

Chapter 8 Socio-Economic Baseline



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8 SOCIO-ECONOMIC BASELINE

8.1 Introduction

This chapter of the ESIA presents data on the baseline condition of the socio-economic environment of areas identified as having the potential to be affected by the proposed SCPX Project. The chapter includes information that is presented in the Environmental and Social Baseline Report (ESBR) for the proposed SCPX Project (RSK, 2011), and where appropriate this chapter contains references to data appendices from the ESBR. The socio-economic data are presented under the following main topic headings:

- Demographics
- Health
- Land ownership and use
- Economy
- Employment, skills and livelihoods
- Infrastructure and services
- Traffic and transport

Each section concludes with a summary of the topics' key sensitivities.

Under each socio-economic topic, data are provided at national/regional level and at project-affected community (PAC) level. National and regional data are secondary data that are drawn from various sources (Section 8.2.2), and PAC-level data are primary data - the result of PAC level and household surveys conducted by the RSK-ERA team in early 2012 (detailed in Section 8.2). A summary of the results of the socio-economic baseline survey data for the PACs is presented in Figure A8-1 (Social Constraints Maps) within Appendix A.

Within this chapter reference is made to temporary camp, pipe storage, rail spur and offloading areas that have been considered as part of the proposed SCPX Project. The sites that were initially selected for further investigation (known as Alternative 1 sites in Chapter 4), including desktop study and field surveys, were subjected to a review against a new philosophy that gave increased priority to safety (primarily the avoidance of road accidents) and construction logistics (in particular optimising site selection in relation to access to the ROW).

Following a Project review, the new philosophy was adopted, resulting in new sites being identified and the development of a second set of alternative locations referred to as 'Alternatives 2' with several of the sites discussed within this chapter subsequently rejected and have not been progressed. A definitive list of the proposed camp and pipe storage areas can be found in Chapter 5.

In this chapter temporary sites identified but later rejected are identified below with an asterisk (*) and sites selected for acquisition and development have no asterix.

8.2 Socio-economic Baseline Survey Methodology

The methodology for PAC identification, and subsequent PAC level and household level socio-economic survey is described in this section. The results have been used to inform the subsequent sections of this chapter (with the exception of Section 8.9, Traffic and Transport).

8.2.1 PAC Definition

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 ESIA's for BP-initiated pipelines in Azerbaijan:
 - Boundaries and criteria applied in previous ESIA's were reviewed for suitability, and where applicable were applied
 - Where boundaries or criteria were not considered suitable for the proposed SCPX Project, refinements were made.
- Need to take account of lessons learnt from implementation of previous pipelines, such as studies focusing on the BTC experience (e.g. impact monitoring and analysis of complaints/grievances):
 - This dictates a flexible, practical approach to defining PACs, including allowing exceptions to general rules where evidence from the field indicates that certain communities should be included, even if they are not technically PACs (in terms of boundaries), e.g. if they have common land 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; the 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 proposed 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 temporary construction camps
- A 2km radius from the centre point of temporary 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 proposed 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:
 - Does not regularly carry heavy construction or maintenance vehicles, or
 - Where it is an existing road, does not already carry regular volumes of traffic, 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.

8.2.2 Information from Desktop Literature Survey

The data at national/regional level have been obtained mainly from the following sources:

- The website of the Statistical Committee of Republic of Azerbaijan, Accessed 2012: <http://www.azstat.org/statinfo/demographic/en/index.shtml>
- Reports prepared by international agencies (e.g. UNDP) and the multilateral banks (e.g. World Bank):
 - World Bank 2010: 'Azerbaijan Living Condition Assessment Report'. <http://ddp-ext.worldbank.org/EdStats/AZEstu10.pdf>
 - World Bank, 2012: The World Bank Group Country Partnership Strategy for Azerbaijan: FY11-FY14; <http://web.worldbank.org>; and
 - UNDP, 2010: 'Country Profiles on the Housing Sector'. <http://www.unece.org/fileadmin/DAM/hlm/documents/Publications/cp.azerbaijan.e.pdf>.

Data at PAC level are based largely on the results of an SCPX Project-specific PAC survey, undertaken in February/March 2012. This survey included interviews, and obtaining data at both individual household and at PAC leader level. The main purpose of the PAC surveys was to fill data gaps (Section 8.2.3.1), by obtaining primary socio-economic data for the PACs along the pipeline route. The field survey method including methods of household survey sampling and baseline interviews are presented in Section 8.2.3.2.

8.2.3 Data Gaps and Field Survey Methods

8.2.3.1 Data gaps

The data obtained during previous socio-economic baseline surveys for the BTC and SCP ESIA, which include many of the SCPX PACs, is considered too old to provide representative data, as it was obtained from surveys undertaken in 2000–2001. The socio-economic situation in Azerbaijan has changed considerably in the intervening 10+ years, and the BTC/SCP surveys are no longer considered representative of an up-to-date socio-economic baseline.

Current data for national/regional levels were available from secondary sources such as 'The State Statistical Committee of Republic of Azerbaijan'. However, there were no current secondary socio-economic data at PAC level.

To eliminate PAC data gaps, PAC-level and household surveys were carried out to provide data to:

- Identify and describe the current socio-economic conditions and key trends in PACs that can be expected to have experienced economic change, population change and migration flows over the past decade
- Investigate possible perceptions of PAC residents towards the SCPX Project, given residents' past experiences of pipelines (results to be presented in the SCPX ESIA Report)
- Act as a basis against which potential and actual SCPX impacts can be monitored and evaluated during both construction and operational phases.

8.2.3.2 Field survey methods

PAC identification

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

- Stage 1: Any community that lies clearly entirely within the boundaries described in Section 8.2.1 above or is traversed by an access road is a PAC
- Stage 2: Consideration of communities that a) fall on one of the boundaries noted above or are b) 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 community should be classed as a PAC
- 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, which are located within a boundary
 - Surface area of communal land, or state-owned land that 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 was affected by BTC/SCP, or an associated facility, in the past
 - Judgement by the ESIA team (with the final decision resting with the Social Lead Author) that, on the basis of previous experience and available data, there was a reasonable likelihood that the community might be affected.

The above approach resulted in the identification of 100 PACs. Subsequent to disclosure of the ESIA, further work has been undertaken to select camp, pipe storage, rail spur and off-loading areas as described in Chapter 4. The PAC identification approach has then been applied and a further 16 PACs identified, see Table 8-1. Baseline data collection at these locations and any PACs associated with access roads may be undertaken before construction in support of the livelihood restoration monitoring.

Table 8-1: PACs Associated with Selected Camp, Pipe Storage, Rail Spur and Offloading Areas

PAC Name	Temporary Facility Name
Goychall	Agstafa Camp Option 3
Girili	Agstafa Camp Option 3
Qarqucaq	Goranboy Camp Option 3
Goranli	Goranboy Camp Option 3
Dallar	Dallar Area 4
Kurdemir	Kurdemir Camp Option 5
Mususlu	Kurdemir Pipe Storage Area
Pirili	Poylu Rail Spur
Garayeri	Samukh Camp Option 3
Govlarsari	Samukh Camp Option 3
Sarigamish	Samukh Camp Option 3
Gazanchi	Gazanchi Pipe Storage Option B
Gazaxlar	Gazanchi Rail Offload
Saloghlu	Saloghlu Rail Spur
Gazyan	Ujar Camp Option 5
Ujar	Ujar Camp Option 5

Maps showing the PACs are presented in Figure A8-1 (Social Constraints Maps), Appendix A.

Survey methods

The social field survey programme had two components:

- PAC-level survey
- Household (HH) survey of PACs.

The objective of the surveys was to understand not just the key demographic conditions, but also the current social, cultural and economic conditions and trends that are presented and analysed in this chapter. The surveys also aimed to obtain information that could be used in the preparation of the Land Acquisition Compensation Framework (LACF) and accompanying updated Guide to Land Acquisition and Compensation (GLAC), two key documents relating to land acquisition and compensation. The data was also used to inform the health impact assessment (HIA) study.

The survey at PAC level aimed to obtain data on population size, migration flows, employment, skills, livelihoods, incomes, and presence/absence of social (e.g. schools) and physical (e.g. water supply network) infrastructure.

The household survey aimed to obtain 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 proposed SCPX Project.

Following the precedent set by the BTC/SCP ESIA's, setting quotas for specific communities, social groups or categories (e.g. vulnerable group) was considered. A range of potentially vulnerable households was considered to estimate the likelihood that they would be fully represented in the survey sample (see section on quotas below for further details).

PAC level survey and target sample

Forty-three per cent of PACs – 43 PACs – encompassing 69% of the population (by focusing on the most populous PACs) were surveyed at the PAC level for the social baseline. In each of these 43 PACs, one community leader was interviewed (see Appendix G, ESR, for a list of PACs (G-1), results of PAC interview (G-2) and a copy of the discussion guide (G-3)). Household/PAC interviews were conducted in a sample of settlements, taking into account location/administrative area, socio-economic characteristics, livelihood strategies, and population to give a representative sample of PACs.

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 beforehand.

In the advance guidance, PAC leaders were requested to present information at the interviews on the identity and location of defined vulnerable groups. This information was used to help survey a representative sample of the community, as detailed below.

Household survey of PACs and target sample

It was not practical or necessary to survey all PAC households. So, in order to follow good social survey practice, a defined sample was selected 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 1204 households. The household-level survey was undertaken in the same 43 PACs as the PAC level survey.

Interviews were conducted face-to-face by trained interviewers. 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 (see section on quotas below for further details).

The household interviewers used a structured questionnaire (see Appendix G-4, ESBR). 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 BTC Resettlement Action Plan (RAP) completion audit (Barclay 2010) questionnaire
- Questions from the Shah Deniz 2 household questionnaire (2011), 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.

Quotas

Extensive work has been done by the ESIA team, working with BP, to define and identify vulnerable households. Vulnerable households in Azerbaijan are defined as the following:

1. Households headed by women with no local extended family support
2. Households where the head of household is unemployed
3. Households living below the poverty line and thus eligible for social payments
4. Households headed by a pensioner with no local extended family support
5. Households where the head of the household is chronically sick or disabled
6. Households owning/using land that may be removed, permanently or temporarily, from use so that individuals are considered to be project-affected people (PAP).

Consideration was given to targeting samples of all these categories of vulnerable households. Previous data showed that, in many rural villages, women outnumber men and that households where the head is unemployed or a pensioner, or where the household is living below the poverty line, are numerous in rural Azerbaijan. Therefore, it was considered that vulnerable groups 1–4 would be captured by random sampling and there was no need to set a quota.

For the remaining two groups, the chronically sick/disabled and households with PAP, target quotas were set.

- For the chronically sick/disabled, a quota of 15% of households was set and it was expected that such households would be identified by PAC leaders in the course of interviews with them (which precede the HH survey)
- For PAP, a quota of 9% of land-affected households (110 HHs), i.e. households with land in the pipeline corridor that may be eligible for compensation, was set.

8.2.3.3 *Socio-economic sensitivities*

An assessment has been made of the likely importance of socio-economic receptors along the proposed pipeline route and their potential sensitivity to change. As a result, the likely importance and sensitivity of the socio-economic receptors has been classified into categories that range from very low to very high. Information on this process is given in Chapter 3.

8.2.3.4 *Uncertainties*

There is a potential that some of the information and responses provided by PAC leaders may not be accurate. 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 Demographics

8.3.1 *National/Regional Level – Population*

8.3.1.1 *Population characteristics*

The current population of Azerbaijan is approximately 9.2 million with slightly more females than males, as reported in 2012 (Table 8-2). The population of Azerbaijan has increased by 9.3% since 2005 with a gradual reduction in the gender disparity. This increase in population is likely to be due to two factors: a natural increase (excess of births over deaths) of 12.5% over as reported in 2010 (Figure 8-1); and the net positive migration flow (Figure 8-3).

The typical household size in Azerbaijan has four to five members as reported in 2008 (World Bank, 2010).

