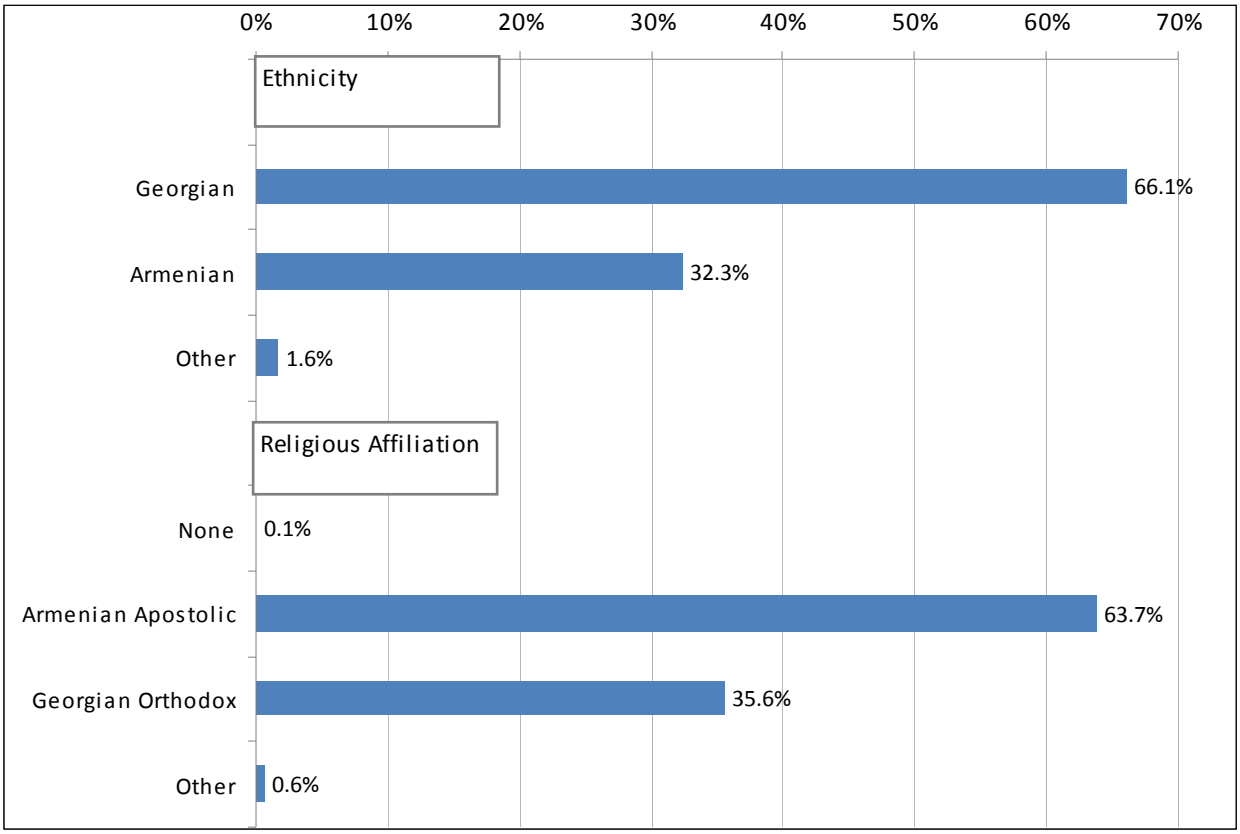

Figure 8-13: PRMS Ethnicity and Religious Affiliation

The gender profile is almost identical to that of the CSG2 PACs. The gender balance indicates that a larger number of females than males reside in the relevant PACs (54.2% were female). Compared to the CSG2 PACs, there are slightly fewer males and slightly more females, but the difference is very small. The age profile is identical.

Twenty-four per cent of residents are aged 65 (and over) and almost 53% of the population were found to be either not married or a widow or widower. However, the household size differs from CSG2 PACs, as there are significantly fewer one- or two-member households. The number of households with three or four members is almost 29% compared to almost 18% in the CSG2/access road PACs. In addition, the number of households with six or more members is almost 18% compared to about 14% in the CSG2 PACs (see Figure 8-14).

As in the case of the CSG2/access road PACs there are fewer individuals in the age range of 18 to 34 than would be expected by examining the national demographic age profile. Similar reasons, as given above for the CSG2/access road PACs, are considered likely to apply (see Figure 8-14).

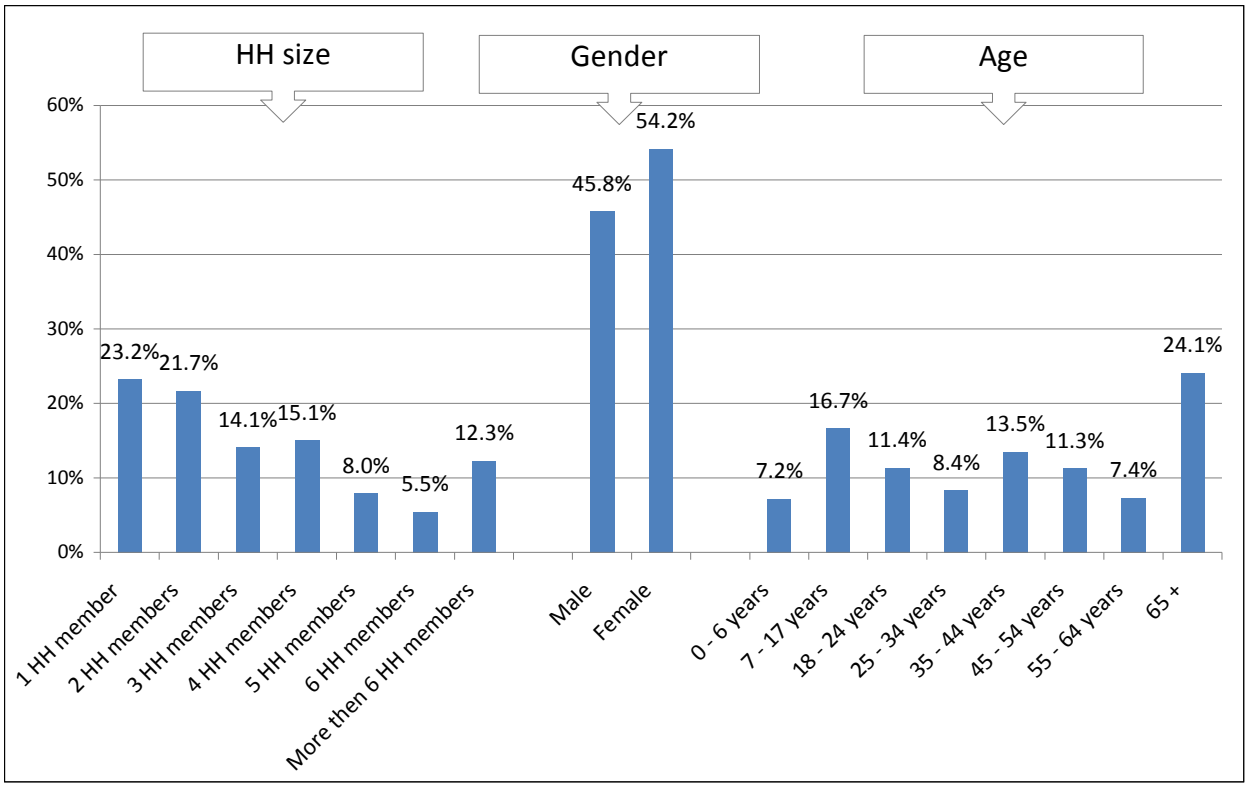

Figure 8-14: PRMS Household Structure

Compared to CSG2 PACs fewer individuals have completed secondary education only (52.5%), but significantly more have post-secondary or higher (tertiary) educational qualifications with almost 9% having a university degree and 13% having completed 'technical' training and possessing a qualification. The numbers with no education or only primary-level education are almost identical. In addition, the numbers of individuals that are classed as being either widow or a widower is relatively high compared to the 'lowland' PACs (see Figure 8-15).

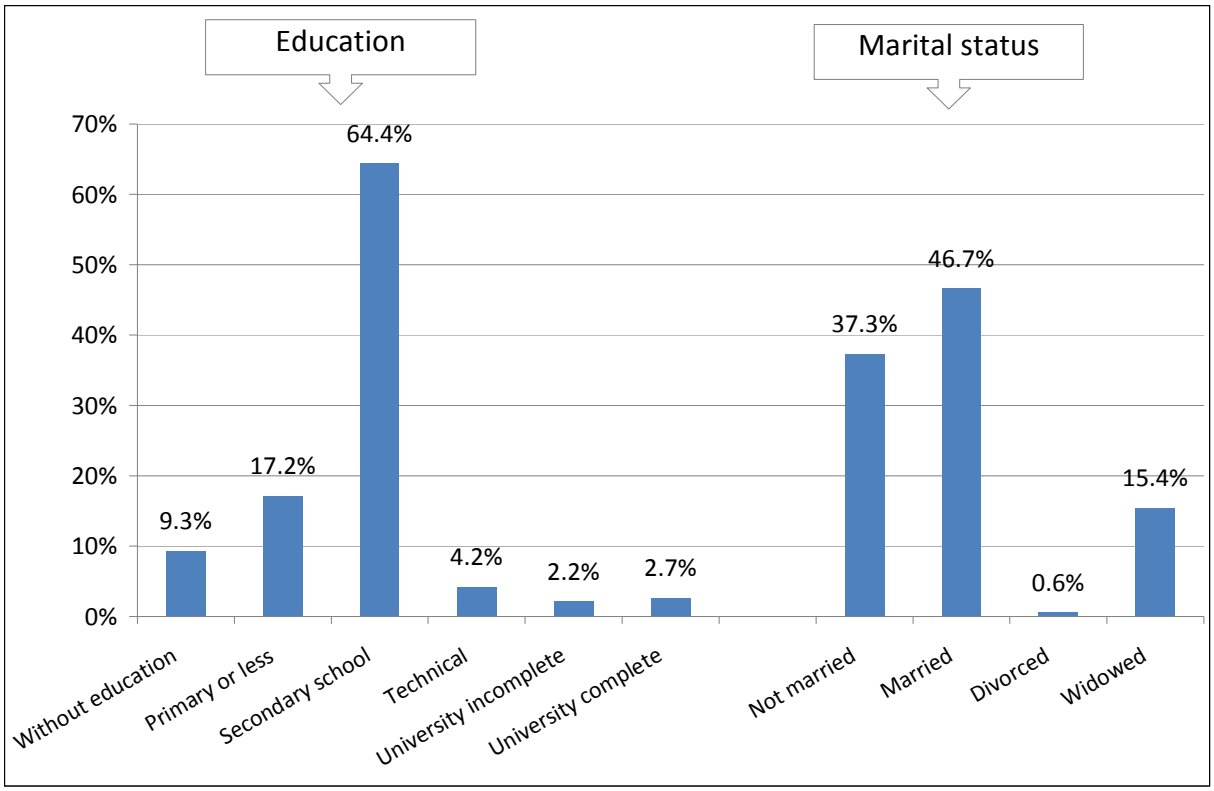

Figure 8-15: PRMS Education Level and Marital Status

The PRMS PACs are very stable in the sense that most people have lived in their villages of current residence for a long time. About 93% have lived in their village for at least 21 years or more. Very few (2.4%) have moved into their village of current residence in the past five years (see Figure 8-16).

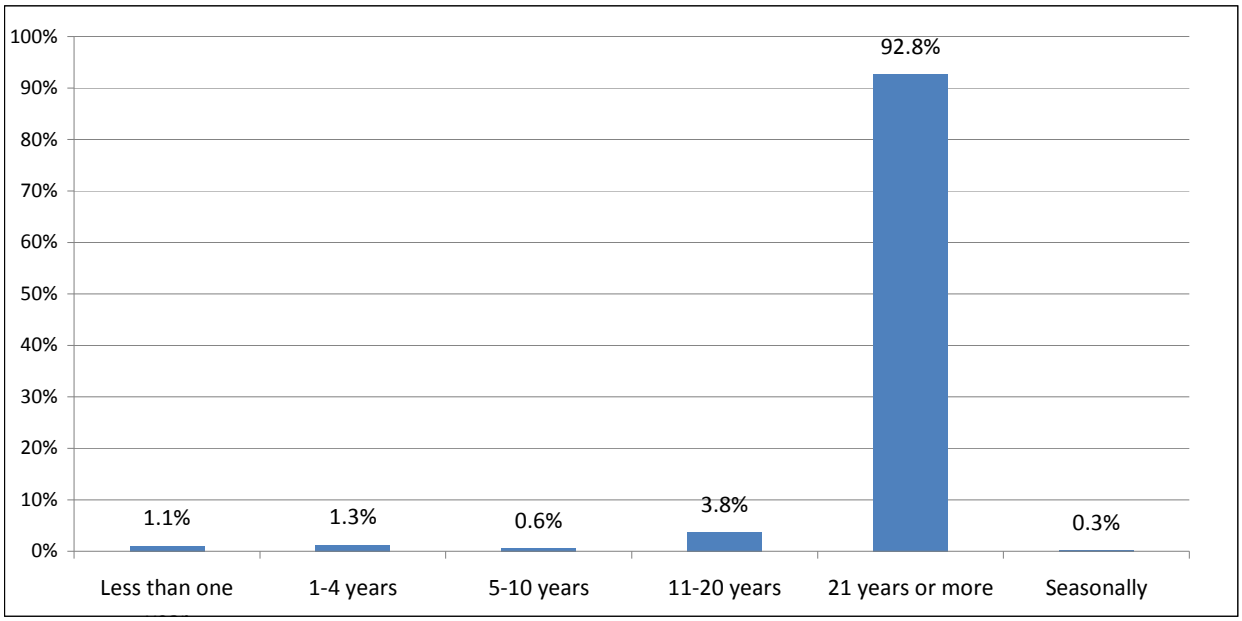

Figure 8-16: PRMS Number of Years Lived in PAC

In response to a specific question about social issues in their communities about 40% of respondents mentioned alcohol abuse as the most common social problem, with almost 20% stating that it is a significant problem among certain groups. General criminal activities (crime) are cited by just fewer than 10% of respondents as being a social problem with some people considering it a significant problem among a few groups, closely followed by family breakdown. Violence (including within the family) is also considered a problem but is of lesser significance, as respondents consider that only a few instances of this type of violence occur (see Figure 8-17).

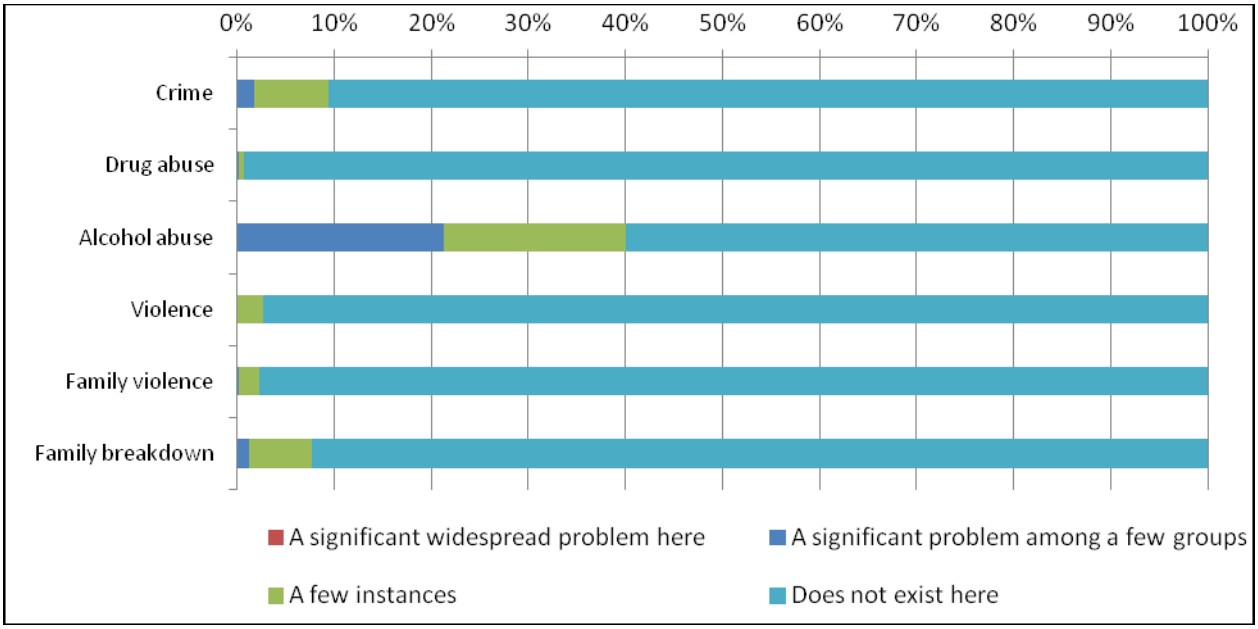

Figure 8-17: PRMS Social Problems

8.3.1 Sensitivities for Demographics

The following are a summary of the components of the baseline conditions, which in the project context, are considered to be the most important based on the anticipated impacts of the project development

For all PACs the key sensitivities are:

- Those small rural mountain PACs with high numbers of old people/pensioners
- The CSG2 PACs that have proportionately higher numbers of single-person or small households as these households are poorer than larger households
- Numbers of registered disabled/chronic sick and IDPs in PACs. The mountain PACs have more of the former whereas the CSG1/pipeline loop PACs appear to have more of the latter.

8.4 Health

The SCPX Project team has engaged an independent, specialist consultant to undertake a health impact assessment (HIA) to assess the potential impacts of the project on community health.

The HIA baseline data acquisition process has been integrated with the ESIA socio-economic data acquisition process, specifically through the Household Survey Questionnaire and the results are presented below.

The HIA team evaluated baseline data for health issues and conditions that have the potential to be impacted by the project. The key areas of focus of the health baseline section of the report include:

- People – demography, economics and education (also discussed elsewhere in this ESIA and not repeated here)
- Organisation of the Georgian health care system
- Overall health status
- Infectious diseases
- Non-communicable diseases (NCDs)
- Environmental health issues – air, water, food, and soil (also discussed elsewhere in this ESIA and not repeated here).

8.4.1 Information from Desktop Literature Survey

The HIA team performed a review of the available baseline health data from both publically available sources and specific project reports. The Georgia National Centre for Disease Control and Public Health (NCDC) was a critical source of information as were other publicly available documents from the World Health Organization (WHO), the World Bank and the United Nations Statistics Division.

References can be found in Chapter 15.

Organisation of the Georgian health care system

According to the desktop literature reviewed, since becoming independent, Georgia has looked to new models for the health sector. Over the past decade the health care system in Georgia has undergone substantial transformation, including reforms in the organisation, financing and delivery of health services. However, Georgia is still facing a number of critical challenges in the core building blocks of the health system that need urgent attention and strengthened cooperation at both national and international levels.

The Ministry of Labour, Health and Social Affairs (MoLSHA) remains the key strategic health decision-maker. Much of the decision-making power and responsibility for funding at the local level has been allocated to twelve regional health departments.

Each municipality administers a municipal health fund, from which money is channelled to the regional health fund on a per person basis. Georgia also receives substantial external health financing from sources such as the United Nations, the World Bank, non-governmental organisations, and other countries.

Overall health status

According to the desktop literature reviewed, socio-economic crises, civil war, significant numbers of IDPs, increased unemployment and intensive migration since the 1990s have had a negative impact on health status. Nevertheless, there has been progress in improving some key health indicators. For example, the health status of the population, as measured by high-level indicators such as life expectancy or infant and maternal mortality, has been improving since the last half of the 1990s.

Mortality and morbidity patterns (Figure 8-18 and Figure 8-19) show that cardiovascular diseases (CVDs) are the leading cause of mortality, and the mortality rate for CVDs has remained unchanged at approximately 640 to 645 per 100,000 between 2001 and 2006. This rate compares favourably to the average Commonwealth of Independent States rate; however, it is higher than the EU averages.

The rate of deaths due to malignant cancers is high in Georgia compared to other countries, although it dropped from 99 per 100,000 in 2001 to 110 per 100,000 in 2006. Respiratory diseases are the leading cause of morbidity, increasing from 3500 cases per 100,000 in 2001 to more than 7000 cases per 100,000 in 2006. In the same period, morbidity due to CVDs increased by close to 50%.

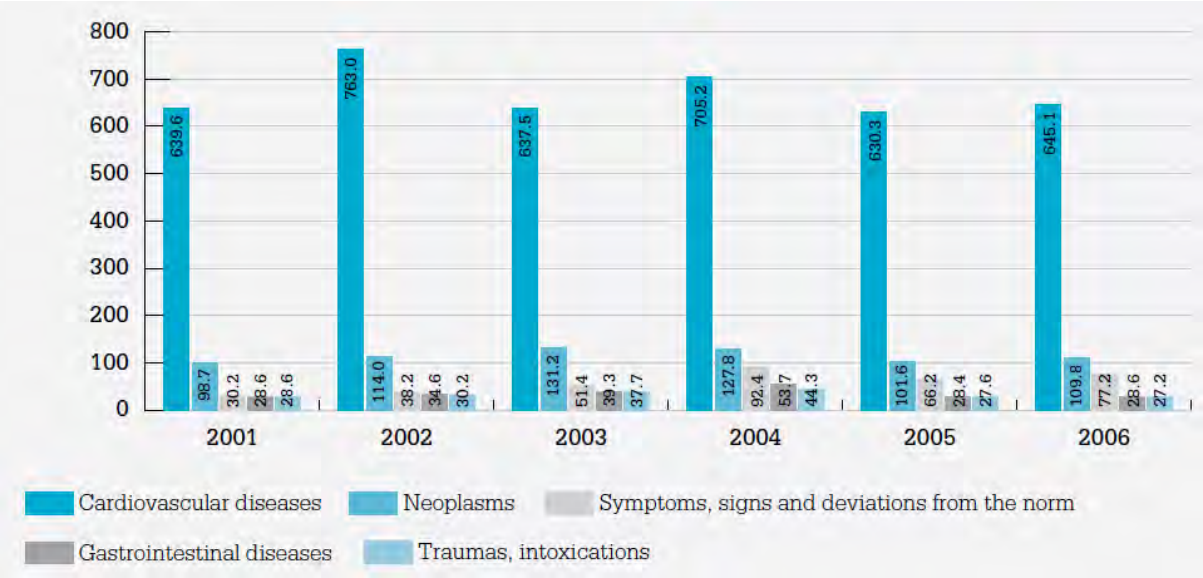

Figure 8-18: Mortality per 100,000 Population for Five Leading Causes of Death, 2001–2006 (Source: NCDC via WHO, 2009)

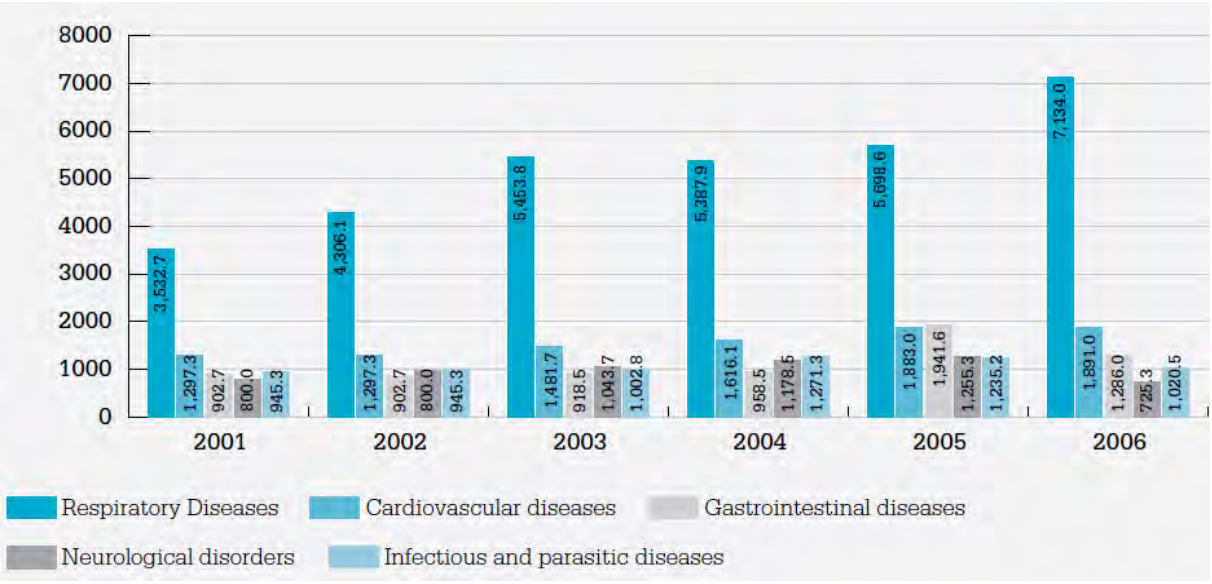

Figure 8-19: Morbidity per 1000,000 Population for Five Leading Causes, 2001–2006 (Source: NCDC via WHO, 2009)

Maternal and child health

Maternal and child health are other key indications of health status. According to the desktop literature reviewed, Georgia is aiming to reduce the infant mortality rate to 7.0 and reduce the maternal mortality ratio to 12.3 by 2015, in accordance with UN Millennium

Development Goal (MDG) targets. The maternal mortality rate decreased from 70.0 to 14.3 and infant mortality rate from 23.7 to 14.3 between 1997 and 2008 Infant mortality in Samtskhe-Javakheti is close to the MDG and in Kvemo Kartli is less than half the MDG (Table 8-4).

Table 8-4: Births and Infant Mortality by Region, Georgia, 2009

Region	Live births	Stillbirths	Rate of Stillbirths per 1000	Infant Mortality Rate per 1000	Perinatal Mortality Rate per 1000
Kvemo Kartli	4893	35	7.1	3.3	9.3
Samtskhe-Javakheti	2318	18	7.7	7.3	10.7
Georgia	61,677	665	10.7	14.3	19.6

Source: MoLSHA and NCDC (2009)

Road safety

Regarding deaths by road users in 2007, 72% were unspecified, 28% were pedestrians, and cyclists were less than 1%. According to the latest WHO data (WHO, 2011) published in April 2011, road traffic accidents (RTA) deaths in Georgia reached 515 or 1.13% of total deaths. The age-adjusted death rate was 11.40 per 100,000 persons, which ranks Georgia #129 in the world.

Infectious diseases

Infectious diseases prevalent in Georgia are summarised below:

- TB rates in Georgia are among the highest of all Eastern European nations. In 2009, TB incidence (all notified cases) was at its highest since 1998
    - The incidence in Kvemo Kartli was 80.3 and in Samtskhe–Javakheti, 50.1 per 100,000 population (half the incidence of Georgia as a whole). (MoLSHA and NCDC, 2009)
    - In addition, multidrug resistant tuberculosis was observed to be a significant emerging problem; the prevalence of multidrug resistant tuberculosis in Georgia ranks among the highest in the world (MoLSHA and NCDC, 2009).
- Diarrhoea and gastroenteritis of presumed infectious origin made up the largest percentage of intestinal infections in both 2008 and 2009 (MoLSHA and NCDC, 2009)
- Georgia has the highest nationally reported rate of botulism in the world (Gottlieb et al., 2007). The annual incidence of botulism in Georgia is 0.9 cases per 100,000 population, compared with 0.01 cases per 100,000 persons in the United States
- The incidence of sexually transmitted infections (STIs), including syphilis and gonorrhoea, are high. The incidence of HIV demonstrated an increasing trend between 2000 and 2006, from 1.8 to 7.8 per 100,000 persons and incidence has remained at this level since (MoLSHA and NCDC, 2009).

Vector-borne diseases

Vector-borne diseases prevalent in Georgia are summarised below:

- Conditions conducive for malaria transmission exist in approximately 50% of Georgia's territory in areas that include more than 90% of the population. Since 2003, malaria cases have been declining and the last locally acquired case was reported in 2009 (MoLSHA and NCDC, 2009)

- Visceral leishmaniasis (VL) is endemic in the eastern part of Georgia, from the Azerbaijan border to Tbilisi and its surroundings (Kajaia et al., 2011)
- *Yersinia* is a vector-borne pathogen of note in the project area because there is an endemic foci in southern and eastern regions of the country.

Zoonotic diseases

Zoonotic diseases (diseases and infections that are naturally transmitted between vertebrate animals and humans) prevalent in Georgia are summarised below:

- Anthrax is endemic in Georgia and is transmitted predominantly through handling livestock. Ten clusters of anthrax cases were reported in 2011 with a minimum of two cases per cluster and a maximum of eight (NCDC, 2011). The greatest number of cases occurred in the Kvemo Kartli region. The NCDC (Figure 8-20, 2011a) indicate the presence of anthrax incidences within the municipalities where the SCPX Project will be constructed. In addition the NCDC carries out pro-active epidemiological and epizootology surveys of areas crossed by the existing pipelines. These data are available for public review from the NCDC
- Brucellosis is endemic in Georgia
- Rabies is endemic in Georgia and incidence of human rabies is higher than in other countries of the former Soviet Union (NCDC, 2007a). An average of 10 rabies cases per year were reported between 1996 and 2006.

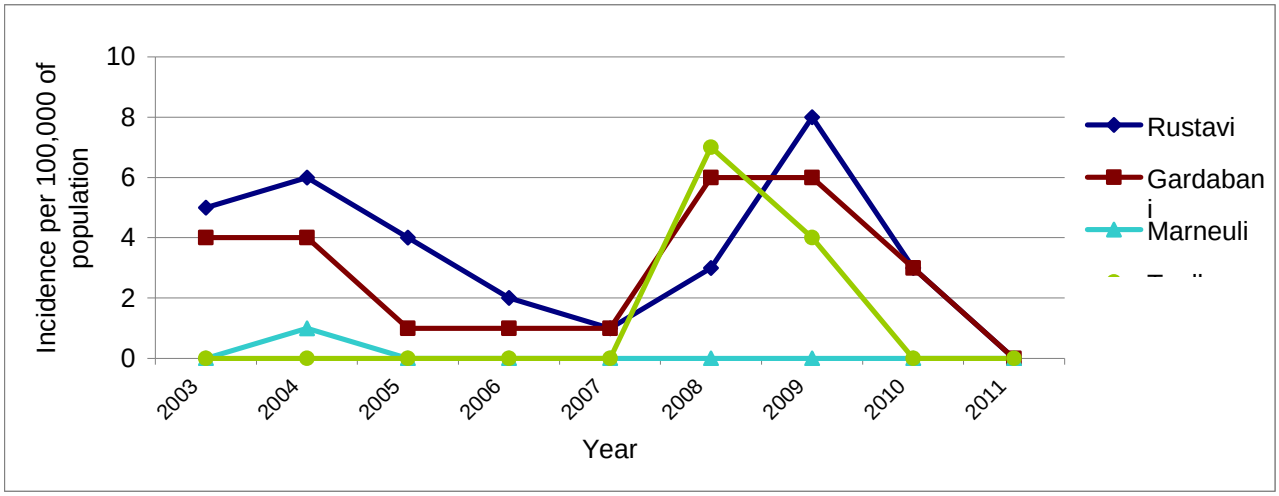

Figure 8-20: Incidence (per 100,000 of population) of Human Anthrax Cases, Selected Municipalities, 2003–2011

Non-communicable diseases (NCDs)

Non-communicable diseases prevalent in Georgia are summarised below:

- According to the WHO Georgia Health System Performance Assessment 2009 report, NCDs such as heart disease, stroke, cancer, diabetes, and chronic respiratory disease are estimated to account for 91% of all deaths in Georgia, with cardiovascular disease (CVD) accounting for 71%; cancer, 12%; diabetes, 2%; and chronic respiratory disease, 1%; and "other" NCDs accounting for 5% of deaths (WHO, 2009).
    - Trends for CVDs demonstrate a rapidly increasing incidence of CVD in Georgia between 2000 and 2010. The incidence of hypertensive disease in Samtskhe – Javakheti (1128.3) was similar to that of the nation as a whole, while incidence in Kvemo Kartli (675.8) was close to half this value (MoLSHA and NCDC, 2009).

- Prevalence of diabetes mellitus increased by a factor of 1.4 between 2005 and 2010 (NCDC, 2011b). The total incidence of diabetes mellitus in Samtskhe - Javakheti was similar to that for the entire nation. However, the incidence of new cases registered in children (16.8) was nearly twice that of the Georgia as a whole (8.5), while incidence in Kvemo Kartli was much lower as a total (116) and in children (3.5).
- The cancer mortality rate in Georgia remains high, predominantly because the majority of cancer cases are diagnosed at an advanced stage (NCDC, 2011a). According to the NCDC data, breast cancer among women and lung cancer among men were the leading cancers in Georgia in 2008 and 2009.

8.4.2 Data Gaps and Field Survey Methods

In August of 2011, ACT Research visited households in the PACs to conduct a household survey of social and economic conditions in Georgia. The survey included a suite of questions regarding health prepared by the HIA team to inform the PAC-level health baseline, the results of which are summarised below. The methodology for this survey is therefore the same as is outlined in Section 8.2.2.

8.4.3 PAC Baseline Health Conditions

Medical assistance

Nearly one-fifth of the general population of households surveyed required medical assistance within the last month. Almost a quarter of IDPs had sought medical service within the last week, representing close to 10% more than disabled or chronically ill persons. Most respondents across all cohorts had sought medical assistance between one and six months before the survey.

The vast majority of all survey respondents had sought medical assistance for illness. Accident or trauma was the second most common reason ranging from 3.7% for IDPs to 5.8%% for the disabled or chronically sick.

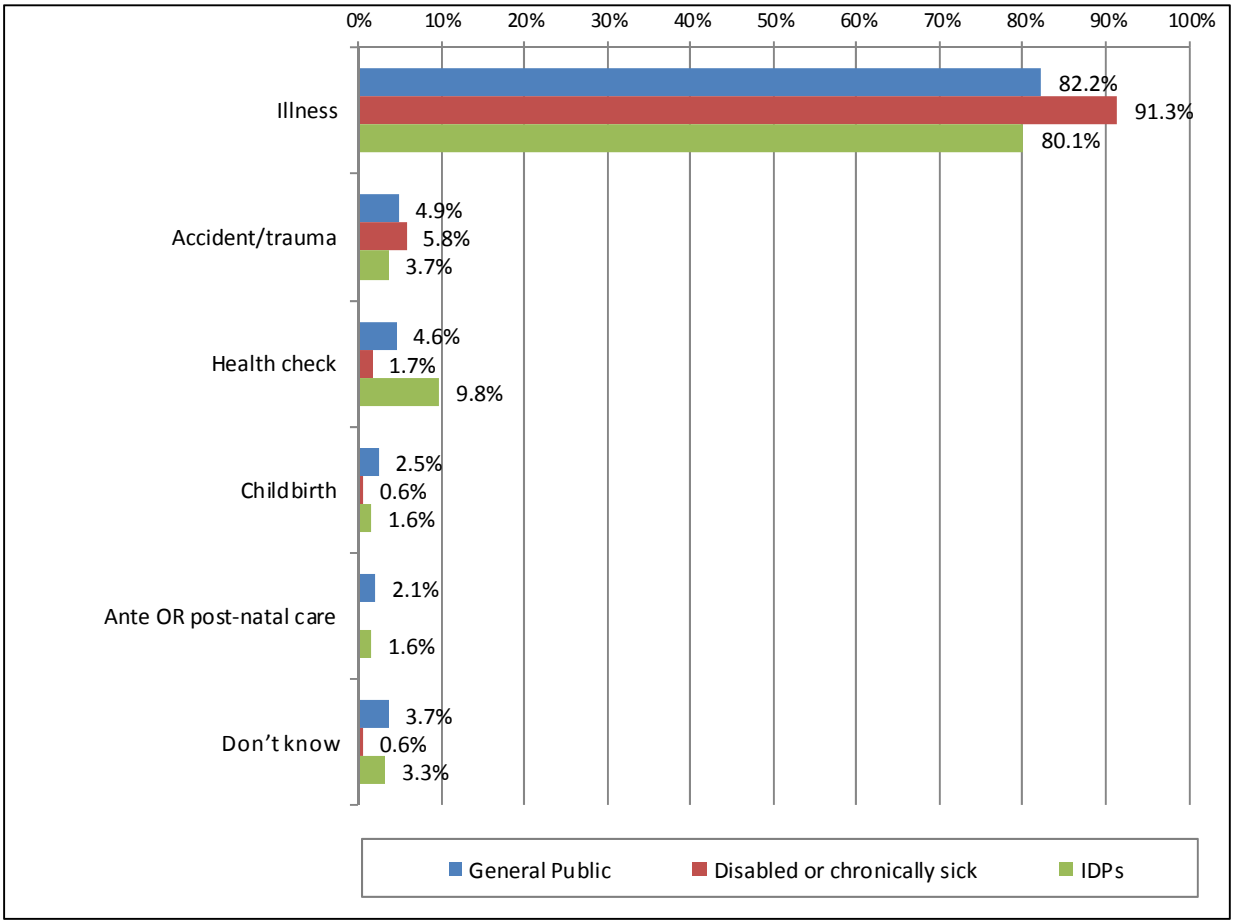

Figure 8-21: Reason Respondents Last Sought Medical Treatment

Illnesses

Viral infections and cardiovascular conditions were the most frequent illnesses requiring medical treatment overall. It is notable that while infection ranked first for the general population, cardiovascular condition ranked first for the chronically ill and IDPs. Cardiovascular conditions ranked 20% higher than infection as the most frequent illness requiring medical attention for chronically ill and disabled persons.