Table 8-2: Population: Azerbaijan, 2005–2011 (Thousands)

Years	Population – Total	Of Which		As Percentage of Total Population		Females per 1000 Males
		Male	Female	Male	Female	
2005	8447.4	4156.2	4291.2	49.2	50.8	1032.5
2006	8553.1	4213.5	4339.6	49.3	50.7	1029.9
2007	8666.1	4274.9	4391.2	49.3	50.7	1027.2
2008	8779.9	4336.8	4443.1	49.4	50.6	1024.5
2009	8922.4	4414.4	4508.0	49.5	50.5	1021.2
2010	8997.6	4455.5	4542.1	49.5	50.5	1019.4
2011	9111.1	4517.1	4594.0	49.6	50.4	1017.0
2012	9235.1	4583.5	4651.6	49.6	50.4	1014.9

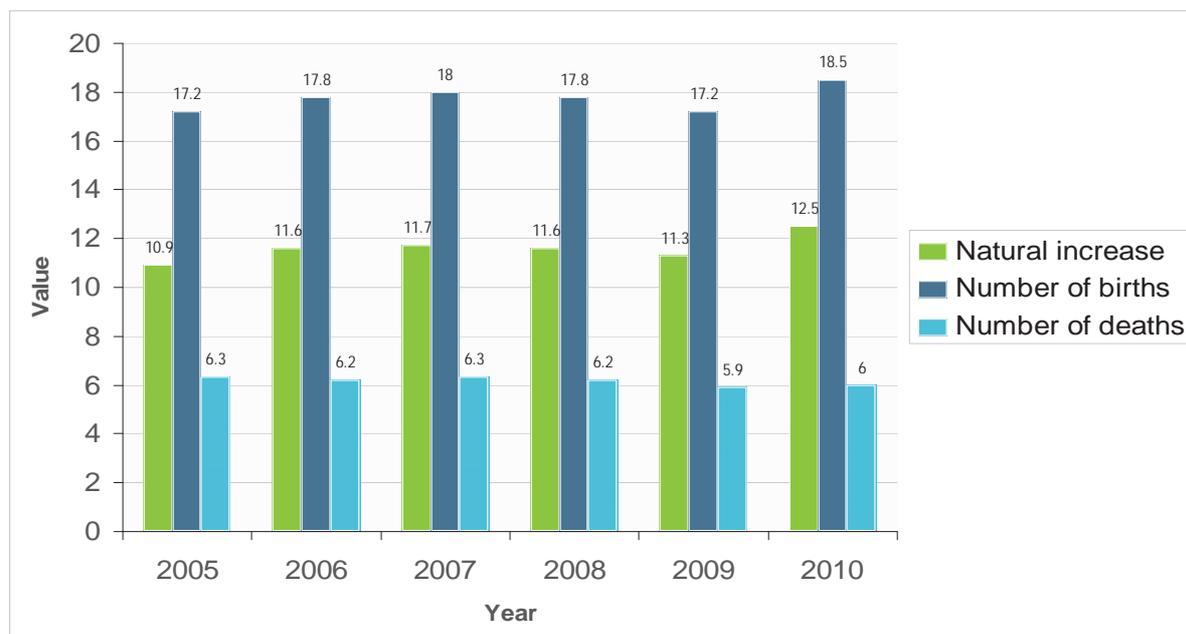


Figure 8-1: Natural Increase per 1000 Population

Source: The State Statistical Committee of the Republic of Azerbaijan

The majority of the population (6.2 million out of 9.1 million total in 2011) are of working age¹, and the number of working age people has increased by about 14% in 2005–2011 as shown in Table 8-3. The number of younger people, aged 5–19, has fallen by 14% since 2005, implying there will be a reduced number of people entering the workforce over the coming years. The current trend shows that unless Azerbaijan experiences a significant increase in inward migration, its working age population will fall over the coming years, which may impact on the size of its workforce.

Table 8-3: Population by Age Bands (Thousand Persons)

Age Groups	2005	2006	2007	2008	2009	2010	2011
0–4	572.7	584.2	601.7	624.4	640.9	670.1	712.5
5–9	731.7	700.7	665.0	655.4	648.2	634.8	626.1
10–14	893.7	868.4	843.9	803.6	763.9	725.8	693.8
15–19	927.6	936.5	945.3	937.4	922.5	905.2	875.6
20–24	809.9	833.7	873.8	900.3	925.8	939.2	946.2
25–29	661.5	699.4	736.2	771.1	794.5	819.9	843.2
30–34	625.2	617.6	626.7	635.8	659.4	684.4	712.8
35–39	666.1	661.2	654.5	647.5	634.0	624.9	618.3
40–44	684.4	678.3	673.3	664.6	668.9	664.6	663.3
45–49	577.5	616.4	640.4	663.8	678.6	680.1	674.1

¹ Working age for females: 18-62; working age for males:18-67.

Age Groups	2005	2006	2007	2008	2009	2010	2011
50–54	363.5	391.4	422.3	459.6	510.9	555.8	600.9
55–59	223.1	260.3	282.7	305.8	323.8	348.1	372.6
60–64	163.1	140.8	136.7	151.3	180.2	209.7	244.2
65–69	237.8	235.8	217.1	193.8	161.5	138.5	120.7
70–74	158.0	162.5	175.6	182.2	192.4	195.0	194.0
75–79	93.5	104.4	106.0	112.6	113.1	116.4	119.7
80 and over	58.1	61.5	64.9	70.7	78.4	85.1	93.1
At working age	5502.5	5646.6	5804.4	5932.8	6065.3	6167.9	6285.9
Total	8447.4	8553.1	8666.1	8779.9	8897.0	8997.6	9111.1

Source: The State Statistical Committee of the Republic of Azerbaijan

The 2009 census shows a national ethnicity/nationality breakdown as follows: Azerbaijani 91.6%, Lezgi 2.0%, Armenian 1.3%, Russian 1.3%, Talish 1.3% and other ethnicities/nationalities including Avars, Turks, Tatarian, and Tats present in very small numbers as shown in Figure 8-2.

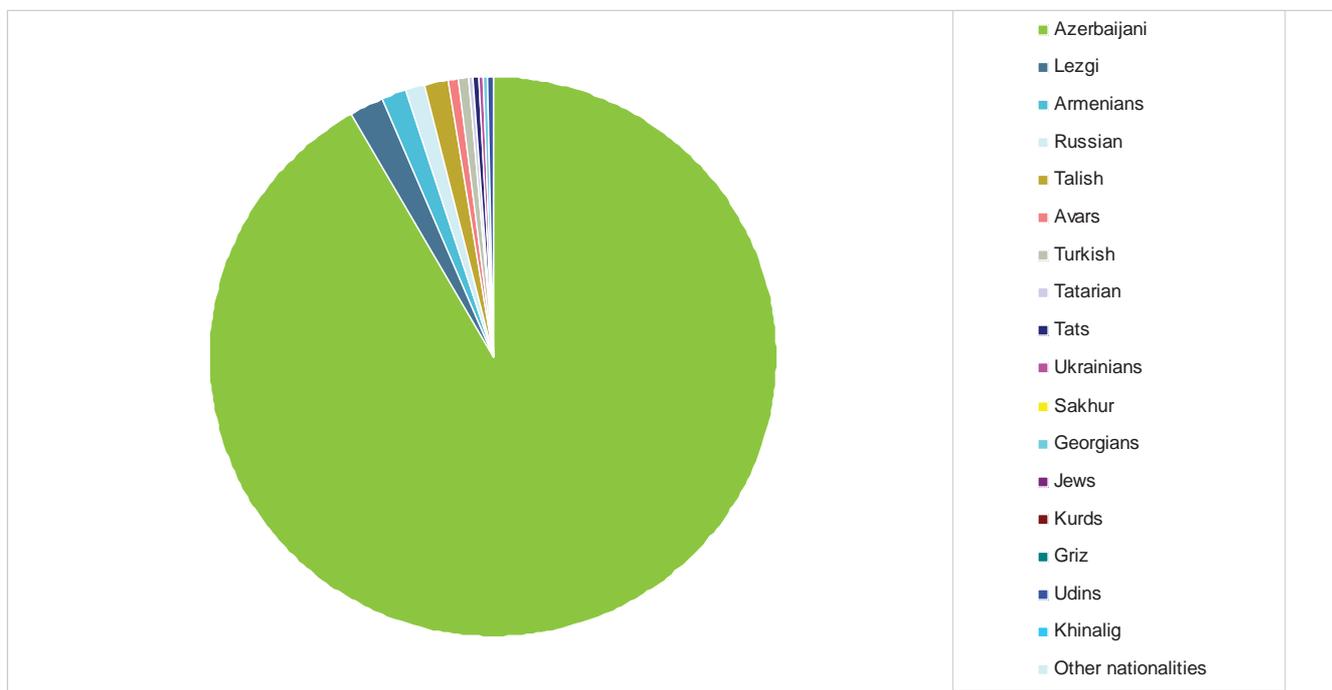


Figure 8-2: Population by Ethnicity, 2009

Source: The State Statistical Committee of the Republic of Azerbaijan

Table 8-4 shows the population of the regions where the SCPX PACs are located. All regions/municipalities have experienced an increase in population during 2005–2011. Most people in these regions live in rural areas, except in Yevlakh and Hajigabul regions where there are higher urban populations.

Table 8-4: Population Figures for Municipalities and Related Regions: 2005-2011 (Thousand Persons)

Economic and Administrative Regions	2005	2009	2010	2011
Agstafa region	77.3	80.2	80.6	81.4
Urban population	19.9	20.2	20.2	20.2
Rural population	57.4	60.0	60.4	61.2
Tovuz region	150.3	157.5	159.0	160.7
Urban population	26.1	26.9	27.0	27.3
Rural population	124.2	130.6	132.0	133.4
Shamkir region	181.6	190.7	193.1	196.1
Urban population	63.5	66.5	67.2	68.1
Rural population	118.1	124.2	125.9	128.0
Samukh region	51.4	53.6	54.0	54.6
Urban population	18.4	20.3	20.5	20.7
Rural population	33.0	33.3	33.5	33.9
Goranboy region	91.2	95.1	96.2	96.2
Urban population	19.6	20.1	20.3	20.5
Rural population	71.6	75.0	75.9	75.7
Yevlakh region	112.6	117.6	118.4	119.6
Urban population	61.2	64.7	65.1	65.5
Rural population	51.4	52.9	53.3	54.1
Mingechevir town	95.2	96.0	96.9	97.8
Agdash region	94.4	98.4	99.3	100.6
Urban population	30.4	32.8	33.0	33.2
Rural population	64.0	65.6	66.3	67.4
Hajigabul region	61.7	65.7	66.5	67.3
Urban population	32.2	33.8	34.1	34.5
Rural population	29.5	31.9	32.4	32.8
Ujar region	74.7	77.9	78.8	79.8
Urban population	17.0	16.8	16.9	17.0
Rural population	57.7	61.1	61.9	62.8
Kurdemir region	98.9	103.6	104.6	105.7
Urban population	20.8	21.1	21.1	21.2
Rural population	78.1	82.5	83.5	84.5

Source: The State Statistical Committee of the Republic of Azerbaijan

Note: The regions in the table are the identified regions covering the identified PACs

The number of females and males is almost equal in all the regions in which the PAC survey was conducted. Only in Yevlakh region are there significantly more females than males (Table 8-5).

Table 8-5: Size of Population by Gender by Regions at the beginning of 2011 (Thousand Persons)

Economic and Administrative Regions	Total	Male	Female	Urban places	Male	Female	Rural Places	Male	Female
	Azerbaijan Republic	9111.1	4517.1	4594.0	4829.5	2379.1	2450.4	4281.6	2138.0
Agstafa region	81.4	40.0	41.4	20.2	9.9	10.3	61.2	30.1	31.1
Tovuz region	160.7	80.7	80.0	27.3	13.5	13.8	133.4	67.2	66.2
Shamkir region	196.1	98.7	97.4	68.1	34.1	34.0	128.0	64.6	63.4
Samukh region	54.6	27.1	27.5	20.7	10.3	10.4	33.9	16.8	17.1
Goranboy region	96.2	47.9	48.3	20.5	10.2	10.3	75.7	37.7	38.0
Yevlakh region	119.6	56.5	63.1	65.5	30.0	35.5	54.1	26.5	27.6
Agdash region	100.6	50.0	50.6	33.2	16.1	17.1	67.4	33.9	33.5
Ujar region	79.8	39.7	40.1	17.0	8.3	8.7	62.8	31.4	31.4
Kurdemir region	105.7	52.6	53.1	21.2	10.5	10.7	84.5	42.1	42.4
Hajigabul region	67.3	33.1	34.2	34.5	16.8	17.7	32.8	16.3	16.5

Source: The State Statistical Committee of the Republic of Azerbaijan

8.3.2 Internally Displaced Persons (IDPs)

Hundreds of thousands of ethnic Azerbaijanis were displaced during the conflict between Armenia and Azerbaijan over Nagorno–Karabakh. According to the Government of Azerbaijan's official figures, the conflict resulted in 209,000 refugees and 576,000 internally displaced persons (IDPs)².

About 11% of the population of Azerbaijan – an estimated 900,560 people – reported themselves as internally displaced according to the 2008 Living Standard Measurement Study (LSMS)³. The living condition of IDPs was compared to the general population by World Bank in 2010 and the following results were obtained:

- The majority of IDPs still live in non-residential locations such as public buildings, dormitories and temporary shelters
- IDPs are more likely to live in urban rather than rural areas. Many IDPs migrate to cities to seek jobs
- Access to basic housing facilities and services is worse among IDPs. More than one in three IDPs lack access to heating
- The main source of income for IDPs is government social assistance
- The incidence of poverty among IDPs is about the same as among the general population (Section 8.6.2.3)

² As recognised in the 2003 Common Country Assessment (CCA), statistics on IDPs and refugees vary according to data presented by different UN agencies as well as government structures.

³ World Bank 2010: 'Azerbaijan Living Condition Assessment Report': <http://ddp-ext.worldbank.org/EdStats/AZEstu10.pdf>

- IDPs poverty levels also vary across housing types; those who sought their own accommodation outside government provision may be at greater risk of poverty. Living in a public building appears to reduce the risk of poverty below the average poverty incidence for IDPs (World Bank, 2010).

One PAC, Susha, in the Kurdemir region is considered an IDP community and was surveyed during the PAC baseline surveys.

8.3.3 National/Regional Level – Migration

Figure 8-3 shows a negative net migration balance (-0.9 migrant(s)/1000 people) in 2005, which became positive (1.4 migrant (s)/1000 people) in 2010. The number of international departures has dropped from 2.9 migrant(s)/1000 people in 2005 to 0.8 migrant(s)/1000 in 2010. The improvement in the national economy is the most likely explanation for the positive net migration balance trend since 2008.

According to the International Organization for Migration (IOM, 2012⁴), the major migration challenges for Azerbaijan are high migration flows from rural regions to cities in search of employment opportunities.