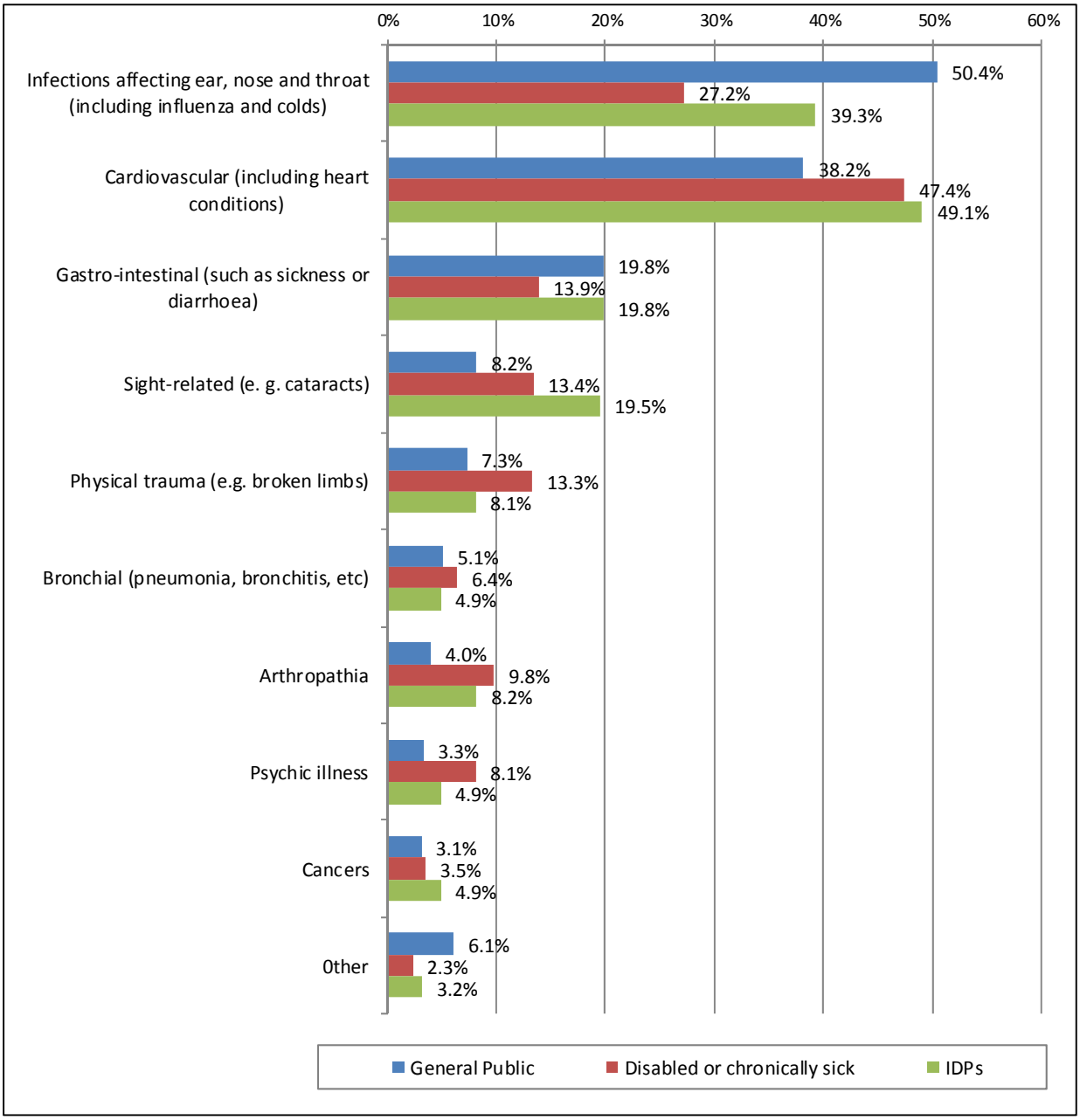

Figure 8-22: Most Common Illnesses Requiring Medical Attention in the Past Year

Approximately one-fifth of all respondents had diarrhoea or illness with a cough within the last two weeks; percentages were similar across all cohorts surveyed.

Health care provision

Patients typically visit hospitals for gastro-intestinal and cardiovascular illness, while for viral infections they typically self-treat or use polyclinic services.

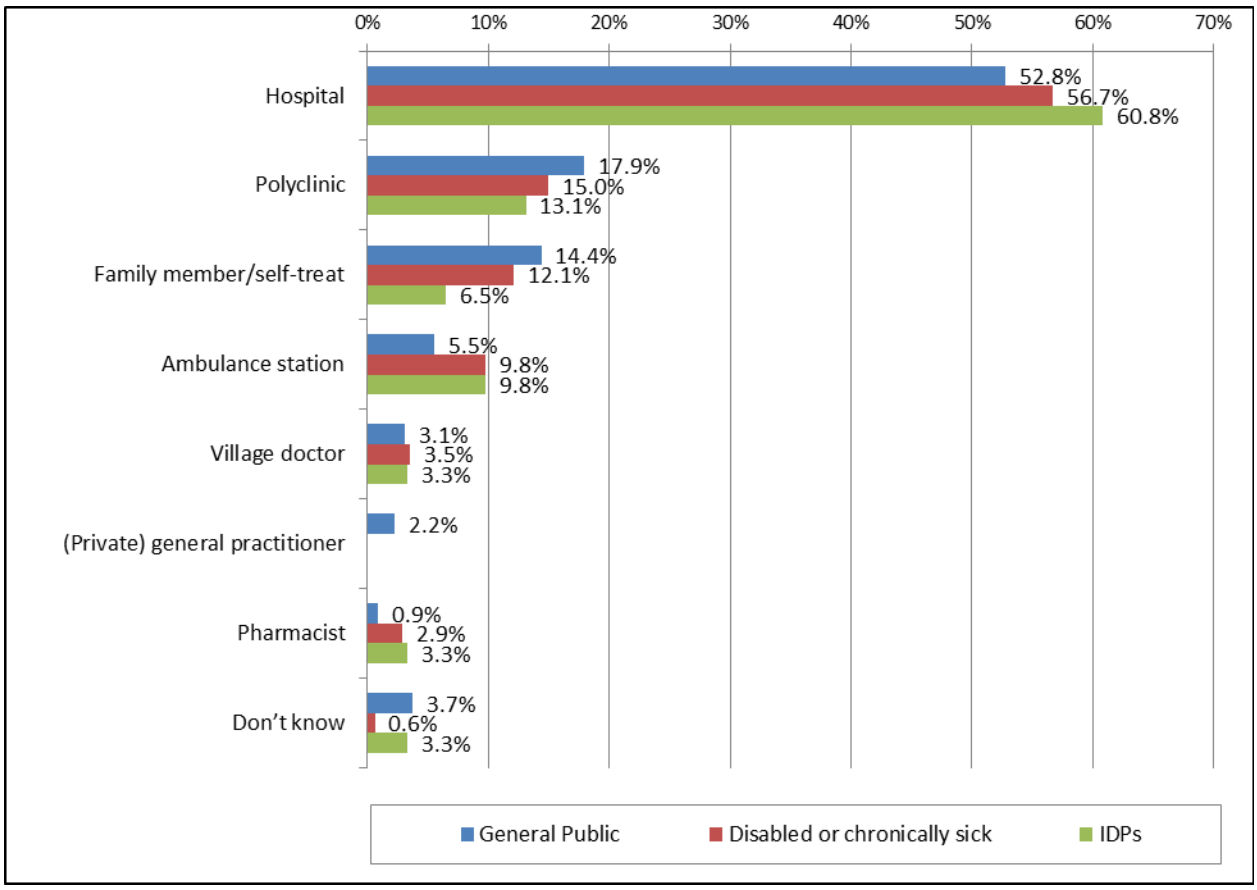

Figure 8-23: Types of Medical Services Utilised

The most common mode of transportation used to travel to the hospitals or polyclinics was via motor vehicle. Nearly one quarter of IDPs walked to receive medical assistance, which was more than twice the percentage of those in any other cohort.

The majority of vulnerable people state that they do not have access to necessary medicines in their communities though there are some positive trends in terms of increasing accessibility. The general public appears to have better access to medicines than vulnerable people do, as they mostly inhabit urban areas or have better access to other communities.

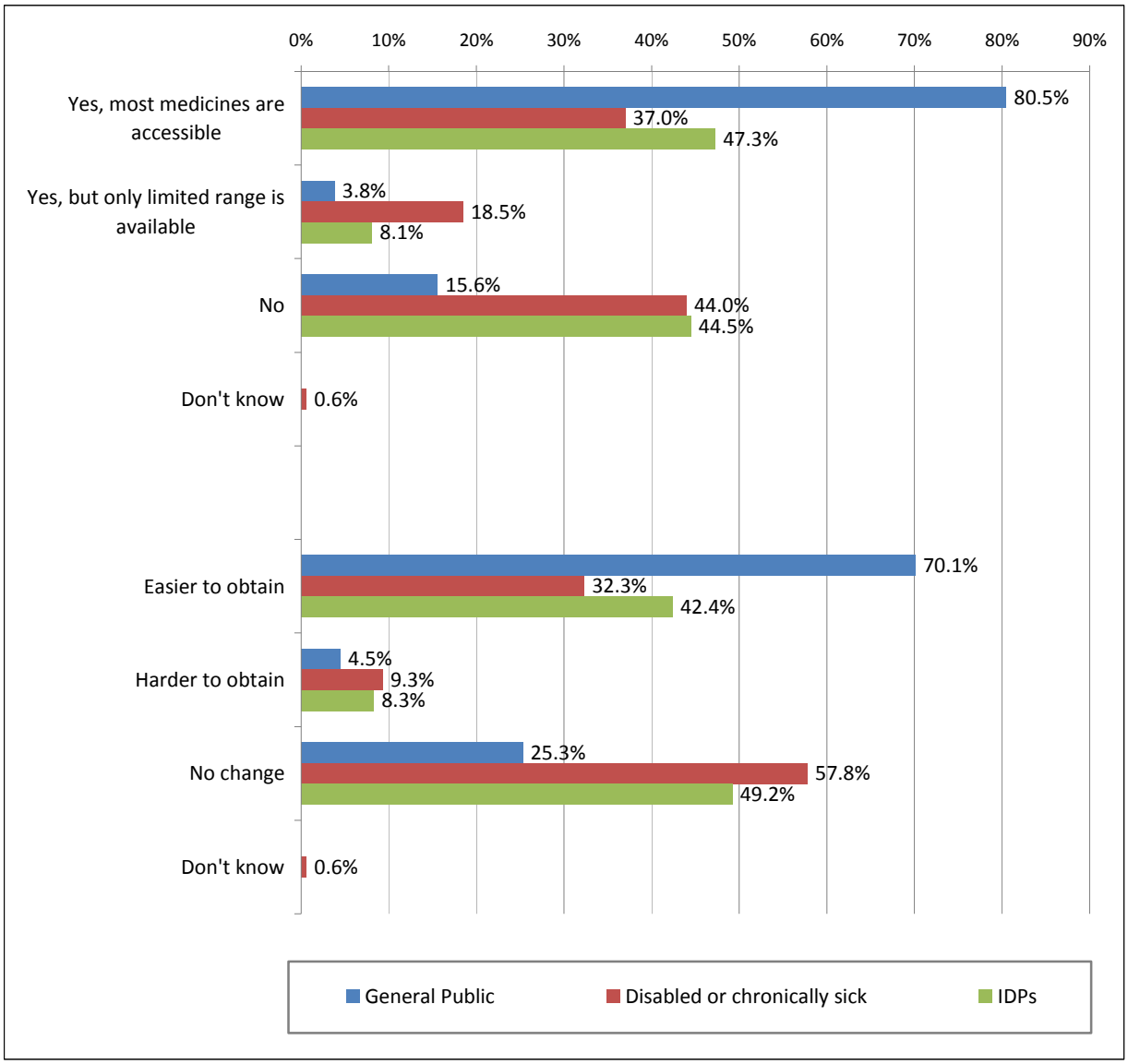

Figure 8-24: Access to Medicines

Medicines were found not be affordable for a significant portion of the vulnerable and the purchase of medicine has become more difficult within the last few years for a third of the respondents.

In addition to the affordability of medicines presenting a challenge for all groups, it is also significant that in the majority of the households surveyed, none of the family members had medical insurance. The fact that more representatives of vulnerable groups have access to medical insurance compared to the general population is a result of state medical insurance programmes.

8.4.4 Health Sensitivities

The following summarises the components of the baseline conditions that, in the project context, are considered the most important based on the anticipated impacts of the project development:

- TB rates in Georgia are among the highest of all Eastern European nations and multidrug resistant tuberculosis was observed to be a significant emerging problem; the prevalence of multidrug resistant tuberculosis in Georgia ranks among the highest in the world
- Surveillance and control programmes for zoonotic and vector-borne diseases were discontinued after the collapse of the Soviet Union. Rabies, anthrax, tularemia, *Yersinia pestis*, brucellosis, and leishmaniasis are all endemic in the project area
- Use of wood as fuel for cooking and heating in the CSG2 and PRMS PACs were identified as key sensitivities in the social baseline. Combustion of wood results in particulate air pollution, compromising indoor air quality as ventilation in rural homes is typically inadequate. Respiratory infections were the leading cause for the requirement of medical services in the last year for the majority of survey respondents. Households using wood as sources of fuel for cooking and/or heating are at increased risk for such infections
- According to the household survey, baseline water quality and availability, as well as waste and sanitation facilities are poor in some rural PACs. Water and sanitation related diseases are likely to be high among rural PACs as prevalence in rural Georgia is fairly high
- According to the household survey, medicines were not affordable for a significant portion of the vulnerable cohorts and the purchase of medicine has become more difficult within last few years for a third of the population. In addition, the majority of vulnerable cohorts state that they do not have access to necessary medicines in their communities.

8.5 Land Use and Land Tenure in Project Affected Areas

This section of the report describes the types of land in the SCPX Project area and the use of land by households in the SCPX PACs. This provides the basis for the description of the economic benefits that PACs obtain from the use of land, primarily for agriculture, presented in Section 8.6.

8.5.1 Information from Desktop Literature Survey

The key sources of secondary data at national and regional level are:

- Previous ESIA studies (BTC and SCP, 2002)
- Specially commissioned baseline surveys of land ownership and use as part of the BTC and SCP Land Acquisition and Compensation Process (BTC Resettlement Action Plan, 2003).

The information presented at PAC level comes primarily from:

- BP data on land ownership and use obtained for BTC/SCP Project that is now being re-used for SCPX purposes
- The BTC Draft RAP Completion Audit (including the results of a 2008 household survey that includes a number of SCPX PACs; RAP Completion Audit, 2008)
- Knowledge of staff in BP's Social and Land teams
- Results from the PAC household survey.

8.5.2 Data Gaps and Field Survey Methods

Following the independence of Georgia, extensive privatisation was implemented and there was a shift to a centrally planned, market-based economy. The land registration process associated with that shift is not yet complete. Consequently, full land ownership and land use data are not yet available.

Therefore, BP has undertaken focused land ownership and land use surveys at key locations and consulted the land registry to produce composite pictures of land ownership and use. This data has been used to help draft this section of the ESIA.

8.5.3 Land Acquisition and Compensation Framework

Land ownership and use information as outlined below has been used to form the basis of the SCPX 'Land Acquisition and Compensation Framework' (LACF) and its accompanying summary document the 'Guide to Land Acquisition and Compensation' (GLAC). The LACF and the GLAC, together form the primary mechanism by which the potential project impacts from land acquisition are assessed and mitigation measures developed.

The SCPX PAC household surveys were used to obtain information for the ESIA and the LACF. This was achieved by identifying a sample of Project Affected People (PAPs), i.e. affected landowners and users, and including this within the overall household survey sample. PAPs were identified using historical BTC/SCP land ownership records and new SCPX Project land ownership data where available.

The information below has been included within the LACF and summarised here for reference.

8.5.4 Baseline Land Use Conditions

General background

Private plots are an important resource for inhabitants of rural PACs, as many inhabitants (almost 100% in some communities) are self-employed in agriculture ('PAC Summaries' are provided in the Environmental and Social Baseline Report). The products obtained from agriculture make an important contribution to incomes (food for own use and sale of surplus). Communally owned land (i.e. land owned by a specific village, registered as private land and used by its residents) and also some state land, is used primarily for grazing and is an important 'communal' resource. Communally owned land occurs only along the SCP ROW in the vicinity of high mountain villages and, thus, in the area in which SCPX will be implemented, but is not widespread elsewhere in Georgia.

In terms of land use, the two key types of private land in/near PACs are household plots and agricultural land. Household plots are located around dwellings and have multiple uses, one of the most important of which is growing food for domestic consumption. Agricultural land may be located at some distance from dwellings and may be fragmented into a number of plots. RAP Completion Audit (2010) reports that most households have two or three dispersed plots of different kinds of land (e.g. arable, hayfields, irrigated arable).

In 2008, as reported by RAP Completion Audit (2010), the average total household landholding was almost 1ha (9308m^2) in the villages surveyed (which included five SCPX PAC villages), although there was considerable variation in landholding sizes. Most households own land with an area of between 4001m^2 (0.4ha) and 12,000m^2 (1.2ha) and there were almost equal numbers of households with a landholding of between 4001m^2 (0.4ha) and 8000m^2 (0.8ha), and 8001m^2 (0.8ha) and 12,000m^2 (1.2ha) respectively.

RAP Completion Audit (2010) reports that 36.3% of the total landholdings were actively farmed land; 13% of households had no actively farmed land.

RAP Completion Audit (2010) reports that about 45% of landowners/users with land plots within the BTC/SCP ROW and 55% of AGI landowners did not use their landholdings to derive monetary income. This does not preclude use of some portion of the land plots for domestic consumption, but production for domestic consumption generally occurs on plots close to the dwellings rather than on the outer edges of village lands.

CSG1 and pipeline loop

In contrast to the 'mountain' PACs at CSG2 and PRMS, fewer households (about 46%) own land in the communities close to CSG1 and the pipeline loop. Land is much more expensive because of the vicinity of large towns and cities (Rustavi, Gardabani, and even Tbilisi to some extent), and fewer people are involved in agriculture owing to the urban character of these communities. Many households cannot afford to buy land (30%) or gain access to land (27%) because of the costs involved or other barriers to 'entry'. Hardly anyone rents land.

Approximately 16% of households own plots that are not used. The mean area of such plots is approximately 0.2ha per household, suggesting that there is limited land available for potential agricultural use. It may also reflect the actual, or perceived, high cost of land. This situation is in marked contrast to the 'mountain' PACs.

Of those who own land, almost all households (96%) own a 'garden' plot or yard. However, far fewer households own other land plots compared to the 'mountain' PACs. Only 20% own land for crop production (mean area per household is 0.35ha). About 5% own land plots for vineyard/orchards (mean area of 0.08ha). Less than 1% own land for hay production (mean area of 0.7ha) and there is virtually no land used solely for grazing.

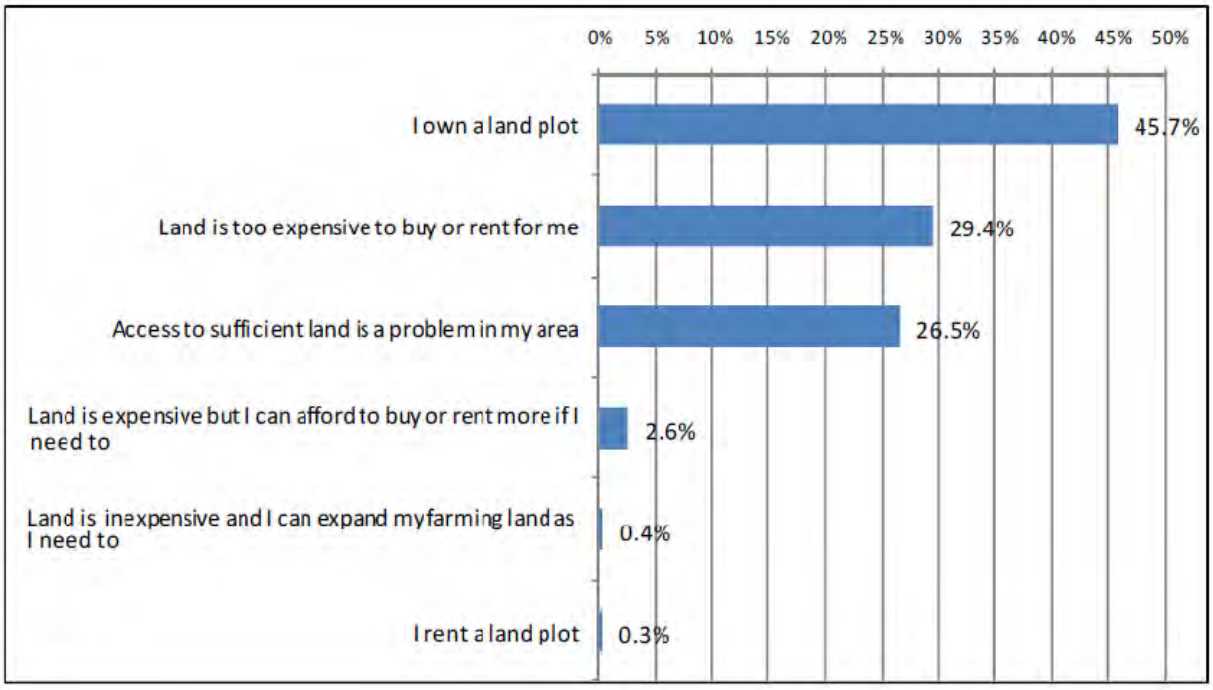

Figure 8-25: CSG1/Pipeline Loop Land Ownership and Acquisition

In Rustavi, two kinds of land plots can be distinguished by use: agricultural and non-agricultural. RAP Completion Audit (2010) reports on the agricultural landholdings of certain Rustavi residents with plot sizes in the range of 860–900m^2 situated on the edge of the city. Some landowners reported that, up until the early 1990s, the plots were irrigated and were used as garden allotments by apartment block dwellers. Rustavi owners were not generally reliant on their small lots for livelihood or income. Other landowners in Rustavi own non-agricultural plots with area of approximately 500m^2. Those plots are adjacent to Rustavi entrance and are more expensive to buy than the 900m^2 agricultural lands. Also, recent use of land for car markets may add more value to these land plots.

Broadly similar numbers of households (about 14%) own cattle and poultry, with the average number of animals being 2–3 cows and 17–18 birds per household. Less than 3%

of households keep pigs and sheep, with the average number of animals being two pigs and six sheep. Only 0.2% of households keep bees with an average of 8.5 hives per bee-keeping household.

Overall, agriculture is not as critical to the economy of these PACs compared to the 'mountain' PACs. However, there is still a significant level of agricultural activity, which indicates that for many of the smaller rural PACs the importance of agriculture is considered likely to be similar to the situation in the mountain PACs.

CSG2 and access road

Land use

This area is clearly much more rural in character compared to the area of the proposed CSG1 site and the pipeline route. In addition, it has been affected by significant out-migration in the last 20 years and possibly before, and there is no shortage of available pasture or arable land as a result.

Almost all households in PACs close to CSG2 (93%) own land plots. Very few people rent land or use state land. There is little difficulty buying or gaining access to sufficient land.

Approximately 20% of households own plots that are not used and the mean area of such plots is approximately 0.6ha per household, suggesting that considerable land is available for potential agricultural use. The smallest plots are domestic 'gardens' and orchards (there are no vineyards). Most households (approximately 74%) own plots that are used for crop production. The mean size of these plots is approximately 0.45ha. About 15% of households own plots for hay production or grazing and these are larger in area (mean of 1.3ha). These plot sizes are not too dissimilar to those reported by RAP Completion Audit (2010) including also the percentage of households that own unfarmed land.

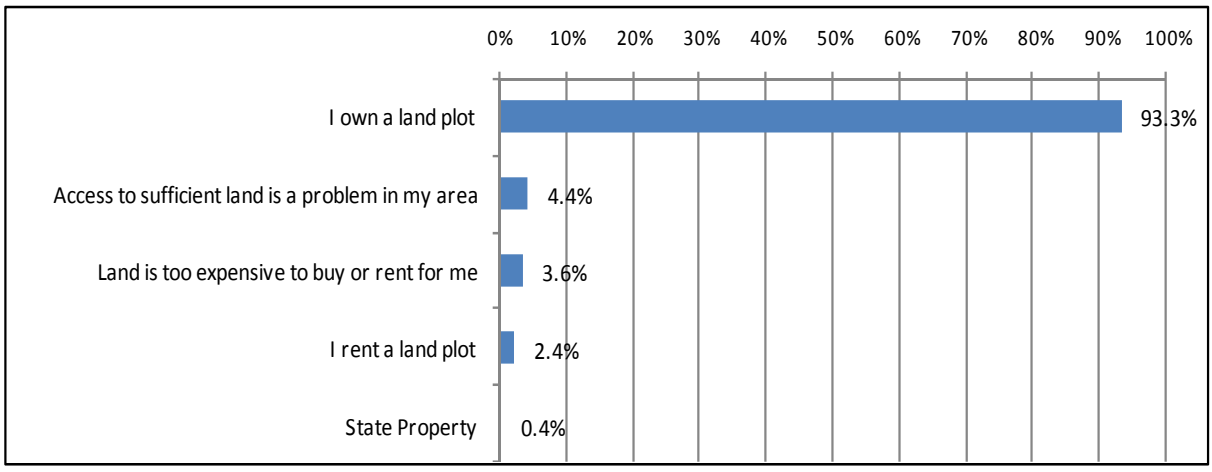

Figure 8-26: CSG2/Access Road Land Ownership

Table 8-5: CSG2/Access Road Land Ownership, Land Uses and Mean Plot Size

Type of Land/Use	Ownership	Mean Area (m^2)
Living area (house and yard/garden)	92.1%	348
Own, but do not use	21.6%	6074
Arable land for crops	73.7%	4466

Type of Land/Use	Ownership	Mean Area (m^2)
Vineyard, fruit garden, or orchard	4.9%	349
Grassland/hay fields	14.9%	13045

Note: 1ha = 10,000m^2

Domestic animals are an important part of the rural economy and grazing animals are the most important owing to the local soil and vegetation conditions. Half (50%) of the households surveyed own 2 or 3 cows and 10% of households own sheep (about 7 or 8 sheep per household). Small numbers of horses, pigs and goats are kept. About 40% of households keep chickens (on average 26 chickens per household), whereas only 1% of households keep bees with an average of 8 hives per household.

Land tenure

The CSG2 site is approximately 40ha in area and has a complex mosaic of land ownership[7] and land usage, combining communally owned private land (community of Avranlo), municipal land, and State land.

The CSG2 site is officially categorised as pastureland, but can be used for other purposes such as hay production. Cattle (with two herds of about 50–70 in number) are the predominant grazers on the site and appear to favour a daily cycle of grazing: in the early part of the day on the east slopes of the site (in the south-east corner of the site there is a 'wet' area used by the cattle for drinking); later moving to the south and north-west then back again. The grazing is seasonal as winter snows prevent access to the site and the surrounding area.

It is understood that the cattle are owned by residents of Avranlo. Also, cattle move through the forest and both cattle and sheep graze daily to the south of the forest strip. Some of these cattle may belong to residents of other PACs, but it is considered more likely that they belong to Avranlo residents. Sheep graze less often on the site (approximately twice a week), but also move from east to west/north-west when present. The ownership of the sheep is not clear as sheep grazing tends to be undertaken within a more informal and less regulated system than cattle grazing. Sheep may be from local nearby PACs, or may be herds from outside the Tsalka municipality (for example from Gardabani or Marneuli areas) temporarily grazing in the CSG2 area.

Hay harvesting does not appear to occur on the site itself. Instead the grass is used for grazing, but there are signs that it may have occurred in the recent past. However, hay is harvested from the slopes immediately north of the site. No crops are grown on the land to the north of the site, between the site boundary and the Ktsia River.

Conifer plantations were established in the 1950s on the hills slopes around the site. There is little evidence of active woodland management.

The forest strip to the immediate south of the site is sometimes used for hunting. Local people tend to hunt for food, but there is also some recreational hunting. Collecting wood for use as fuel may occur, but there are few fallen branches left to the collected. Felling of trees for timber is illegal, but it may occur occasionally. It is understood that most fuel wood is purchased and not collected.

Fishing occurs just downstream of the site, at the point where the Ktsia River enters a narrow, step-sided valley/ravine (downstream of Rekha) and, also, farther downstream of the site. Fishing is seasonal and is done for both domestic consumption and sale and for

[7] Land ownership and use data were obtained from the official public registry office(s) and where the land is not registered a BP contractor undertook a survey and made cadastral sketches according to regulated procedures.

recreational purposes. It is not only PAC residents who fish in the Ktsia River; people from a range of settlements come to this stretch of the river to fish.

PRMS

Land use

Approximately 78% of households own land plots. Almost no one rents land. Unlike the situation at the CSG2 PACs, almost 20% of respondents state that land is too expensive to buy or rent, and about 5% state that access to land is difficult.

Approximately 22% own plots that are not used. The mean area of such plots is approximately 3.4ha per household, suggesting considerably more land is available for potential agricultural use compared to the CSG2 situation. The smallest plots are domestic 'gardens'. A total 16.5% of households own vineyards/orchard plots. The mean size of these plots is almost 0.25ha. Most households (approximately 68%) own plots used for crop production and the mean size of these plots is approximately 0.40ha. About 5% of households own plots for hay production or grazing and these are about 0.3ha in area (see Figure 8-27 and Table 8-6).

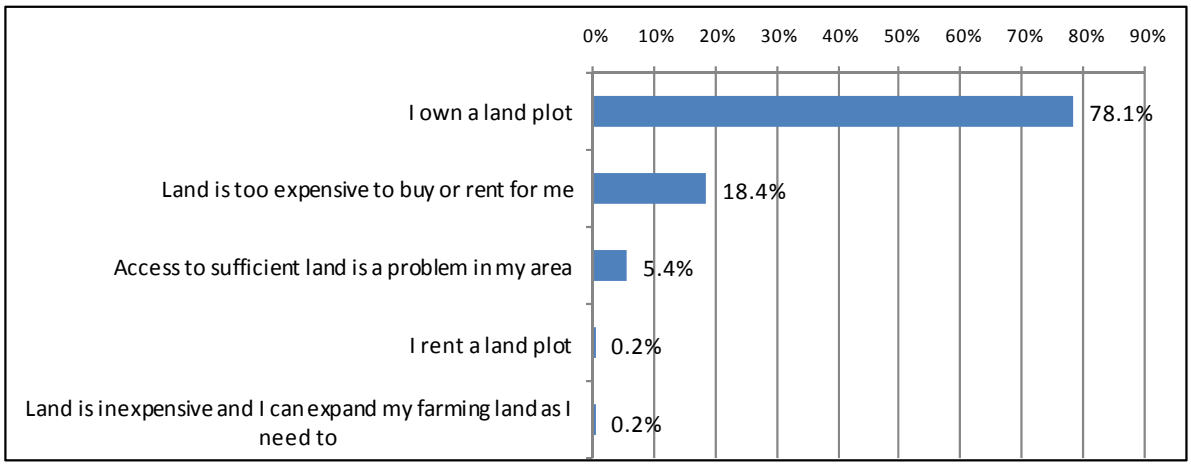

Figure 8-27: PRMS Land Ownership

Table 8-6: PRMS Land Ownership, Land Uses and Mean Plot Size

Type of Land/Use	Ownership	Mean Area (m^2)
Living area (house and yard/garden)	100.0%	385
Own, but do not use	21.6%	34126
Arable land for crops	68.0%	4071
Vineyard, fruit garden, orchard	16.5%	2449
Grassland/hay lands	5.0%	2823

Although domestic animals are an important feature of the rural economy, fewer households keep animals than in the CSG2 PACs. Poultry and cattle breeding are most popular with about 40% of households owning on average 12 birds and about the same proportion of households owning on average 2 cows. The contribution of vineyards, fruit gardens and orchards to the local economy is significantly greater and the role of domestic animals significantly less than at the CSG2 PACs. Crop production seems to be about equal for both sets of PACs. No bees appear to be kept.

Land tenure

Most of the land at the PRMS site is state land. There is also a block of BTC-owned land and a number of privately owned plots. These plots are owned mostly by residents of Naokhrebi with a few plots owned by residents of Arali.

Most of the land is in agricultural use as there are only five plots that are classed as non-agricultural land. Both grazing and crop production occurs within the proposed site boundaries.

Immediately outside the proposed site boundaries, there are a number of large areas of agricultural plots, except that no plots are located to the north-east of the site.

8.5.5 Land Use and Land Tenure Sensitivities

The following summarises the components of the baseline conditions that, in the project context, are considered to be the most important based on the anticipated impacts of the project development:

- Private plots are an important resource for inhabitants of rural project-affected communities as many inhabitants engage in some degree of agriculture (almost 100% in some communities) and the products obtained from agriculture make an important contribution to livelihoods (food for own use and sale of surplus).
- State land is primarily used for grazing and is an important 'communal' resource
- Permanently occupied land (construction and operations phase):
    - Loss of annual and perennial crops (CSG1 and PRMS)
    - Loss of use of pasture land (pigging station, CSG2, CSG2 access road and PRMS)
- Temporarily occupied land (construction phase only):
    - Loss of annual and perennial crops (pipeline corridor, temporary facilities associated to pipeline and AGIs)
    - Loss of use of pasture land (temporary facilities associated to CSG2)
- Restrictions to movement of livestock.

8.6 Economy, Employment, Livelihoods and Skills

This section of the report focuses on PAC employment, skills profiles, household livelihoods, incomes and expenditure patterns. It considers both agricultural and non-agricultural sectors and their relative contribution to the prevailing PAC socio-economic conditions.

8.6.1 Information from Desktop Literature Survey

The key sources of secondary data for the national and regional levels are:

- Reports issued by multilateral organisations (e. g. World Bank, 2009)
- Official government statistics from the National Statistics Office of Georgia (Geostat)
- The BTC RAP Completion Audit presenting the results a 2008 household survey that includes a number of SCPX PACs).

The information presented at PAC level comes primarily from the PAC-level and household-level surveys carried out in September and October 2011.

National-level economic context

Georgia is a small, strategically located country in the Caucasus. It has diverse terrain and abundant natural resources, such as water and mineral deposits. Georgia is ranked by the UN as a lower-middle-income country[8].

The Soviet Socialist Republic of Georgia was one of the most prosperous areas of the former Soviet Union. The political turmoil after independence had a catastrophic effect on Georgia's economy. The cumulative decline in real gross domestic product (GDP) is estimated at over 70% between 1990 and 1994, and by the end of 1996, the country's economy had shrunk to around one-third of its size in 1989.

The new government, installed after the Rose Revolution of 2003, initiated significant reforms to re-orient the economy toward privatisation, free markets and reduced regulation, while combating corruption and stabilising both the economy and the budget.

Security overview

The Russian–Georgian conflict in August 2008 led to the displacement of approximately 158,000 people. Russian troops remain stationed in Abkhazia and other areas such as South Ossetia. Since the end of hostilities, security in areas that directly border the South Ossetian conflict zone (Kaspi, Gori, Kareli, Khashuri and Sachkhere municipalities) has stabilised, but there are still security concerns and a latent potential for localised expressions, of the underlying conflict, to occur.

National economy

One of the recent notable successes of the Georgian economy has been the strong growth in GDP over most of the past decade, apart from the years 2008–9, when the war with the Russian Federation, and its aftermath, led to negative GDP growth in 2009. However, GDP growth recovered substantially in 2010, to 6.3% and then continued, albeit at a slightly lower rate. At the end of Q2 of 2011 it was estimated to be approximately 5% (with the average for Q3 being 7.4%) despite the global economic 'crisis'. GDP per capita has followed the GDP trend closely being estimated at $4,700 up from $2,700 in 2005, following negative growth in 2009 (Geostat website: http://www.geostat.ge/index.php?action=0&lang=eng).

Key sectoral contributions to GDP, from two different reference sources are listed in Table 8-7. Although the figures for each sector differ, the relative contributions are in relatively close agreement.

Table 8-7: Key Sectoral Contributions to GDP, 2010

Sector	% GDP Contribution (World Bank)	% GDP Contribution (Geostat)
Agriculture	9.81	7.3 (provisional)
Industry	20.97	14.7
Services	69.21	78

Sources: World Bank, 2010 and National Statistics Office of Georgia (Geostat), 2011

The number of workers per sector (shown below), however, does not reflect the relative GDP contributions:

- Agriculture 55.6%
- Industry 8.9%

[8] See World Bank: http://data.worldbank.org/about/country-classifications/country-and-lending-groups#Lower_middle_income

- Services 35.5% (all 2006 estimates, but unlikely to have changed dramatically since 2006 given the degree of structural changes that have occurred in the wider economy).

It can be seen that employment in agriculture accounts for the largest number of workers, but contributes the least to GDP. One of the reasons has been the decline in agricultural production away from nationally and overseas markets toward self-sufficiency and subsistence farming with most production consumed domestically and not entering the market.

Inflation has been stubbornly high over the past five years with sharp increases and falls over relatively short time periods, due in part to the severe shocks experienced by the economy. In the period 2005–07 it rose steadily from 6.2% to 11% and then in the 2008–09 'conflict' years reduced to 3% in 2009. In 2010 there was a re-bound and it reached 11.2%. By end of November 2011 the rate appears to have reduced significantly and the consumer price index (CPI) was 1.9% (year-on-year).

The recent high levels of inflation have caused significant problems to those on relatively fixed incomes (with little opportunity to increase them) such as pensioners, those dependent on remittances from abroad and those on low wages. Essentially their incomes have not kept pace with inflation resulting in a continuing erosion of their purchasing power and standard of living/quality of life. Rural residents in the main have been disproportionately affected by inflation, despite the 'insulation' buffer provided by high levels of agricultural self-sufficiency.

Table 8-8 provides a summary of selected indicators for the period 2000–2009.

Table 8-8: Selected Economic Indicators, 2000–2009

	2000	2003	2004	2005	2006	2007	2008	2009*
GDP at constant 2003 prices, million GEL	7584.1	8531.0	9065.9	9935.6	10868	12208.8	12491.4	11999.5
% change (Annual)	-	11.1%	5.9%	9.6%	9.4%	12.3%	2.3%	-4.9%
Real Agricultural GDP, million GEL	1170	1377.3	1269	1421.5	1255.2	1365.7	-	-
% Change (Annual)	-	10.3%	-7.9%	12.0%	-11.7%	8.8%	-	-
CPI All items	104.6	107	107.5	106.2	108.8	111	105.5	103

*Sources: RAP Completion Audit (2010) based on Statistical Yearbook, Georgia (2005, 2007, 2009) and World Bank (2009) Georgia Poverty Assessment, 2009

8.6.2 Data Gaps and Field Survey Methods

The information presented in the literature is out of date and needed to be confirmed and updated, particularly with regard to current local conditions in the SCPX PACs.

8.6.3 *Baseline Conditions*

National, regional and municipality level

Employment and livelihoods

Table 8-9 presents key employment indicators for 2000–2009. The overall unemployment rate has risen steadily during 2000 to 2009 and then declined in 2010. Unemployment is different in rural and urban areas, with urban areas experiencing significantly higher rates than rural areas, where many individuals in the economically active population are self-employed in agriculture and are not in a waged job. Many such people consider themselves unemployed.