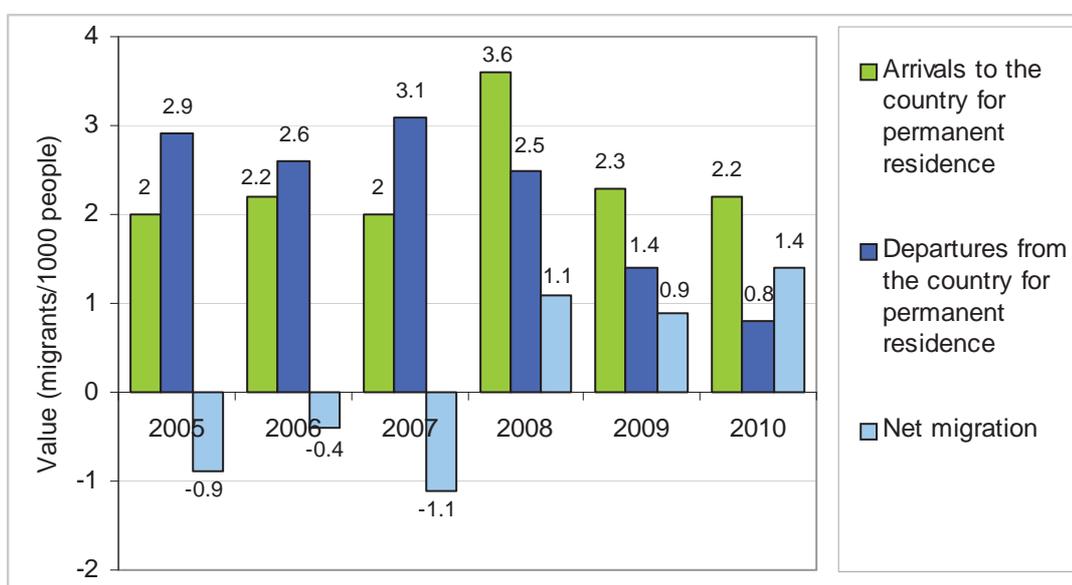


Figure 8-3: International Migration (Thousand Persons) in 2005–2010

Source: The State Statistical Committee of the Republic of Azerbaijan

8.3.4 PAC level – Population

The populations of the PAC sample (43 PACs) are shown in Table 8-6. The PACs surveyed are located within the regions of Hajigabul, Kurdemir, Ujar, Agdash, Yevlakh, Goranboy, Samukh, Shamkir, Tovuz and Agstafa. The population of Yevlakh (town with the same name as the 'region') is the highest (66,434) followed by Govlar with 15,000 people.

The results of the PAC-level survey indicate that the population is increasing in almost all of the PACs listed in Table 8-6 mainly due to natural increase (excess of births to deaths). Only in Ramal and Alikend do the PAC leaders indicate a decline in population due to high rate of death.

⁴ <http://www.iom.int/jahia/Jahia/pid/780>

Table 8-6: Population of the PAC Sample (43 PACs), 2012

Region	PAC	Population
Hajigabul	Padar	958
Kurdemir	Sighirli	7000
	Arshali	760
	Karar	2512
	Choxhranly	1520
	Atakishili	5670
	Khyrdapay	7425
Ujar	Taza Shilyan	3000
	Bargyushad	6100
	Qaracali	3400
	Alikend	736
	Ramal	800
Agdash	Orta Leky	2760
Yevlakh	Yevlakh	66,434
	Narimanabad	1850
	Aran	7099
	Yaldily	1365
Goranboy	Eyvazlilar	562
	Jinli Boluslu	1391
	Erevanly	280
	Muzdurlar	1500
	Yolpak	908
	Alpout(Goranboy)	1132
Samukh	Ashagy Agasybeyli	1596
	Hajally	1100
	Samukh	9800
	Kadiliy	374
Shamkir	Garacamirli	5625
	Mahmudlu	3508
	Chaparly	3750
	Dallyar Djeir	5528
	Dallyar Dashbulak	2238
	Bayramli	2830
	Zeyem	7881
	Duyarli	8242
Tovuz	Ashagy Ayibly	10,875
	Duz Girigli	6500
	Govlar	15,000
	Bozalganli	4475
	Jilovdarli	1359

Region	PAC	Population
	Qadirli	1588
	Ashagi Mulkulu	2398
Agstafa	Girag Kesaman	2135

8.3.4.1 Age and gender distribution

Figure 8-4 shows that about 25% of households consist of four members, and about 20% of households consist of five members. Based on the results of the household survey, the average household size at PAC level is calculated as five members. The average household size at PAC level is slightly higher than the national average household size of 4–5 members. As for gender distribution, males and females are at parity that is almost similar to the situation at national level where a trend of declining gender disparity has been evident over the past few years, with convergence on parity likely to occur in the very near future.

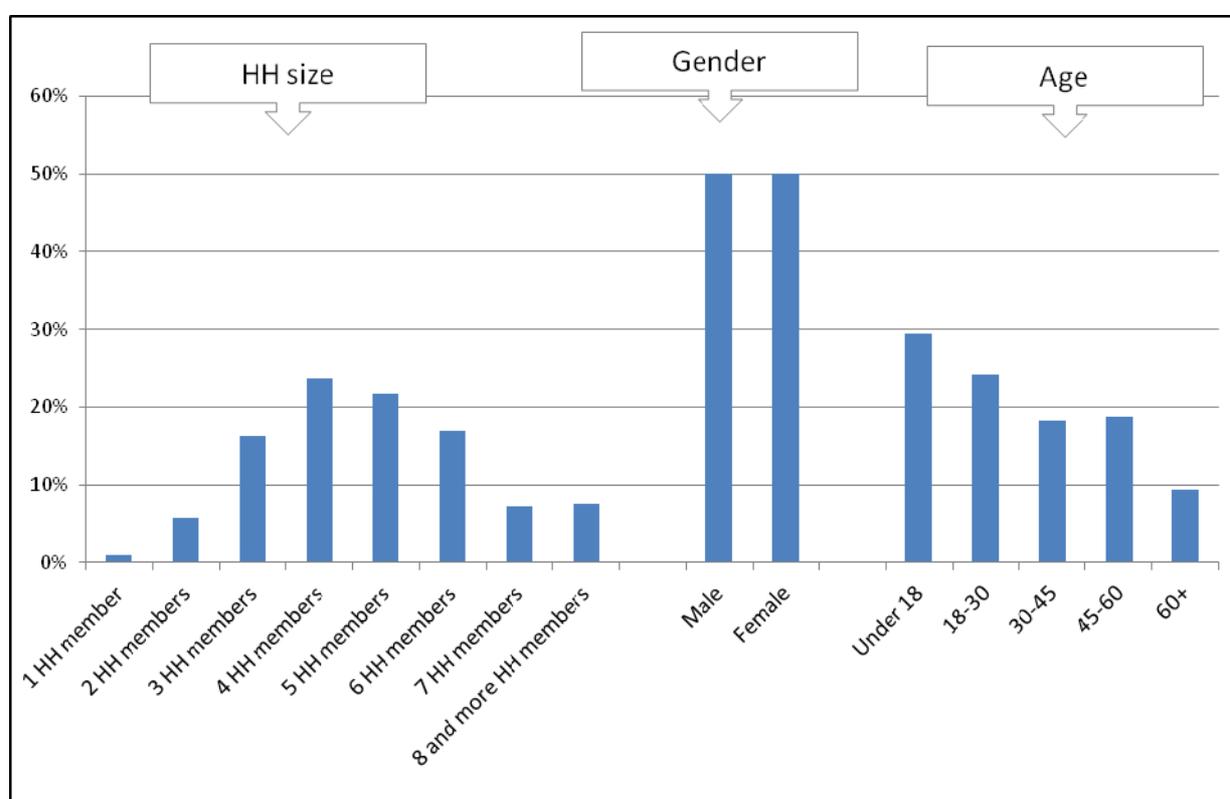


Figure 8-4: Household Structure

Just over 50% of the respondents in the PACs are married. The divorce rate is very low (Figure 8-5).

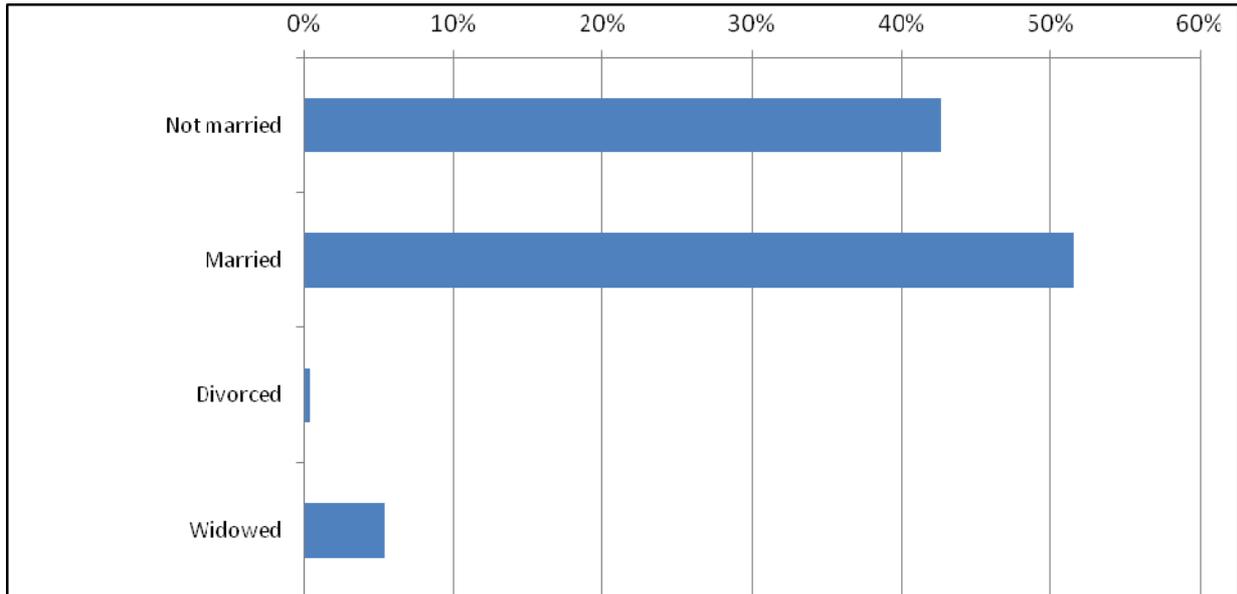


Figure 8-5: Marital Status

8.3.4.2 Ethnicity/religion

The PAC population is almost exclusively Azerbaijani Muslim (Figure 8-6).

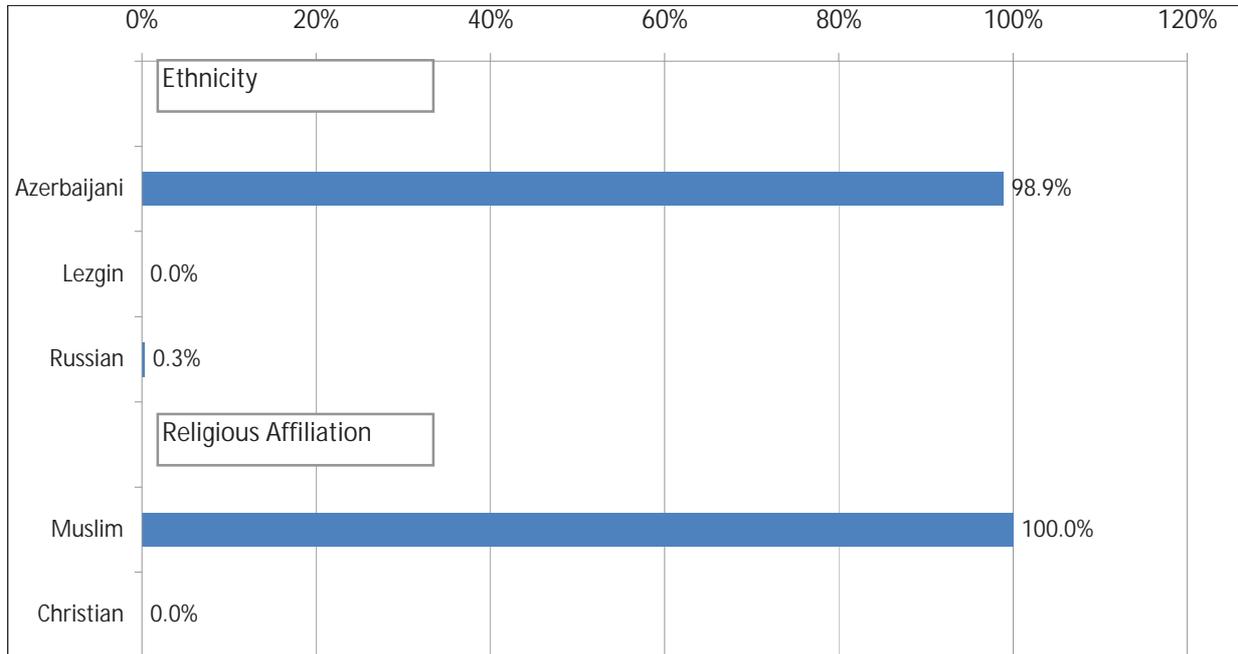


Figure 8-6: Ethnicity and Religious Affiliation

8.3.4.3 Vulnerable group: chronically sick or disabled

The main characteristics and situation of this vulnerable group, in terms of access to utility (gas, water and electricity), education and infrastructural facilities (road, lack of sewerage system), is similar to the situation of the PAC population (here and after referred to as the general public). The vulnerable group also faces the same common problems associated with high unemployment and lack of income. There are, however, some differences between the vulnerable group and the general public, which are discussed below.

8.3.4.4 Household conditions

Household conditions are worse for the vulnerable group as about 29% of this group state that their home has not been repaired for more than 20 years compared to about 20% of the general public. In comparison to the general public, the vulnerable group's houses are in poor condition, with damaged floors and walls. About 65% of the vulnerable group also state that their houses are in need of major repair compared to 55% of the general public (Figure 8-7).