Table 8-9: Selected Employment Indicators, 2000–2009 (%s) (n/a = not available)

	2000	2003	2004	2005	2006	2007	2008	2009	2010
Unemployment rate - all (percent)	10.3	11.5	12.6	13.8	13.6	13.3	16.5	16.9	16.3
Unemployment rate - urban (percent)	18.4	22.1	24.3	26.3	26.1	23.9	28.9	28.8	n/a
Unemployment rate - rural (percent)	3.9	4.1	4.2	5.0	4.8	5.4	7.1	7.8	n/a

Sources: RAP Completion Audit (2010) based on Statistical Yearbook, Georgia (2005, 2007, 2009) and World Bank (2009) Georgia Poverty Assessment, 2009 and Geostat website 2011

Official statistics show unemployment rising from 12.6% in 2004 to 16.3% in 2010 (Geostat, 2011). However, the number of people who classify themselves as 'unemployed' is usually closer to 30%. One of the main reasons for this discrepancy lies in the fact that official statistics (and internationally accepted definitions used to collate and analyse statistics) consider subsistence agriculture as 'employment', but many people who work in such agriculture do not. Also, the official unemployment rate of ~16% conceals much under-employment (United Nations et al., 2008). Many people who are self-employed in agriculture could do other income-generating work, but cannot find it.

While unemployment increased from 2004 to 2010, the size of the economically active population declined from 2,041,000 to 1,944,900. The number of employed people also declined. Unemployment affects the young, disproportionately, with possibly ~30 to 35% of people aged 15–24 being unemployed. In general, women experience higher levels of unemployment than men (2008 figures, CIA, 2011).

Gender

No data on gender issues in Georgia more recent than 2007 could be found. In 2007, more men (63.0%) than women (48%) were employed and women earned significantly less than men (on average about 40% less). This is still considered likely to be the case, but the gap is reducing. In 2005, a woman earned about 50% of a man's earnings. The gap is less in certain sectors, such as education and real estate. In the agriculture, hunting and forestry sector, women now earn slightly more than men (see Table 8-10). Women working in this sector overtook men between 2008 and 2010. There was a fall in the average earnings of men in this period, while the earnings of women continued to rise. It is too early to say if this is the beginning of a trend or a temporary phenomenon.

Women appear to have more difficulty finding employment. They earn less and have to absorb reductions in access to social services such as childcare through their unpaid labour. In economic terms, gender inequality is considerably greater in rural areas and in small

towns than in urban areas. Elderly women are increasingly likely to live alone. They generally outlive men. Sumbadze (2008) estimates that such elderly women constitute 1.5% of all households. Women outnumber men, both among applicants for the government-provided subsistence allowance (55.3% women and 44.7% men) and among those who received it (56.7% women and 43.3% men). In informal employment, women also outnumber men. Women employed in the informal sector as petty traders, housekeepers and nannies face considerable economic insecurity and are more vulnerable to 'falling' into poverty than men.

Table 8-10: Average Monthly Incomes for Men and Women in Selected Years, 2005-2010

Average monthly income (GEL)	2005			2007			2008			2010		
	Total	Breakdown		Total	Breakdown		Total	Breakdown		Total	Breakdown	
By sectors		Woman	Man		Woman	Man		Woman	Man		Woman	Man
Total	**204.2**	**131.1**	**267.9**	**368.1**	**240.2**	**475.6**	**534.9**	**367.7**	**678.4**	**597.6**	**426.6**	**742.8**
Agriculture, hunting, forestry	128.9	105.5	136.0	184.9	166.9	191.8	299.3	267.1	312.7	279.2	289.1	276.1
Fishing	93.0	67.4	96.9	168.8	102.8	177.1	211.1	175.8	217.5	341.4	171.0	363.2
Mining	210.8	148.7	224.5	657.7	727.6	645.0	808.9	795.1	811.4	812.3	559.9	849.4
Processing	212.1	147.7	243.5	357.7	246.4	411.0	510.5	354.1	585.6	510.6	373.2	577.2
Energy production and distribution	341.5	299.4	354.2	533.8	470.5	559.0	738.3	679.1	766.7	822.9	716.0	849.8
Construction	296.4	204.1	303.3	494.5	341.0	503.2	597.3	515.2	602.6	671.0	470.0	683.3
Sales	173.6	134.2	205.5	355.5	254.2	445.5	510.6	399.2	601.9	583.6	439.3	699.7
Hotels and restaurants	108.2	91.3	130.5	238.4	181.4	329.5	333.6	252.9	473.9	377.5	326.9	458.7
Transport and communication	265.7	197.9	288.9	492.3	407.5	519.5	667.7	531.7	711.2	787.6	556.4	859.4
Banking and finance	1049.2	1025.0	1077.2	1014.5	878.1	1190.4	1343.5	1195.1	1508.9	1276.7	1008.8	1668.2
Real estate	211.2	148.2	258.4	405.8	316.4	447.8	540.1	423.8	597.3	596.5	507.7	634.3
State government	342.0	259.5	374.4	585.4	467.0	622.2	869.5	701.1	918.2	973.0	855.5	1010.8
Education	92.5	87.3	109.5	153.0	142.1	191.4	243.7	232.4	286.3	305.1	288.5	367.6
Health care and social assistance	99.6	91.7	130.0	206.4	181.6	298.0	305.8	263.0	460.6	446.8	361.2	725.6
Community, social and personal services	113.4	94.3	140.3	260.6	207.3	324.5	408.7	338.1	482.7	460.1	392.3	529.8

Source: National Statistics Office of Georgia, 2011

Incomes and poverty

In the past 6 years, average monthly household incomes have risen from 320.4 GEL in 2004 to 651.2 GEL in 2010. Average individual monthly incomes have also increased in similar way as follows: 84.7 GEL in 2004 to 178.6 GEL in 2010. There are significant differences between household incomes in urban and rural areas (see Table 8-11) and between regions.

Table 8-11: Distribution of Average Monthly Incomes in GEL per HH by Urban and Rural Areas, 2006–2010

Location of HHs	Year		
	2006	2008	2010
Urban	386.4	603.4	733.8
Rural	384.2	477	568.1

Source: Geostat

Urban and rural incomes have increased over the period 2006–10, but urban incomes have increased faster. At the same time rural incomes have declined significantly in relation to urban incomes, from almost parity (1:1) in 2006 to 0.77:1 in 2010. The rate of decline has slowed since 2008. Rural populations are considered to rely significantly more on non-cash

incomes, pensions and other social payments than urban dwellers do. Rural household cash income does not take self-consumed production or subsistence production into account. The World Bank's *Georgia Poverty Assessment* (2009) estimated that rural self-consumed production amounted to 32.4% of total disposable income for rural households. Urban populations have significantly higher income contributions from remittances from abroad than do rural dwellers although the differential narrowed from a ratio of 3:1 to 2:1 (urban: rural) over the 2006–10 period. This probably reflects increased out-migration from rural areas in recent years.

The World Bank's (2009) *Georgian Poverty Assessment, 2009* concluded that most of the increase in rural incomes was due to increases in government social payments (pensions and targeted social assistance). Agricultural contributions to household income were largely static over this period.

Estimating poverty is difficult. Government figures showed that in 2003 54%, and in 2004 52%, of families were living in poverty. No comparable figures have been released since 2005. The National Statistics Office of Georgia and World Bank both report that there was a decline in the Georgian poverty headcount in 2003–2007, although inconsistencies in the way the two organisations collect data make direct comparison difficult. The National Statistics Office of Georgia estimates the decline in poverty headcount to be from about 24.6% in 2004 to 21.3% in 2007, although the August 2008 global financial crisis is likely to have reversed this trend.

The incidence of poverty amongst rural dwellers is much higher than in urban areas. The 2007 poverty headcount for Georgia's rural dwellers was 29.7% compared to 18.3% in urban areas. The extreme poverty headcount was 12.4% for rural areas and 6.7% for urban areas. The *Georgia Poverty Assessment, 2009* (World Bank, 2009) concludes that "*Poverty in Georgia continues to be deeply entrenched in rural areas... the main reasons for this are: (a) narrowly based economic growth that happened outside of agriculture; (b) agricultural employment, which accounts for 55 percent of total employment, continues to be mostly of a self-subsistence nature; and, (c) incomes in the agricultural sector were on aggregate stagnant during 2003-2007, and remain lower than average incomes in the economy*."

However, current government figures provide a different perspective in terms of absolute numbers in 'poverty'. However, they confirm a trend of increasing numbers in poverty. Geostat (2011) data show that the percentage of the population under the poverty threshold increased from 6.4% to 9.7% over 2006–2010. This percentage coincides with the percentage in receipt of the government's subsistence allowance paid when income is below the officially determined subsistence minimum. Qualifying for this allowance means that a person or household is deemed to fall below the poverty threshold. The subsistence minimum changes monthly. There is usually a small increase to take account of inflation. In September 2011, the subsistence minimum for a working age male was 155.6 GEL. In August 2011, the subsistence minimum for a five-member family was 309 GEL. Smaller households are generally poorer than larger ones.

The share of 'social payments' in terms of total monetary incomes increased from 6.8% in 2003 to 17.2% in 2007. The household survey results reported by RAP Completion Audit (2010) show that increased pensions and social allowances were identified by households as being a key factor in improving household incomes.

CSG1/pipeline loop PACs

Employment and livelihoods

About 10% of the population are considered pensioners. This percentage is significantly lower than in the mountain PACs in the vicinity of CSG2/access road and the PRMS areas. It is lower than the national average of 19%. This probably reflects the demographic profile of these PACs, particularly the urban PACs. Approximately 30% of respondents consider themselves unemployed. This figure is far higher than official figures, but consistent with

other findings from similar surveys. Compared to the mountain PACs, relatively low numbers of people are working in the agricultural sector (see 'sales employee – farm products' and 'farming' in Figure 8-28). However, it is likely that some of the hired employees (about 35% of respondents) will probably be working in agriculture. Finally, about 5% of respondents class themselves as self-employed.

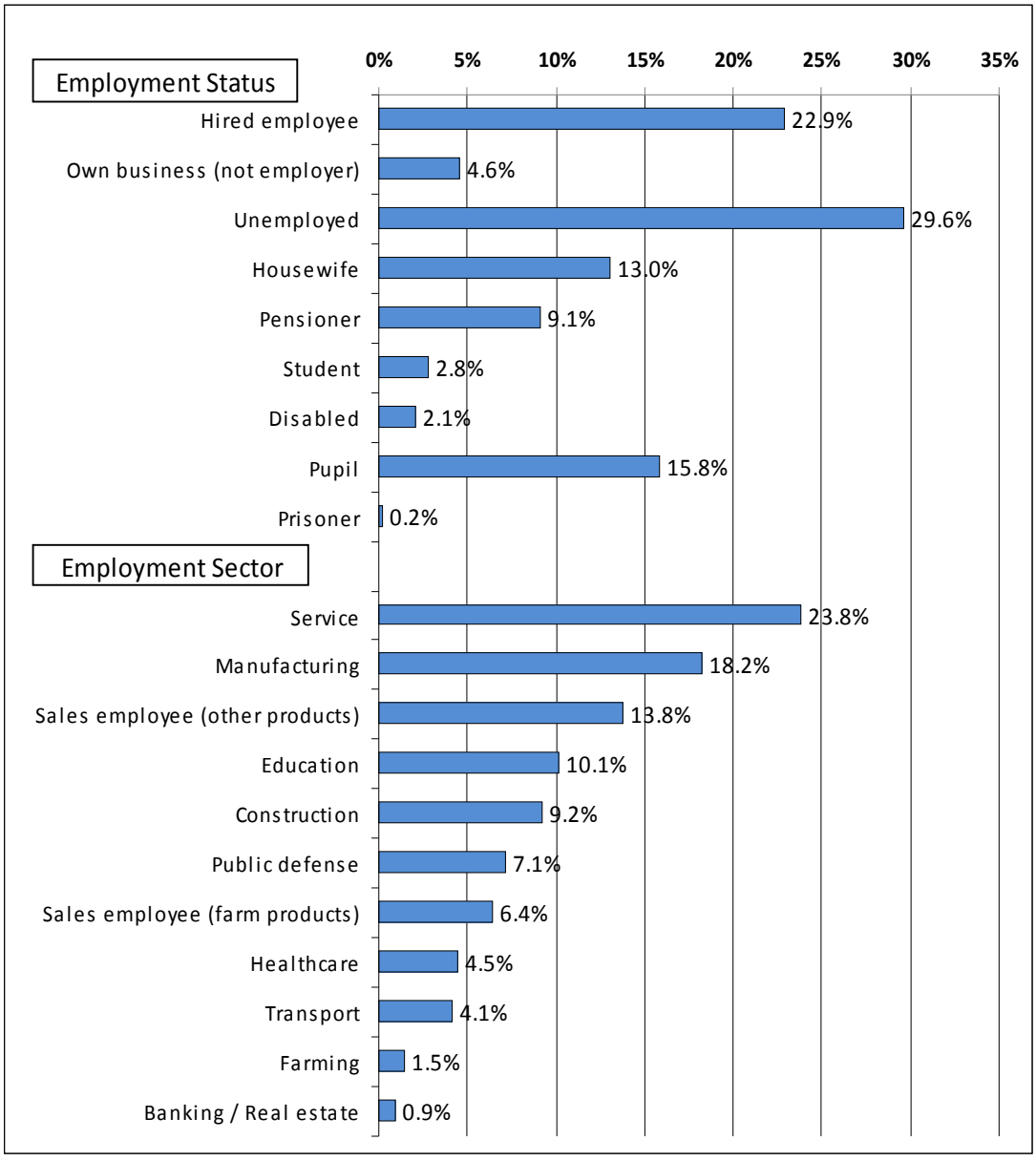

Figure 8-28: CSG1/Pipeline Loop Employment Status and Employment Sector

Of those in waged employment, the private sector employs significantly more people (about 75%) compared to the public sector (about 25%: made up primarily of people working in education, public defence and some in the health care sector). It is possible that some respondents working in the service sector are employed by the state, but they are likely to be in a minority. In the private sector, the service sector is the dominant employer (about 24%) followed by manufacturing (about 18%). The construction sector employs about 10%.

Unlike the situation in the mountain PACs, few people make use of forest resources (see Figure 8-29). Only 7.5% of households collect fuel wood, and hay production is practised by a very small number of households (0.5%).

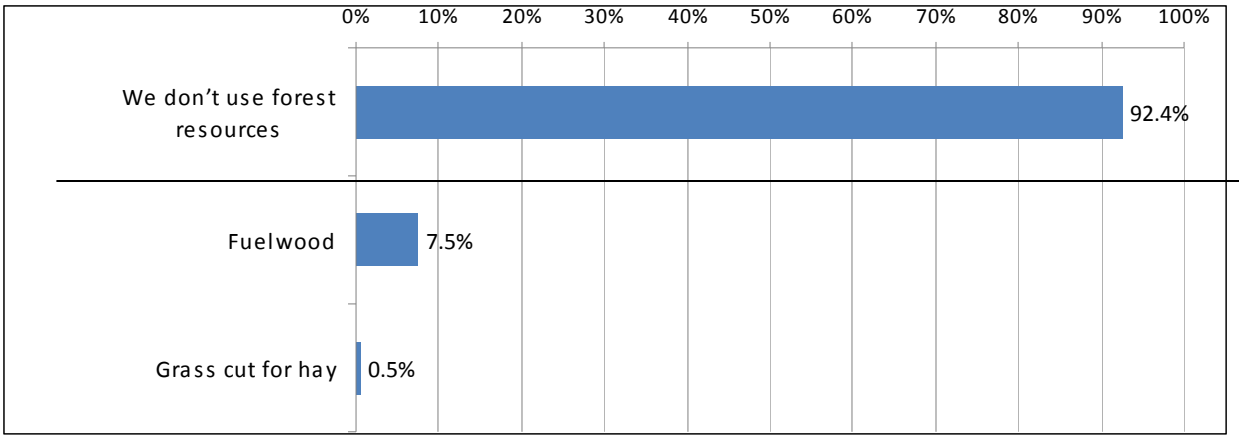

Figure 8-29: CSG1/Pipeline Loop Use of Forest Resources

Most people (about 82%) who consider themselves unemployed are actively seeking a job. About 30% are not interested in obtaining job vacancy information. 'Word of mouth' involving friends and relatives is the main means of obtaining information on job opportunities. About 20% of individuals use the internet, TV, radio and the written media (newspapers etc.) are used, but to a lesser extent (see Figure 8-30).

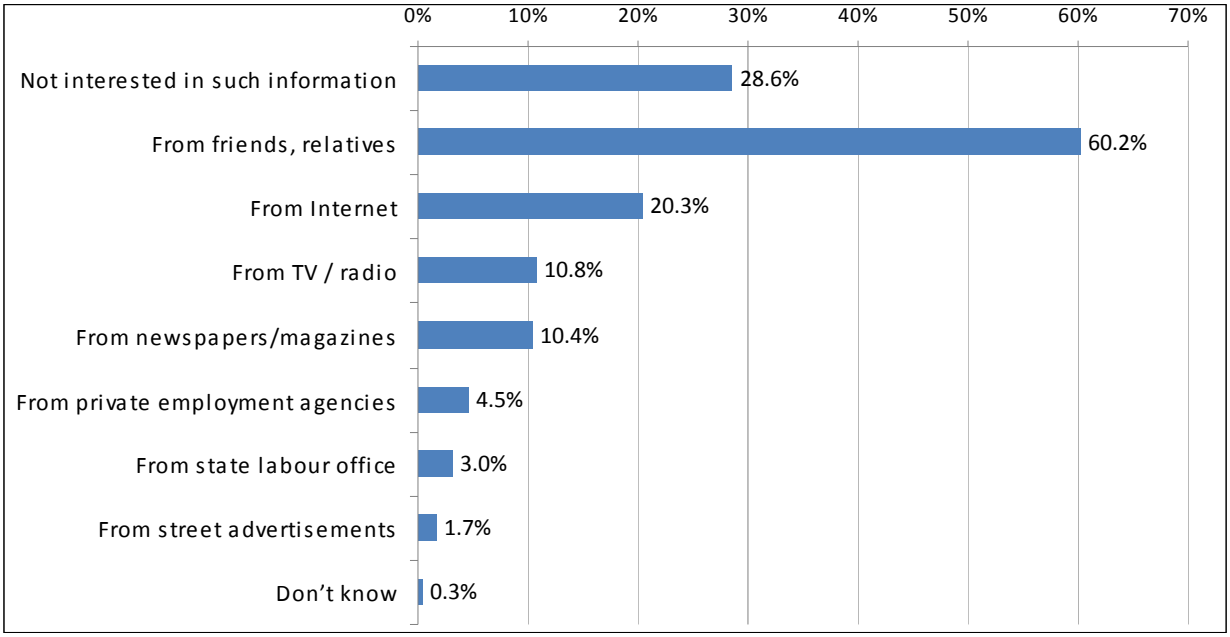

Figure 8-30: CSG1/Pipeline Loop Main Sources of Job Vacancy Information

The main problems facing those seeking a job are the lack of job vacancies and lack of access to key networks of employers so that job vacancy information is available early. Age and lack of experience and qualifications are also cited as barriers, but to a lesser extent, in terms of relative importance in hindering attempts to obtain a job (see Figure 8-31).

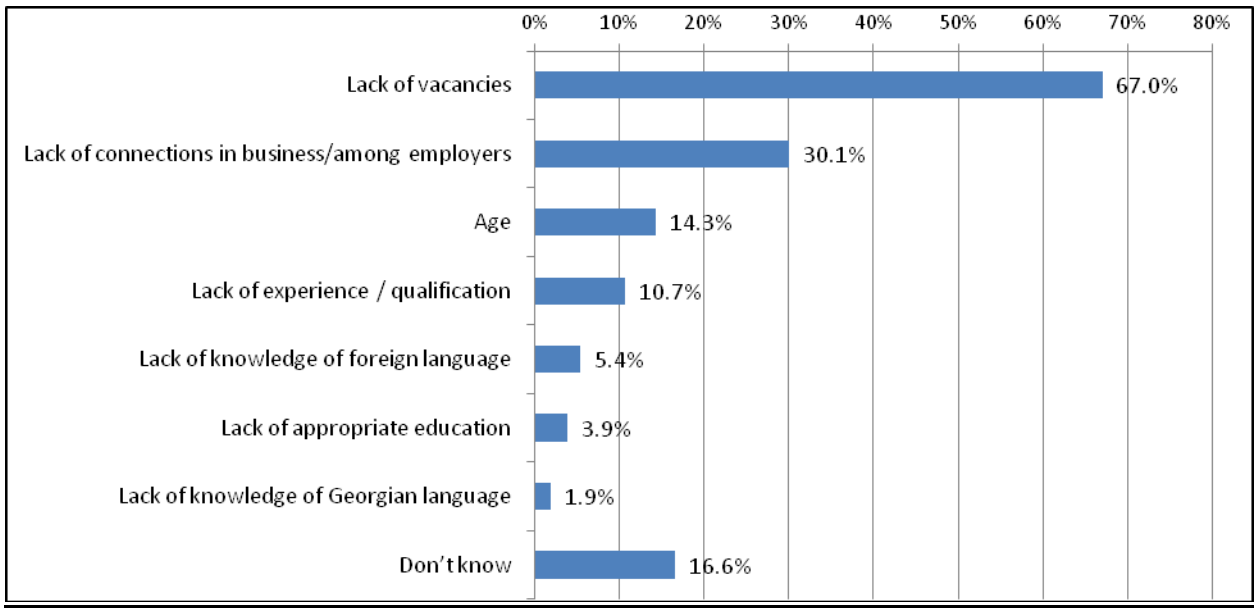

Figure 8-31: CSG1/Pipeline Main Problems in Obtaining a Job

Skills

In Rustavi and the towns such as Gardabani there are many individuals with a wide range of employable skills such as building trades, electrical installation, catering, administrative/secretarial work and book-keeping/accounts. In addition, the experience and qualifications of those with skills is higher and more varied than in the other CSG1/pipeline loop PACs and in the mountain PACs.

Income and expenditure

The main sources of income are wages/salaries from private and public sector entities (about 61% of respondents). However, pensions and other social allowances play an important role even in households in receipt of a wage/salary. A variety of other income sources including the sale of agricultural produce, intermittent non-agricultural earnings and trade play a minor role overall, but could be important in certain households and even at PAC level in small PACs (see Figure 8-32).

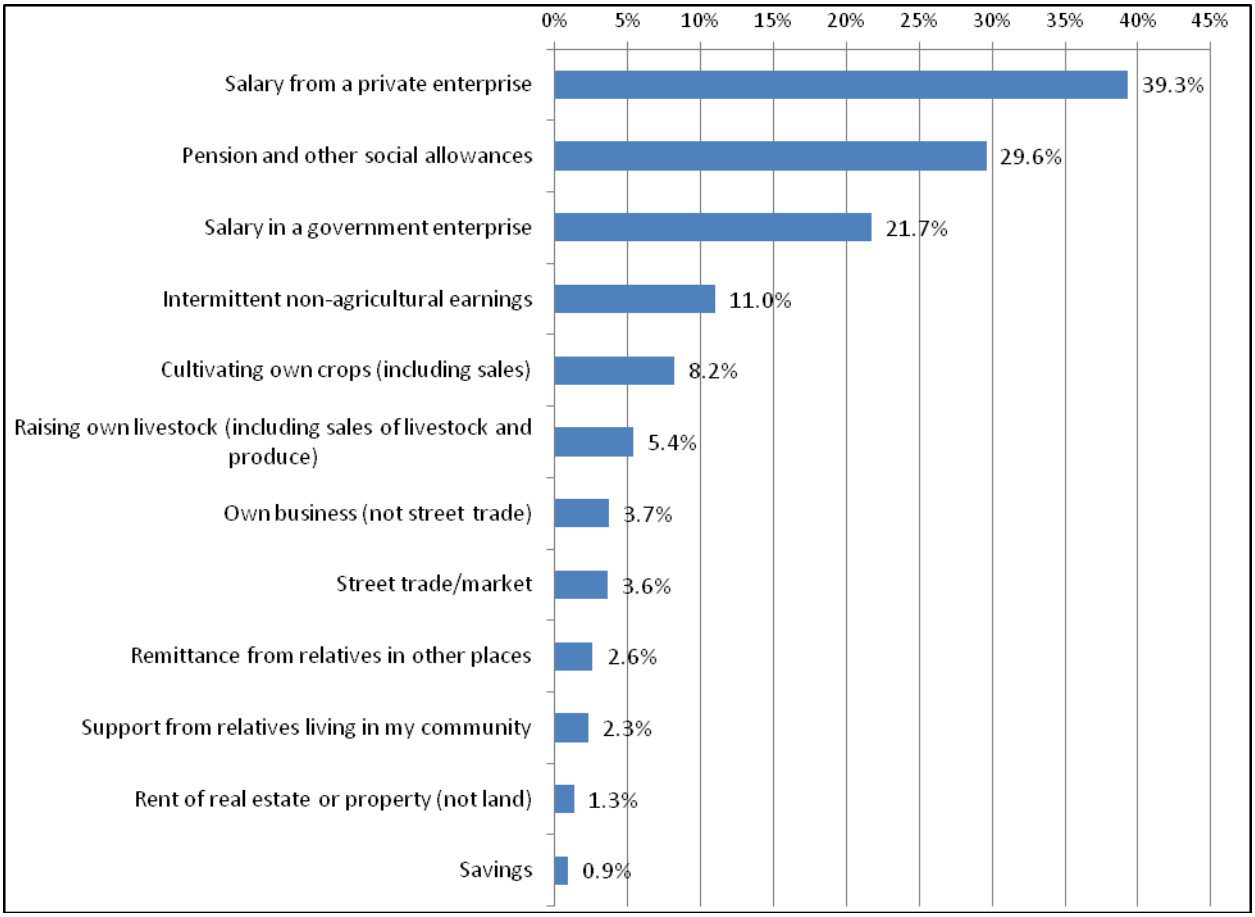

Figure 8-32: CSG1/Pipeline Loop Main Sources of HH Income

As the major income source for most households is a wage/salary or social allowance, income is stable and does not exhibit seasonality. Nevertheless, approximately 15% of respondents report that income increases in summer and autumn. These respondents are likely to be involved in agricultural activities (see Figure 8-33).

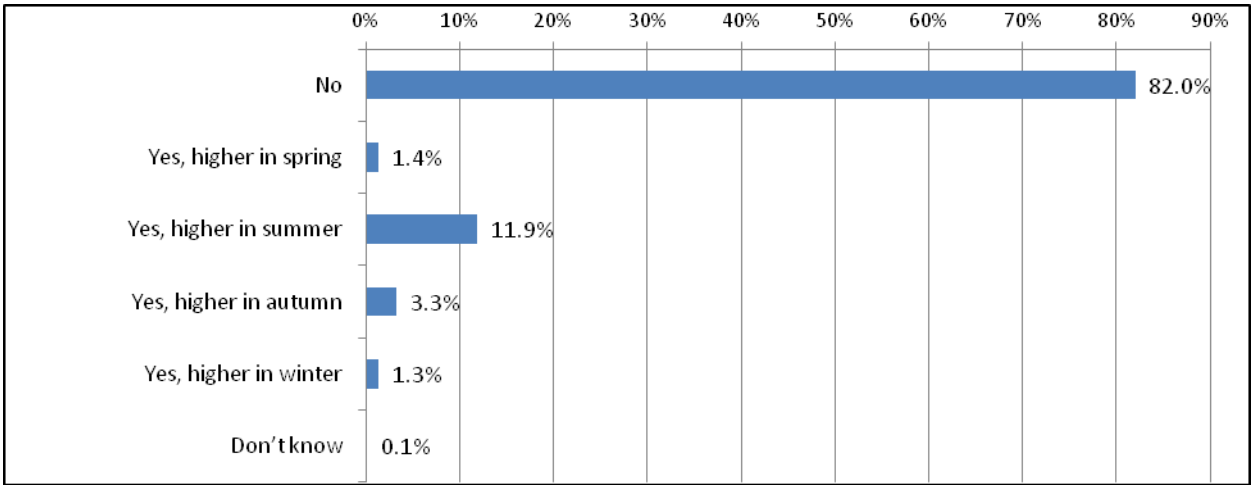

Figure 8-33: CSG1/Pipeline Loop Seasonality of Income

The average monthly household income is about 400 GEL. This is significantly more than the in the mountain PACs and reflects the diverse urban-based economy within which many PAC residents earn their living. Most respondents (about 59%) consider that their incomes have decreased over the past five years. Thirty per cent indicated no change in income and only 12% indicated an increase over this period (see Figure 8-34).

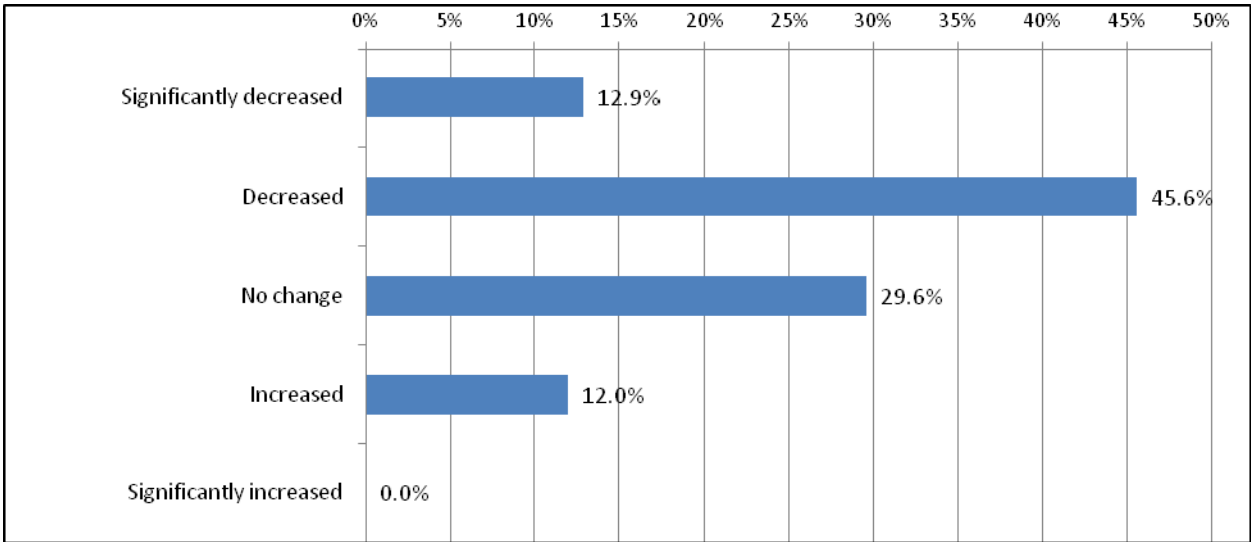

Figure 8-34: CSG1/Pipeline Loop Change of Income over the Last 5 Years

Approximately 64% of household income is spent monthly on food and drink, followed by expenditure on utilities and fuel (14%) and then medical treatment (8%) (see Figure 8-35).

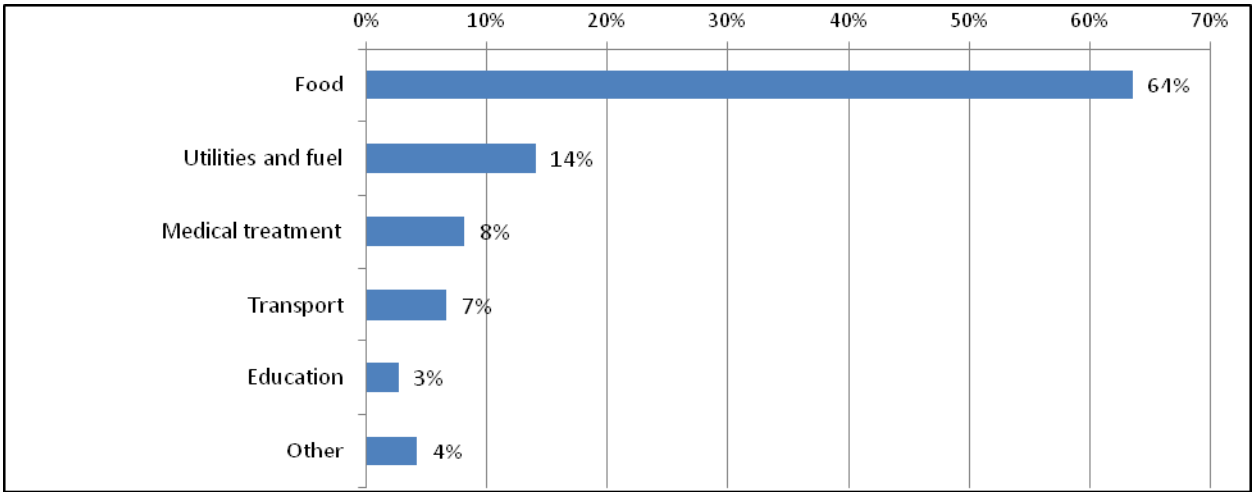

Figure 8-35: CSG1/Pipeline Loop Household Monthly Expenditure by Item

Almost half of households (47.2%) state that there is insufficient money to buy food and drink, and that they borrow money or obtain temporary help from relatives for this purpose. About 33% of households have enough money for food, but have difficulty in allocating sufficient funds to buy clothes. Purchase of expensive, durable, household goods (such as a TV or refrigerator) is not affordable for most households. Almost 19% of households can afford food and clothes, but even they have difficulty in buying expensive durable household goods, (see Table 8-12).

Table 8-12: CSG1/Pipeline Loop Statements about Household Financial Conditions

Which of the following statements best describes your household's financial conditions?	
There is not enough money even for food, we have to go into debt or get help from relatives or friends	47.2%
There is enough money for food, but we have difficulty with buying clothes	32.9%
There is enough money for food and clothes, but purchasing expensive durable goods such as a TV or refrigerator, are a problem	18.7%
We can buy durable goods from time to time, but purchasing more expensive things, such as an automobile, home, or a trip abroad, are beyond our means	0.7%
Refusal to answer	0.5%

About 1 in every 10 households is not able to pay utility bills on time, but usually there is only a small delay before payment is made (see Figure 8-36).

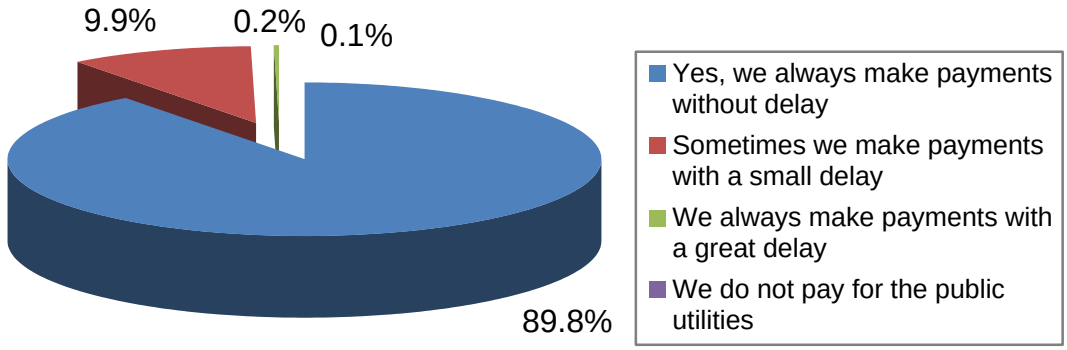

Figure 8-36: CSG1/Pipeline Loop Household Payment Timing for Utility Bills

Every third household (31%) has a loan with average value of 3600 GEL. Credit is used mainly for household needs: purchases of appliances, house repairs, to pay for utilities and other publicly provided services (for example, education) and to buy a car. However, 16% of loans are aimed at expanding or improving agricultural production (see Table 8-13).

Table 8-13: CSG1/Pipeline Loop Loans Data

Loan	Data
Outstanding loans that household owes	31%
Average value of the loan	3600 GEL
Consumer loan – home appliances/furniture/utility provision/home repair	51.8%
Business loan – agricultural activities: hire vehicles and workers/connect to irrigation system/expand greenhouse/buy pesticides/buy cattle	16.4%
Medical treatment	9.5%
Auto loan	8.2%
Education loan	3.8%
Mortgage loan	3.1%
Don't know	7.1%

Significant numbers of respondents are dissatisfied with the level of their household incomes (86.3%) and with employment levels. Health care is also a significant issue of

concern. To some extent these concerns mirror those of the mountain PACs, with reference to incomes and health care, but there is less concern overall about utility provision of services and roads (see Figure 8-37).

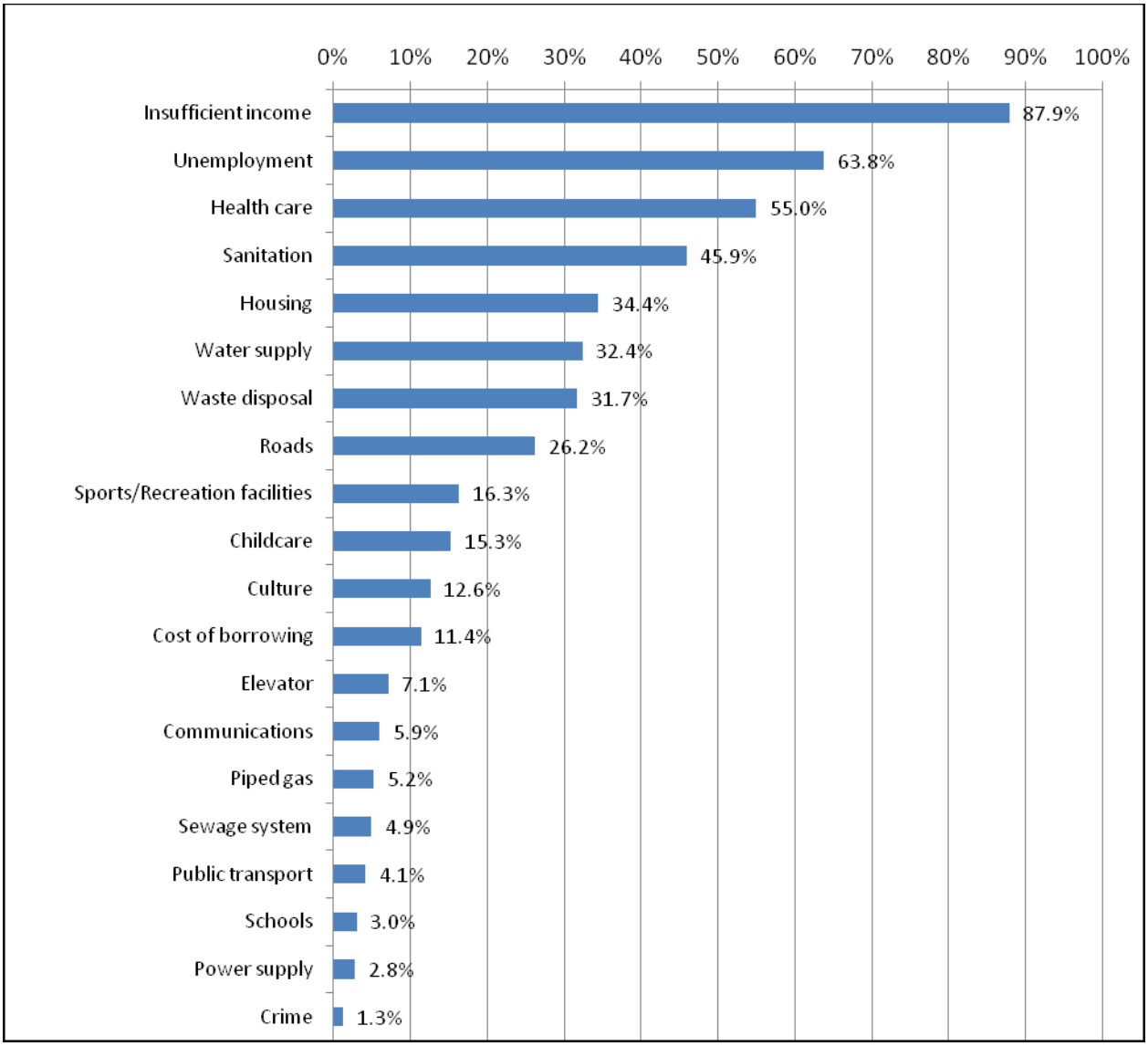

Figure 8-37: CSG1/Pipeline Loop Five Most Important Household Issues

CSG2/access road PACs

Employment/livelihoods

Just under 28% of the PAC residents stated that they were pensioners. This is about 4% higher than the numbers aged 65+ (see Section8.3) and both the 28% and 24% figures are significantly higher than the national figure of approximately 19%. The reason for the 4% discrepancy is not known, but may relate to different types of pensions and misunderstanding about links between age and pensions, and/or the nature of certain social payments to the elderly. The higher the proportion of PAC populations receiving a pension (and other social allowances), and/or aged 65 or more, the lower is the average income of these PACs.

Respondents' responses indicate that almost 22% of the local population is unemployed. This figure is higher than official figures, but consistent with other findings from similar surveys. The high unemployment figure is considered likely to be due to the reasons provided above regarding how unemployment is defined, perceived and counted (see sub-section on 'Employment and Livelihoods' in Section 8.6.3 above).

Only 5.5% consider themselves hired employees and just over 4% to have their own business. Examination of the sectors in which people work shows that the agricultural sector predominates over other sectors at almost 50% (combination of 'sales - farm products' and 'farming'). About 10% are involved in the transport sector. The public and private sectors employ almost the same numbers of people (about 23%) of those who consider themselves to be in hired employment (see Figure 8-38).

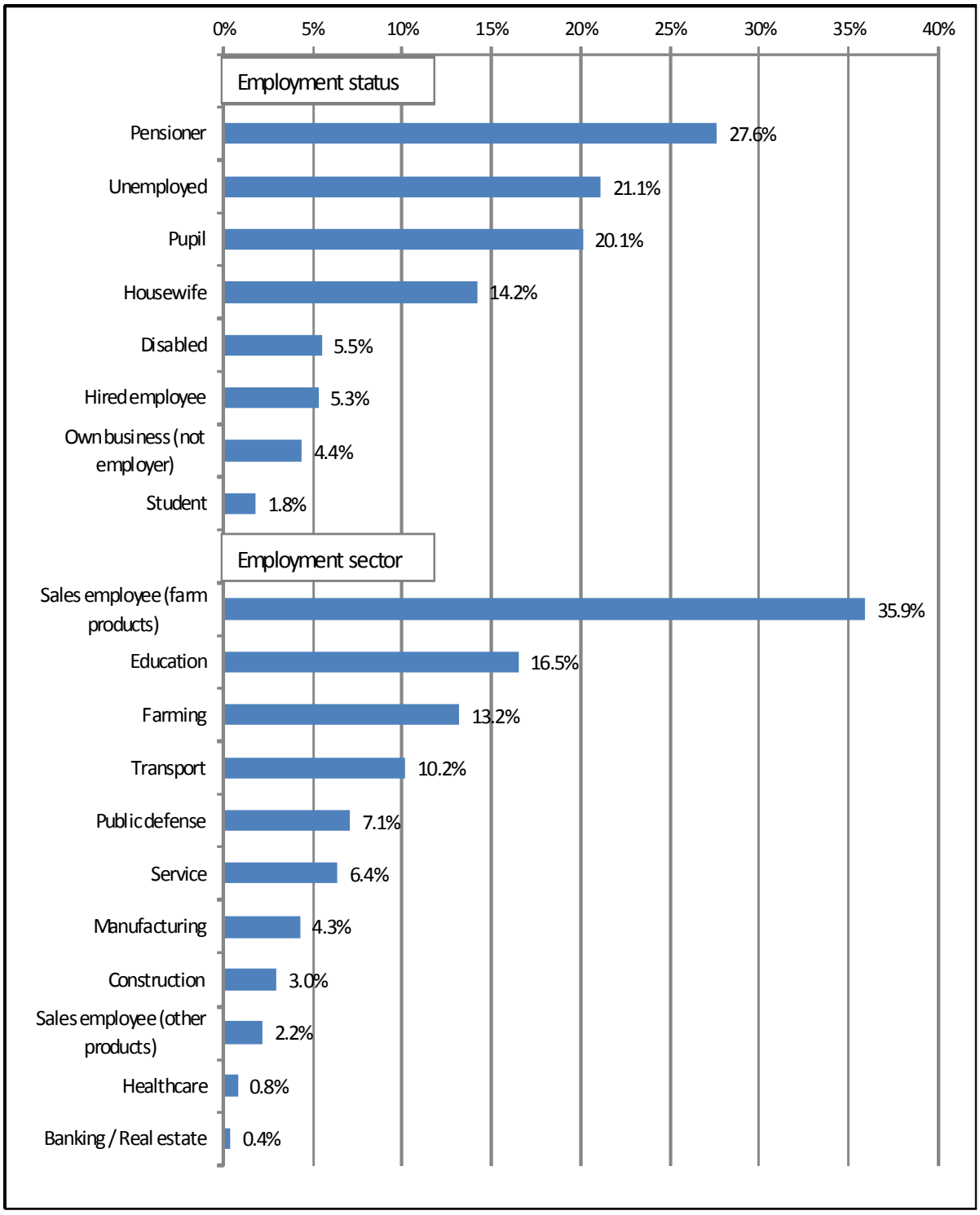

Figure 8-38: CSG2/Access Road Employment Status and Sector of Employment

Although the livelihood of many households is derived from agriculture, pensions and other social payments, and waged labour, the use of natural resources such as nearby forests plays an important supporting role for a significant proportion of households. Although most households do not use forest resources, about 25% report collecting wood for fuel with

small numbers also obtaining wood for construction and using forest areas for hay production (see Figure 8-39). Some also hunt in forests.

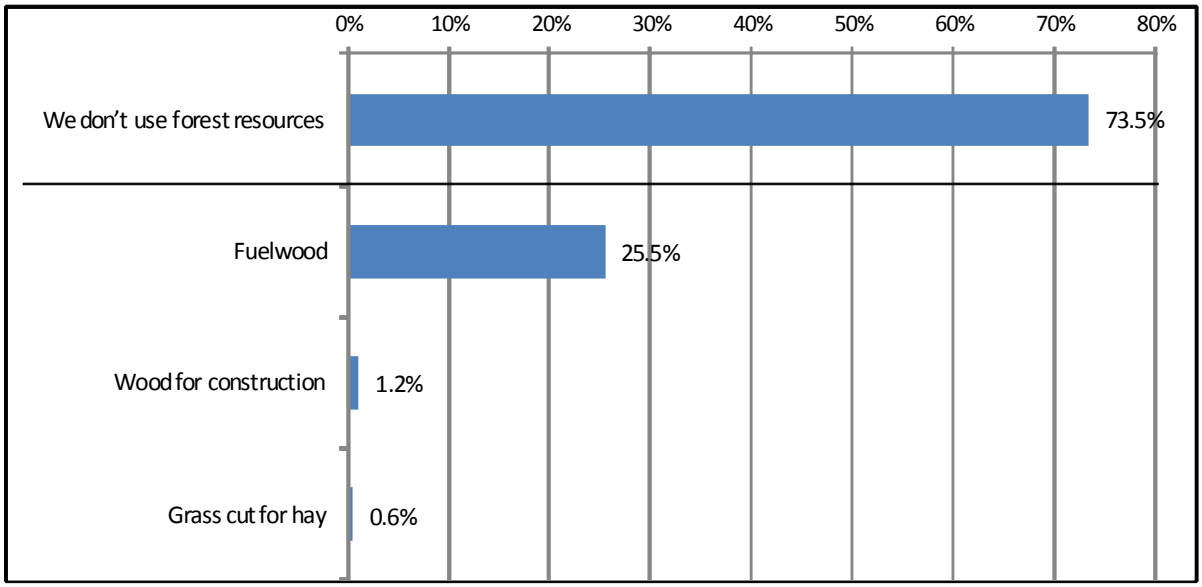

Figure 8-39: CSG2/Access Road Forest Resources Use

Two-thirds (66.6%) of the unemployed are jobseekers. The most common sources of information on job opportunities are friends and relatives. The state labour office and media are not used frequently. A high proportion of all respondents stated that they had no interest in obtaining job vacancy information (63%) (see Figure 8-40).

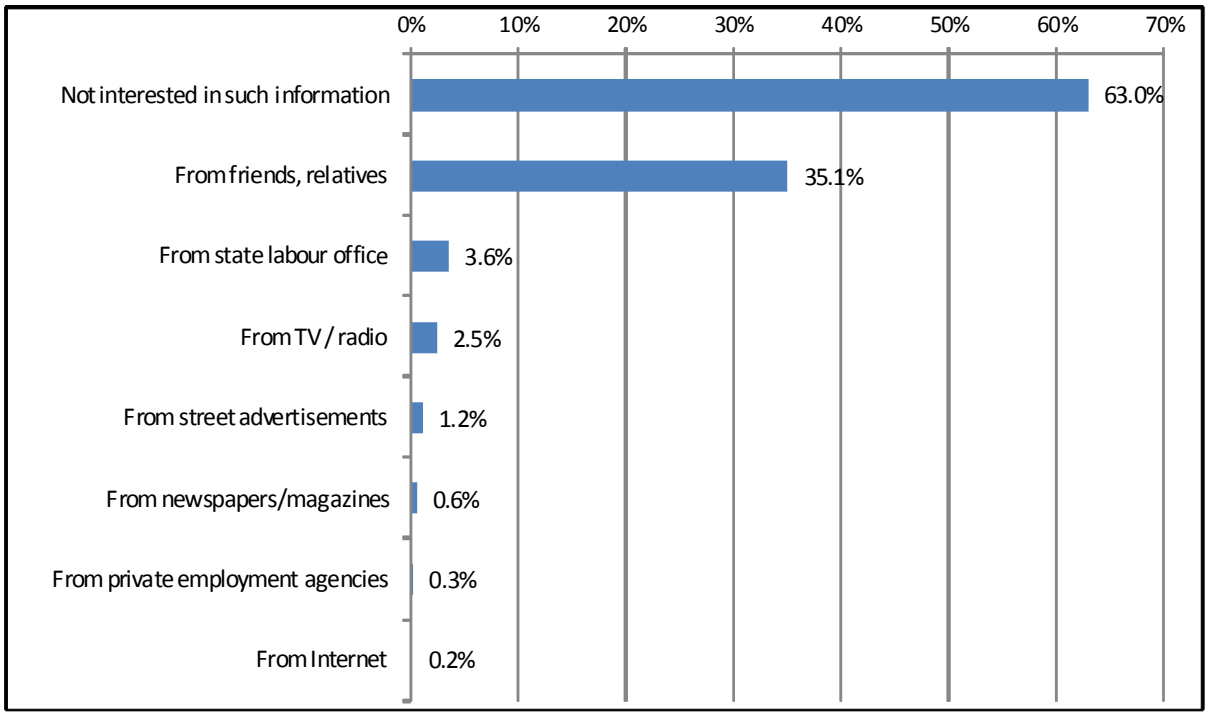

Figure 8-40: CSG2/Access Road Main Sources of Job Vacancy Information

The main problems facing those seeking a job are the lack of job vacancies and lack of access to key networks of employers so that job vacancy information is available to job seekers early. A linguistic barrier, for non-native Georgian speakers and for those unable to speak a "foreign" language was cited by 2.6% and 1.3% of respondents respectively. Lack of job experience, qualifications and age are also cited as barriers, but to a limited extent. A significant proportion of respondents were unable to identify the main problems in searching for a job (see Figure 8-41).

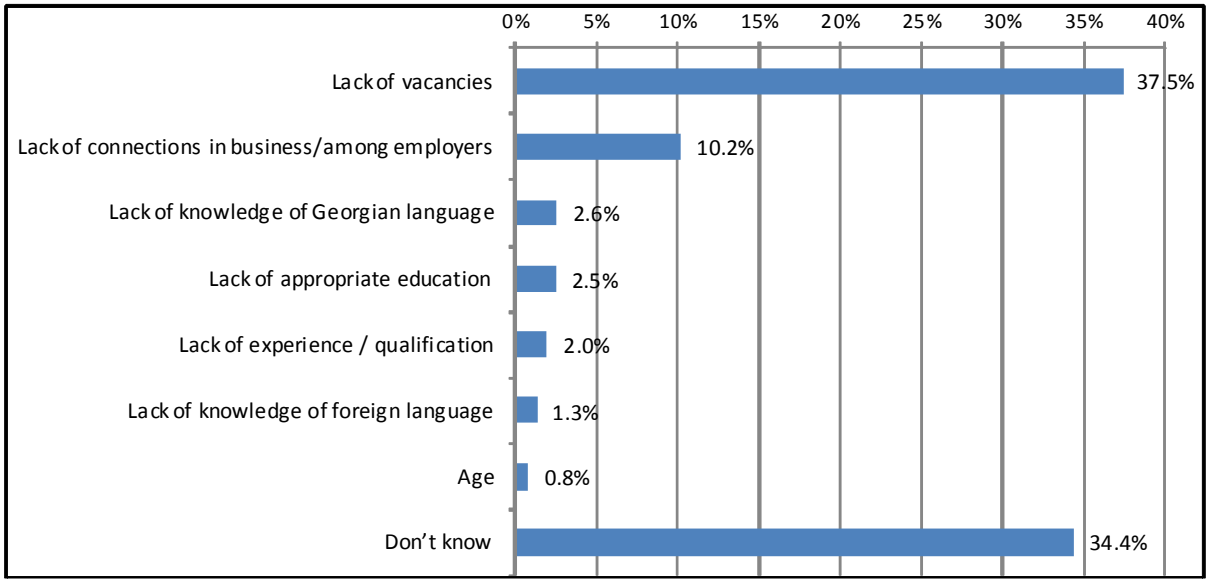

Figure 8-41: CSG2/Access Road Main Problems in Searching for a Job

Skills

Driving is the main employable skill available in these PACs. Most individuals with this skill are able to drive cars, light goods vehicles and passenger vehicles (such as mini-buses); and some able to drive heavy goods vehicles. Fewer individuals have the skills to operate earth-moving machinery.

The next main employable skill relates to building trades followed by varying numbers of individuals (very low numbers in some PACs) with specialist skills in electrical installation, joinery and plumbing. Individuals with skills in office work (administration and book-keeping) are not common.

Incomes and expenditures

The average monthly household income is about 160 GEL. Most respondents (about 62%) consider that their incomes decreased over the past 5 years with 32% indicating no change and only just over 5% indicating an increase over this period (see Figure 8-42).

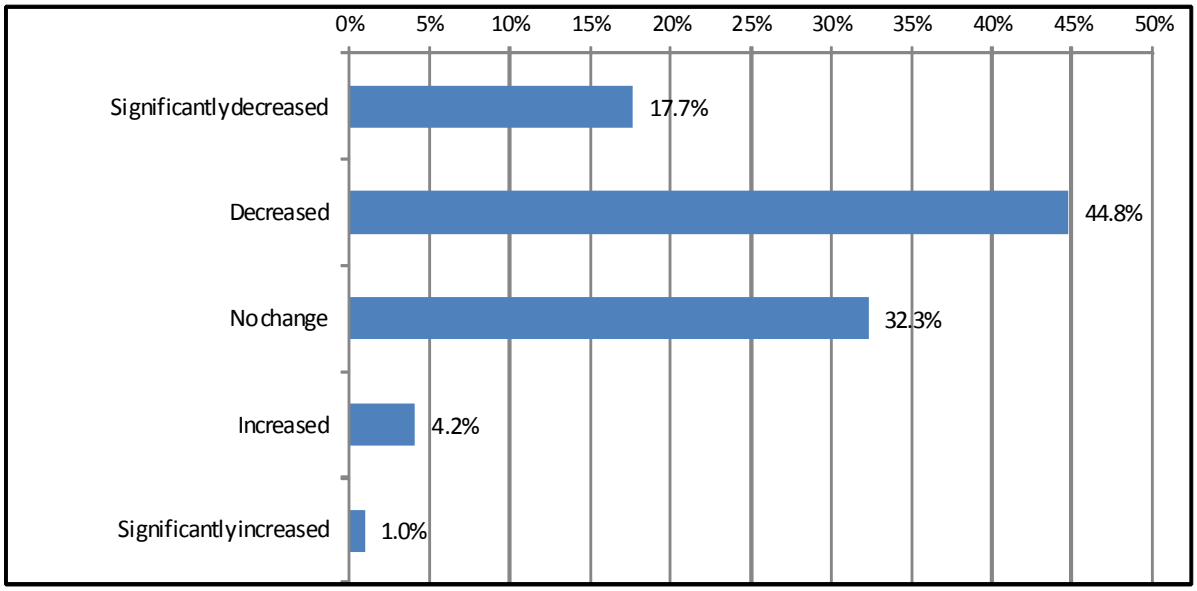

Figure 8-42: CSG2/Access Road Change of Income over the Last 5 Years

The main sources of income are pensions and other social allowances (mentioned by about 70% of households), but the contribution of remittances (regular money payments transferred by individuals working and living away from home to their relatives/dependents or friends who still living at home) is low. Income derived from agricultural activities is the second main contributor (40% of households). Regular wages/salaries from private and public sector entities contribute only relatively small amount (mentioned by about 9% of households). Intermittent earnings and earnings from small-scale trading make even smaller contributions (see Figure 8-43).

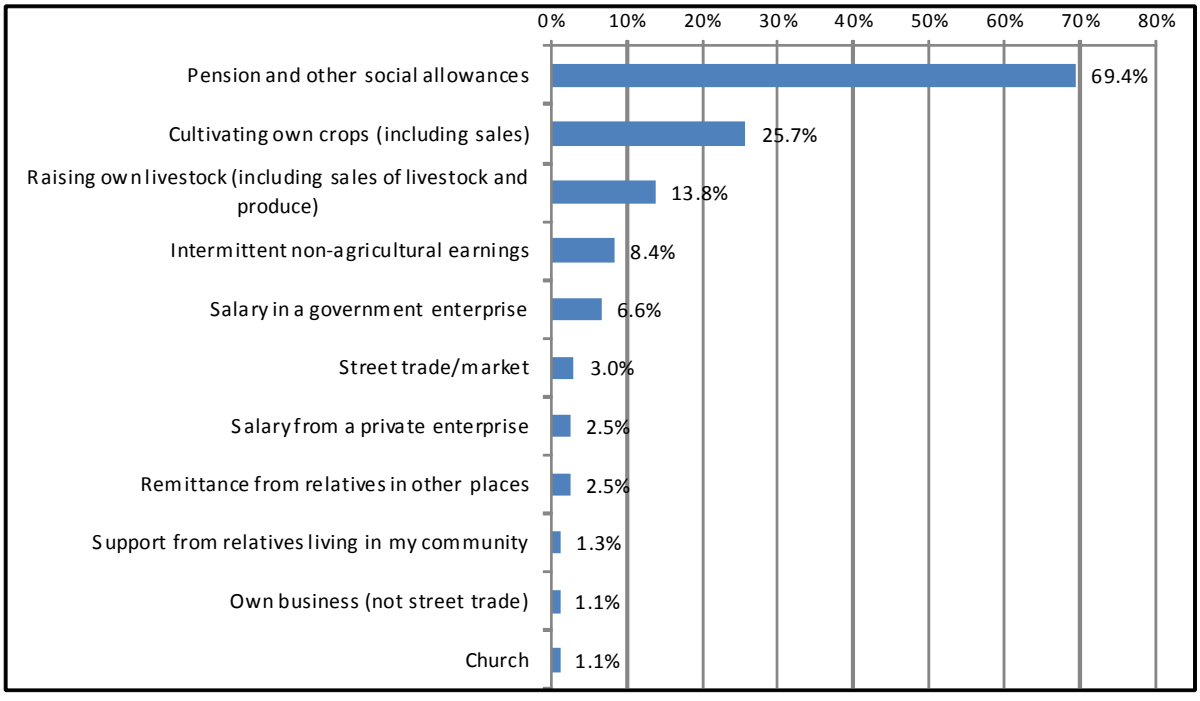

Figure 8-43: CSG2/Access Road Main Sources of Household Income

There is considerable seasonality in incomes based in agriculture. About 6% of households report an increase in incomes in summer and about 23% of households report an increase in incomes in autumn (see Figure 8-44).

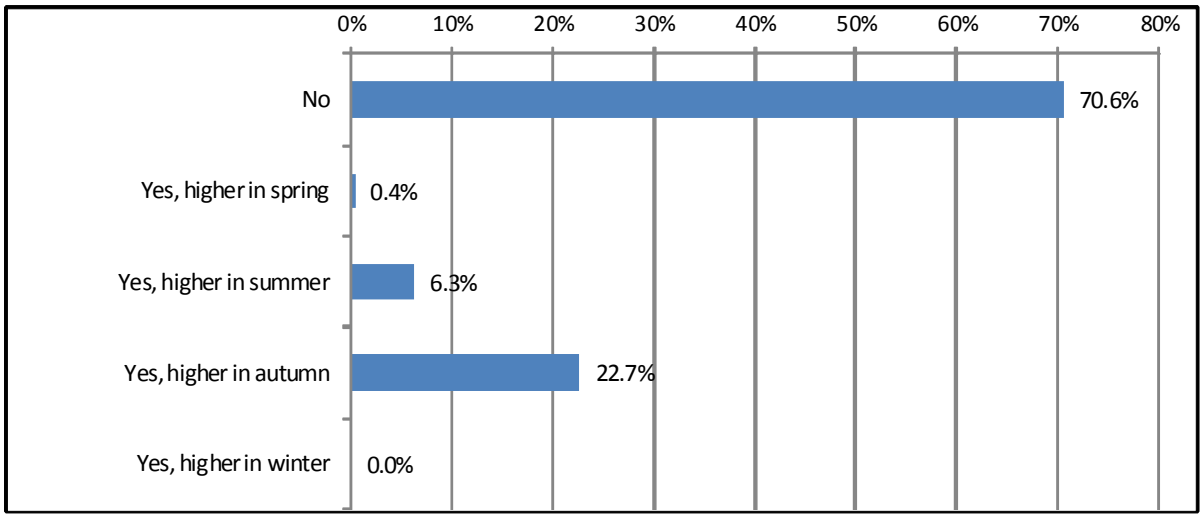

Figure 8-44: CSG2/Access Road Income Seasonality

Most households (82%) state that there is insufficient money to buy food and drink and that they borrow money or obtain temporary help from relatives for this purpose. About 16% have enough money for food, but have difficulty in buying clothes. Purchase of durable goods is not affordable for almost all households; only about 2% of households state that they can afford food and clothes, but even they have difficulty in buying durable household goods such as a TV or refrigerator (see Table 8-14).

Table 8-14: CSG2/Access Road Statements about Household Financial Conditions

Which of the following statements best describes your household's financial conditions?	
There is not enough money even for food, we have to go into debt or get help from relatives or friends	82.1%
There is enough money for food, but we have difficulty with buying clothes	15.8%
There is enough money for food and clothes, but purchasing expensive durable goods such as a TV or refrigerator, are a problem	2.1%
Refusal to answer	0%

Approximately 71% of household income is spent monthly on food and drink, followed by expenditure on medical treatment (11%) utilities and fuel (10%) and then transport at 4% (see Figure 8-45).

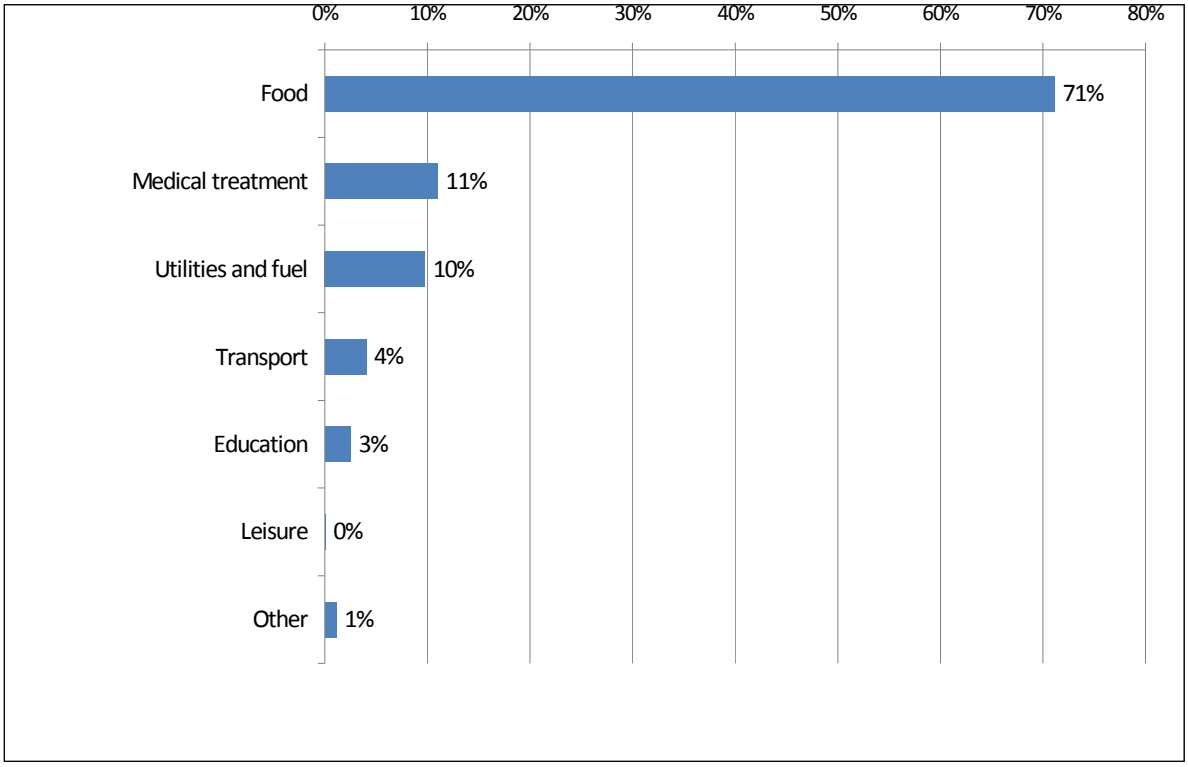

Figure 8-45: CSG2/Access Road Household Monthly Expenditure by Item

Most respondents (about 88%) pay utility bills on time, but 11.3% admit to sometimes paying after a delay. Only 1% do not pay bills (see Figure 8-46).

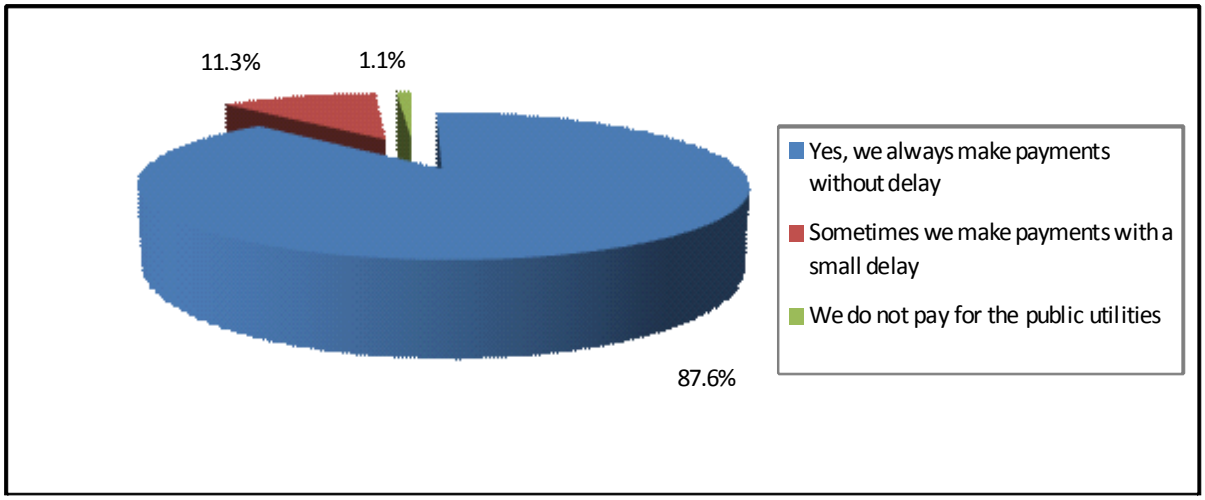

Figure 8-46: CSG2/Access Road Household Payment Timing for Utility Bills

About 8% of households have a loan with average value of about 3200 GEL. Credit is mainly used for expanding or improving agricultural production (69% of loans). Twenty-nine per cent of loans are used for consumer purchases for the home, for home repairs and to pay for utilities. Four per cent of loans is used to help pay education bills (see Table 8-15).

Table 8-15: CSG2/Access Road Loan Data

Loan	Data
Outstanding loans or credit that household owes	8.3%
Average value of the credit	3159 GEL
Business loan – agricultural activities: hire vehicles and workers/connect to irrigation system/expand greenhouse/buy pesticides/buy cattle	68.70%
Consumer loan – home appliances/furniture/utility provision/home repair	28.70%
Education loan	14.1%
Medical treatment	1.3%

A significant number of respondents (93.2%) are dissatisfied with the level of their household incomes. Other key problems include inadequacy of health care, roads and housing and the lack of mains (piped) gas (see Figure 8-47).

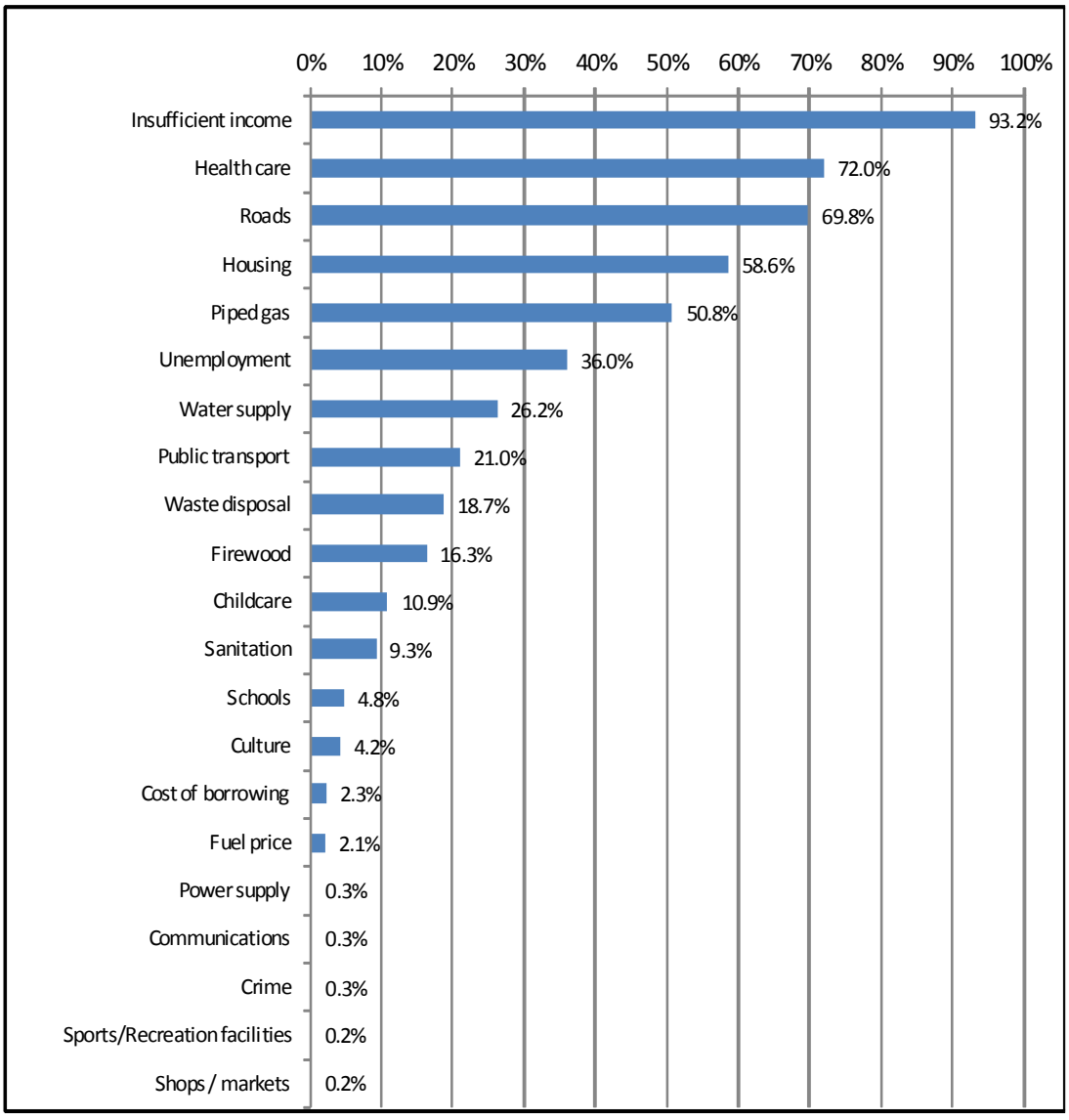

Figure 8-47: CSG2/Access Road Five Most Important Household Issues

PRMS PACs

Employment/livelihoods

Just over 28% of respondents are identified as pensioners and this reflects the demographic profile of these PACs. This percentage is similar, but very slightly higher than for the CSG2/access road PACs and considerably higher than the national percentage. Almost 24% are considered unemployed. This is also similar to the CSG2/access road situation. About 10% consider themselves hired employees and about 5% have their own business. Examination of the sectors in which people work shows that the agricultural sector predominates over other sectors at almost 40% (combination of 'sales employee - farm products' and 'farming'). More of those in hired employment work in the private sector (approximately 46%) than in the public sector (approximately 27%) (see Figure 8-48). These figures indicate that PRMS PACs are less reliant on agriculture than the CSG2/access road PACs and are participating in a more diverse economy. The size of Vale (population of nearly 6000) and Ude (with a population of just over 3500) probably plays an important role in causing this differentiation from the CSG2/access road PACs.

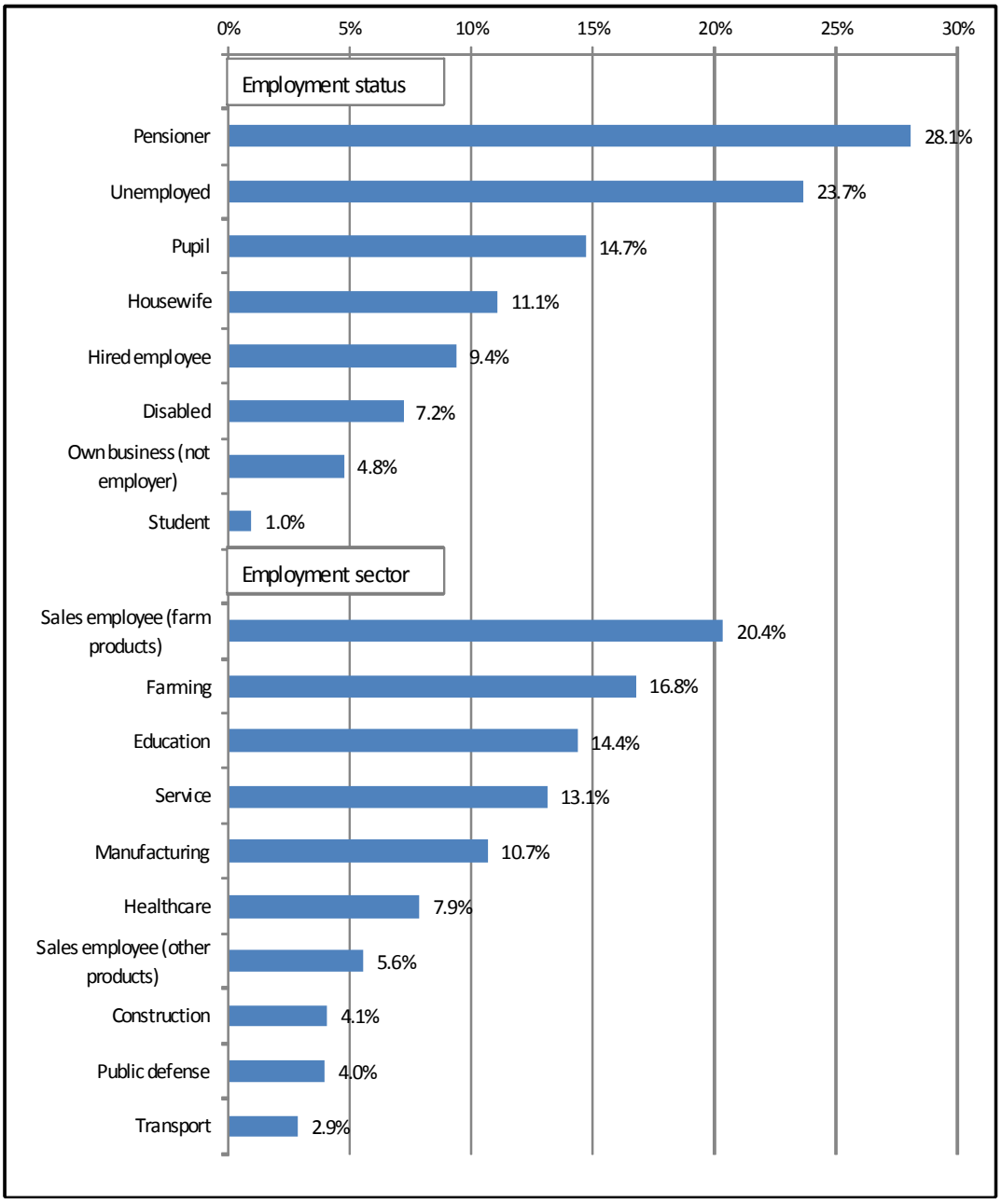

Figure 8-48: PRMS Employment Status and Sector of Employment

Although the livelihoods of many households are derived from agriculture, pensions, other social payments and waged labour, the use of natural resources such as nearby forests plays an important supporting role for half of all households (50%). Just under 50% of these households use forest resources for collecting wood for fuel. Significantly smaller numbers use forest areas for hay production (1.1%) or for obtaining wood for construction (0.2%) (see Figure 8-49.) The forest resource is a more important resource for the PRMS PACs than for the CSG2/access road PACs probably because cattle dung is not used as fuel here.