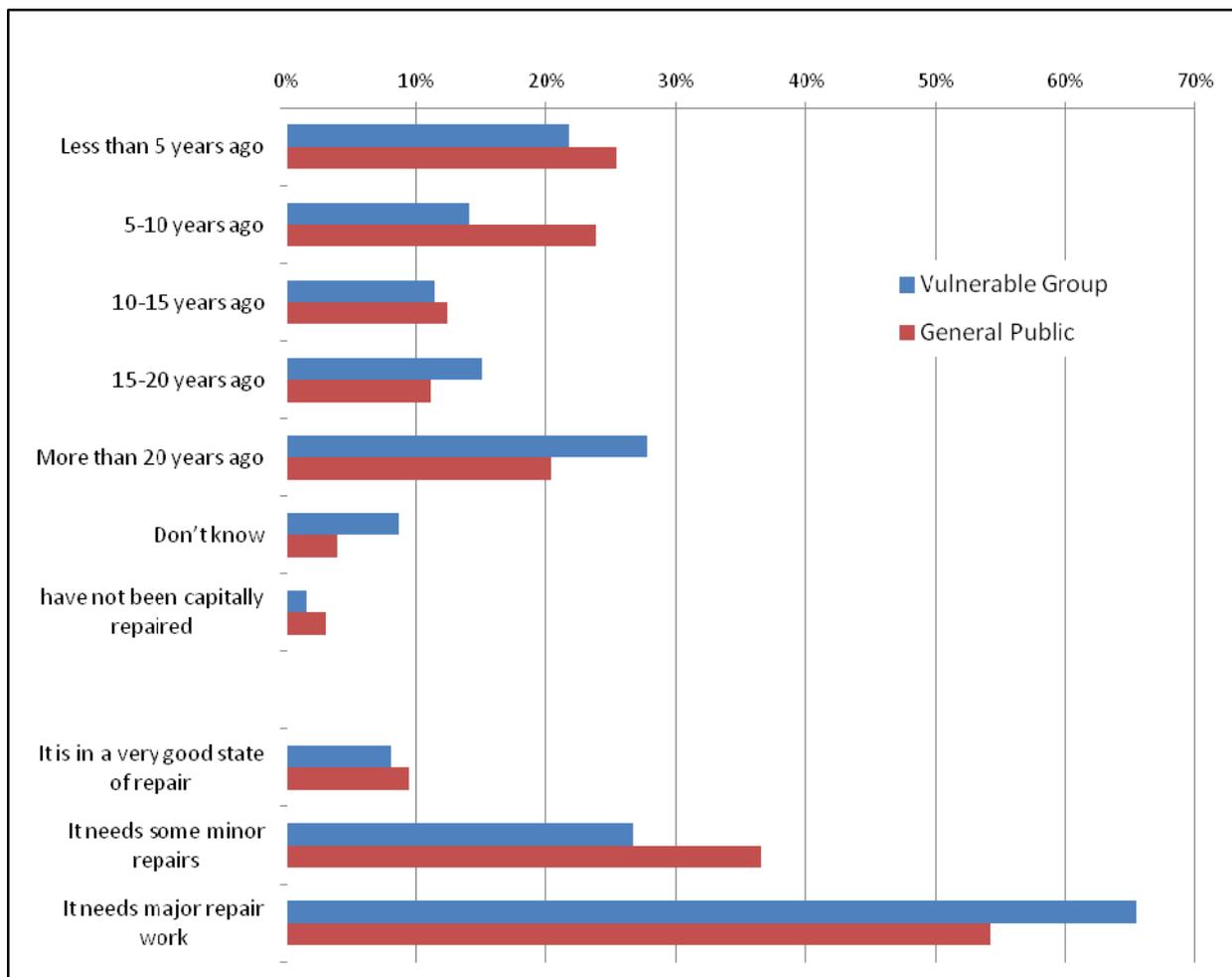


Figure 8-7: House Repair and Condition of House

8.3.4.5 Main important household issues

About 69% of respondents among the vulnerable group state that health care is one of the main important household issues, compared to 53% of the general public. About 35% of the vulnerable group consider water supply to be the main household issue compared to about 28% of the general public (Figure 8-8).

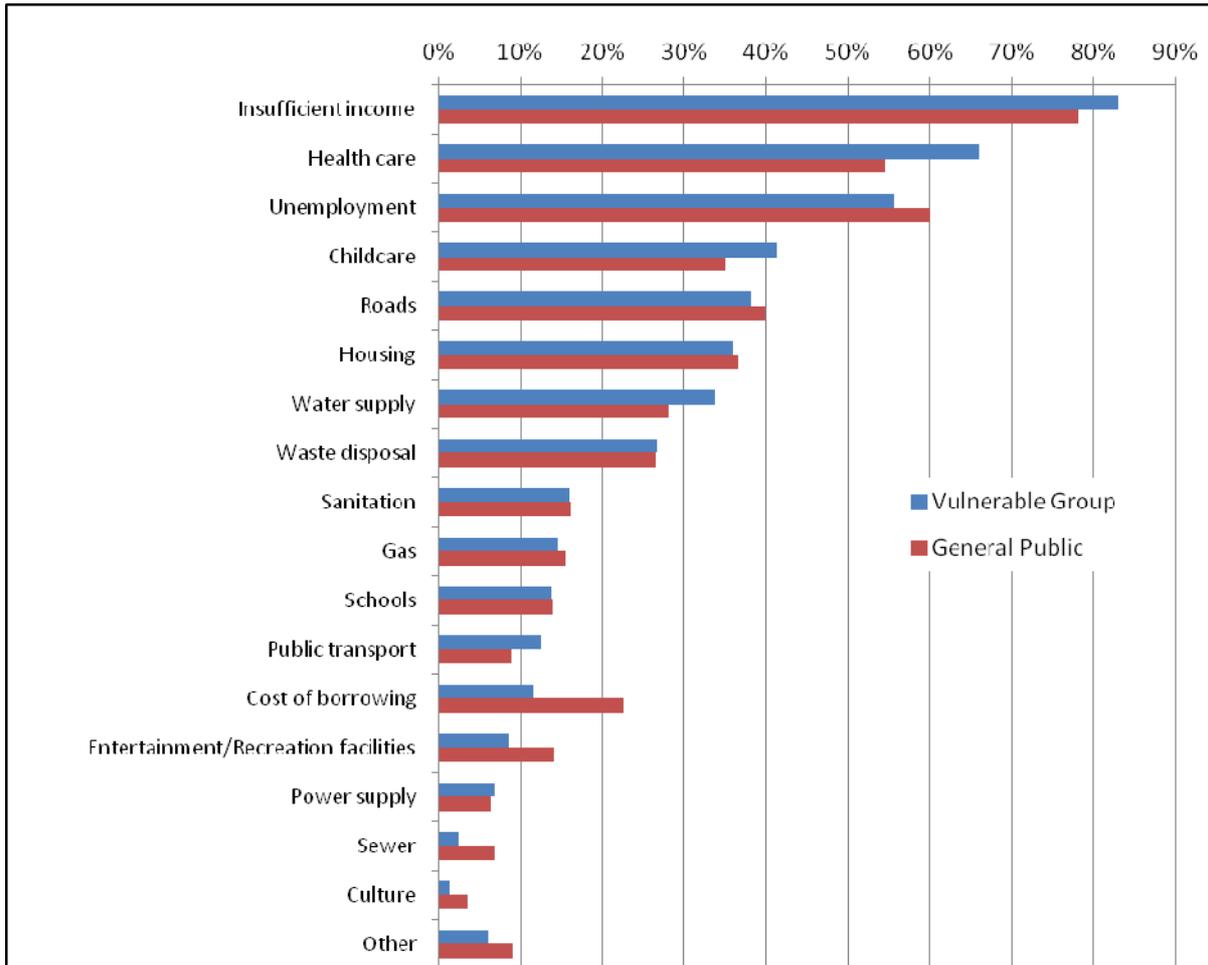


Figure 8-8: Main Important Household Issues

8.3.4.6 Main sources of income

The main source of income for about 79% of the vulnerable group is pensions. The proportion of vulnerable group members relying on a pension (as a source of income) is almost double the average (about 45%) for the general public (Figure 8-9).

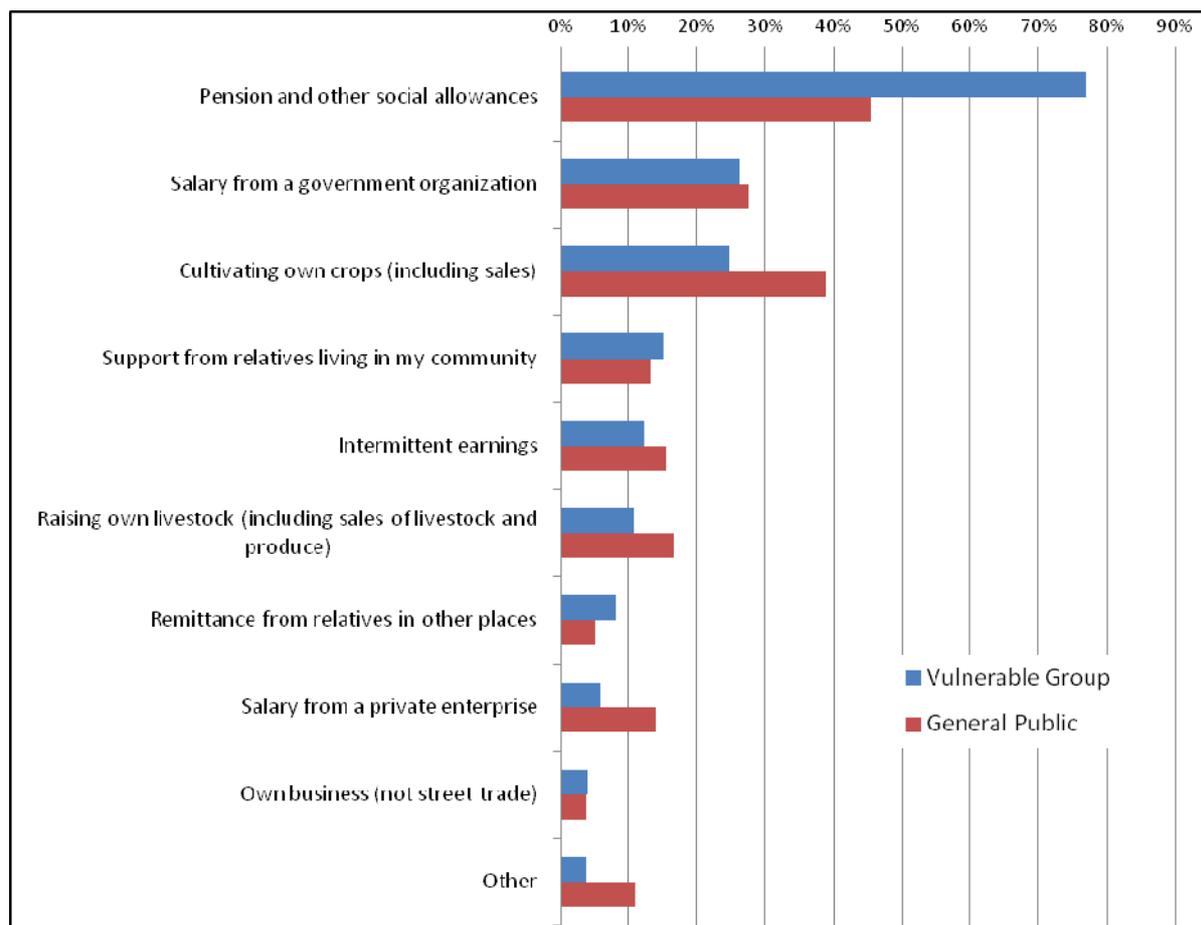


Figure 8-9: Main Sources of Income

Note: General public here refers to overall PAC population

8.3.4.7 Economic status of households

Table 8-7 shows the economic status of households/general public against vulnerable group. Forty-four per cent of the vulnerable group state that there is not enough money even for food compared to 29% of the general public. Twenty-seven per cent of the vulnerable group state that there is enough money for food but they have difficulty buying clothes compared to 33% of the general public as in Table 8-7.

Table 8-7: Economic Status of Households

Which of the Following Statements Best Describes Your Family's Financial Conditions?	Vulnerable Group	General Public
There is not enough money even for food, we have to go into debt or get help from relatives or friends	44%	29%
There is enough money for food, but we have difficulty with buying clothes	27%	33%
There is enough money for food and clothes, but purchasing expensive durable goods such as a TV or refrigerator, are beyond our means	27%	32%
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	2%	6%

8.3.5 PAC level – Migration

Almost 90% of households have lived in their current community of residence for more than 21 years (Figure 8-10), which indicates a low migration rate in the PACs. About 45% of migrants who migrated within the past 20 years were seeking more favourable living conditions, about 22% have moved closer to families, and 20% have moved as the government provided a house for them. The Nagorno–Karabakh conflict has led to the movement of about 15% of households (Figure 8-11).

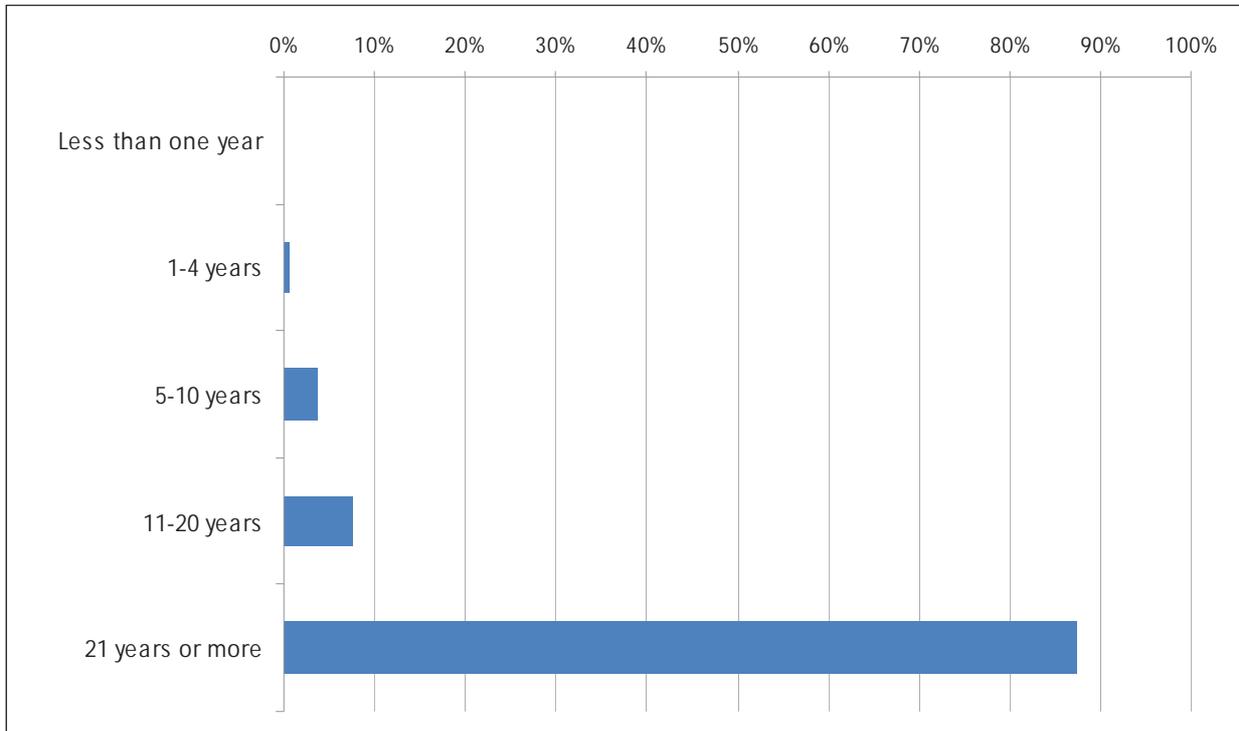


Figure 8-10: Duration of Inhabiting in Existing Community

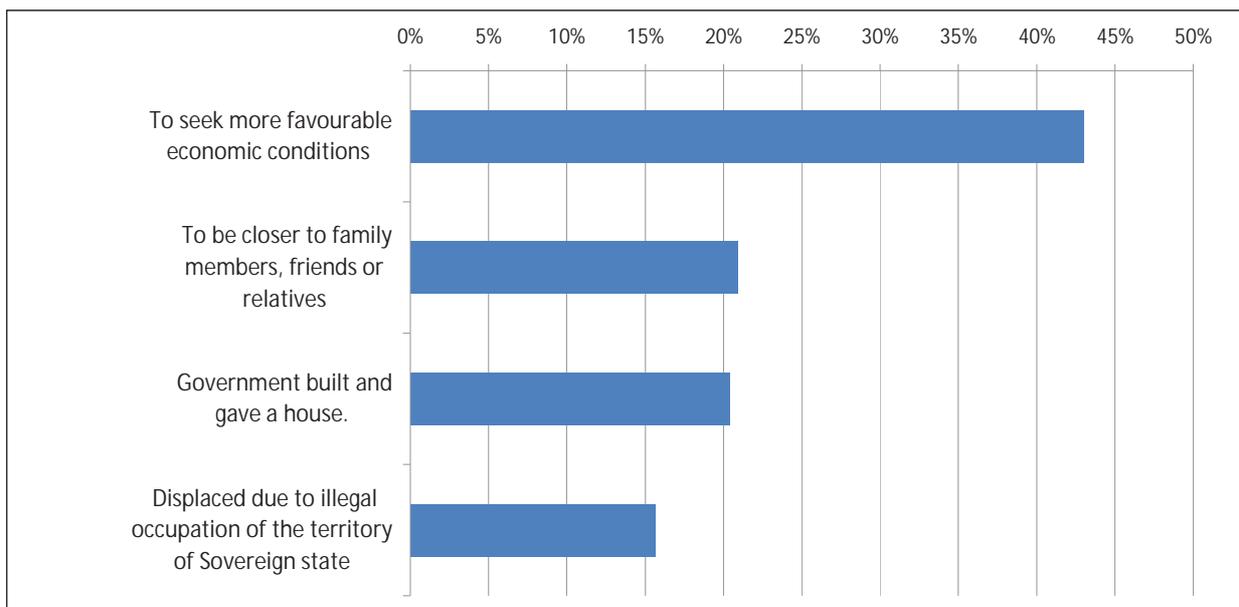


Figure 8-11: Reasons for Changing Living Area

8.3.6 Sensitivities

For the PACs surveyed, the sensitivities with respect to demographics and the potential SCPX Project are:

- Sensitivity to in-migration – almost 90% of households have lived in their existing community for over 21 years, and population levels have slowly but steadily increased. Therefore, the communities are likely to be sensitive to sudden changes caused by in-migration
- Sensitivity to religious and ethnic tensions from both in-migration and presence of foreign workers in camps, owing to low religious and ethnic diversity in the PACs
- Presence of vulnerable households in the PACs surveyed and the greater risk of them being affected by socio-economic changes: 44% of households define themselves as “very poor” and unable to afford food. This group is at higher risk of impacts from the Project, and any loss of income and livelihood as a result of Project activities would affect this group
- The vulnerable group are more at risk of impacts from the Project compared to the general public/PACs mainly owing to poorer housing conditions, poorer health care situations and a reliance on pensions as their only source of income.

8.4 Health

8.4.1 Introduction

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.

A review was performed of the available baseline health data from both public sources and specific Project reports. The State Statistical Committee of the Republic of Azerbaijan was a critical source of information, as were other open access documents from the World Health Organization (WHO), the World Bank and the United Nations Statistics Division.

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 this baseline section of the report are:

- Organisation of the Azerbaijani health care system
- Overall burden of disease
- Infectious diseases
- Non-communicable diseases (NCDs)
- Environmental health issues: air, water, food, soil and radiation.

8.4.2 Data Gaps and Methodology

8.4.2.1 Data gaps

The following data was not available at the time of writing the baseline report:

- Project area baseline air quality data were not available for review
- Project area baseline water quality data were not available for review
- Soils were not tested for the presence of naturally occurring radioactive materials (NORM).

The data obtained during previous baseline surveys for the BTC and SCP ESIA is considered too old to provide representative data.

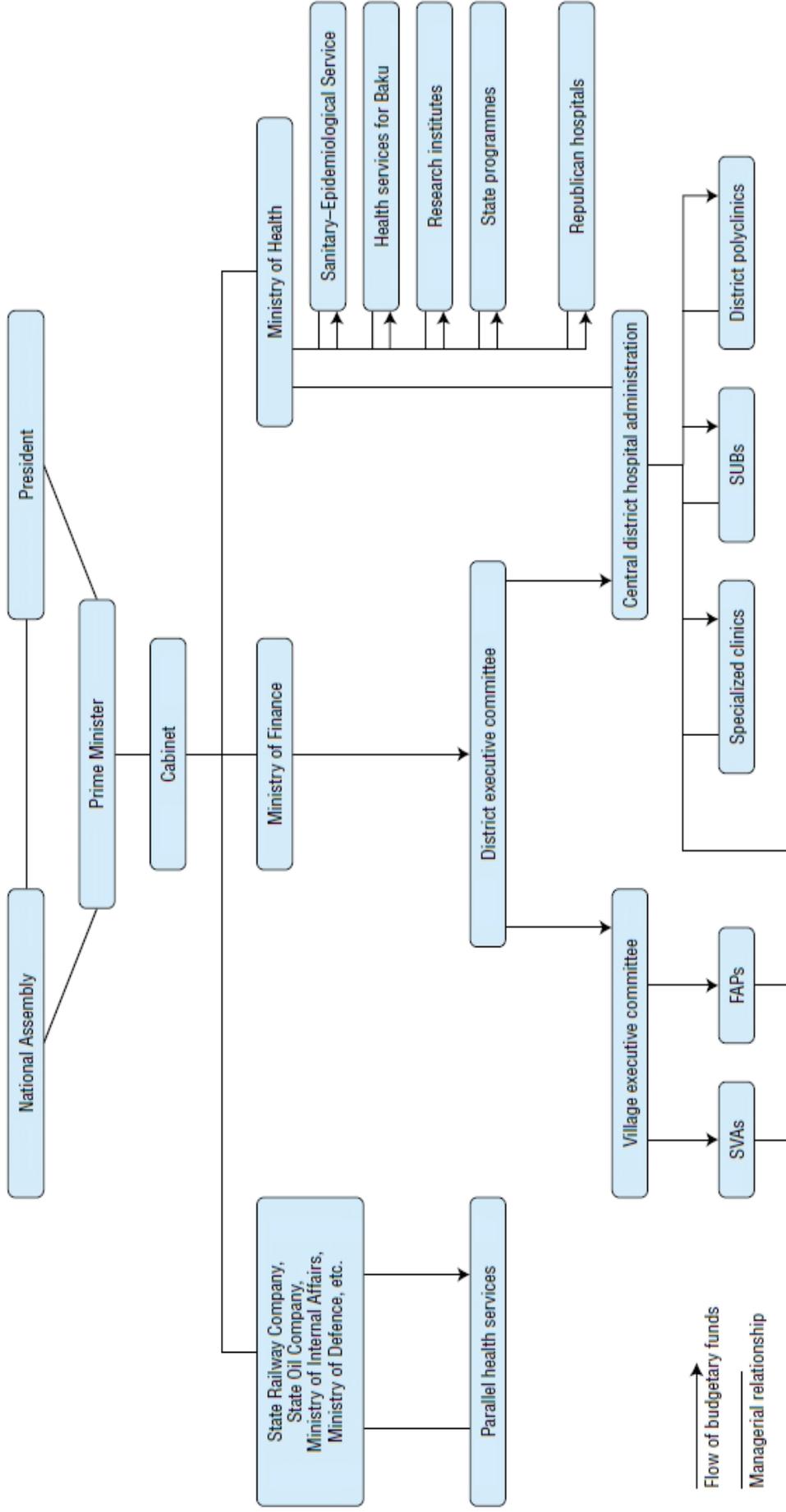
8.4.3 Baseline Information

8.4.3.1 Organisation of the Azerbaijani health care system

Azerbaijan inherited an extensive and highly centralised Semashko system at independence, and many of its key features have been retained. The Semashko system is the model that was implemented in every socialist country. Health facilities were owned by the State and health professionals were paid by the State. Services were normally free of charge but patients were asked to pay a lump sum for some services such as pharmaceuticals. The Semashko system provided a universal access to health care and therefore no one was excluded. After the collapse of the socialist regimes, the shortage of financial resources led to a higher contribution of patients who are now obliged to pay direct fees to providers (Rainhorn, 1987).

The structure of the health system is highly centralised and hierarchical, and most decisions regarding key health policy initiatives are made at the national level (Figure 8-12). The Ministry of Health (MoH) formally has ultimate responsibility for the management of the health system, but it has limited means to influence health care providers at the local level, as they are financially dependent on the local district health authorities or the village authorities for smaller rural services. The district authorities and the administration of the central district hospital have direct managerial responsibilities for health providers in their area. There is also considerable parallel health service provision outside the influence of the Ministry of Health, as providers are subordinated to and financed through other line ministries or state enterprises. The private sector is licensed by the MoH but is otherwise completely independent, and private service provision is a growing feature of the system (WHO, 2010).

Despite significant increases in public health expenditure in recent years, Azerbaijan is still characterised by relatively low levels of public health expenditure both in absolute terms and as a share of GDP. The burden of financing health care is on the health care users, with out of pocket expenditure reaching almost 62% of total health spending in 2007 (WHO, 2009). Public health funding comes primarily from general government revenues, which includes money from the State Oil Fund. Formal user charges were allowed in public facilities until early 2008 when this practice was outlawed.



Notes: FAP: Feldsher-midwife point; SUBs: Small village hospitals; SVA: Village doctor outpatient clinic.

Figure 8-12: Organisation of the Azerbaijani Health Care System
 Source: WHO (2010)

8.4.3.2 *Physical and human resources*

Upon dissolution of the former Soviet Union, Azerbaijan inherited an extensive network of health facilities in both the hospital and the ambulatory sectors. This has resulted in excess capacity, and the very low admission rate may be consistent with access problems. As a result, there is a very low bed-occupancy rate, which has fluctuated around 25–30% since the late 1990s. In recent years, the government has started to allocate increasing resources for capital investment, primarily for the renovation or building of hospitals and for new expensive diagnostic equipment. The health infrastructure in Azerbaijan suffered significantly from a very low level of capital investment through the 1990s.

The number of doctors per capita has fallen since independence, most rapidly in the late 1990s. In addition, there has been a significant decline in the number of nurses per capita. The MoH has found it difficult to obtain the right mix of medical specialties in the state sector and an adequate geographical distribution of staff. Recruitment and retention of medical staff in rural areas are long-standing issues, and the flourishing private sector in Baku has attracted many experienced health care professionals away from the public sector.

8.4.3.3 *Provision of services*

The rights to health and health care are stipulated by the 1995 constitution and the law on public health care. Following the breakup of the former Soviet Union, this system collapsed due to the economic crisis and the war with Armenia, which significantly limited the ability of the state to adequately finance health care. During 1990–2004, the share of public health care expenditures in total government expenditures dropped from 9% to 3.5%, while the share of health expenditures as a percentage of gross domestic product dropped during the same period from 3% to 0.9% (Habibov, 2011). This level is greatly below the average among the countries of the Commonwealth of Independent States, which is 2.9%.