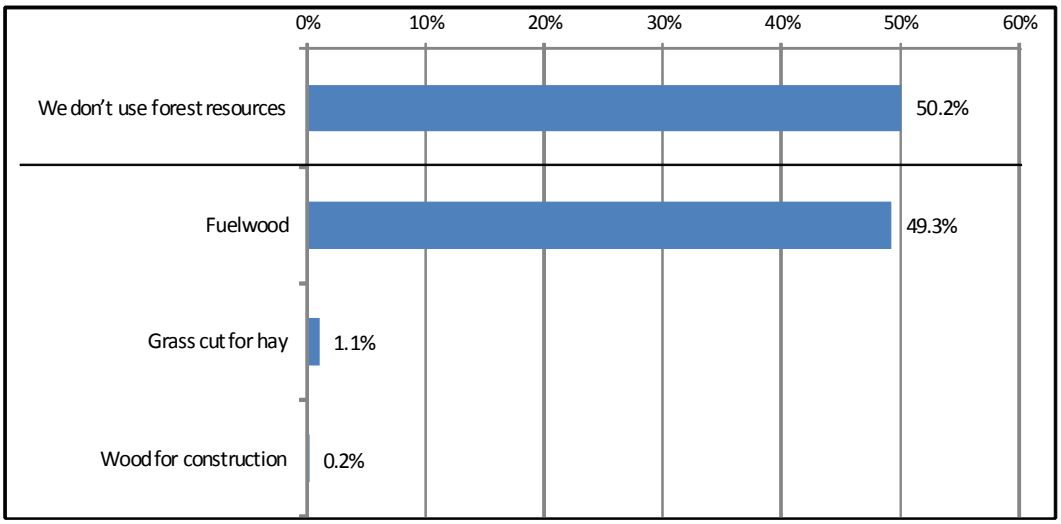

Figure 8-49: PRMS Use of Forest Resources

Most (82%) of the unemployed are jobseekers. The most common sources of information on job opportunities are friends and relatives. The state labour office and media are not used frequently for this purpose. Just under half of respondents (48%) stated that they had no interest in obtaining job vacancy information (see Figure 8-50).

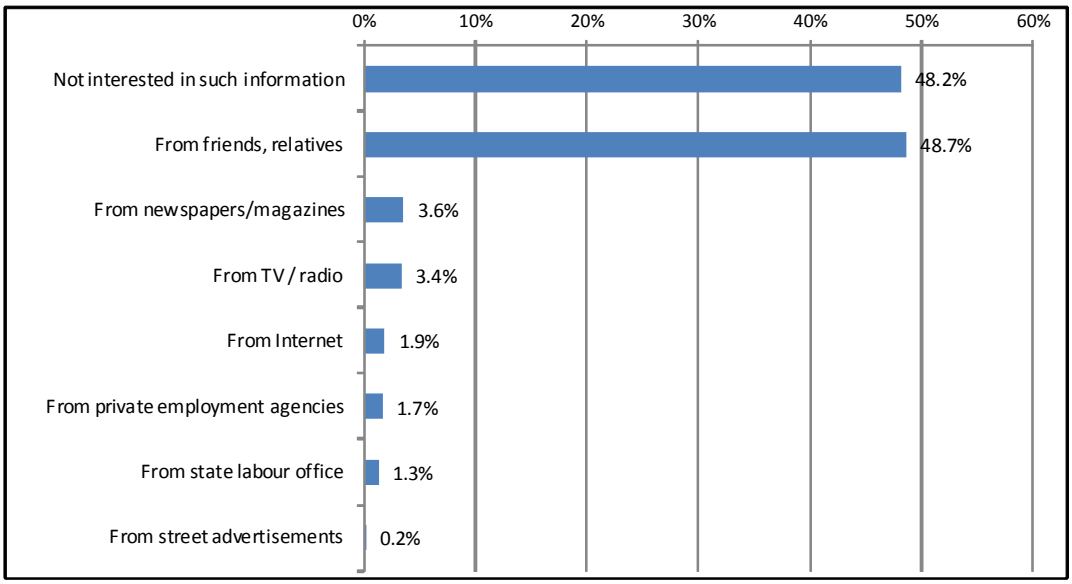

Figure 8-50: PRMS Availability of Information on Job Opportunities

The main problems facing those seeking a job are the lack of job vacancies and the lack of access to key networks of employers so that job vacancy information is available early. Age was cited by just over 11% of respondents. This contrasts with the CSG2 PACs where under 1% cited age as being a problem in gaining employment. A linguistic barrier, for those unable to speak a "foreign" language (in particular, Georgian), was cited by 7.8% of respondents, slightly more than for the CSG2/access road PACs. Age and a lack of job experience/qualifications were also cited as barriers, but to a limited extent. Almost 20% were unable to identify the main problem in searching for a job (see Figure 8-51).

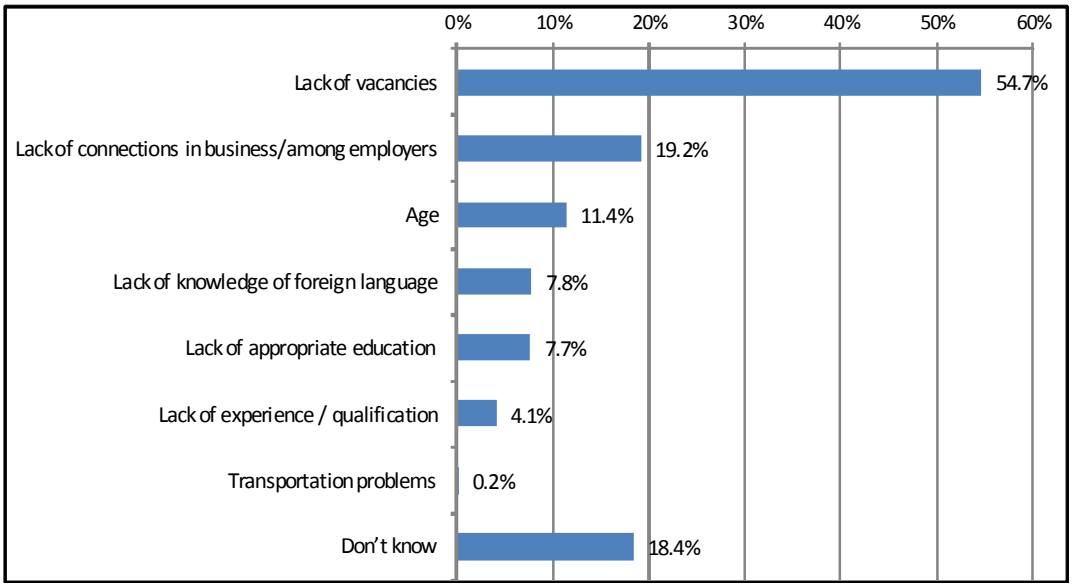

Figure 8-51: PRMS Problems in Searching for a Job

Skills

The situation regarding the numbers with employment-relevant skills is similar to the CSG2/access road PACs, but with some differences. The main skill available in these PACs is driving. Most individuals with this skill are able to drive cars, light goods vehicles and passenger vehicles (such as mini-buses). Some are able to drive heavy goods vehicles. Fewer individuals have the skills to operate earth-moving machinery.

The next main employable skill relates to building trades. Varying numbers of individuals (sometimes very low numbers) in the small, rural PACs have specialist skills in electrical installation, joinery and plumbing. Individuals with skills in office work (administration and book-keeping) are relatively common in the towns (Vale and Ude), but not the rural PACs.

Income and expenditure

The average monthly household income is about 190 GEL. Incomes are slightly higher than for the CSG2/access road PACs. This probably reflects the greater number of more diverse job opportunities. About 60% of respondents stated that their income has declined over the last five years. About 25% indicated no change and about 15% consider incomes to have risen over this period (see Figure 8-52).

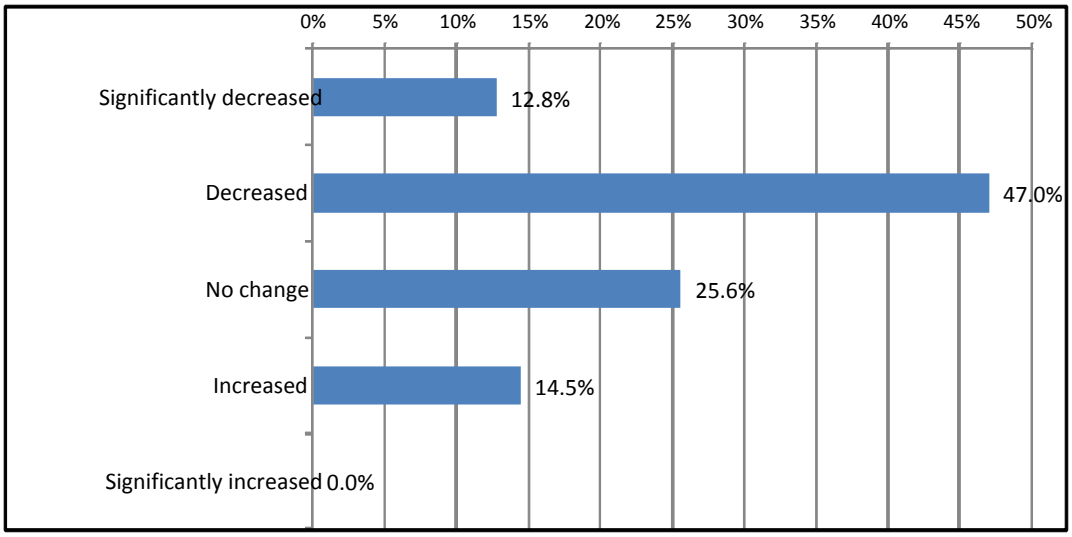

Figure 8-52: PRMS Income Change over the Last Five Years

The main sources of income are pensions and other social allowances (mentioned by about 75% of households), but the contribution of remittances is low. Regular wages/salaries from private and public sector entities are the second main contributor to household income (about 20% of households). This figure is higher than for the CSG2/access road PACs. Income derived from agricultural activities is the third main contributor (about 16.5% of households). This is significantly lower than for the CSG2/access road PACs. Intermittent earnings and earnings from small-scale trading make smaller contributions (see Figure 8-53).

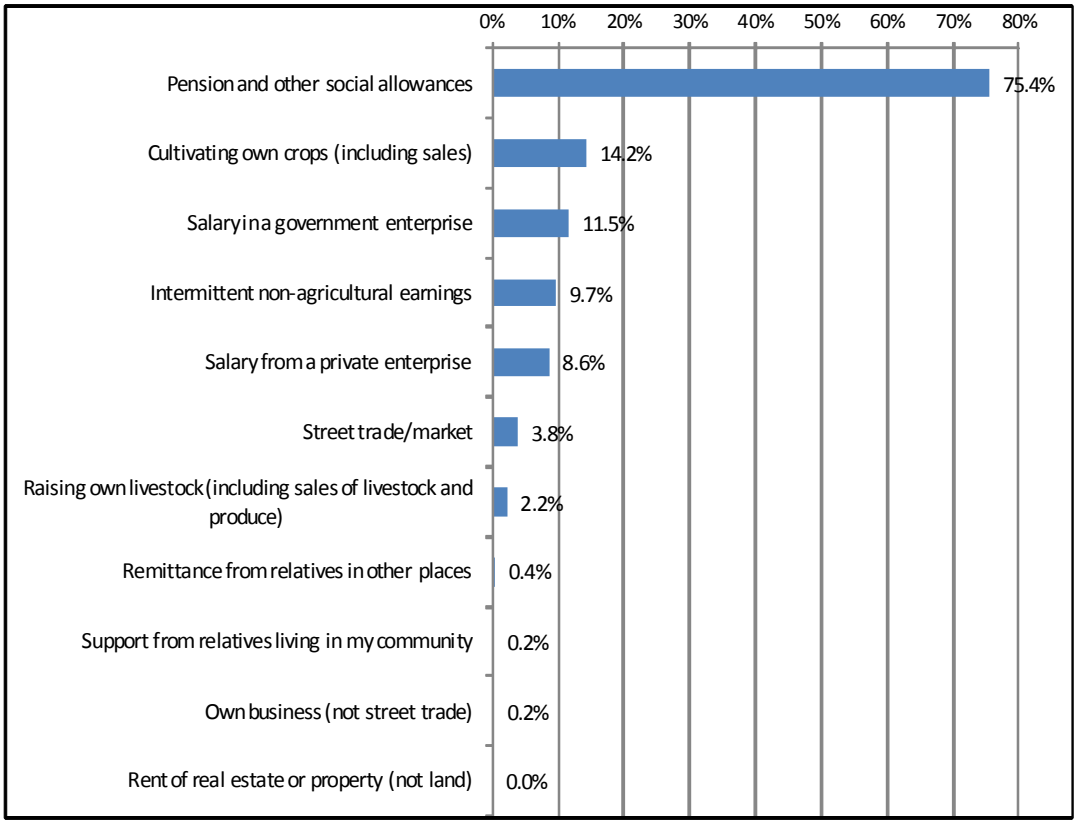

Figure 8-53: PRMS Major Sources of Household Income

There is seasonality in incomes based in agriculture. About 5% of households reported an increase in summer and 11.5% in autumn (see Figure 8-54). These figures are lower than for CSG2/access road PACs.

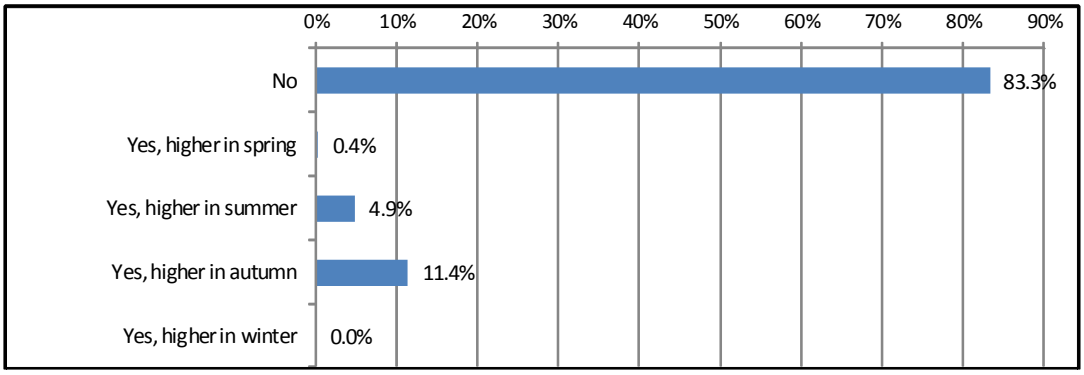

Figure 8-54: PRMS Income Seasonality

Approximately 71% of household income is spent monthly on food and drink, followed by expenditure on medical treatment (11%) utilities and fuel (10%) and then transport at 4% (see Figure 8-55).

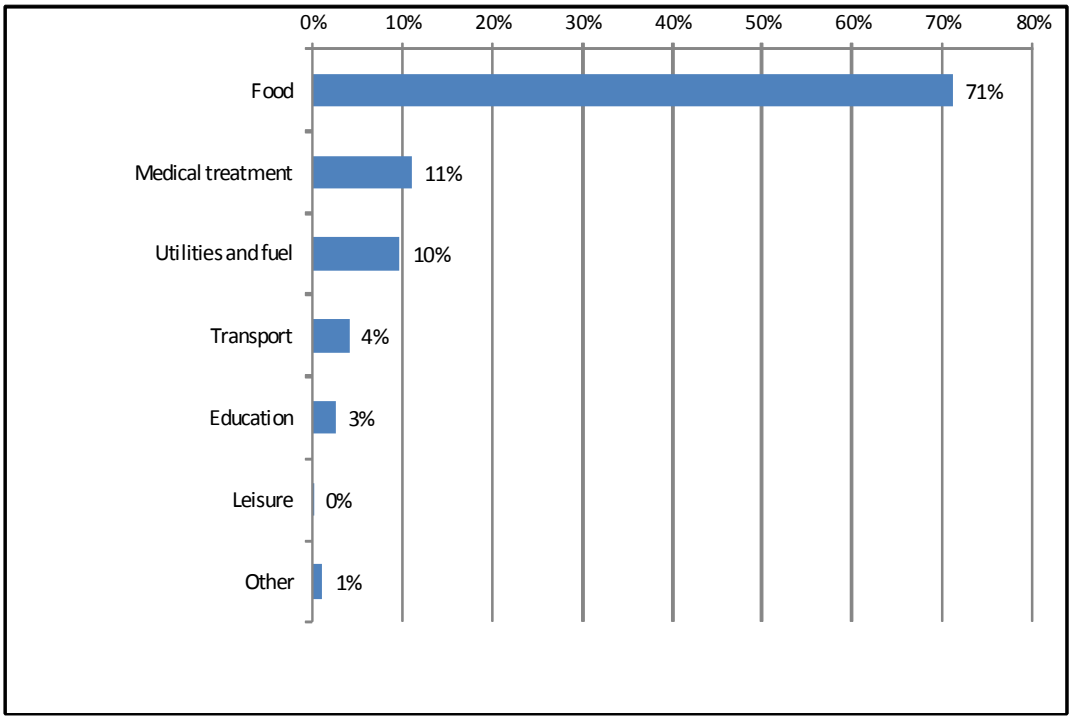

Figure 8-55: PRMS Monthly Household Expenditure by Item

Most households (76%) state that there is insufficient money to buy food and drinks and that they borrow money or obtain temporary help from relatives for this purpose. About 20% have enough money for food, but have difficulty in buying clothes. Purchase of durable goods is not affordable for almost all households; only about 3.5% of households state that they can afford food and clothes, but even they have difficulty in buying durable household goods such as a TV or refrigerator (see Table 8-16).

Table 8-16: PRMS Financial Conditions

Which of the following statements best describes your family's financial conditions?	Data
There is not enough money even for food, we have to go into debt or get help from relatives or friends	76.1%
There is enough money for food, but we have difficulty with buying clothes	19.7%
There is enough money for food and clothes, but purchasing expensive durable goods, such as a TV or refrigerator, is a Problem	3.4%
Refusal to answer	0%

Most respondents (about 92%) pay utility bills on time. 7.4 % admit to sometimes paying after a small delay. Only 0.2% do not pay bills (see Figure 8-56).

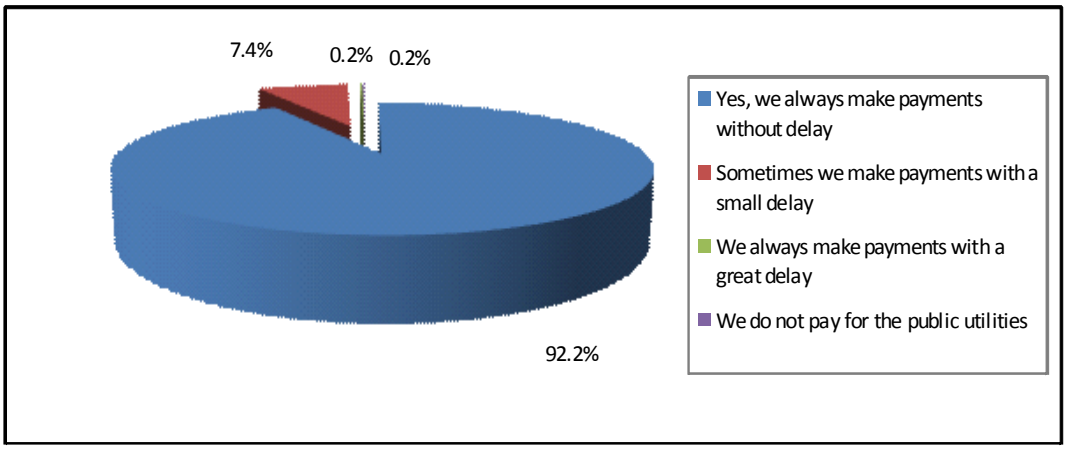

Figure 8-56: PRMS Timing of Payments for Public Utilities

About 20% of households have a loan with average value of about 2000 GEL. Credit is mainly used for consumer purchases for the home, home repairs, and to pay for utilities (40%), medical treatment (27%) or to expand or improve agricultural production (about 17% of loans). Six per cent of loans are used to help pay education bills and smaller proportions are used for mortgages or to buy a car (see Table 8-17).

Table 8-17: PRMS Loan Data

Loan	Data
Outstanding loans or credit that HH owes	20.8%
Average value of the credit	2001 GEL
Consumer loan – home appliances/furniture/utility provision/home repair	39.9%
Medical treatment	26.9%
Business loan – agricultural activities: hire vehicles and workers/connect to irrigation system/expend greenhouse/buy pesticides/buy cattle	16.7%
Education loan	6.2%
Mortgage loan	2.3%
Auto loan	0.8%
Refused to answer/don't know	7.2%

Significant numbers of respondents are dissatisfied with the level of their household incomes (88%). Other key problems with high dissatisfaction levels are the lack of mains

(piped) gas and the adequacy/cost of health care, followed by problems relating to unemployment, housing conditions, utilities and the transport network (see Figure 8-57).

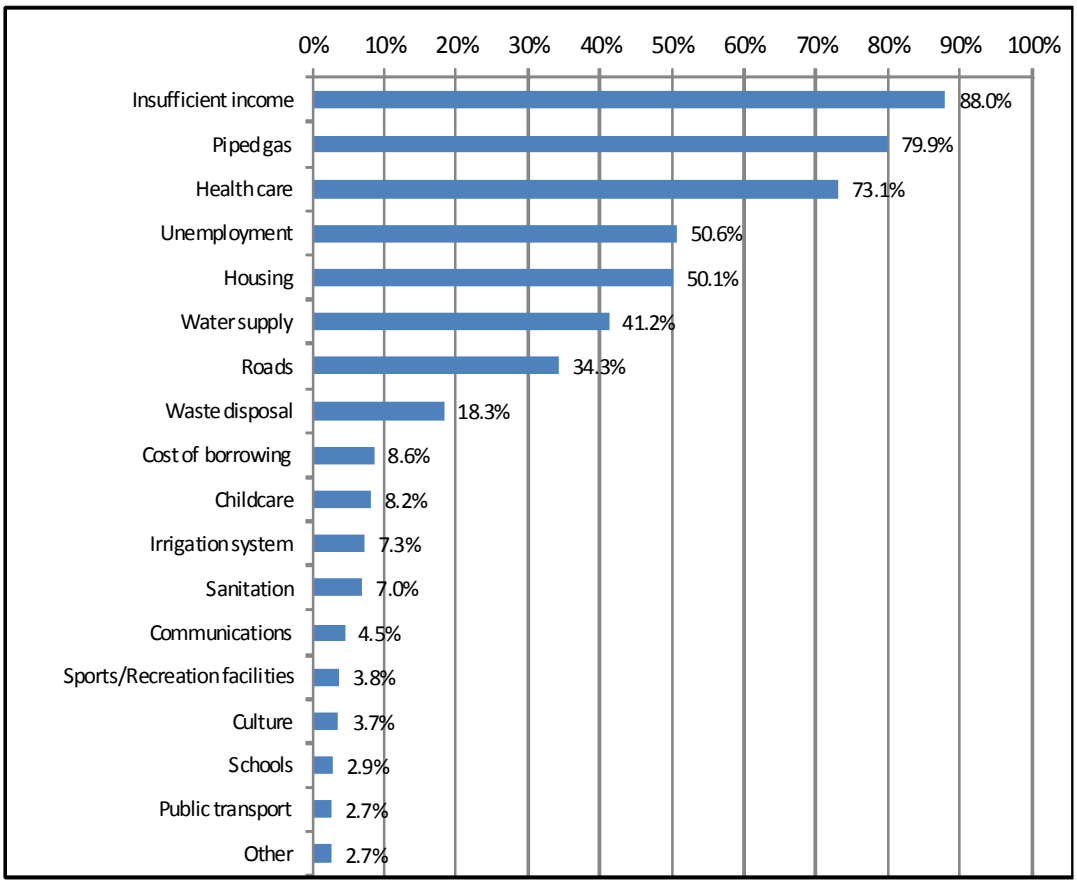

Figure 8-57: PRMS Most Important Household Issues

8.6.4 Employment, Livelihoods and Skills Sensitivities

CSG1/pipeline loop PACs

The key sensitivities are:

- Seasonality of income for smaller rural agriculture PACs
- 'Vulnerability' to economic shocks for smaller rural PACs as income and expenditure are closely matched leaving little, if any, surplus
- Lack of appropriate job skills in relation to SCPX needs in the small rural PACs
- Perceived high unemployment levels in all PACs
- Access to information on job opportunities for the smaller rural PACs. This is mostly via 'word of mouth' and not via the media (radio, newspapers etc.). There is dependency on personalised networks rather than formal communication channels.

CSG2/access road and area

The following summarises the components of the baseline conditions that, in the project context, are considered the most important based on the anticipated impacts of the project development:

- Poverty

- Seasonality of income (22% have higher incomes in autumn)
- 'Vulnerability' to economic shocks as income and expenditure are closely matched leaving little, if any, surplus
- Lack of appropriate job skills in relation to SCPX needs
- Perceived high unemployment levels
- Access to information on job opportunities. This is mostly via 'word of mouth' and not via the media (radio, newspapers etc.). There is dependency on personalised networks rather than formal communication channels
- Access to jobs and possible 'linguistic' barriers
- Easy and safe continual access to nearby grazing pasture for cattle (and, to lesser extent, sheep)
- Easy and safe continual access to nearby forest areas.

PRMS

The PRMS PACs have the same basic sensitivities as the CSG2/access road PACs although average incomes are slightly higher and the economy and job base is more diverse and less dependent on agriculture. However, the small PACs in the PRMS group are considered to have almost identical socio-economic sensitivities to the CSG2/access road PACs. Overall, for the PRMS PACs the sensitivities include:

- Poverty
- Seasonality of income (11% have higher incomes in autumn)
- 'Vulnerability' to economic shocks as income and expenditure are closely matched leaving little, if any, surplus
- Lack of appropriate job skills in relation to SCPX needs
- Perceived high unemployment levels
- Access to information on job opportunities. This is mostly via 'word of mouth' and not via the media (radio, newspapers etc.). There is dependency on personalised networks rather than formal communication channels
- Access to jobs and possible 'linguistic' barriers
- Easy and safe continual access to nearby forest areas.

8.7 Infrastructure and Services

This section of the report describes the status of key infrastructure services and services: energy, transport, water supply and education (health is considered separately). At the PAC level, information is presented on provision of, and access to, facilities such as banks, churches/mosques and places for recreation/entertainment.

8.7.1 Information from Desktop Literature Survey

The key sources of secondary data for the national and regional levels are:

- Reports issued by international agencies and the Government of Georgia
- Official government statistics from the National Statistics Office of Georgia (Geostat)
- Previous ESIA studies.

The information presented at PAC level comes primarily from the PAC level and household level surveys carried out in September/October 2011.

8.7.2 Data Gaps and Field Survey Methods

The information presented in the literature is out of date and needed to be confirmed and updated, particularly with regard to current local conditions in the SCPX PACs.

The methodology for the field surveys at PAC and household level are described in Section 8.2.2.

8.7.3 Baseline Conditions of Infrastructure and Services

National and regional level

The following key physical and social infrastructure and the services received are considered in this section:

- Energy
- Transport
- Water supply
- Education.

Very brief information on mobile phone network coverage is provided after 'Education'.

Energy

Electricity and mains (piped) gas supply are the key energy issues in both urban and rural areas. In 2004, national finances were in crisis and basic infrastructure was virtually in a state of collapse; for example, electricity supply was unreliable across the country and non-existent in some places (UNDP, 2008). In 2006, major policy and regulatory initiatives were implemented to initiate improvements in production (particularly of electricity), distribution, tariff rates and collection. Privatisation of production and distribution and major increases in tariffs were also introduced (UNDP, 2008 and World Bank, 2009).

By 2008, Georgia's natural gas sector, with the exception of the main pipeline system, was largely privatised. Currently, Georgia has four suppliers and three routes. About 70% of the national demand (regulated part of the sector - consumption by households and thermal generation) for natural gas is supplied under the long-term contract with SOCAR. The remaining 30% is commercial consumption and deregulated. Correspondingly, consumers under this segment are free to choose any supplier and negotiate gas prices. In recent years there has been considerable progress in providing main (piped) gas to rural communities.

The privatisation of energy and tariff increases had an effect on the poor, countered in part by targeted social payments and improved access to a reliable energy supply. Reliability and coverage of supply have been increased significantly so that there is now continual power supply (electricity and mains (piped) gas) across most areas. However, access to mains (piped) gas is not as widespread as access to electricity. In addition, companies in the energy sector are now able to cover their operating costs and invest in the capital repairs necessary to make the system sustainable (UNDP, 2008).

In some respects the quality of rural life has improved as a result of better energy supply, though this has been counteracted by other trends, including the limited ability of low-income households to escape poverty.

Enhanced access to electricity and gas in rural areas has not replaced local use of natural resources as energy sources. Households still often use fuel-wood for heating and cooking, presumably as it is cheaper.

CSG1/pipeline loop PACs

All PACs have a domestic electricity supply and about 85% have mains (piped) gas. Many of the smaller and more rural PACs have received these utilities in the past five years.

Bottled gas is available. The quality of the mains (piped) gas service is considered slightly better than the electricity supply, though the number of respondents rating the electricity supply as 'poor' is very small (no one rated the gas supply as 'poor') (see Figure 8-58).

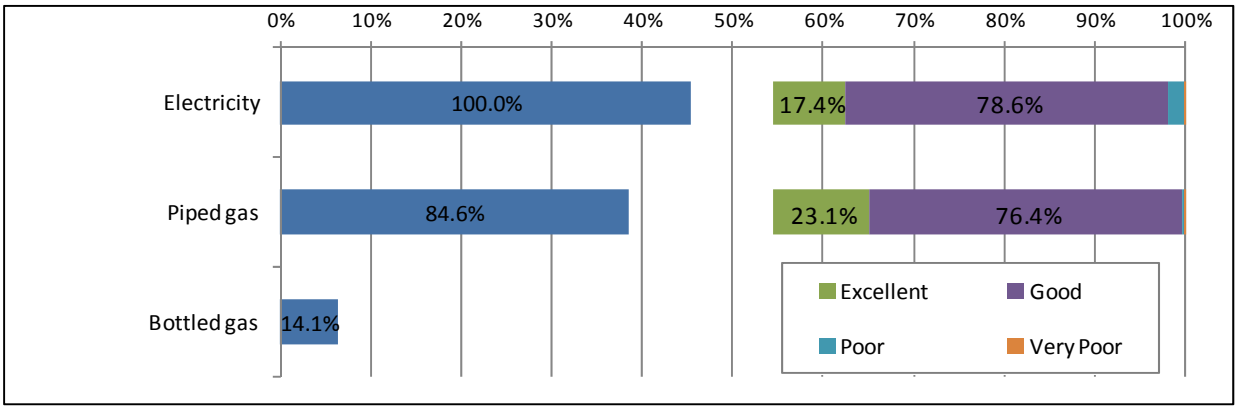

Figure 8-58: CSG1/Pipeline Loop Access to Facilities and Quality of Supply

Electricity is the predominant form of energy used for cooking (95%). Fuel wood and gas contribute to energy use in only 8% and 4.3% of households. Electricity is also used for heating, but to a lesser extent (about 63% of households). The contributions of firewood (36% of households) and gas (12% of households) are higher. Bio-fuels (essentially cattle dung) are used for both cooking and heating, but only for very few households (under 1% of households in both cases) (see Figure 8-59).

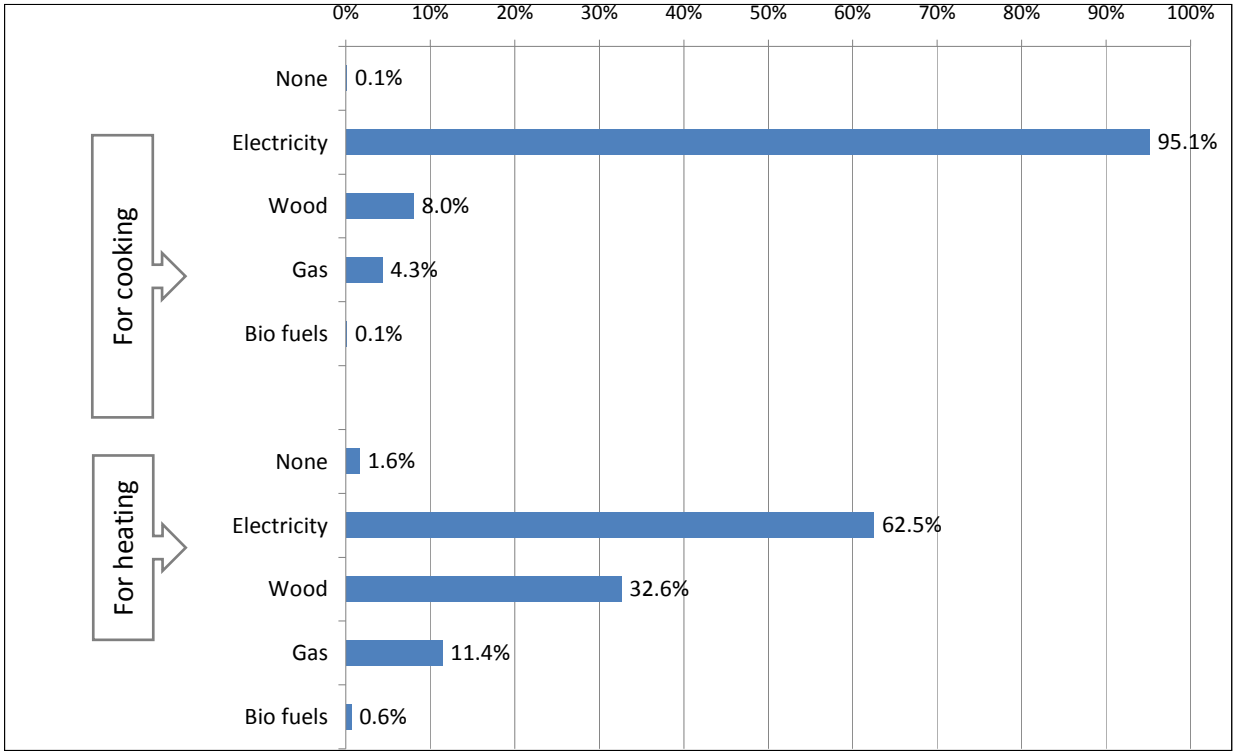

Figure 8-59: CSG1/Pipeline Loop Energy Used for Cooking and Heating

CSG2/access road PACs

All villages have domestic electricity supply. It has been provided for three villages within the past five years. No village has mains (piped) gas. Bottled gas is available.

The quality of the electricity supply is considered 'excellent' by about 18% of respondents and 'good' by the remainder (see Figure 8-60).

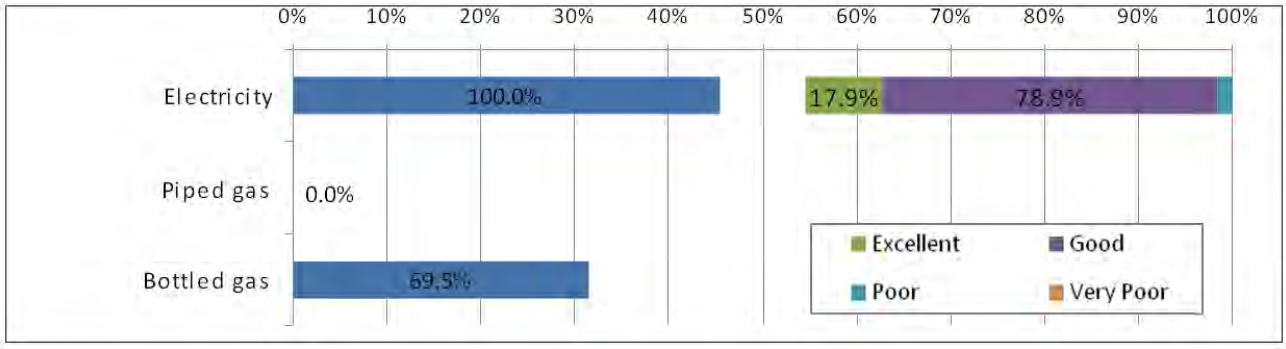

Figure 8-60: CSG2/Access Road Access to Certain Utilities and Quality of Supply

Electricity is used for mainly for cooking purposes. Wood (35.8% of households) and bio-fuel (15.3% of households using mainly cow dung) are also used. For heating local people use mostly wood (62.7%) and biofuel (53.9%) (see Figure 8-61).

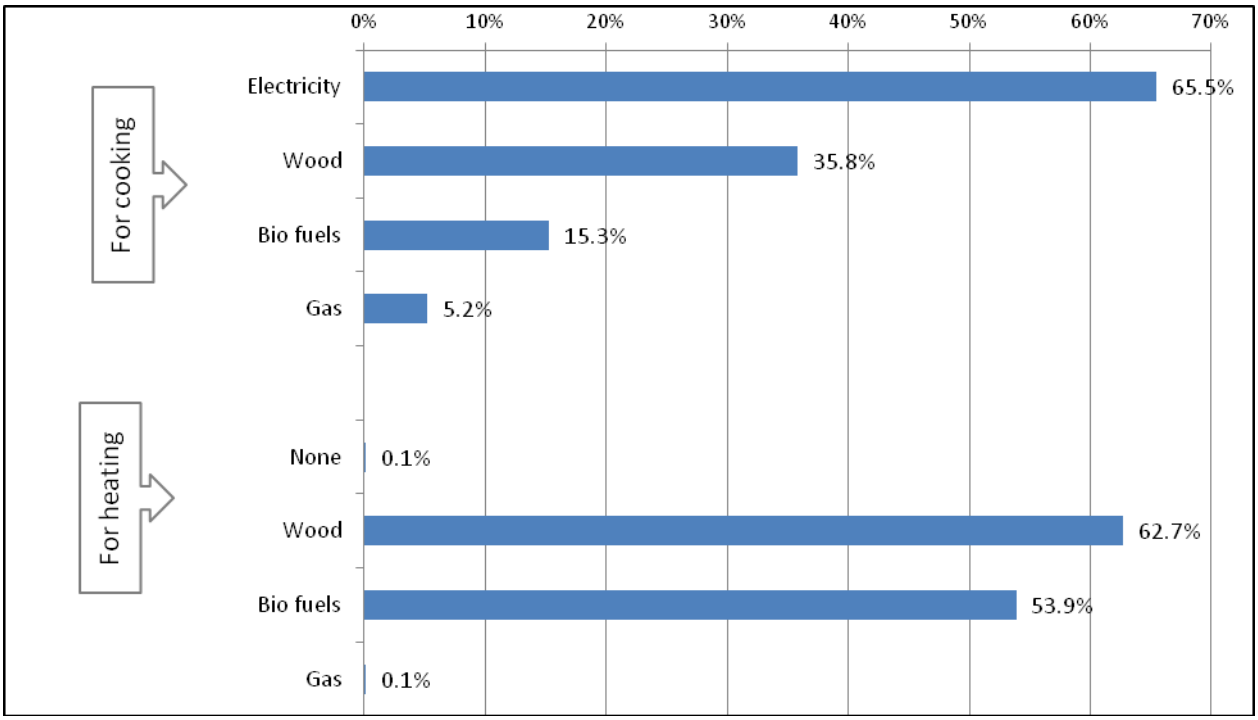

Figure 8-61: CSG2/Access Road Fuel Use for Cooking and Heating

PRMS PACs

All villages have been receiving domestic electricity supply for more than five years. A supply has been provided for five villages within the past five years. No village has mains (piped) gas, but bottled gas is available. This was provided for Vale within the past five years.