According to independent reports, primary care services are not well developed and facilities are often in very poor condition, some lacking in water and electricity with poorly trained staff (WHO, 2006). According to the WHO, secondary care follows the former centralised Soviet model with large numbers of hospitals and beds; hence, many people attend hospitals for basic needs that in a western model would be handled in an outpatient setting. Privatisation of some facilities has been introduced but does not address the need for overall rationalisation of services. Fees for some services, introduced in 1998, make up an increasing proportion of health expenditure (56% in 2000). Staff salaries are inadequate and informal payments are often required, particularly in rural areas. Implementation of mandatory health insurance has been delayed.

In cities and district centres, primary care is delivered through paediatric and adult polyclinics. Female consultation centres provide antenatal and reproductive care services. In rural areas, primary care is provided through *feldsher-midwife* points (FAP), village doctor outpatient clinics (*selskaya vrachetnaya ambulatoriya*; SVA) and outpatient departments of small village hospitals (*selskaya uchastkovaya bolnitsa*; SUB). In primary care, reform efforts have focused on the development and institutionalisation of family medicine (WHO, 2006).

In urban areas, inpatient care is provided by city hospitals, which includes a range of specialist services. In rural districts, inpatient care is provided by a network of small village hospitals (SUBs). A larger central district hospital acts as a referral centre for the entire district and provides a broad range of secondary care services. There is also a network of specialised clinics in each region, which are parts of vertically integrated national systems typically led by tertiary-level specialised scientific research institutes, all of which are located in Baku.

The Ministry of Health has developed optimisation plans for each district that includes the closure and their transformation of most SUBs into primary care centres (doctor and medical points). They also plan to merge specialised clinics with central district hospitals to form a

single multi-profile secondary inpatient facility in each district in effort to achieve greater efficiency.

8.4.3.4 Emergency services

Because the Project may utilise the emergency service infrastructure in the event of a road traffic accident, hazardous material incident, emergency transfers, etc., it is important to understand the capacity of emergency services in Azerbaijan. Pre-hospital and in-hospital emergency services fall behind internationally accepted standards in terms of the skills of personnel and the available equipment and supplies, overall. In 2006, the Emergency Medicine Development Initiative Project assessed emergency services; USAID and several international oil companies funded this effort. The assessment covered three rural districts and Ganja, the second largest city in Azerbaijan. The study found less than 50% availability of essential emergency equipment both in pre- and in-hospital settings (Sule et al., 2008). Availability of essential emergency procedures was also found to be low, at 21% and 62% in pre- and in-hospitals levels, respectively. Furthermore, ambulance team coverage was below the national standard of 1 team per 10,000 people, ranging from 0.68 in Ganja to only 0.10 in Kurdemir district (Sule et al., 2008). Since this assessment, the country has put considerable funding towards the purchase of additional emergency vehicles, communication equipment, supplies, and physician salaries; however, these efforts require further expansion, particularly in rural areas.

8.4.3.5 Access to care

In 2010 Balabanova et al. conducted a cross-sectional household survey to assess accessibility and affordability of health care in eight countries of the former Soviet Union, including Azerbaijan. The authors found that 17% of survey respondents in Azerbaijan reported an illness in the previous week that represented the lowest percentage of all countries included in the survey. Georgian respondents reported the highest at 52%. Having greater than primary education and being aged 35–49 was associated with lower probability to seek care when needed. Residing in a rural area also significantly reduced the likelihood of obtaining care. Utilisation was associated with having a long-term illness or certified disability, both of which are likely to require frequent access to services. People perceiving their financial situation to be “bad” or having the fewest household assets (three or less) were significantly less likely to seek care when needed. More frequent alcohol use is also significantly associated with lower probability of obtaining care. Since independence, all of the countries except Azerbaijan have introduced family practitioners trained in modern primary health care to replace the poorly trained and equipped district physicians, although the distribution of family practitioners remains uneven in many of the countries. Rese et al. (2005) found that unaffordability was most commonly reported from Georgia, where the benefits package is most tightly circumscribed, and in Azerbaijan, where out-of-pocket payments for care are highest. In addition, there is inadequate capacity in the former Soviet Union to manufacture all the drugs needed for the population so most are imported, at high cost, generally through privatised supply networks. The most frequently reason cited for not seeking health care (55% of the 2184 who thought that care would have been justified) was the cost of treatment (including drugs), followed by the choice to self-treat. Self-treatment often involves using various cheaper drugs and traditional remedies and may infer not having resources to obtain conventional treatment. The proportion of those with illness seen as justifying care who cited unaffordability (of either treatment or drugs) varied widely across countries, from 70 and 58%, respectively, in Georgia and Azerbaijan to under 5 and 3%, respectively, in Russia and Belarus. Four of five respondents using outpatient facilities in Azerbaijan reported making out-of-pocket payments in Azerbaijan (Balabanova et al., 2010).

8.4.4 Overall Burden of Disease

Azerbaijan, like other countries in epidemiological transition, is facing an increase in non-communicable diseases (NCDs), obesity and other conditions connected with a sedentary lifestyle and rapid urbanisation. In addition, there are new and re-emerging infectious diseases such as HIV/AIDS, avian influenza, tuberculosis (TB) and malaria. This combination imposes a double burden of diseases typical for both developed and

developing societies (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008).

Like many other former Soviet republics, Azerbaijan experienced a resurgence in infectious diseases such as malaria, diphtheria and tuberculosis, attributable to the weakened health system and declining economic conditions (Holley et al., 2004). In the first few years of independence, life expectancy dropped from 71.4 years of age in 1990 to 67.9 in 1994, and was estimated in 2006 at 63 for males and 68 for females (WHO, 2006a). Similarly, the under-fives mortality rate in 1990 was 98 deaths per 1000 live births and has subsequently improved to 36/1,000 in 2008, but remains substantially higher than that of Turkey (22/1,000), Georgia (30/1,000) and Iran (32/1,000; UNICEF, 2004).

Table 8-8: Main Causes of Death, All Ages, 1995–2007 (Selected Years)

Main Causes (ICD-10 classification)	Deaths, all ages (per 100,000)			
	1995	2000	2004	2007
I Communicable diseases				
Infectious and parasitic diseases (A00–B99)	34.2	23.3	16.4	
TB (A17–A19)	21.4	17.9	11.8	
II Non-communicable diseases				
Circulatory diseases (I00–I99)	646.5	656.3	633.8	551.6
Malignant neoplasms (C00–C97)	106.9	105.4	115.5	87.4
Trachea/bronchus/lung cancer (C33–C34)	15.5	15.7	17.5	9.8
Respiratory diseases (J00–J99)	106	79.4	61	
Digestive diseases (K00–K93)	60.5	59.8	60.8	60.4
III External causes (V01–Y89)				
Transport accidents (V01–V99)	10.5	6.7	4.6	1.1
All external causes, injury and poisoning	52.8	29.7	26.1	28.6
IV Symptoms, signs and ill-defined conditions				
	29.2	32.5	36.8	70.8

Source: WHO (2009)

Data included in the 'Health for All' database show that the three main causes of mortality in Azerbaijan in 2007 were circulatory diseases (551.6 per 100,000 population), cancer (87.4 per 100,000 population) and digestive diseases (60.4 per 100,000 population); unlike other countries of the CIS, deaths from external causes did not appear to be a major cause of mortality (Table 8-8). However, it is not clear how the unprecedented reduction in deaths from transport accidents, to 1.1 per 100,000 population in 2007, the lowest in the WHO European region in that year, was achieved. This raises questions on the reliability of

mortality data (WHO, 2009). The reliability of health data is central to the development of priority health programmes (such as those targeting mother and child health). In recognition of this fact and the country's weakness in this area, the MoH has focused on a number of efforts to improve vital statistics and mortality data. Ongoing efforts to improve the situation will be combined with other plans in a national integrated health information system concept (WHO, 2009).

Although the main causes of mortality in Azerbaijan are non-communicable, prevention of communicable diseases is a significant health issue, particularly in relation to TB as rates of multiple drug-resistant TB (MDR-TB) are among the highest in Europe. Azerbaijan was also one of the countries affected by the virulent H5N1 strain of avian influenza in 2006, which was introduced via migrating wild birds. The outbreak was successfully contained, but there were eight confirmed cases and five of these were fatal (WHO, 2006).

According to a survey conducted by Clark et al. (2011) among rural village residents within three regions, only 4.5% of respondents reported having any chronic medical conditions. Severe illness in the last five years included fever lasting more than one week (7), seizure (24), paralysis (3) and coma (3). Sixty-seven (9%) reported illness in the last two weeks, consisting primarily of headache (28%), fatigue (15%) and joint pain (12%). Death of at least one family member in the last five years was reported for seventy-eight households, with cardiovascular disease (21 deaths) and unknown (14).

The Azerbaijan Demographic and Health Survey of 2006 included blood pressure readings for the representative study sample and found 16% of women aged 15–49 and 17% of men aged 15–49 were hypertensive. Nearly one-third of men and women over 40 years of age were found to be hypertensive, which would indicate that it is a serious health issue in Azerbaijan, although most respondents with high blood pressure were unaware that they were hypertensive (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). The same survey found that almost half of the men aged 15–59 years were smokers; women were not asked about their tobacco consumption.

8.4.5 Maternal and Child Health

Maternal and child health are other key indications of health status (Table 8-9 and Table 8-10). The lack of antenatal care is commonly associated with premature delivery, infant and maternal mortality and postnatal complications (Magadi et al., 2000; Rani et al., 2008; Say and Raine, 2007; Simkhada et al., 2008). Just 45% of Azerbaijani women had received care four times prior to delivery in 2009. The comparative report by the US Centre of Disease Control found that among countries of Eastern Europe, Caucasus and Central Asia, Azerbaijan has the highest infant mortality rates, the highest percentage of women who received no antenatal care during their recent pregnancies and the highest percentage of women of reproductive age with anaemia (CDC, 2003). The report also found that the country has the lowest percentage in the region of women who have ever had a routine gynaecological exam.

Reducing the burden of infant and maternal mortality is a key health priority in the country. Antenatal health care in Azerbaijan is officially provided at no cost through an extensive network of ambulatory polyclinic and maternity hospitals. The network reports to the MoH, and is organised around geographical regions. However, the network is inadequately staffed (World Bank, 2005). For every 900 children below age 5 and for every 2200 women of the childbearing ages 15–44 years, the network has one maternal and child health clinic. In addition, the network employs 3.6 physicians and 7.5 nurses per 1000 population. The level is directly comparable with enumeration unit (EU-15) averages of 3.9 doctors and 7.0 of nurses per 1000 population. The scope and quality of services provided are limited due to the lack of medical equipment and supplies caused by the plummeting public spending for health care during transition (Habibov, 2011).

Table 8-9: Maternal Health Indicators, 2009

Indicator	2009
Antenatal care coverage (%), at least 1 time	77
Antenatal care coverage (%), at least 4 times	45
Delivery care coverage (%), skilled attendant at birth	88
Delivery care coverage (%), institutional delivery	78
Delivery care coverage (%), C-section	5
Maternal mortality ratio reported	26
Maternal mortality ratio (2008, adjusted)	38
Maternal mortality ratio (2008, lifetime risk of maternal death)	1200

Source: UNICEF (2012)

Table 8-10: Children's Nutrition Indicators, 2009

Indicator	2009
Infants with low birth weight	10%
Early initiation of breastfeeding	32%
Children who are exclusively breastfed (<6 months)	12%
Children who are breastfed with complementary food (6–9 months)	44%
Children who are still breastfed at 20–23 months	16%
Under-fives suffering from: underweight (NCHS/WHO), moderate and severe	10%
Under-fives suffering from: underweight (WHO), moderate and severe	8%
Under-fives suffering from: underweight (WHO), severe	2%
Under-fives suffering from: wasting (WHO), moderate and severe	7%
Under-fives suffering from: stunting (WHO), moderate and severe	25%
Vitamin A supplementation coverage rate (6–59 months), full coverage	79%
Households consuming iodised salt	54%

Source: UNICEF (2012)

According to the WHO, the findings in the 2006 survey on infant mortality differed significantly from official rates reported. The WHO concluded that while discrepancies in data collected from different sources is not unusual, the size of differences between population-based survey data and those collected through routine reporting channels called into question the reliability of routine statistical data.

Furthermore, there was evidence suggesting that the managers of health facilities are under pressure to avoid reporting 'negative' statistics, particularly those relating to maternal and child health, which could account for this discrepancy. In addition, WHO criteria for defining a live birth had not been fully implemented nationwide (Katsaga and Kehler, 2008). Officially, infant mortality fell in the period from 1995 to 2007, from 24.3 to 9.8 deaths per 1000 live births (see Table 8-11), which is relatively low compared with the CIS average of 12.8 in 2006 (WHO, 2009). However, the Azerbaijan Demographic and Health Survey 2006 found infant mortality to be 43 per 1000 births based on the international classification of live births and 23 per 1000 live births if the 'Soviet classification' was applied (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008).

Table 8-11: Official Azerbaijan Mortality Indicators, 1995–2007 (Selected Years)

Indicator	1995	2000	2004	2007
Life expectancy at birth, female (years)	73.4	74.4	75.1	76.3
Life expectancy at birth, male (years)	65.4	68.7	69.9	71.3
Life expectancy at birth, total (years)	69.5	71.6	72.5	73.8
Infant deaths (per 1000 live births)	24.3	12.8	12	9.8
Probability of dying before 5 years of age (per 1000 live births)	39.6	24.4	19.6	14.5
Late neonatal mortality rate (per 1000 live births)	3.5	NA	NA	NA
Under-five mortality rate (per 1000 live births)	15.4	NA	NA	NA
Maternal mortality ratio (per 100,000 live births)	52.1	NA	NA	NA
NA=data not available				

Source: WHO (2009)

Antenatal care utilisation is lower in Azerbaijan than in neighbouring countries; 75% of Azerbaijani women sought care from a trained medical provider, compared to 98% in Moldova (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). Appropriate health care was reportedly sought for only 35.6% of children with acute respiratory infections (UNICEF, 2000).