The quality of the electricity supply is considered 'excellent' by about 7% of respondents and 'very good' by the remainder (see Figure 8-62).

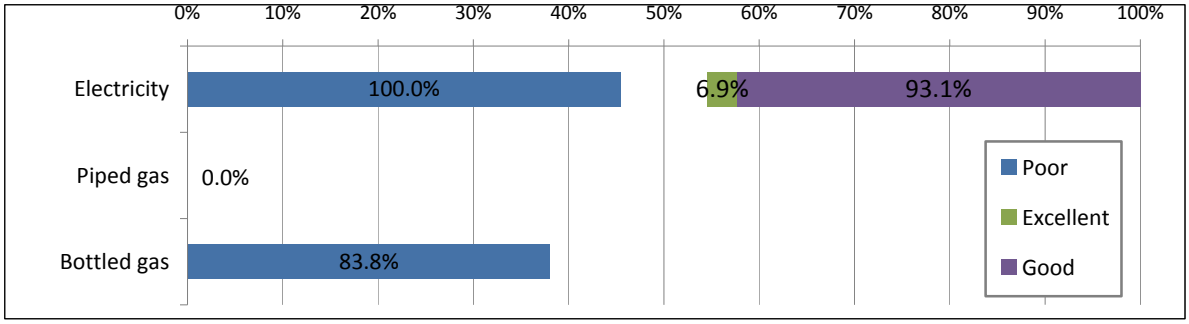

Figure 8-62: PRMS Access to Facilities and Quality of Supply

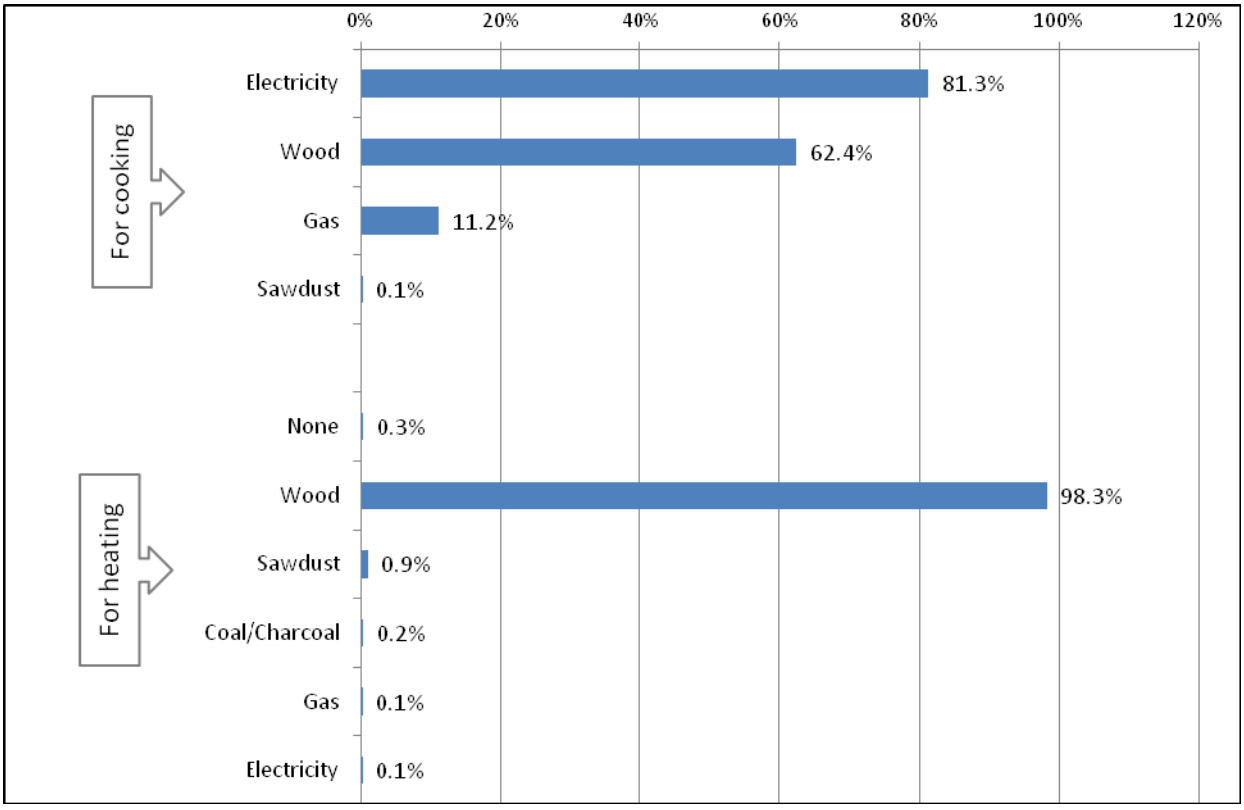

Figure 8-63: PRMS Energy Use for Cooking and Heating

Electricity is used for mainly for cooking purposes (81.3%). Respondents report also cooking with wood (62.4%) and bottled gas (11.2%). For heating, local people almost exclusively use wood (98.3%) or a wood 'product' (i.e. sawdust (0.9%) or charcoal/coal (0.2%) (see Figure 8-63).

Transport

The transport sub-sector (part of the service sector) is one of fastest growing in the Georgian economy. Transport, storage and communications have substantially increased their contribution to total output, from 4.6% of GDP in 1996 to 11.5% in 2006. This increase is due to wider economic growth in the Caucasus and the favourable 'hub' location enjoyed by Georgia. Roads are the preferred mode for the movement of people and non-oil freight (World Bank, 2008). Pipelines are the most significant transport modes for oil and gas.

The World Bank's report '*Rural Infrastructure Survey in Georgia'* (World Bank, 2006) noted that the road traffic fatality rate in Georgia of 13 per 10,000 vehicles in 2006 was significantly higher than in most Eastern European countries and much higher than 2 per 10,000 vehicles, which is the approximate rate in more EU countries. Traffic deaths were increasing at 16% per year and injuries by 28% per year. Besides the injuries, fatalities and emotional pain they cause, traffic accidents affect a country's economic growth directly. The World Bank's working paper '*Road Safety in Individual ECA Countries*' for 1999 (World Bank, 1999) suggested that the social and economic costs of road traffic accidents for Georgia were approximately 1.1% of GDP. This figure is unlikely to have reduced in recent years given the growth in car ownership, even though there have recently been significant improvements to main roads and to some secondary roads.

In recent years considerable efforts have been made to improve the transport infrastructure, particularly the roads. The Government of Georgia has received considerable external financing from the World Bank and the Millennium Challenge Corporation (MCC) to improve roads. MCC support has focused more on the upgrading the road network in the poorer regions of Georgia. Road improvements have included the E60 east–west highway, which is the main arterial road across Georgia. It is currently being upgraded and additional dual-carriageway sections are under construction. SCPX will use this road for access to the pipeline works areas.

Despite these continuing efforts outside the larger settlements, most of the roads within, and between, many PACs are not surfaced and in many cases are in poor condition. Potholes develop quickly, particularly during periods of heavy rainfall. Pavements are poorly defined or non-existent. Poor roads remain a key issue for many PACs due to the inconvenience caused (see below – Views on Infrastructure and Services).

Water supply

After the collapse of the Soviet Union, the water supply infrastructure rapidly deteriorated as a result of discontinued repair works, lack of proper monitoring, theft and corruption. In the 1990s, the potable water supply 'crisis' in Georgia had two components. First, there was the problem of access. In a '*Socio-Economic Inventory Assessment*' carried out by CHF International (2005), about 30% of the population was not connected to potable water supply. Second, the damaged infrastructure and contaminated surface water allowed microbiological contamination to occur exacerbating gastro-intestinal health problems, which are particularly serious for the very young, the elderly and those already suffering from an illness.

From 2004, the Government intensified its efforts to optimise the management of potable water resources and increase the funding of municipal infrastructure. Extensive rehabilitation projects have been undertaken in urban areas, but they are also underway in rural areas. There has already been significant progress in improving access to potable water, particularly in urban communities. Extension of access to potable water to rural areas is considered likely to take longer to progress, but many rural villages have befitted from an improved supply of potable and non-potable water in the past five years.

CSG1/pipeline loop PACs

About 71% of households can access potable water in their houses. In addition, about 11% of households have access to potable water as they have taps in their garden/yard. Others have access via their own wells and water tankers or bottled water.

Views on the quantity and quality of the water supply are shown in Figure 8-64 and Figure 8-65. About 76% of households are connected to a centralised sewerage system. For the remaining households, domestic liquid wastes are discharged directly into a ditch or open drain (59.2%) or into the garden/yard (about 40.8%) (see Figure 8-66).

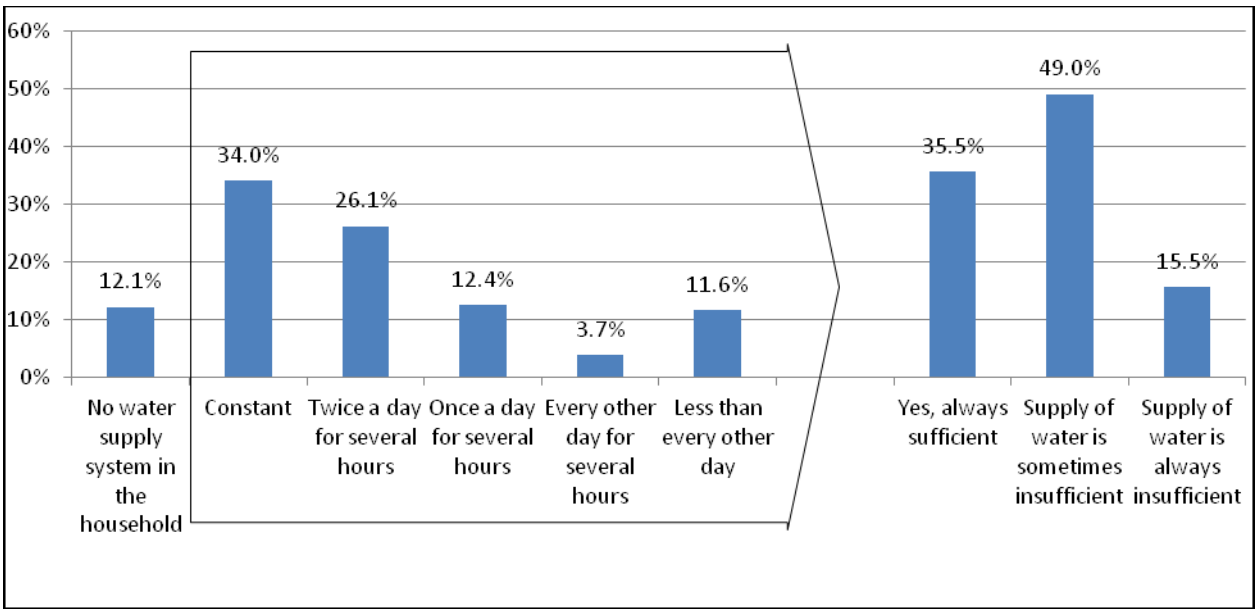

Figure 8-64: CSG1/Pipeline Loop Regularity of Water Supply and Quality of Supply

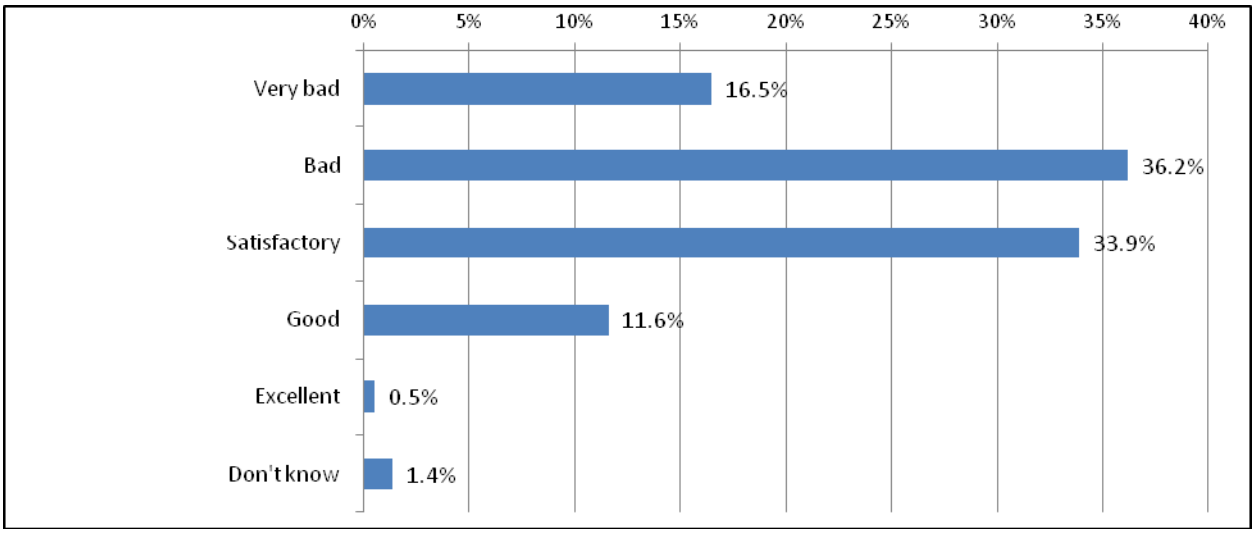

Figure 8-65: CSG1/Pipeline Loop Assessment of the Quality of Water Used for Household Purposes

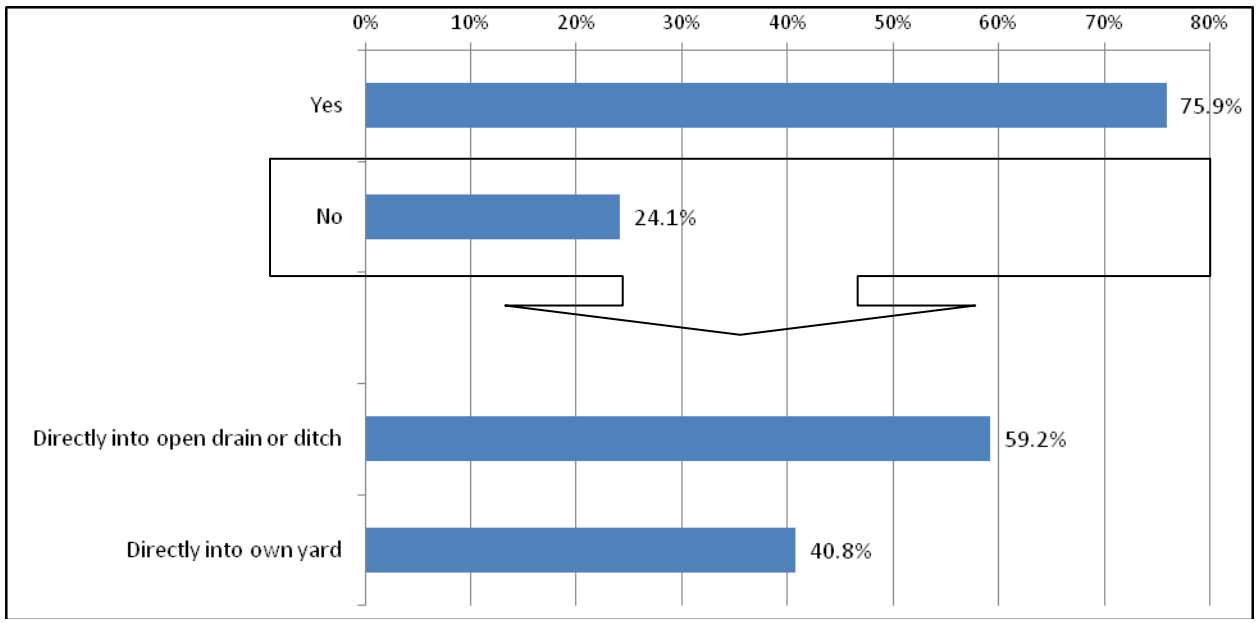

Figure 8-66: CSG1/Pipeline Loop Usage of Centralised Sewerage System

Irrigation systems are only accessible to about 11% of households. Most households with access to irrigation water (9%) use this facility (see Figure 8-67).

In general, the water supply is not considered sufficient. Forty-nine per cent consider it sometimes insufficient, while about 16% consider it always insufficient. In terms of quality, many respondents (about 36%) consider the quality 'bad'. Thirty-four per cent consider it 'satisfactory'. More respondents consider it 'very bad' than 'excellent' (16.5% and 11.6% respectively).

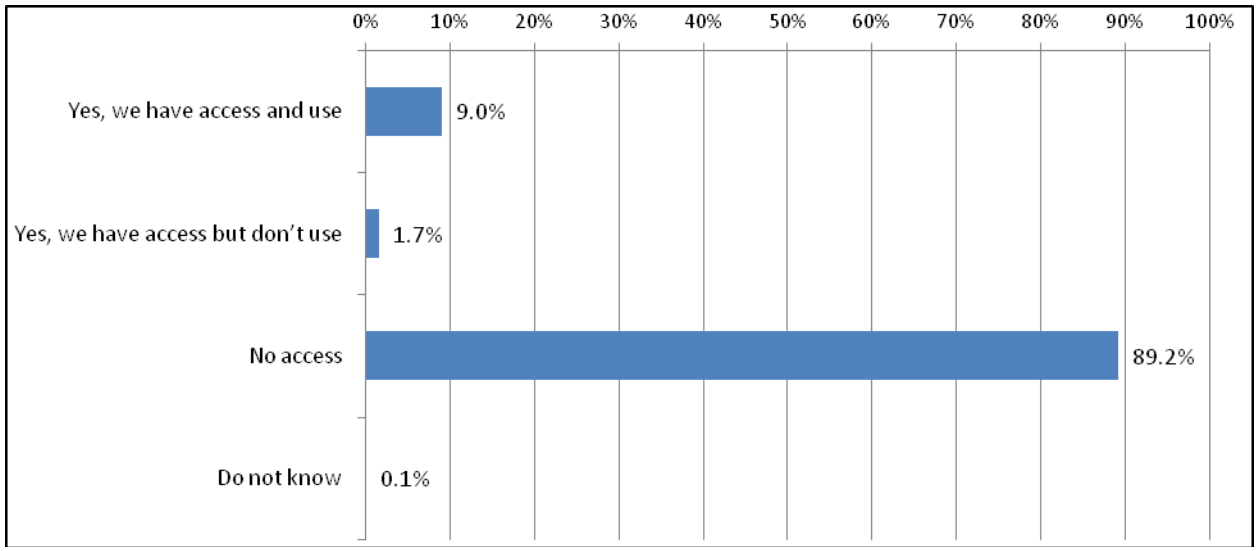

Figure 8-67: CSG1/Pipeline Loop Access/Use Irrigation System

CSG2/access road PACs

Only one village (Khando) out of the nine PACs does not have potable domestic water supply. Only about 4% of households can access potable water in their houses. About 72% of households have access to potable water as they have taps in their garden/yard. Others

have access via their neighbours. The remaining households use their own wells or obtain water from nearby springs (about 10%).

Views on the quantity and quality of water supply are shown in Figure 8-68 and Figure 8-69. In general, the water supply is considered sufficient though about 25% of households consider that it is not always available in sufficient amounts for their needs. In terms of quality most respondents consider it either 'good' or 'satisfactory', with almost similar numbers considering it either 'bad' or 'excellent'

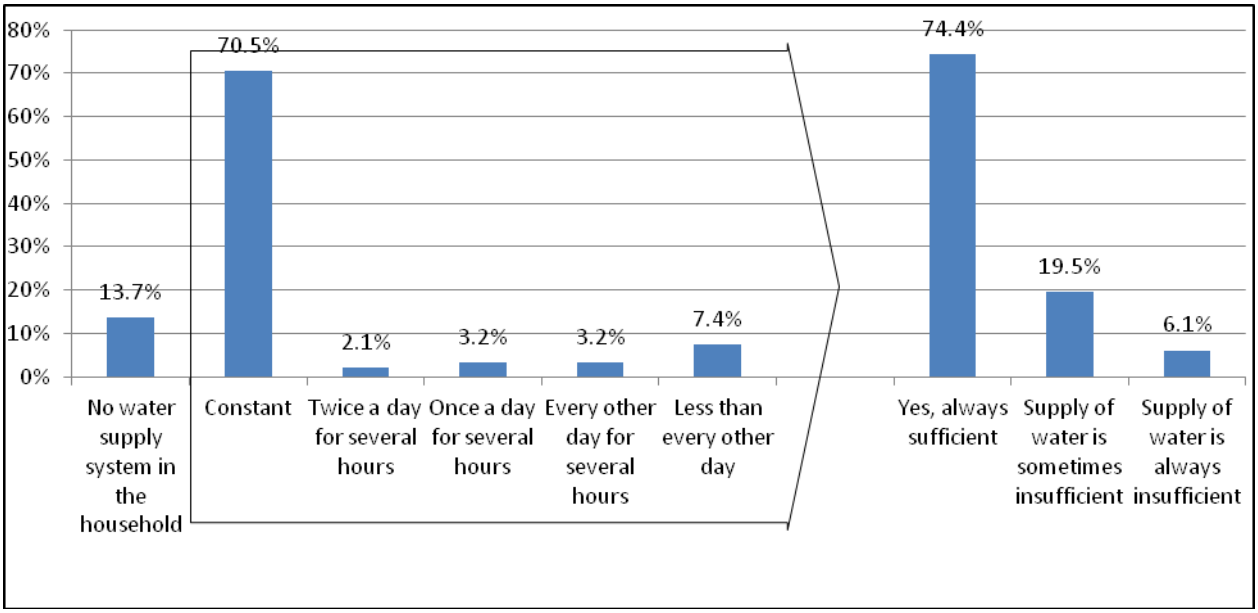

Figure 8-68: CSG2/Access Road Regularity of Water Supply and Quality of Supply

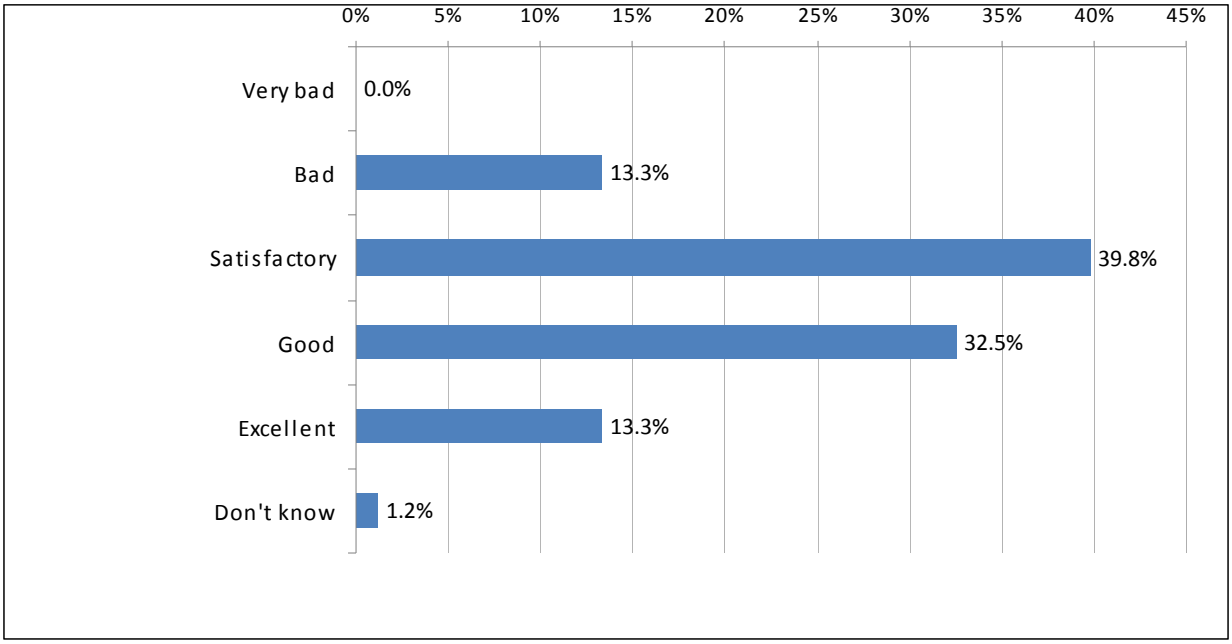

Figure 8-69: CSG2/Access Road Quality of Water Used for Household Purposes

No households are connected to centralised sewerage system. Domestic liquid wastes are discharged directly into a ditch or open drain (43%) or into the garden/yard (57%) (see Figure 8-70**)**.

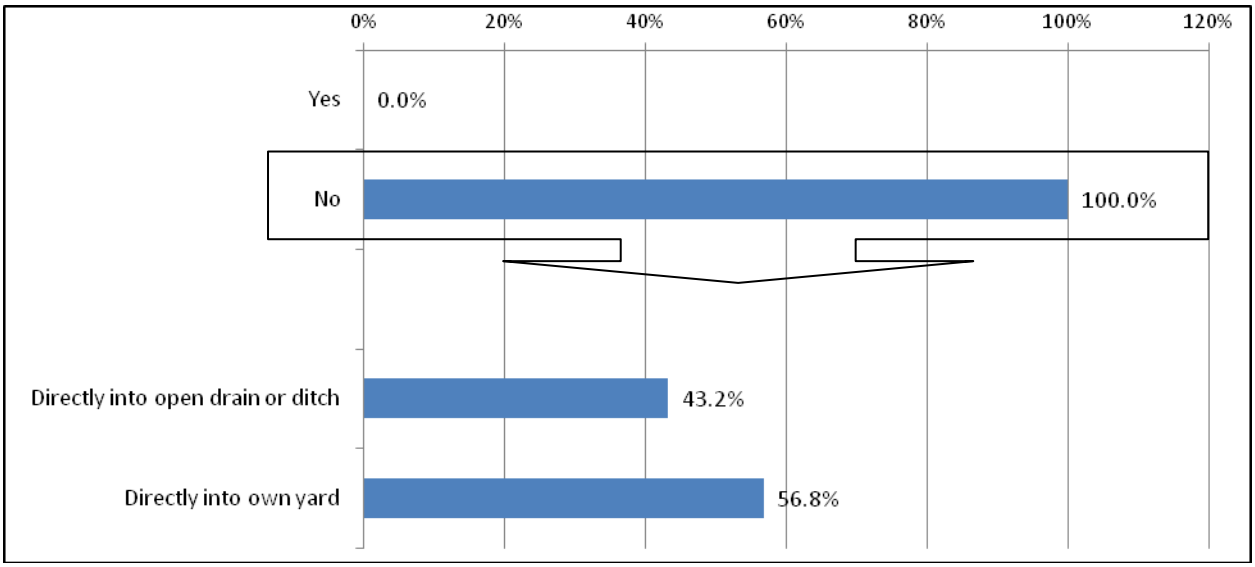

Figure 8-70: CSG2/Access Road Usage of Centralised Sewerage System

Irrigation water is available for use for about 11% of households. Just over 6% do not use it (see Figure 8-71).

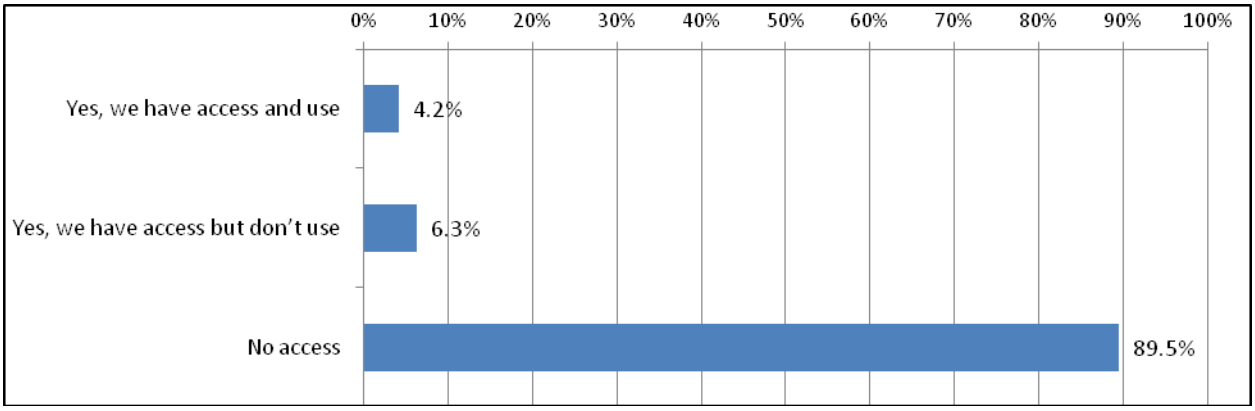

Figure 8-71: CSG2/Access Road Access To/Use of Irrigation System

PRMS PACs

Only one PAC (Abatkhevi) out of nine does not have a potable domestic water supply. About 27% of households can access potable water in their houses. About 62% of households have access to potable water as they have taps in their garden/yard. Others have access via their neighbours. The remaining households use their own wells or obtain water from nearby springs (about 11%).

Views on the quantity and quality of water supply are shown in Figure 8-72 and Figure 8-73. In general, water supply is not considered sufficient. About 40% consider it sometimes insufficient, while about 34% consider it always insufficient. In terms of quality most respondents consider it either 'good' or 'satisfactory'. However, about 16% consider it 'bad' or 'very bad'. Just under 5% consider it to be 'excellent'.

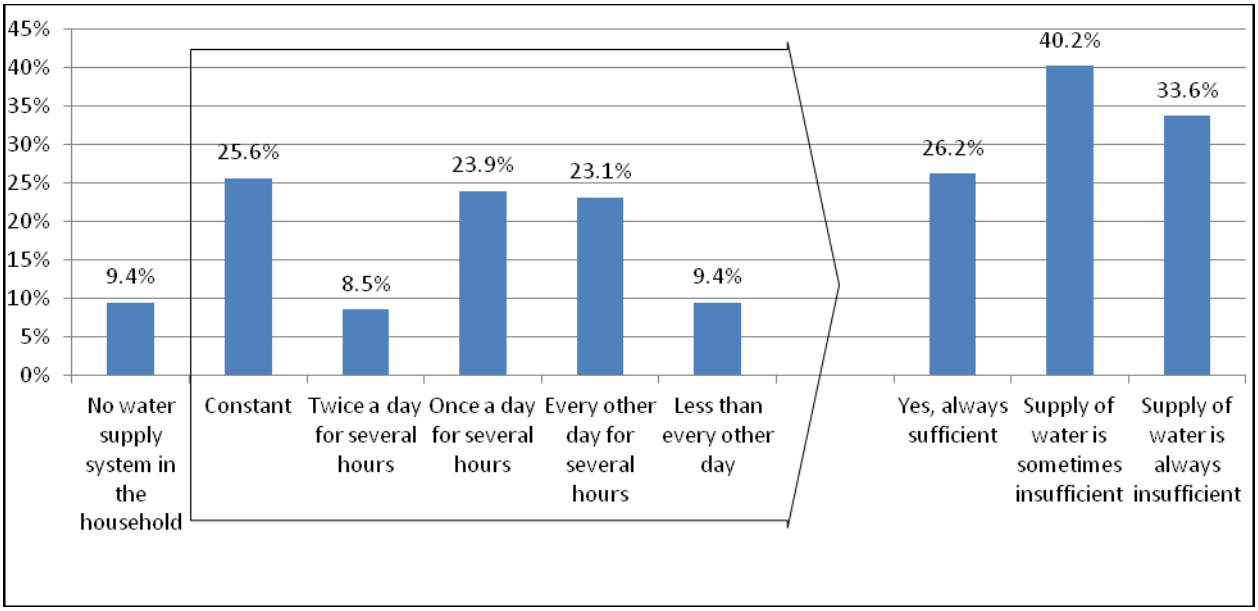

Figure 8-72: PRMS Regularity of Water Supply and Quality of Supply

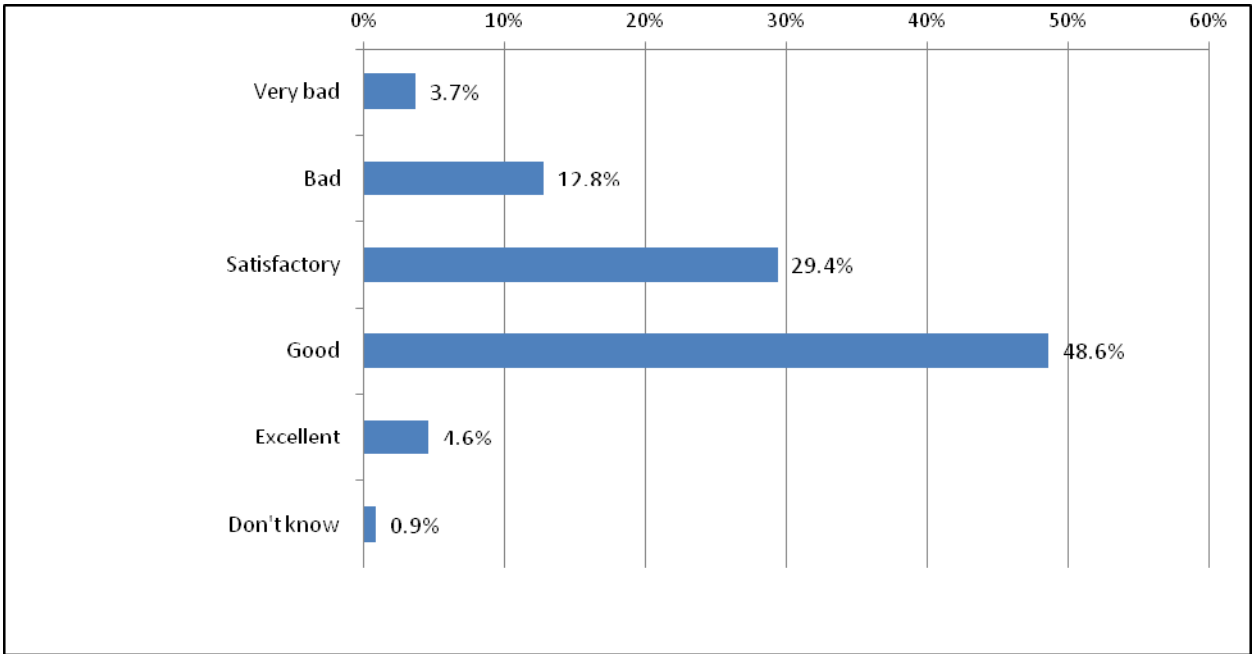

Figure 8-73: PRMS Assessment of Quality of Water Used for Household Purposes

About 24% of households are connected to a centralised sewerage system. For the remaining households, domestic liquid wastes are discharged directly, and almost equally in terms of numbers of households, into a ditch or open drain or into the garden/yard (see Figure 8-74).

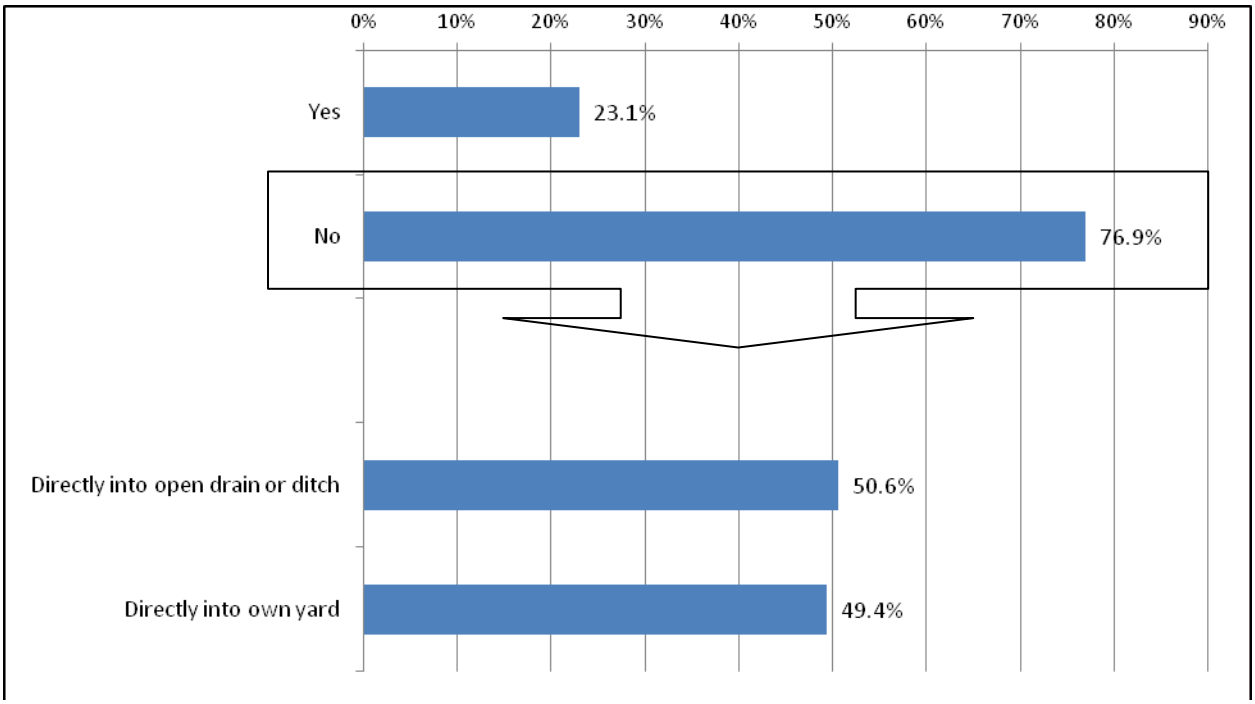

Figure 8-74: PRMS Usage of Centralised Sewerage System

Irrigation water is available for use for about 23% of households, but almost 10% do not use it (see Figure 8-75).

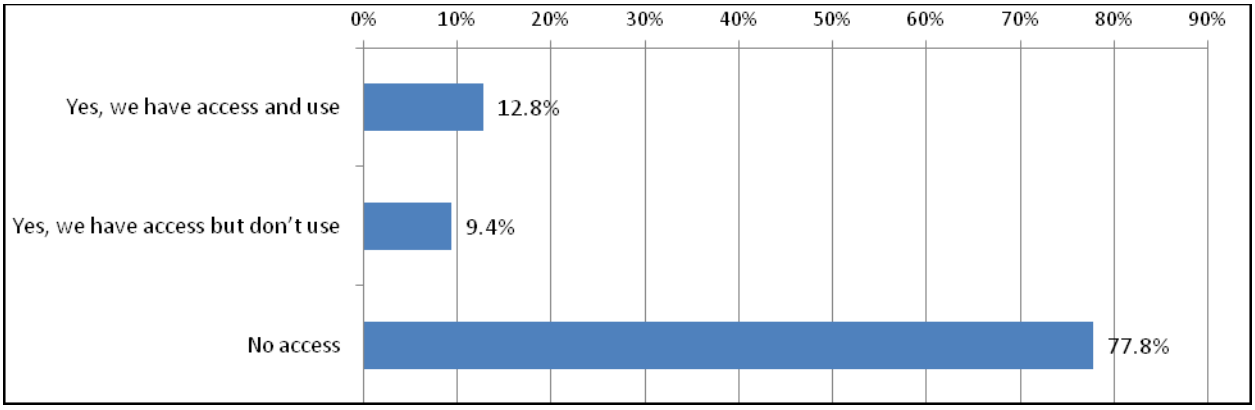

Figure 8-75: PRMS Access/Use of an Irrigation System

Education

According to the UNDP (2008) *Georgia Human Development Report 2008: The Reforms and Beyond*, financing of education decreased from 7% of GDP in 1991 to 1% in 1994. By 2003, it was still only 2.1%. This decline in funding reduced teacher and lecturer salaries and led to a deterioration of basic infrastructure. According to the Georgian Ministry of Education and Science, 70% of schools in cities and 84% of schools in rural areas needed significant repair or complete reconstruction in 1999.

The current National Programme for School Building Rehabilitation will spend GEL 500 million (USD 329 million) on school rehabilitation by 2011. There have also been significant efforts to build new schools, including in rural areas.

Despite these improvements, significant difficulties have remained. As reported to the World Bank (Godfrey, 2007), the intake into the final primary grade was estimated at only 86%, which led the World Bank to place Georgia (along with Tajikistan and Moldova) into a category of ex-members of the Commonwealth of Independent States that were 'unlikely' to achieve the Millennium Development Goal #2 of "universal primary education".

Survey results suggest that public attitudes toward changes in education facilities and provision are mostly positive and continuing to improve. In April 2005, when asked directly about their attitude to the reforms, 46% of respondents in Tbilisi, Gori and Kutaisi areas supported educational reforms. By November 2005, reform was supported by 59%. In 2007, the number of those supporting the educational changes had climbed to 65%. The changes have been accompanied by an increase in costs to parents in terms of required student expenditures on clothes, equipment and books.

The decline in Russian-language education has acted against the interest of ethnic minorities. Russian was often the second language of many ethnic minority households. Children now have to go to school and take tests in Georgian, which is not their native language. (Russian language schools are no longer an option.) A significant number of ethnic minority households are poorer than the Georgian majority population (UNDP, 2007), making the cost of going to school proportional higher for such households.

CSG1/pipeline loop PACs

Just over one-third of households (37.1%) have school-age children who attend primary or secondary schools. One per cent of children do not attend school because of access problems. The quality of local schools is considered 'excellent' by 18% of households and about 38% evaluate them as 'good'. Only 6% consider them 'poor'. Most respondents found it difficult to evaluate the changes in the quality of the local schools within the last five years. However, significantly more respondents considered schools to have improved (about 38%) than to have deteriorated (about 3%) (see Figure 8-76, Figure 8-77 and Figure 8-78).

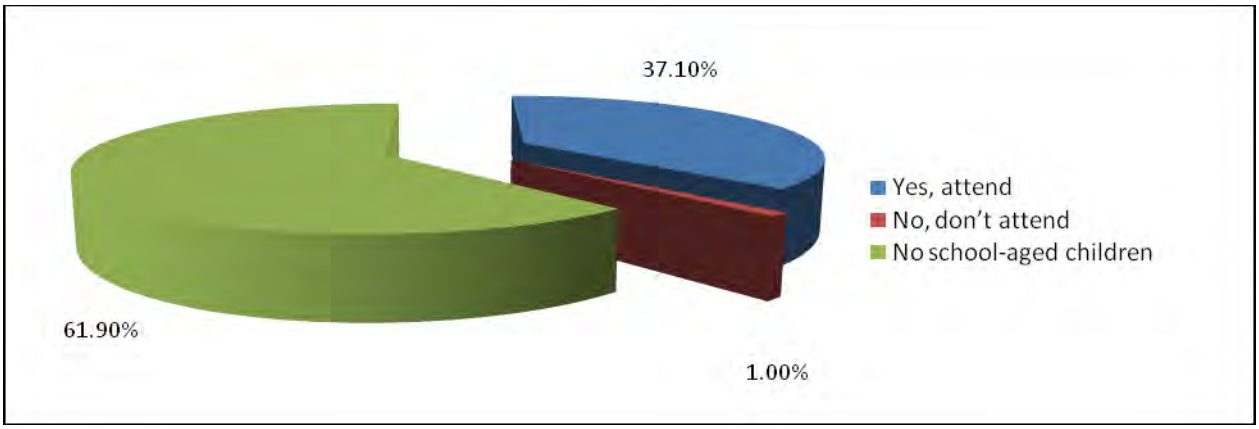

Figure 8-76: CSG1/Pipeline Loop School Attendance

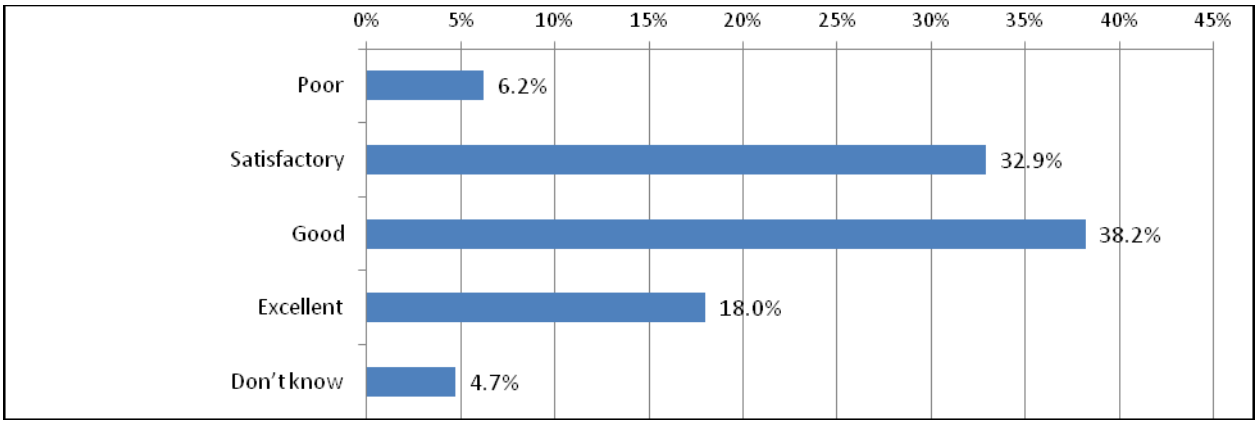

Figure 8-77: CSG1/Pipeline Loop Assessment of Quality of Schools (For Those with School-Age Children)

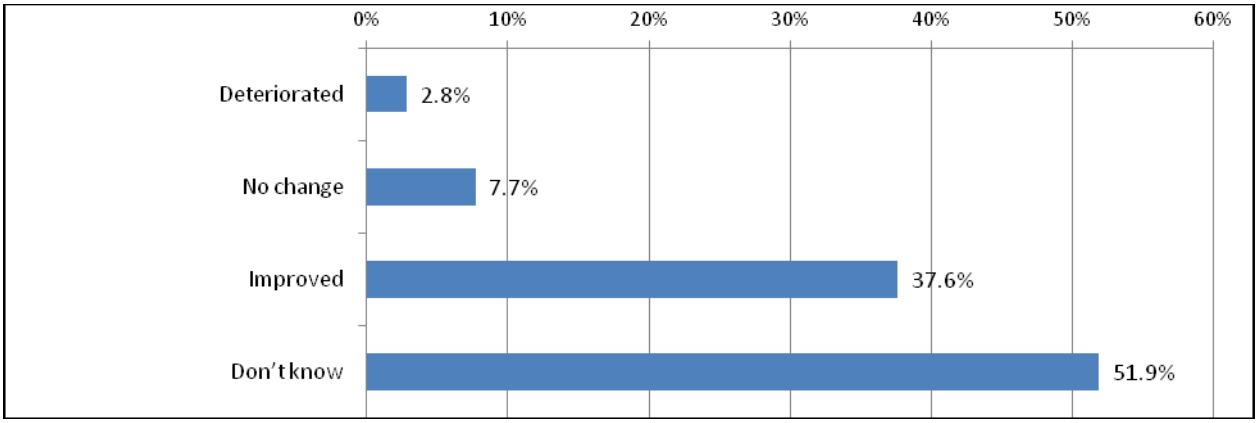

Figure 8-78: CSG1/Pipeline Loop change in Quality of Local Schools over the Past Five Years

CSG2/access road PACs

About one-third of households (30.5%) has school-age children who attend primary or secondary schools. Only 0.1% of children do not attend school. About 24% of respondents consider the quality of local schools 'excellent' and about 15% evaluate them as "good". However, about 23% consider them "poor". Most respondents found it difficult to evaluate the changes in the quality of the local schools within last five years. However, more respondents considered schools to have improved (11%) than to have deteriorated (6%) (see Figure 8-79, Figure 8-80 and Figure 8-81).

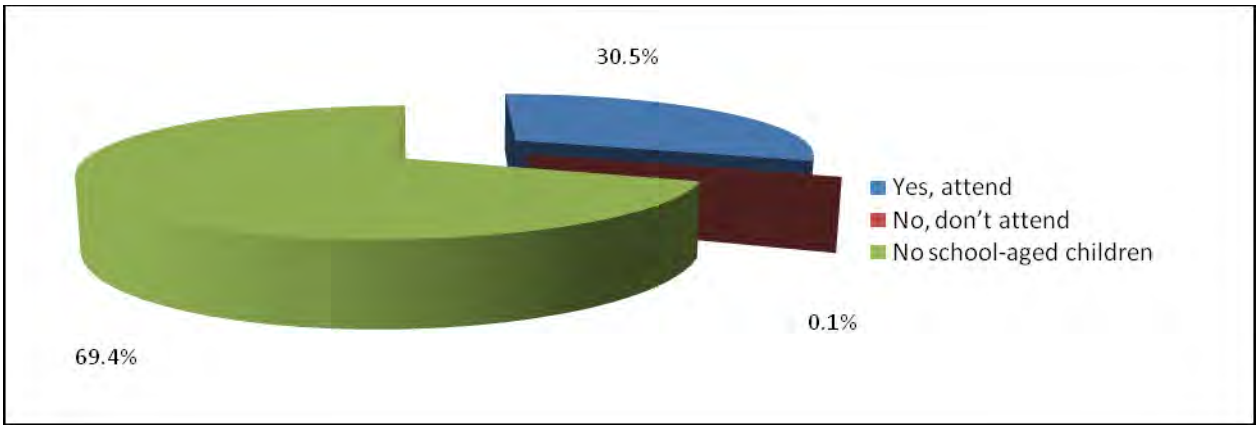

Figure 8-79: CSG2/Access Road School Attendance

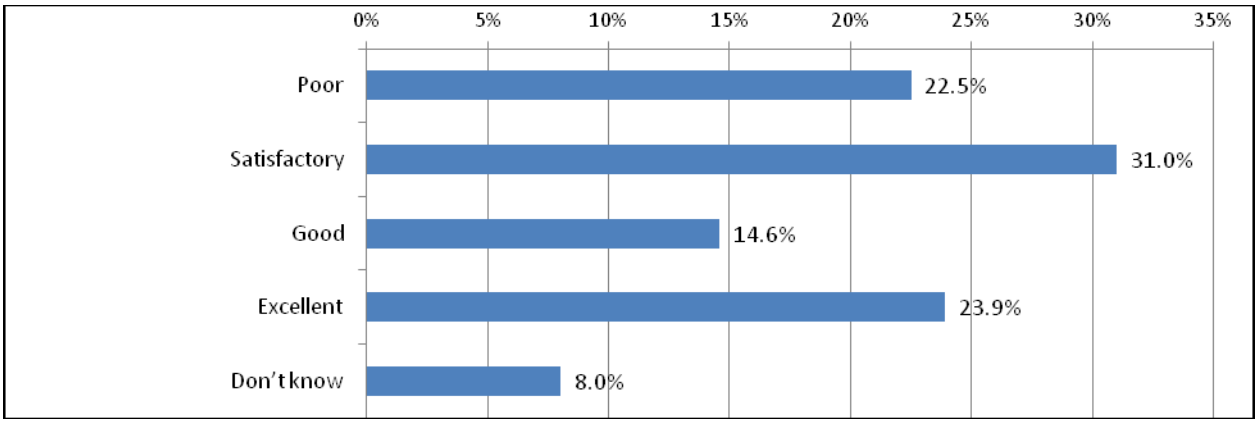

Figure 8-80: CSG2/Access Road Views Quality of Local Schools (For Those with School-Age Children)

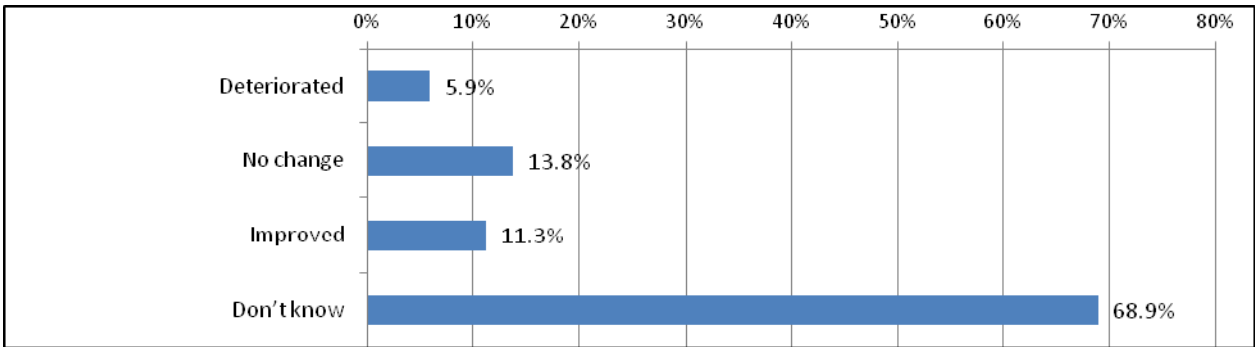

Figure 8-81: CSG2/Access Road views on Changes in Quality of Local Schools over the Past Five Years

PRMS PACs

About 29% of households have school-age children who attend primary or secondary schools. Only 0.3% of children do not attend school. About 17% of respondents consider the quality of local schools 'excellent' and about 38% evaluate them as "good". About 15% consider them "poor". Most respondents found it difficult to evaluate the changes in the quality of the local schools within last five years. However, more respondents considered

schools to have improved (about 25%) than to have deteriorated (about 2%) (see Figure 8-82, Figure 8-83 and Figure 8-84).

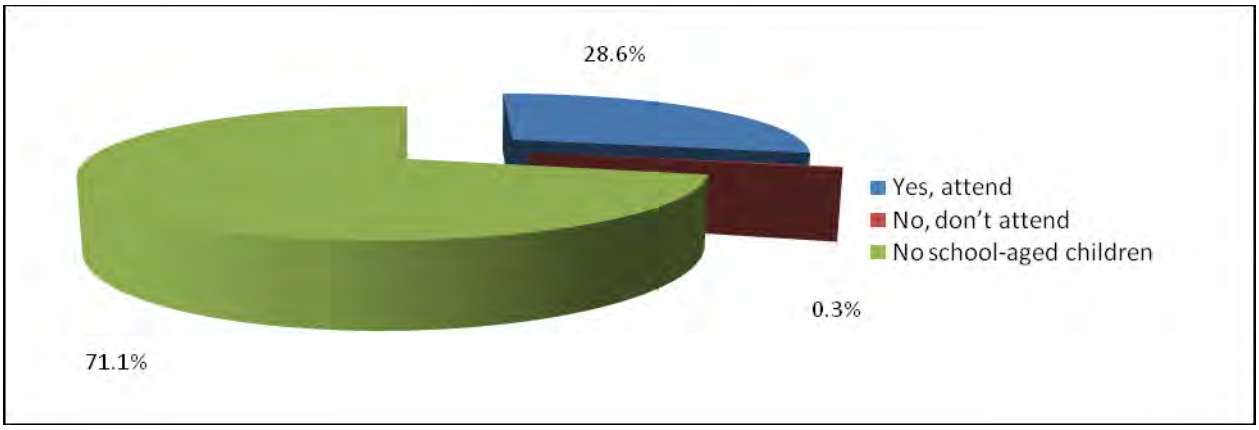

Figure 8-82: PRMS School Attendance

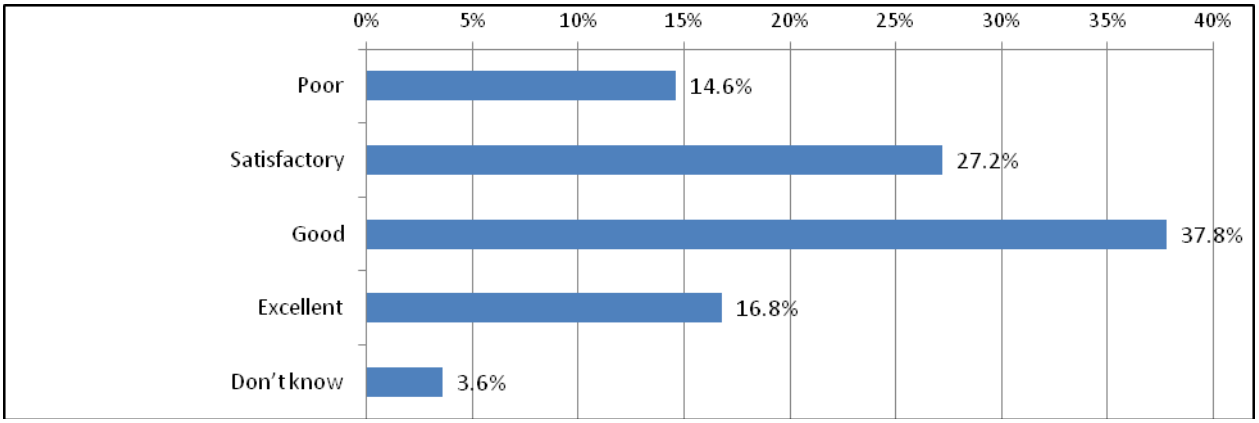

Figure 8-83: PRMS Assessment of the Quality of Local Schools (For Those with School-Age Children)

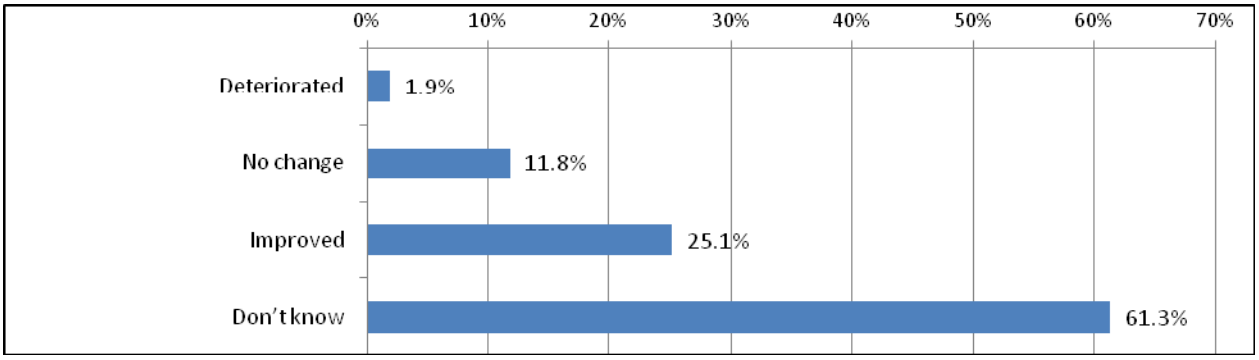

Figure 8-84: PRMS Change in Quality of Schools Changed over the Past Five Years

Mobile phone network coverage

All CSG1/pipeline loop and PRMS PACs have mobile phone network coverage, as do the majority of CSG2/access road PACS.

Views on infrastructure and services

This section reports common trends and problems associated with the existing infrastructure and facilities/services found in PACs. The results shown here are taken from household interviews with the PACs conducted in September/October 2011.

CSG1/pipeline loop PACs

In considering the condition of local infrastructure/facilities/services, concern about the status and quality of the water supply was the most often cited key issue. About 50% of households consider the water quality poor and just over 30% consider the water supply service delivery poor. Around 20–25% of households indicated that the following were also 'poor': roads, wastewater and waste disposal, and recreational and entertainment facilities (see Figure 8-85).

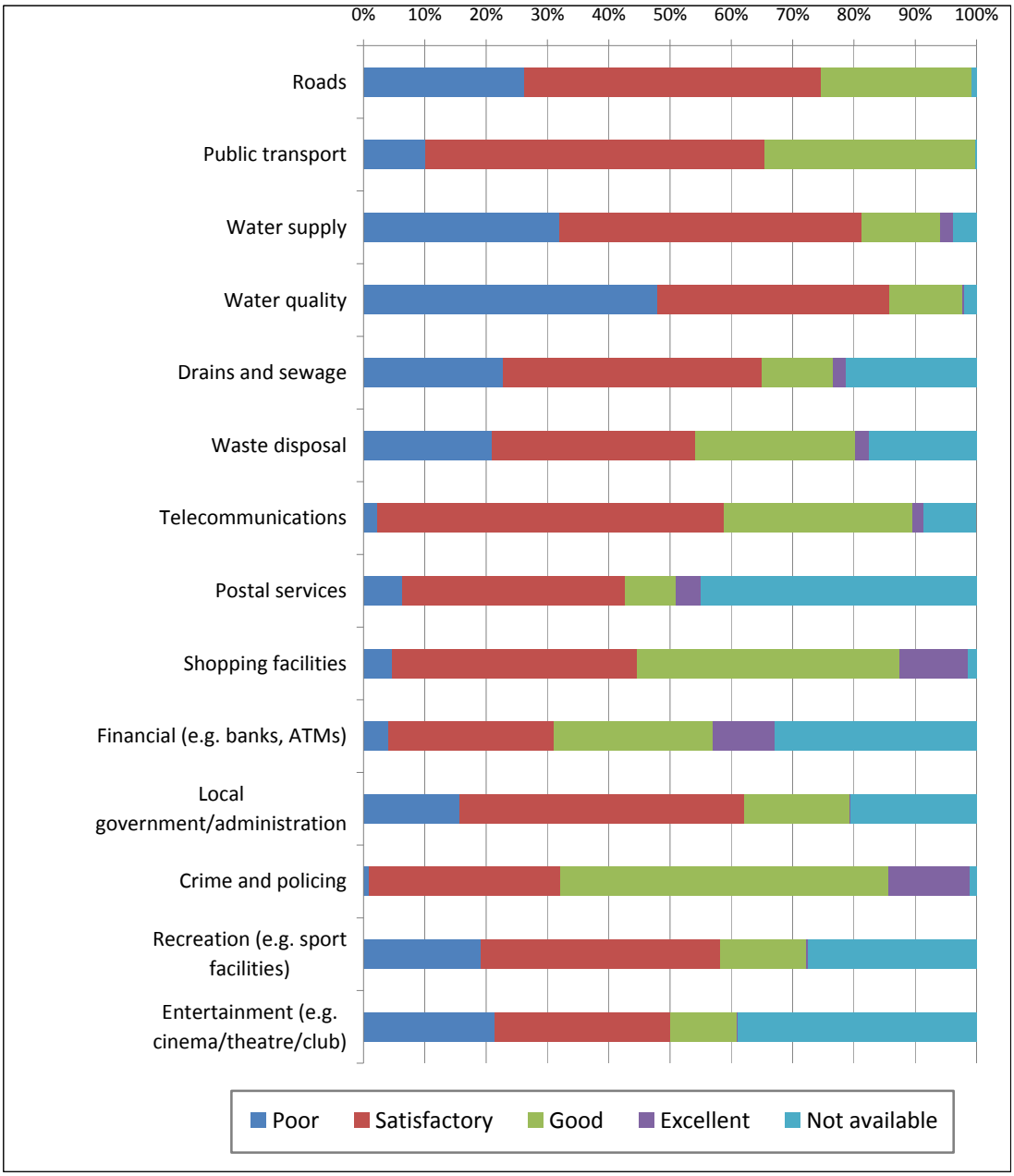

Figure 8-85: CSG1/Pipeline Loop Views on Condition of Infrastructure/Facilities/Services

There are diverging views on the extent to which there has been deterioration or improvement. However, it is noticeable that fewer households consider there to have been improvements in the areas of water supply and wastewater disposal compared to the numbers indicating improvements in other local infrastructure/utilities/facilities. The extent of improvement in crime/policing and shopping facilities is indicated clearly by many respondents. For most utilities/infrastructure/facilities many respondents consider that there has been 'no change' (see Figure 8-85 and Figure 8-86).

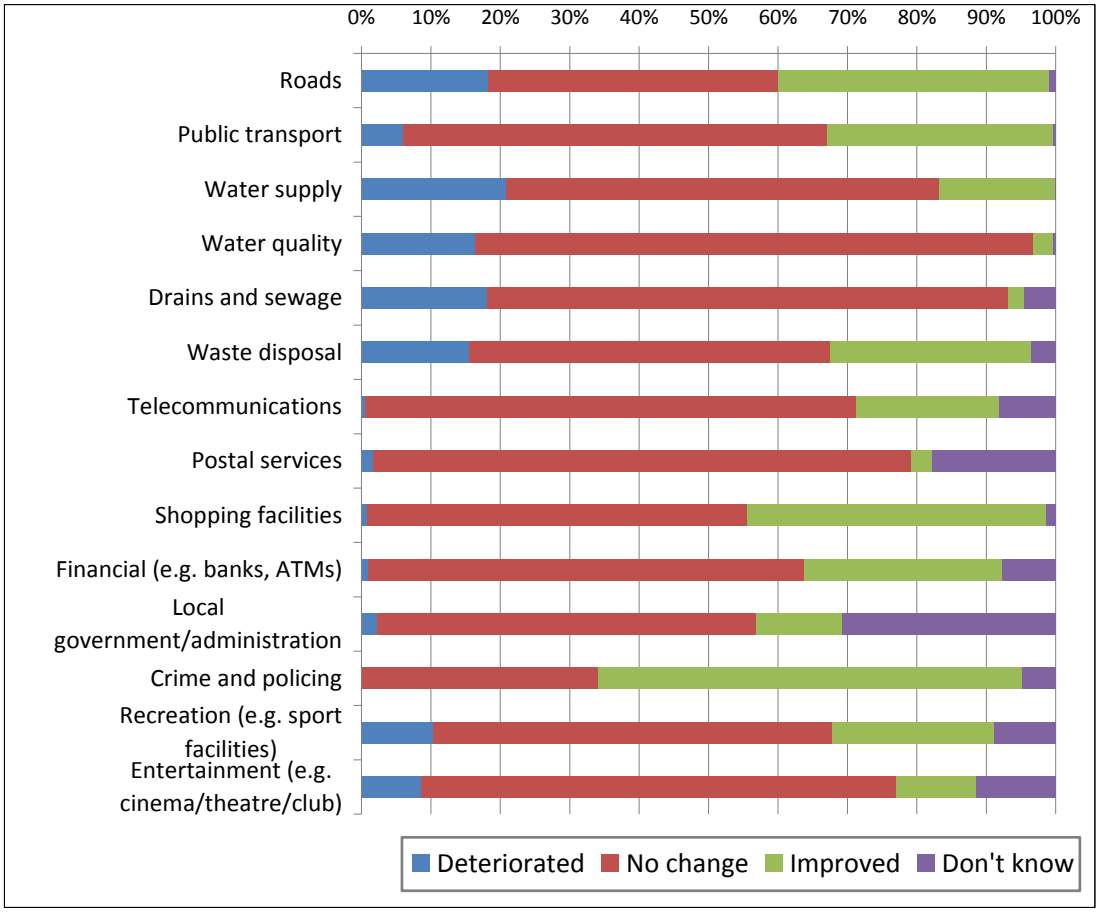

Figure 8-86: CSG1/Pipeline Loop Views on Change in Condition of Infrastructure/Facilities/Services

CSG2/access road PACs

In considering the condition of local infrastructure/facilities/services, most local people consider that the condition of local roads and quality and accessibility of public transport are the key issues. Eighty per cent consider the condition of local roads 'poor' and just over 40% consider the public transport also 'poor'. Utilities considered as significant problems in terms of quality, or access, are water supply, wastewater disposal and solid waste disposal. There are also problems with shopping facilities, the postal service, access to banks, entertainment facilities and recreational facilities (see Figure 8-87).

The condition of local roads is considered by a significant number of respondents (80%) to have deteriorated in the past five years. Other utilities and facilities (e.g. water supply and water quality) are considered to have deteriorated by some and improved by others, probably depending on location of respondents. There has been a noticeable improvement in crime/policing. Many respondents consider there has been 'no change' in most utilities, infrastructure and facilities (see Figure 8-87 and Figure 8-88).

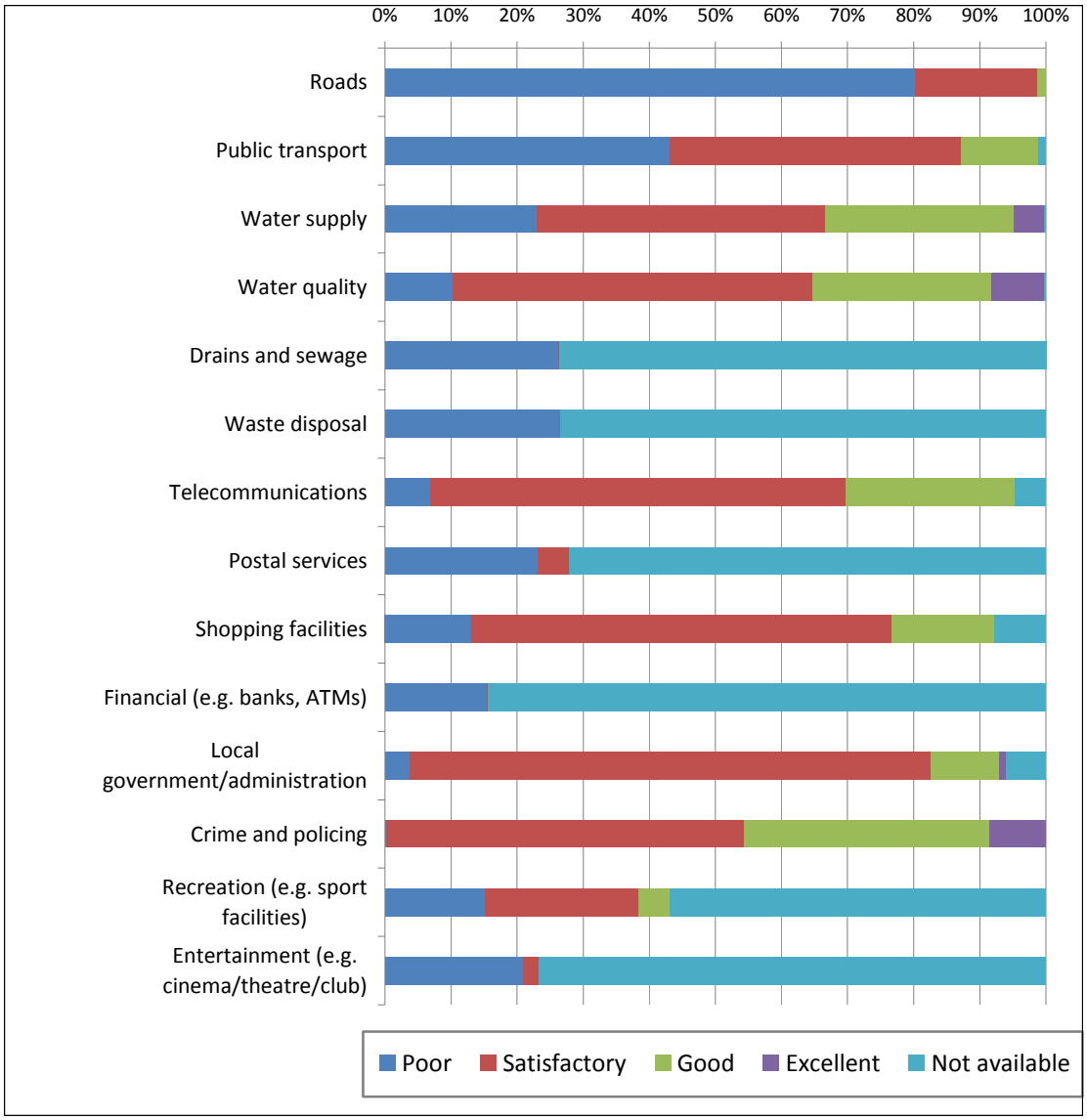

Figure 8-87: CSG2/Access Road Views on Condition of Infrastructure/Facilities/Services

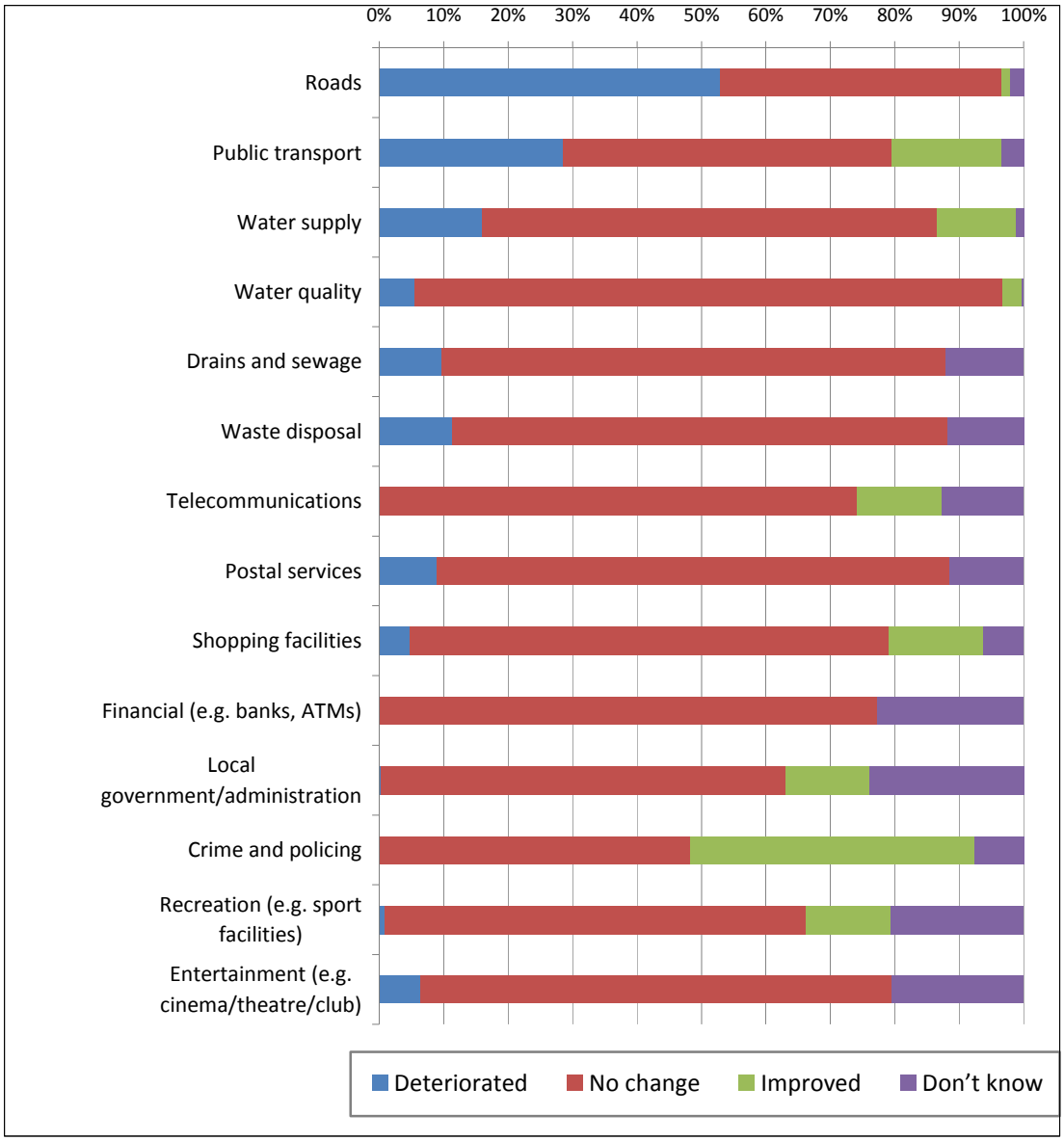

Figure 8-88: CSG2/Access Road Views on Change in Condition of Infrastructure/Facilities/Services

PRMS PACs

In considering the condition of local infrastructure, facilities and services, about half of respondents consider that the condition of local roads is the key issue. Other issues of lesser, but almost equal importance are water supply, postal and financial services, and access to entertainment and recreational facilities (see Figure 8-89).

The condition of local roads is considered by 20% of respondents to have deteriorated in the past five years. About 35% consider there to have been an improvement. In general, for most infrastructure, facilities and services more people consider there to have been improvement than deterioration. The divergent views are probably dependent on the location of respondents. Many respondents consider that there has been 'no change' for most infrastructure, facilities and services (see Figure 8-89 and Figure 8-90).