8.4.5.1 Contraceptive use

In June 2005, Bradley et al. (2007) conducted interviews with in a community-based survey in 40 communities in five districts. They also surveyed a sample of health facilities and pharmacies and conducted interviews with key informants. Both men and women in these communities were found to want small families, yet there were significant supply-and-demand impediments to contraceptive use. In addition, despite community interest, lack of knowledge of contraception was prevalent. Fear of side effects played a role in non-use and discontinuation of modern methods, although little opportunity was found to exist for counselling on side effects, as few health workers are trained in this. Another obstacle to use found was that legislation only allows contraception to be prescribed by gynaecologists, who are mostly concentrated in the hospitals of urban centres. However, the main handicap to increased use of modern contraception was determined to be insufficient contraceptive supply. Not only was there a lack of method choice nationally, but also few of the facilities surveyed had contraceptives available. Authors concluded that this situation might worsen as the United Nations Population Fund retracts commodities funding (Bradley et al., 2007).

8.4.6 Immunisation Programme

In 2000, Azerbaijan adopted the Law on Immunoprophylaxis of Infectious Disease. The State Programme on Immunoprophylaxis of Communicable Diseases was approved by

Cabinet of Ministers in 2006 and covers the period 2006–2010 (WHO, 2009). The main principles of state policy in the field of immunisation are:

- Necessity to conduct vaccination of all citizens of the country
- Free immunisation and vaccination activities in national and municipal medical facilities
- Implementation of targeted national and regional programmes
- Use of efficient medical immunobiological medications for immunisation activities
- Training of medical staff in the field of immunoprophylaxis
- Social protection of the population in cases of adverse events following immunisation
- Improvement of the data monitoring systems
- Creating conditions for humanitarian organisations to participate in immunisation programmes
- Development of international cooperation.

The Republican Epidemiology and Hygiene Centre supervises the organisation and implementation of immunisation activities through the network of city and district centres. It tracks the collection of statistical data on the spread of communicable diseases at all levels and determines the target groups and procurement planning for vaccines.

In 1994, Azerbaijan's Ministry of Health adopted WHO guidelines for childhood immunisations, which recommends that all children receive BCG vaccination against TB; four doses of DTP vaccine to prevent diphtheria, pertussis and tetanus; five doses of polio vaccine; and a measles vaccine during the first year of life. Since 2003, measles immunisation has been given at 12 months of age in the form of an MMR vaccination to protect against measles, mumps and rubella. In addition, since 2001, the Ministry of Health has recommended that children receive three doses of hepatitis B vaccine.

According to official statistics for 2008, Azerbaijan had high vaccination coverage rates for measles (97.3%). In the same year, official rates were similarly high for the tuberculosis vaccine (TB; 98.2%), the Diphtheria-tetanus-pertussis vaccine (DTP; 95%) and the polio vaccine (97.5%; WHO, 2009). The WHO suggested that these high rates may reflect an underestimation of the number of neonates in the denominator (WHO, 2010). Furthermore, the 2006 Azerbaijan Demographic and Health Survey found that only 60% of children aged 18–29 months had received all the basic WHO-recommended vaccinations at the time of interview, while 13% had not received any vaccinations (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). A dropout rate of 10% between the first and third doses was found for both DTP and polio vaccination (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). Vaccination coverage reported by Azerbaijan for 2010 is shown in Table 8-12. It is notable that the WHO 2009 estimates for some vaccination coverage rates were much lower than the official rates reported by Azerbaijan in 2010.

For example, the WHO vaccination coverage estimate for measles (first dose) was just 67%, for Hepatitis B (birth dose) 46% and for DTP3 (third dose) 73% as compared to 98%, 99% and 93% that were officially reported in 2010 (see below).

Table 8-12: Percentage of Target Population Vaccinated by Antigen, 2010 Official Rates

Vaccine	Coverage
BCG (Bacille Calmette Guérin vaccine)	0.98
DTP1 (First dose of diphtheria toxoid, tetanus toxoid and pertussis vaccine)	0.97
DTP3 (Third dose of diphtheria toxoid, tetanus toxoid and pertussis vaccine)	0.93
HepB_BD (HepB birth dose)	0.99
HepB3 (Third dose of hepatitis B vaccine)	0.97
MCV (Measles-containing vaccine)	0.98
MCV2 (Measles-containing vaccine 2nd dose)	0.98
Pol3 (Third dose of polio vaccine)	0.96
Rubella1 (First dose of rubella vaccine)	0.98

Source: WHO vaccine-preventable diseases: monitoring system 2011 global summary

In 2010, there were 125 cases of measles officially reported, 15 cases of pertussis and 1 case of rubella. In 2009 (the most recent data available), there were 232 cases of mumps reported.

8.4.7 Health Indicators at the PAC Level

Commencing in February 2012, ERA, an independent contractor appointed by BP, visited households in the PACs to conduct a survey of social and economic conditions in Azerbaijan to provide data for the SCPX Project. The survey addressed three separate cohorts and included a suite of questions regarding health prepared by the HIA team.

Approximately one quarter of PAP and vulnerable people and almost one fifth of the general public survey respondents had sought medical assistance in the week prior. The highest percentage of survey respondents had sought medical assistance in the past month at 34.9%, 31.4% and 37.7%, for the general public, vulnerable people and PAP, respectively. Utilisation was similar between the cohorts at each time point.

Infections of the ear, throat and nose (including influenza and colds) were the most common illness reported among all three cohorts. However, an almost-equal percentage of the general public also reported that the most common illness requiring medical attention in their household was not included in the query (i.e. "none of these"; Table 8-13). The second most common illness reported among all cohorts was cardiovascular, including heart conditions. Twice as many PAP than members of the general public reported this illness. Gastrointestinal illness was the third most common illness reported by the general public and vulnerable people, while bronchial illness ranked second amongst PAP. Treatment for cancers was not reported by PAP but was reported among a few members of the general public and vulnerable people.

Table 8-13: Most Common Illnesses Requiring Medical Attention in the Past Year

Illness	General Public	Vulnerable People	PAP
Infections of the ear, throat, nose (including influenza and colds)	29.87%	42.51%	37.07%
Cardiovascular (including heart conditions)	8.90%	13.04%	19.83%
Gastrointestinal	6.57%	6.28%	3.45%
Physical trauma (e.g. broken limbs)	3.07%	4.35%	1.72%
Bronchial (pneumonia, bronchitis, etc.)	2.54%	0.48%	5.17%
Sight-related (e.g. cataracts)	2.54%	3.38%	0.00%
Cancers	0.42%	0.97%	0.00%
Nerve	2.12%	2.42%	0.00%
Diabetes	2.65%	4.35%	0.86%
Rheumatism	0.95%	1.45%	0.86%
Disabled	0.11%	0.97%	0.00%
Kidney disease	0.85%	0.97%	0.01%
Blood pressure	2.01%	0.97%	0.01%
Brucellosis	0.32%	0.00%	0.86%
Low blood pressure	0.21%	0.00%	0.86%
Back pain	0.21%	0.97%	0.86%
Allergies	0.42%	0.00%	0.00%
Gynaecology	1.17%	0.48%	1.72%
Hernia	0.42%	0.00%	0.00%
Tumour in head, liquid	0.21%	0.48%	0.00%
Breast disease	0.21%	0.00%	0.00%
Paralysis	0.21%	0.00%	0.86%
Gall disease	0.53%	0.00%	0.86%

Illness	General Public	Vulnerable People	PAP
None of these	29.24%	11.59%	12.93%

Source: ERA (2012)

8.4.7.1 Summary of health data obtained in the household survey

- Most survey respondents had last sought medical assistance within the past month at a hospital for an illness via motor vehicle
- Vulnerable people reported a longer travel time than PAP or members of the general public
- Between 25–30% of all survey respondents reported a fever in the previous week; most PAP sought treatment at an ambulance station while most vulnerable people and members of the general public visited a pharmacist
- Approximately 30% of all survey respondents reported a cough in the previous week which self-treated
- Fewer than 10% of all survey respondents reported diarrhoea in the past week; most vulnerable people and members of the general public self-treated, while most PAP visited a hospital
- Infections of the ear, nose and throat were the most common illness reported for all households in the previous year
- Most survey respondents reported that medicines were not easily accessible, but that accessibility had improved in the past five years
- Most survey respondents reported no difference in their families' overall health or medical supply in the past five years
- Close to 100% of all survey respondents had heard of TB; the top mode of transmission reported among survey respondents in all three cohorts was "through the air when coughing or sneezing"
- Most survey respondents said they would not want the fact that their family member had TB to remain a secret and would be willing to care for a family member at home after they had undergone treatment
- Most survey respondents had their blood pressure check less than six months ago by a doctor or nurse
- Approximately 20% of vulnerable people and PAP reported having been diagnosed with a heart attack or myocardial infarction
- Most survey respondents said they had heard of an illness called diabetes but had not been diagnosed with the disease; the greatest percentage of those who had been diagnosed occurred among vulnerable people
- Over half of all survey respondents reported that someone in their household smoked cigarettes or used tobacco, more than 60% reported the use of these products had not occurred inside of their homes within the past 30 days
- The majority of all survey respondents reported that no one in their household currently drinks alcohol, although nearly 40% of PAP said that someone in their household did currently consume alcohol.

8.4.8 Infectious Disease

Infectious diseases present a potentially substantial yet undefined burden on the health of the adult Azerbaijani population. Efforts to quantify this burden in Azerbaijan are currently based almost exclusively on passive disease surveillance and therefore hinge on the health utilisation practices of the population. Understanding the prevalence of infectious syndromes and health utilisation practices is paramount to disease surveillance, public health planning

and health care system reform (Clark et al., 2011). Specific information about infectious syndromes in Azerbaijan is lacking, particularly for adults and rural communities.

To gain a better understanding of the prevalence of infectious syndromes and health utilisation practices in rural Azerbaijan, Clark et al. (2011) conducted surveys in three regions of northern Azerbaijan with village populations less than 500 people. The predominant utilisation practice reported (19.4%) was self-medication with antibiotics. Only 1.3% of respondents reported seeing a health care provider for an infection, and 3.4% had missed work or stayed in bed during the day in the last five years. In contrast, 338 illness episodes were reported in a 5-year period. Antibiotic use was significantly associated with gender, region, history of febrile illness, sleep disturbances and arthritis, controlling for age, ethnicity and education. Influenza-like illness was the most prevalent infectious syndrome reported (33.3%).

Overall, a remarkably low utilisation of health services was observed, despite reported symptoms that would merit use (Clark et al., 2011). Authors suggested that widespread availability of antibiotics may deter health care use and may contribute to the development of antibiotic resistance in this population. Information on utilisation of health services during an infection is essential for development of effective intervention strategies, and data on the prevalence of infectious syndromes provides information not otherwise available in populations with low health care utilisation.

Only 10 people reported ever being hospitalised for an infection (median duration, 8 days; range, 1–25 days). Reported diagnoses included brucellosis, gastrointestinal infections and hepatitis A. The majority of the respondents seeking outpatient care saw a physician on more than one occasion. Their reported duration of illness ranged from 7 to 60 days, and diagnoses included brucellosis and bronchitis. Among respondents who reported illness severe enough to cause them to stay in bed during the day (3.4%), none sought medical care. The majority of these respondents (74%) reported more than one illness episode in the last 5 years (range 1–10).

8.4.8.1 Public health and epidemiologic surveillance

Historically, the concept of public health as defined by the WHO has not existed in Azerbaijan (WHO, 2009). After gaining independence the country adopted the “Law on Sanitary-Epidemiological Wellbeing”, which provides a legal framework for public health. The responsibility for public health services is divided among agencies including the Sanitary Epidemiological Service, the Public Health and Reforms Centre of the MoH and the National HIV/AIDS Centre. The Sanitary Epidemiological Service responsibilities are broad and incorporate a number of other vertically integrated central and local services. The two major services provided are surveillance of infectious disease and supervision of the immunisation programme. A problem noted with this system, however, is that it is not well integrated with primary care services, which has created tensions between the two sectors (WHO, 2009). The cited reason given was that some of the sanitary norms and requirements are considered too difficult to follow. As a result, many primary care physicians reportedly refuse to diagnose their patients with diarrhoea, because even in these simple cases they are required to notify the local hygiene and epidemiology centre, refer the patient to hospital and trace and report all contacts. As a result, both provider and patient prefer to hide such cases. A recent survey of prescription practices conducted by the MoH in collaboration with WHO and USAID revealed that virtually no cases of diarrhoea are registered in outpatient settings (WHO, 2009). The WHO concluded that although such strict rules are appropriate for the control of more serious infections such as cholera, they need to be modified for milder infections. As a definitive list of information regarding the full suite of diseases legally required to be reported to public health authorities could not be found, this represents a data gap.

8.4.8.2 Gastrointestinal disease

According to Clark et al. (2011), gastrointestinal illness was most prevalent among respondents without any education (20.0%) and those 18–34 years of age (17.7%). The

results of a study examining rotavirus infection among WHO European region nations demonstrated that Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan and Uzbekistan had the highest estimated mortality rates (>10/100,000 per year; Williams et al., 2009). Authors concluded that rotavirus vaccination in Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Turkey could potentially prevent 80% of all regional rotavirus deaths.