All PACs have mobile phone coverage.

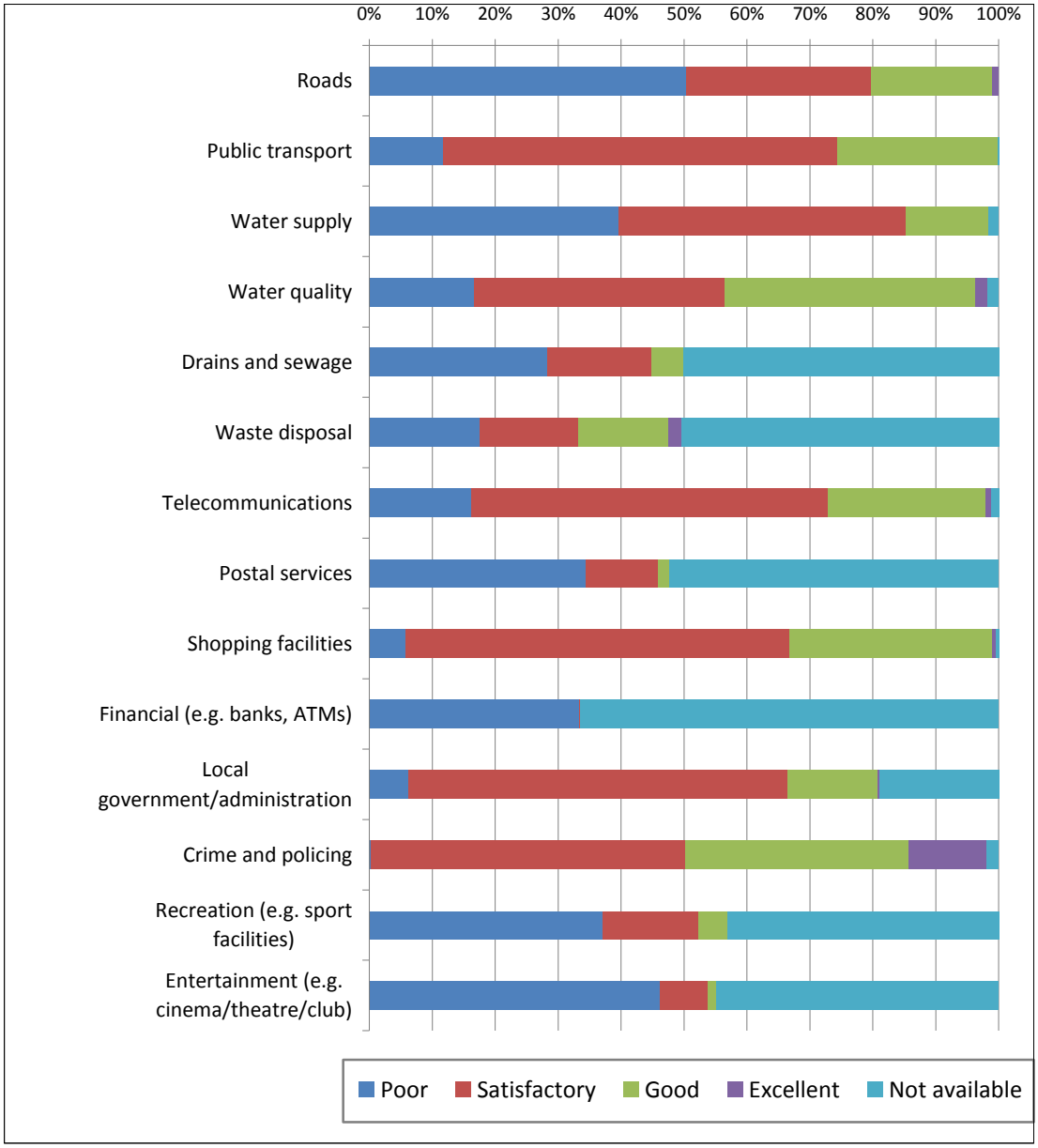

Figure 8-89: PRMS Views on Condition of Infrastructure/Facilities and Services

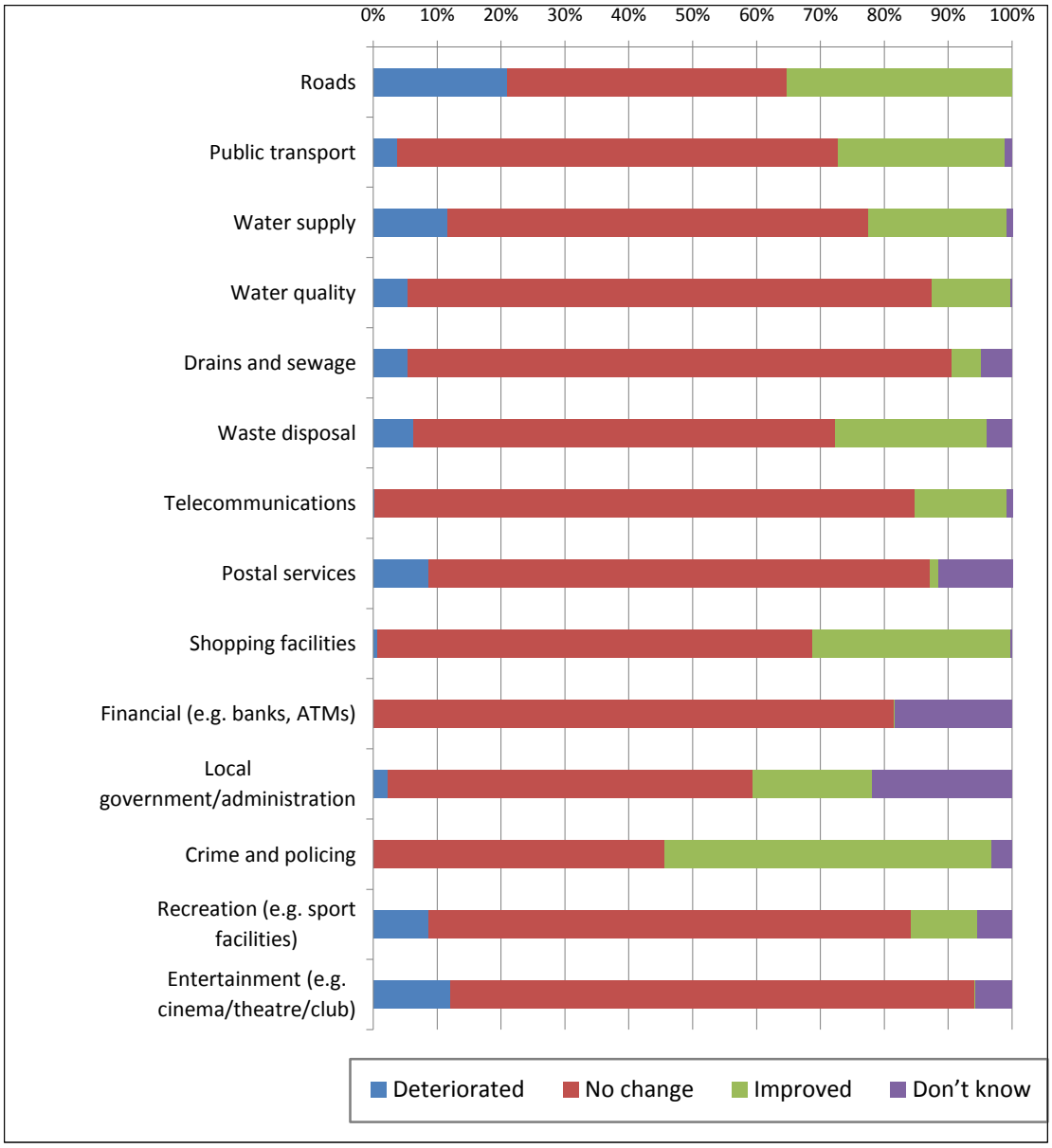

Figure 8-90: PRMS Views on Change in Condition of Infrastructure Facilities and Services

8.7.4 Sensitivities for Infrastructure and Services

CSG1/pipeline loop PACs

The key sensitivities are:

- Water supply provision and quality of water
- Wastewater treatment
- Waste disposal.

CSG2/access road PACs

The key sensitivities are:

- Lack of mains (piped) gas (widespread reliance on fuel wood and cattle dung for cooking and particularly heating)
- Water supply (about 10% reliant on springs and wells) and regularity of supply
- Roads and public transport (poor condition and considered to be deteriorating).

PRMS PACs

The key sensitivities are:

- Lack of mains (piped) gas (significant reliance on fuel wood for cooking and particularly heating)
- Water supply (about 10% reliant on springs and wells) and regularity of supply
- Lack of access to commercial services (post office, bank)
- Lack of adequate entertainment and recreational facilities.

8.8 Traffic

This section of the report describes the existing road traffic on roads that may be used during the SCPX Project construction such as access routes to pipe storage yards, temporary construction camps, and pipeline and AGI construction sites.

8.8.1 Information from Desktop Literature Survey

In preparation for the field surveys, the baseline traffic surveys presented in appendices to the BTC/SCP Project ESIAs were reviewed.

These surveys were undertaken a decade ago. The road network was found to be in generally poor condition. Many roads were unpaved and there was limited lighting and safety infrastructure. Many of the vehicles in use were old soviet manufactured vehicles. The use of roads by slow-moving road users such as horses and carts and for livestock herding was observed.

8.8.2 Data Gaps and Field Survey Methods

Data gaps

The BTC/SCP traffic survey data is approximately 10 years old and is therefore considered likely to be out of date and thus of limited use.. There have been some major road improvement schemes in Georgia in the last 10 years, although the majority of minor roads and village streets may still be in poor condition, with numerous potholes and warping of the road surface. As economic prosperity has increased over the last 10 years, vehicle ownership in Georgia is likely to have increased and changed, with modern vehicles replacing the old soviet manufactured ones. Therefore, the BTC/SCP traffic survey data is unlikely to be representative of current baseline traffic conditions.

New traffic surveys were proposed to help define the current baseline conditions for the SCPX ESIA. RSK mobilised traffic counters to six survey locations between 8 and 14 November 2011 to record the variation in traffic flows at locations that, at the time, were considered to best represent roads which will be utilised by SCPX construction traffic to access the right of way and facility construction sites from the highway, construction camps and pipe dumps/lay-down areas. Surveys were carried out on five weekdays at each location, and an additional weekend survey was carried out at two of the six locations, because construction may be carried out over a seven-day working week.

Traffic survey locations

Figure 8-91 shows the location of the six traffic survey locations chosen to be close to sites that are being considered for facility construction, lay-down areas, construction camps and pipe storage yards for the SCPX Project construction.

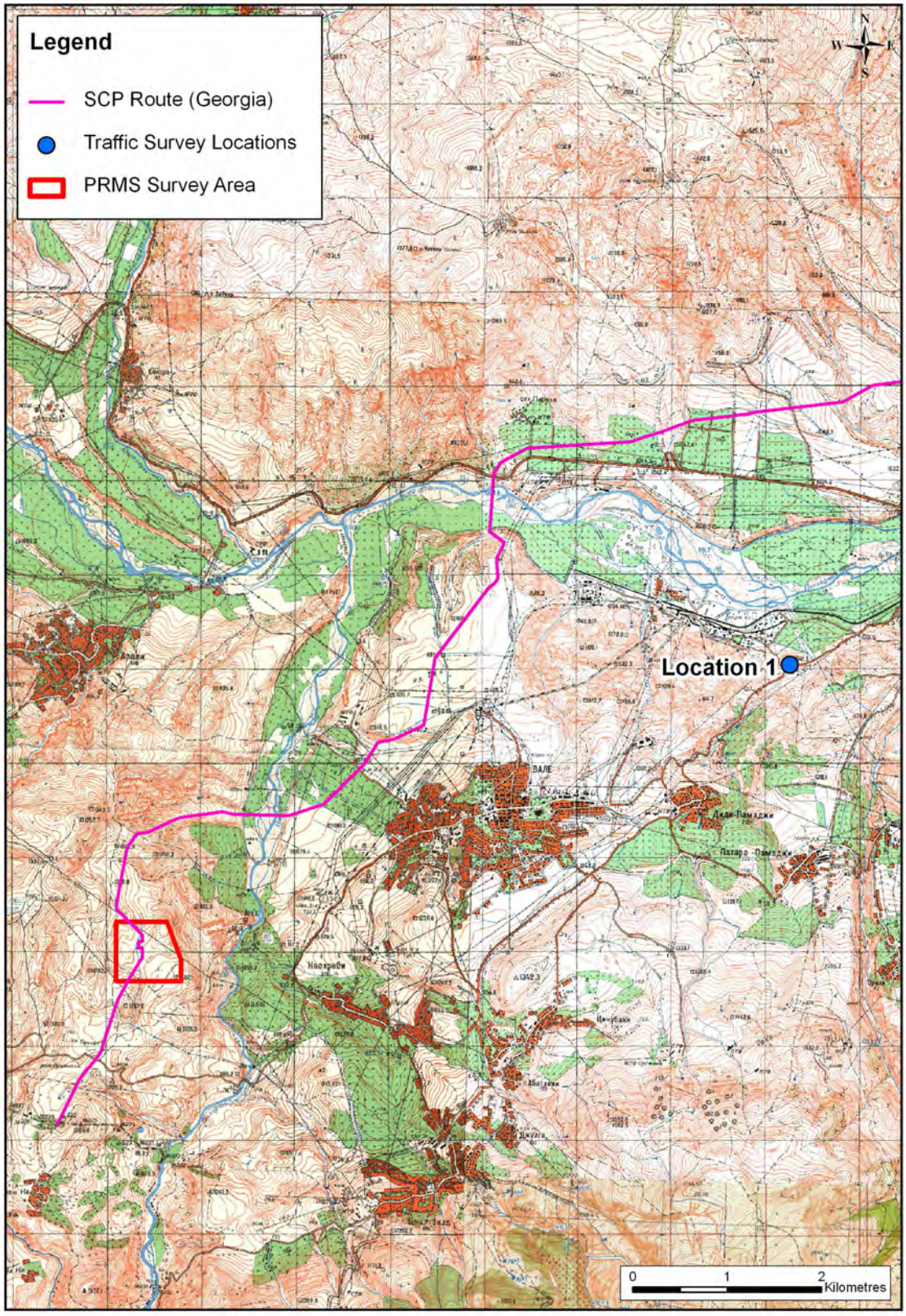

Figure 8-91: Traffic Survey Location 1

Figure 8-92: Traffic Survey Location 2 (Tsalka Lake)

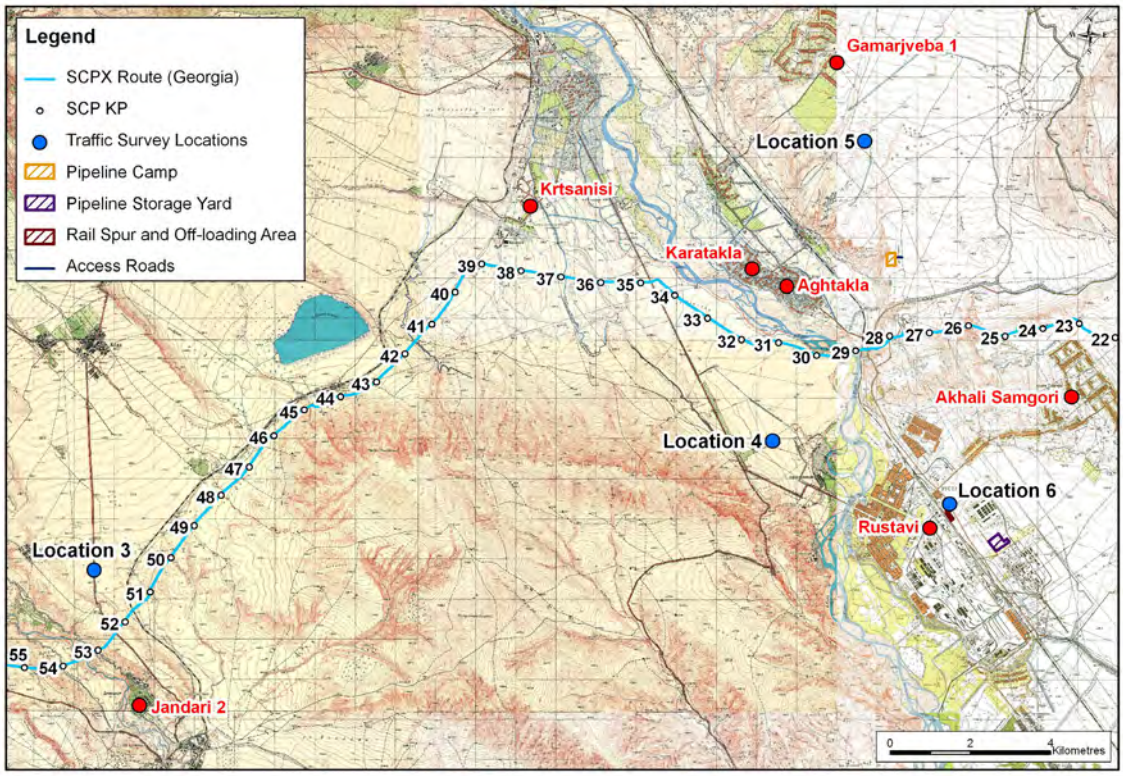

Figure 8-93: Traffic Survey Locations 3, 4, 5 and 6

The survey locations were selected as follows:

- Location 1 is a few kilometres west of Akhaltsikhe along the main road to the PRMS
- Location 2 is a few kilometres west of Tsalka, on the route to be used to pass through Tsalka to CSG2
- Location 3 is a few kilometres north of Marneuli, close to where the SCPX pipeline route crosses the Marneuli–Tbilisi road
- Locations 4, 5 and 6 were chosen to give an indication of traffic flows within and around Rustavi due to the proximity of potential construction camps and pipe lay-down areas, as well as the proximity to the route to CSG1. Location 4 is in Rustavi town. Location 5 is located north of Rustavi on the route to CSG1 most likely to be used by traffic coming from Tbilisi and the north. Location 6 is located east of Rustavi where the route to CSG1 passes through its industrial areas as it bypasses the town.

Survey methods

At least two traffic counters were mobilised to each location. At survey locations 2–6, the surveys were conducted between 09:00 and 17:00, an 8-hour counting period over the busiest time of the day. At Location 1, the survey was conducted between 11:00 and 17:00 because bad weather prevented the survey team getting to the survey location in time for a 9.00am start.

The traffic counters carried out Manual Classified Counts (MCC) following general UK guidance to determine the quantity and type of traffic travelling on the roads. They used the vehicle classification presented in Table 8-18.

Table 8-18: Vehicle Classification (after DFID Overseas Road Note 40)

Type of Vehicle	Description
Other Road Users	
Pedestrians	Other road users include all the vehicles listed on the left. A high proportion of these vehicles can affect the available road width that can be used by the SCPX construction traffic, as well as vehicular speeds on these roads.
Animal flocks	
Bicycles	
Motor cycles	
Animal drawn cars	
Agricultural vehicles	
Light Vehicles	
Cars	Includes passenger cars, 4x4s and taxis.
Light goods vehicles and minibuses	Includes vans, minibuses and light goods vehicles with single rear wheels
Heavy Vehicles	
Small trucks (2 axles)	Two-axled vehicles with twin tyres on rear axle
Medium goods vehicles/heavy trucks (3 axles)	Larger trucks with three axles
Heavy trucks (4 or more axles)	Vehicles with four or more axles (trailers being included as part of the vehicle)
Buses and coaches	All regular large passenger vehicles and coaches. This category does not include minibuses.

The traffic counters were positioned at safe observation points away from the carriageway from which they had a clear view of the road and oncoming traffic. They recorded manual counts of road users. Traffic was recorded continuously with breaks taken at regular intervals when needed. As vehicles and road users passed a survey point, the traffic counter recorded the vehicle type on the count form. One form was used for each direction. At busy locations, one surveyor focussed on recording traffic moving from one direction only.

Hourly flows were corrected to allow for the lack of observations during rest periods. For example, after a 15-minute break, the flow for the 45min recorded in that hour was converted to an hourly flow by applying a 60/45 correction factor.

8.8.3 Baseline Traffic Conditions

As described in the transport infrastructure section of this baseline report (Section 8.8), there have been considerable efforts to improve the roads and transport infrastructure within Georgia. A number of roads have been upgraded and additional dual carriageways are under construction.

As observed during the survey, the majority of main public roads to be used by the SCPX construction traffic are presently in good condition. There are however sections of major roads still under construction such as the section of the main east–west highway around Gori. There are also sections of existing local roads that are in bad condition such as the road leading from the industrial areas of Rustavi towards CSG1, and sections of the road from Tsalka towards CSG2.

The traffic surveys were conducted in November 2011, which is not considered the busiest period for traffic flows, as flows will vary from month to month and season to season owing to many factors such as increased human activity during summer months, reduced traffic movements during winter and periods of snow fall. Nonetheless, it is considered that the traffic flows recorded during the course of this survey are likely to be close to the average annual traffic flows within the areas under consideration.

Traffic data from the survey are presented in Appendix K and contain:

- Daily one-way traffic flow summary sheets by location
- One-way traffic flow summaries for all locations per counting period by average flow, flow composition and peak hourly flows.

Traffic flows are summarised in Table 8-19, Figure 8-94 and Figure 8-95 below.

Table 8-19: Traffic Flow Summary Table

Location	Average Flow Per Counting Period (Vehicle/hr)	Peak Hourly Flow (Vehicle/hr)	Percentage of Heavy Vehicles
Location 1 (Vicinity of Akhaltsikhe)			
- To Akhaltsikhe	48.00	61.00	27.08
- From Akhaltsikhe	56.83	69.00	22.29
Location 2 (Vicinity of Tsalka)			
- To Tsalka	26.50	34.00	14.15
- From Tsalka	22.13	32.00	12.99
Location 3 (Vicinity of Marneuli)			
- To Marneuli	331.88	398.00	10.24
- From Marneuli	264.50	334.00	8.46
Location 4 (Within Rustavi)			
- To Rustavi (weekday)	815.13	894.00	2.01
- From Rustavi (weekday)	818.00	915.00	2.49
- To Rustavi (weekend)	663.75	715.00	1.75
- From Rustavi (weekend)	650.42	732.00	1.56
Location 5 (Vicinity North of Rustavi)			
- To Rustavi	73.50	90.00	17.18
- From Rustavi	51.88	65.00	21.93
Location 6 (Vicinity South of Rustavi)			
- To Rustavi (weekday)	128.50	166.00	17.41
- From Rustavi (weekday)	113.63	176.00	14.63
- To Rustavi (weekend)	88.75	141.00	18.59
- From Rustavi (weekend)	63.50	78.00	25.00

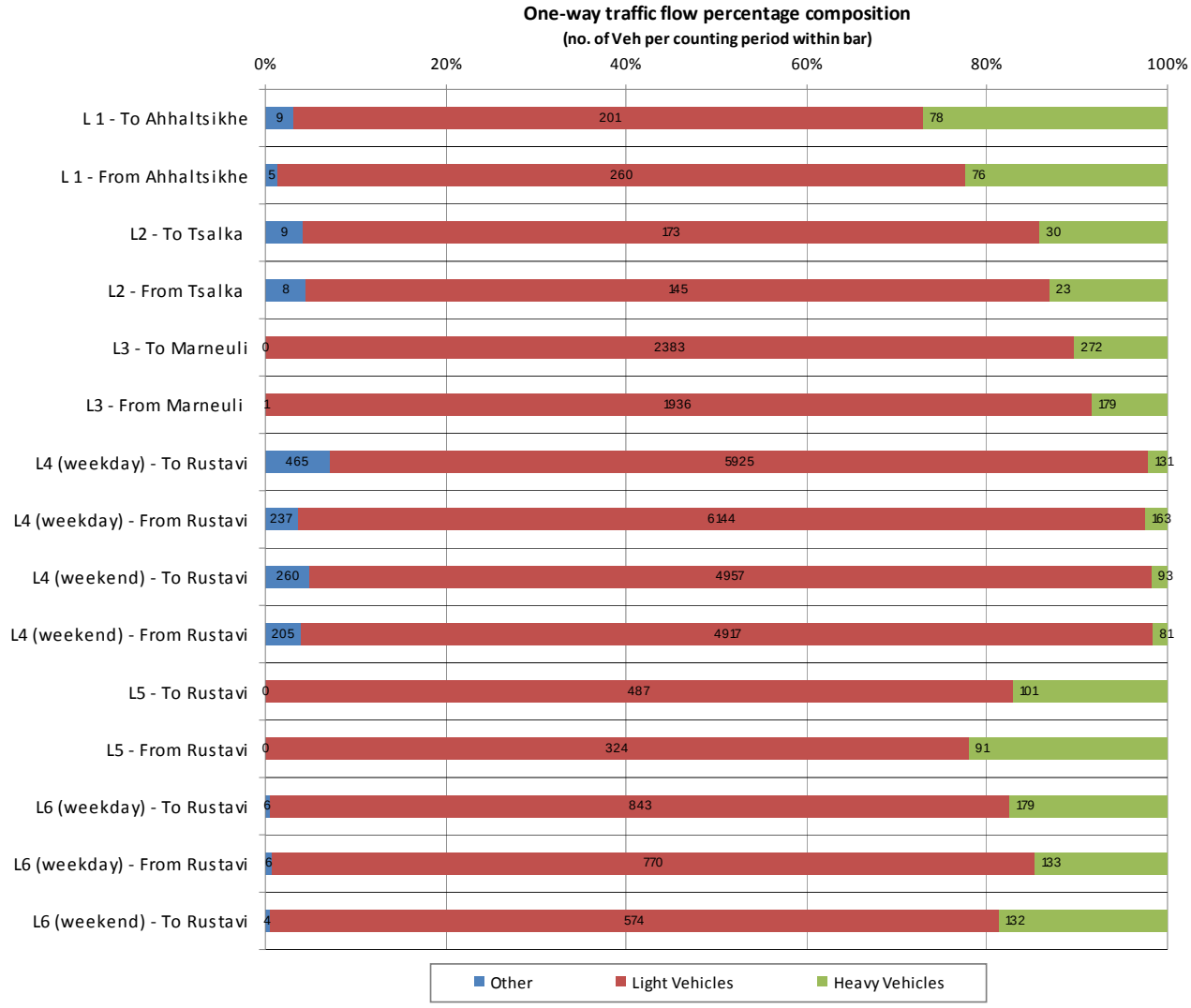

Figure 8-94: One-Way Traffic Flow Per Location by Percentage Composition

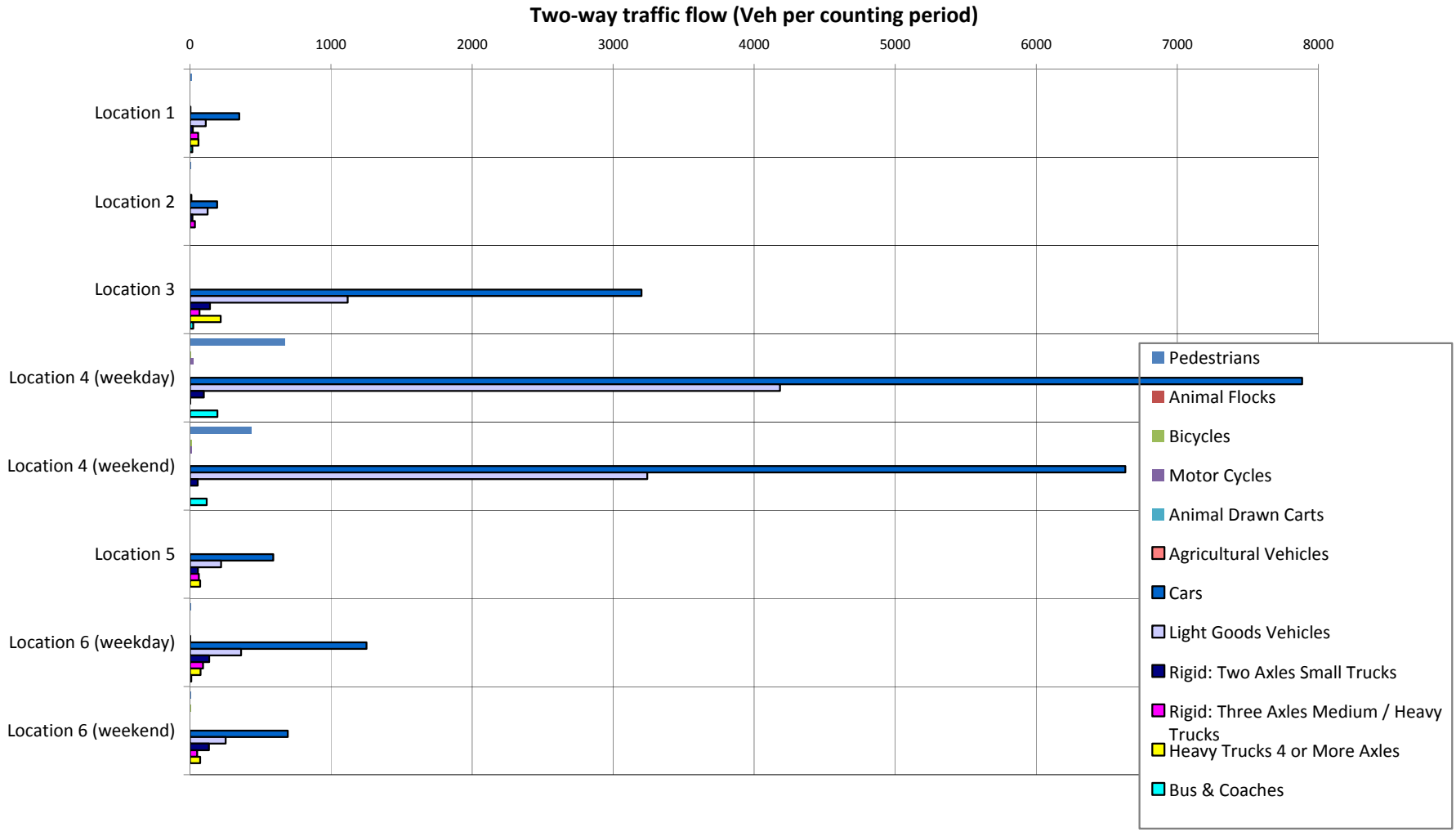

Figure 8-95: Combined Two-Way Traffic Flow Per Location by Category

Traffic conditions at location 1

The peak hourly flow to Akhaltsikhe, 61 vehicles/hour, occurred between 14:00 and 15:00. Peak hourly flow from Akhaltsikhe, 69 vehicles/hour, occurred between 12:00 and 13:00. Traffic flows were generally balanced throughout the day. Heavy vehicles made up a significant proportion (an average of 24.7%) of vehicles using the route.

Heavy vehicles were going to and from a quarry close to the survey point during most of the day. The proportion of heavy vehicles is considered likely to reduce slightly further along the route towards PRMS.

Figure 8-96: View of Traffic to Akhaltsikhe

Traffic conditions at location 2

The peak hourly flow to Tsalka, 34 vehicles/hour, occurred between 13:00 and 14:00 and again between 14:00 and 15:00. The peak hourly flow from Tsalka, 32 vehicles/hour, occurred between 15:00 to 16:00.

Location 2 was surveyed two days after heavy snow in the area. This may have affected the traffic flows by reducing the number of road users.

Although there is a good proportion of 'Other Vehicles' presented on the summary tables, about 55% of this flow is made up of agricultural vehicles.

Figure 8-97: View of Traffic to Tsalka

Traffic conditions at location 3

The peak hourly flow to Marneuli, 398 vehicles/hour, occurred during the morning between 11:00 and 12:00 .The peak hourly flow from Marneuli, 334 vehicles/hour, occurred between 10:00 and 11:00.

This location recorded the highest light and heavy traffic flows of all surveyed locations. It is a major route from the south-west of the country to the country's capital Tbilisi.

Figure 8-98: View of Traffic to Marneuli

Traffic conditions at location 4

The weekday survey at Location 4 recorded a peak hourly flow towards the town centre of 894 vehicles/hour, occurring between 13:00 and 14:00. The peak hourly flow from the town centre was 915 vehicles/hour, occurring between 15:00 and 16:00.

Location 4 was also surveyed at the weekend to give an indication of weekly variation in traffic.

The weekend survey of Location 4 recorded a peak hourly flow towards the town centre of 715 vehicles/hour, occurring between 15:00 and 16:00. The peak hourly flow from the town centre was 732 vehicles/hour, occurring between 16:00 and 17:00.

Comparing recorded weekday and weekend flows, there is a marked reduction in flows across most categories of vehicles: a 35% reduction in pedestrian flows, a 33% reduction in motorcycle flows, a 16% reduction in car flows, a 44% reduction in rigid two-axle small trucks, and a 39% reduction in bus/coach flow. There is however a 100% increase in bicycle flows, which can be attributable to people engaged in leisure activities over the weekends. On average, there is a 20% reduction in flows across all vehicle categories.

Figure 8-99: View of Traffic within Rustavi at Location 4

Figure 8-100: View of Traffic North of Rustavi at Location 5

Traffic conditions at location 5

The peak hourly flow to Rustavi, 90 vehicles/hour, occurred between 10:00 and 11:00. The peak hourly flow from Rustavi, 65 vehicles/hour, occurred between 14:00 and 15:00.

Traffic conditions at location 6

The weekday survey at Location 6 recorded a peak hourly flow to the town centre (northwards) of 166 vehicles/hour, occurring between 11:00 and 12:00. The peak hourly flow from the town centre (southwards) was 176 vehicles/hour, occurring between 10:00 and 11:00.

Location 6 was surveyed during a weekday and at the weekend to give an indication of weekly variation in traffic.

The weekend survey of Location 6 showed a peak hourly flow to the town centre (northwards) of 141 vehicles/hour, occurring between 09:00 and 10:00. The peak hourly flow from the town centre (southwards) was 78 vehicles/hour, occurring between 10:00 and 11:00.

Comparing weekend and weekday flows at Location 6, there is an average reduction in traffic flows of 37% across all categories of vehicles; pedestrians 25%, cars 45%, heavy trucks 3%, and busses/coaches 100%. There was, however, a few bicycles (5) recorded at the weekend where none were recorded during the week.

Figure 8-101: View of Traffic North of Rustavi at Location 6vi at Location 6

8.8.4 Traffic Sensitivities

The following are a summary of the components of the baseline survey, which in the project context, are considered to be the most important based on the anticipated impacts of the project development

Akhaltsikhe

- A large proportion of the traffic flows (24.7%) is made up of heavy vehicles transporting quarry material
- Vehicle movements are balanced throughout the day.

Tsalka

- Agricultural vehicles (55%) make up the largest proportion of vehicles in this location

- Peak activity in the Tsalka area is in the afternoon. Peak vehicle movements towards Tsalka occur between 13.00 and 15.00 and away from Tsalka between 15.00 and 16.00.

Marneuli

- Peak in the Marneuli area for traffic travelling in both directions occurs in the morning with vehicles travelling from Marneuli towards Tbilisi between 10.00 and 11.00 and away from Tbilisi towards Marneuli between 11.00 and 12.00
- This route is a major route into Tbilisi for traffic from the south-west of the country.

Rustavi

- Peak flows in both directions at Location 4 (north west of Rustavi) occur in the afternoon between 13.00 and 14.00 away from town and between 15.00 and 16.00 towards town
- To the north of Rustavi (Location 5) peak flows of traffic occur morning and afternoon between 10.00 and 11.00 movements are towards town and 14.00 to 15.00 away from the town
- Peak flows at Location 6 occur in the morning with peak flows of traffic moving towards town between 110.00 and 11.00 and away form town between 11.00 and 12.00.

At the weekend there is a general decrease (20%) in all vehicle movements but an increase in bicycle use.

8.9 Key Socio-economic Sensitivities

This section summarises the survey results and identifies the components of the socio-economic that, in the project context, are considered the most important based on the anticipated impacts of the project development.

Certain socio-economic groups and issues identified are particularly relevant to the development. In some cases, these potential issues are common throughout the SCPX Project area:

- Communities in the SCPX Project area have key vulnerable groups of pensioners, the disabled and IDPs
- The PACs have inadequate water supplies, wastewater treatment and waste disposal and are sensitive to changes in the quality of groundwater and surface water
- Communities in the SCPX Project are sensitive to difficulties in demonstrating land ownership because the land registration process is incomplete
- Road users are potentially sensitive to inconvenience if the SCPX Project increases traffic flow on the existing roads and if the project's use of heavy vehicles causes damage to the existing road infrastructure
- Private land plots are an important resource for inhabitants of rural project-affected communities
- State land is primarily used for grazing and is an important 'communal' resource
- Tuberculosis rates in Georgia including multidrug resistant tuberculosis are high
- Rabies, anthrax, tularemia, Yersinia pestis, brucellosis, and leishmaniasis are all endemic in the project area
- Within PACs medicines were not affordable for a significant portion of the vulnerable groups, availability of medicines is considered low in some areas

8.9.1 Key Sensitivities at KP0–KP56 and CSG1

- The PACs have inadequate water supplies, wastewater treatment and waste disposal
- The PACs have perceived high unemployment levels, and the smaller rural ones have seasonal incomes and are sensitive to economic shocks. They lack job skills and information to help them find jobs
- Traffic levels are heaviest during the weekdays. At weekends traffic levels decrease, but there is an increase in recreational bicycle use.

8.9.2 Key Sensitivities at CSG2 and the Access Road

- The mountain PACs have perceived high unemployment levels, and the smaller rural ones have seasonal incomes and are sensitive to economic shocks
- They lack job skills and information to help them find jobs and they face additional linguistic barriers
- Livelihoods and poverty levels are sensitive to changes to access to nearby grazing pasture and woodland
- The roads and public transport are in a poor condition
- They have higher levels of disabled/chronic sick than the pipeline loop PACs
- Lack of mains (piped) gas (widespread reliance on fuel wood and cattle dung for cooking and particularly heating); as well as poor water supply. Ten per cent rely on natural springs and wells.

8.9.3 Key Sensitivities at PRMS

- Some of the plots that will be affected by the SCPX Project are of disputed ownership
- The PACs have perceived high unemployment levels, and the smaller rural ones have seasonal incomes and are sensitive to economic shocks. In addition to lacking job skills and information to help them find jobs, they face additional linguistic barriers. Livelihoods and poverty levels are sensitive to changes in access to nearby forest areas
- Lack of mains (piped) gas (significant reliance on fuel wood for cooking and particularly heating) as well as poor water supply. Ten per cent rely on natural springs and wells. There is a general lack of access to commercial services healthcare and recreational facilities.