8.4.8.3 Parasitic disease

Mortality attributable to infectious and parasitic diseases comprises 16.4 deaths per 100,000 population in Azerbaijan, compared to 8.9 per 100,000 in the European Union and 25.3 per 100,000 among CIS countries (WHO, 2011). Khalafli (2009) determined the prevalence of intestinal parasitosis in Baku. *Ascaris*, *trichocephalus*, and *trichostrongylus* were found in approximately 19% of people examined (N=424). A few people were infected with *Taeniarhynchus saginatus* (mainly women, 0.9%). Socio-economic factors typically play a role in the prevalence of intestinal parasites. Helminth infections can contribute to anaemia and malnutrition, especially in children. This investigation demonstrated that current socioeconomic conditions have caused the increase of intestinal parasitosis in Baku (Khalafli, 2009).

8.4.8.4 Sexually transmitted infections (STIs)

Sexually transmitted infections (STIs) are of growing concern in Azerbaijan. Gonococcal infection and syphilis rates have decreased but HIV infection is steadily increasing. Knowledge on AIDS prevention is poor and a third of blood units are not adequately screened.

HIV/AIDS

In recent years, the region of Eurasia has seen one of the world's fastest growing HIV epidemics, with unsafe drug-injecting practices being a major driver. During the past decade, the region comprising countries of the former Soviet Union has experienced the highest increase in prevalence of drug use worldwide (UNODC and World Bank, 2007). HIV in prisons is a specific area of major concern and, given the extensive criminalisation of people who use drugs, is linked heavily to injection drug use both inside and outside prisons (Cozac and Elliott, 2011). In several regions in Azerbaijan, Kazakhstan, Kyrgyzstan and Uzbekistan, an estimated 30–40% of injection drug users have contracted HIV.

In 1996, the Law on the Prevention of Spread of the Disease Caused by Human Immunodeficiency Virus was adopted in order to establish national efforts to control HIV/AIDS. The law outlined the responsibilities of the state in the area of HIV/AIDS control, as follows:

- Adoption and implementation of a national programme to prevent the spread of HIV/AIDS safety in terms of HIV infection during transfusion of blood and its components, the transplantation of organs and tissues as well as various medical interventions (both surgical and dental) at curative–preventive facilities
- Provision of full information to the population about HIV/AIDS prevention
- Initial and continuing counselling about opportunities for and safety of medical investigations during HIV infection (for both patients and medical personnel)
- Provision of outpatient and inpatient care and drug treatment for patients with HIV/AIDS who are citizens of the Republic of Azerbaijan, based on the rules established by relevant authorities
- Provision of all kinds of specialised care free of charge to prisoners in penitentiary facilities who have HIV/AIDS
- Provision of all kinds of specialised care to patients with HIV/AIDS who are foreigners or persons without citizenship, based on the rules established by relevant authorities.

The testing policy has changed over time and testing is only mandatory for blood donors, although it is still common practice to screen all pregnant women and military recruits. In

addition, Ministry of Health instructions to health providers recommend that all inpatients are offered voluntary screening for HIV/AIDS, which, in practice, often becomes mass testing without full consent (WHO, 2009). The implementation of the HIV/AIDS programme has also been supported by international organisations including the Global Fund. The Global Fund project primarily targets high-risk groups such as injecting drug users, prisoners, commercial sex workers, men who have sex with men, migrants and youth through outreach awareness campaigns, syringe exchange programmes and condom distribution.

Among the Southern Caucasus countries (Armenia, Azerbaijan and Georgia) are those with the lowest prevalence of HIV (<0.3%; Kvitsinadze et al., 2010). However, the nearly nine-fold increases in registered HIV cases in the region between 2000 and 2008 (from 574 to 5323) remain a cause for serious concern. The number of people living with HIV has been increasing in Azerbaijan since 1990, along with the annual numbers of AIDS deaths and HIV incidence. The majority of people living with HIV/AIDS were aged 25–49-years at the time of diagnosis. According to official statistics, the epidemic in Southern Caucasus remains located among males (with 83.8% in Azerbaijan, 75% in Georgia, and 73% in Armenia) and most-at-risk populations. In Georgia and Azerbaijan, as in Eastern Europe, the predominant mode of transmission is through injecting drug use (58.8% and 64.2%, respectively), while in Armenia over the last several years the transmission has shifted from injecting drug use to heterosexual spread (50.2%). The second reported mode of transmission in Georgia and Azerbaijan is unprotected heterosexual activity (34.9% and 23.4%, respectively). Medical transmission, mother to child transmission and transmission among men who have sex with men are rare, typically comprising less than 3% of total registered transmission in each country of the region. UNAIDS contends prevalence values are underestimated, and the registered numbers of HIV/AIDS cases in the region do not reflect the actual spread of the infection. There is also a substantial discrepancy between the cumulative number of HIV/AIDS cases reported in the national case reporting systems and the HIV prevalence reported in surveys (high prevalence observed in IDUs in Armenia and Azerbaijan, and in MSM in Georgia). In the context of such underreporting, population-based and community-based HIV surveys have far better public health utility in estimating burden of HIV/AIDS than the case reporting system.

8.4.8.5 Tuberculosis

Tuberculosis (TB) is a serious public health problem in former Soviet Union countries and a major contributor to deaths among people with immune systems compromised by HIV. TB prevalence is particularly high among people injecting drugs and people in prison (Barrett et al., 2008).

Formally, Azerbaijan has a national TB control programme based on the directly observed treatment short course (DOTS) strategy recommended by WHO, but TB services are provided through a vertical system of specialised facilities with little integration into primary care. The Law on the Control of Tuberculosis enacted in 2000 requires the following:

- Emergency care for TB
- Provision of testing related to TB
- Social support, including provision of isolated living space for patients with infectious forms of TB and employment for persons suffering from TB and its consequences
- Specific prophylaxis of TB, consultative-diagnostic, treatment and rehabilitation care in public anti-TB outpatient, inpatient and sanatorium facilities
- Provision of specialised care for prisoners in penitentiary facilities who have TB
- Tax breaks for organisations providing employment for persons who have become disabled as a result of TB.

Anti-TB drugs are provided free of charge through TB specialists. In order to reduce the inappropriate use of anti-TB drugs (resulting in multi-drug resistant TB-MDR-TB), the MoH has prohibited the open sale of first-line anti-TB drugs through pharmacies since 2007.

There is, however, some anecdotal evidence that prohibition is not strictly followed by private pharmacies, and the drugs are still freely available on the market.

Incidence of MDR-TB in Azerbaijan is among the highest in the WHO European Region with 93 new cases confirmed in 2010 (Table 8-14). Of all countries with new case MDR-TB prevalence above 6% between 2002 and 2007, Azerbaijan had the highest percentage of cases at over 20%. Azerbaijan is also among the 15 countries with prevalence rates for multidrug-resistant tuberculosis prevalence in previously treated cases, above 30%. Data for TB/HIV co-infection was unavailable.

Table 8-14: Tuberculosis Indicators, 2010

Estimates of Burden	Number (Thousands)	Rate (per 100 000)	
Mortality (excluding HIV)	0.94 (0.61-1.4)	10 (6.6-15)	
Prevalence (including HIV)	15 (6.3-26)	166 (69-279)	
Incidence (including HIV)	10 (8.3-12)	100 (90-131)	
Incidence (HIV positive)	0.14 (0.074-0.22)	1.5 (0.8-2.4)	
MDR-TB reported cases 2010	New	Retreatment	Total
Cases tested for MDR-TB	801	960	1761
Notified tested for MDR-TB (%)	15	48	21
Confirmed cases of MDR-TB	93	459	552
MDR-TB patients started treatment			286
TB/HIV Co-infection 2010			
HIV-positive people screened for TB	785		
HIV-positive people provided with IPT	62		

Source: WHO (2011)

According to the 2006 Azerbaijan DHS, awareness of the correct mode of transmission (through the air by coughing) increased with age, education, and wealth index among women (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008). Urban residents were significantly more likely than rural residents to identify the correct mode of transmission, while misconceptions about the way tuberculosis spreads tended to be equally shared by urban and rural women (with a few exceptions). Higher proportions of urban men, better educated men and men living in the wealthiest households are aware of the correct mode of transmission compared with rural, poorer and less educated men. At the same time, urban men, better educated men and men in the wealthiest households are also more likely to report misconceptions about mode of transmission.

8.4.9 Vector Related Disease (VRD)

8.4.9.1 Malaria

After the dissolution of the FSU in 1991, malaria control measures ceased and this fact together with the occurrence of mass migration of the population from the areas affected by the conflict over the Nagorno-Karabakh region of Azerbaijan resulted in a large increase in malaria incidence. In 1996, the number of registered malaria cases in Azerbaijan reached 13,135. By 1998, the government established a new control programme with the support of international partners. As a result, the number of malaria cases has been drastically reduced with only 110 cases reported in 2007 and 50 cases in 2010. Although incidence is currently low, 80% of the country's territory is receptive to infection and active are currently

reported in 23 districts of Azerbaijan (WHO, 2009). Figure 8-13 shows the distribution of confirmed malaria cases in 2010.

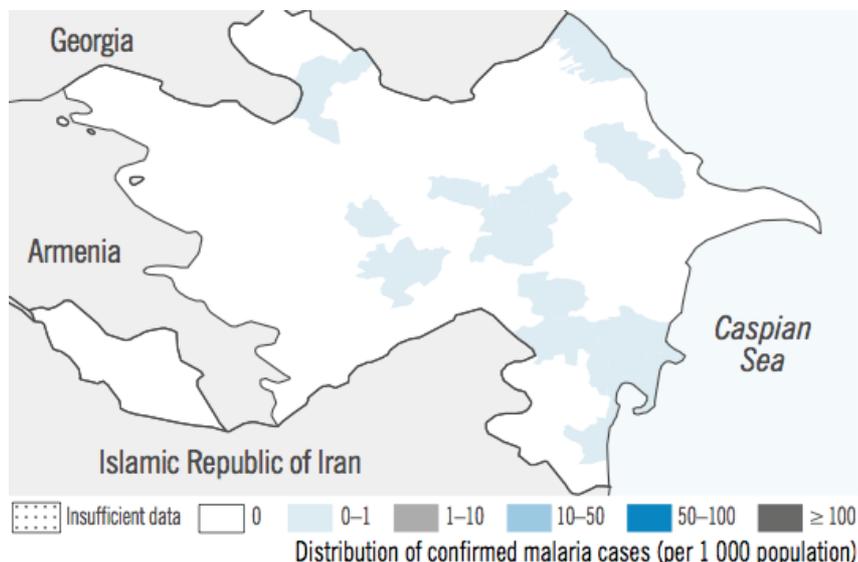


Figure 8-13: Distribution of Malaria Cases, 2010

Source: WHO (2011b)

In December 2005, Azerbaijan endorsed the Tashkent Declaration to move from malaria control to elimination in the WHO European Region (WHO, 2005). In 2008, the Ministry of Health adopted the National Malaria Elimination Strategy and the Action Plan for 2008–2013, which aims to eradicate malaria by 2013. In 2010, 1% of the total population lived within an area of an active foci (N=30; Table 8-15). The high-risk months for malaria transmission are June–October.

Table 8-15: National Malaria Indicators

National Malaria Indicators	2010	%
Number of active foci	30	
Number of people living within active foci	691,000	0.01
Number of people living in malaria-free areas	9,120,000	0.99
Total	9,189,100	

Source: WHO (2011b)

8.4.9.2 Leishmaniasis

Leishmaniasis is endemic in Azerbaijan. Cutaneous leishmaniasis is found in scattered foci below 1300 metres elevation. Visceral leishmaniasis is confined to areas along the south-eastern coast of the Black Sea, the south-eastern and south-western coasts of the Caspian Sea and the border areas of Georgia and Azerbaijan. Recent data could not be located, although a 60+-case outbreak of cutaneous leishmaniasis was documented in the Geokchay District of Azerbaijan between 1987 and 1988 (Gasanzade et al., 1990). The disease was noted in the rural areas only, affecting all age groups. The clinical picture of the disease was significantly different from anthropogenic cutaneous leishmaniasis caused by *L. tropica* but similar to cutaneous patterns caused by *L. infantum* that was a prevalent in southern France. Isoenzyme assay of the strain isolated in the Geokchay causative agent defined it as *Leishmania donovani sensu lato*. Nine Phlebotominae species were isolated in the Geokchay District.

8.4.10 Zoonotic Disease

After the collapse of the Soviet Union in 1991, the agrarian sector in the former member states fell into a steep decline, and veterinary training and education came to a standstill.

8.4.10.1 Echinococcosis

Cystic echinococcus (CE) is endemic throughout WHO's Eastern Mediterranean region, but data on the disease in humans is fragmented, except in Iran. Human alveolar echinococcosis (AE) is endemic in Azerbaijan. Chobanov et al. (1992) determined that risk of transmission was highest in mountainous regions of the Small Caucasus. In Baku, 484 cases were surgically treated over a 15-year period until 2008. Although rare, a 19-year-old asymptomatic Azerbaijani male patient was hospitalised with a cardiac mass diagnosed during a routine check-up examination (Kucukarslan et al., 2005).

8.4.10.2 Avian influenza

As noted in Section 8.4.4, Azerbaijan was one of the countries affected by the virulent H5N1 strain of avian influenza in 2006, which was introduced via migrating wild birds. According to the WHO, seven infections were confirmed, five of which were fatal.

8.4.10.3 Foot and mouth disease (FMD)

Foot and mouth disease (FMD) remains a significant health problem in domestic herds of cloven-hoofed animals in many countries, including Azerbaijan. Between 1992 and 1999, 115 outbreaks of FMD were reported in the countries of Transcaucasia (Georgia, Armenia and Azerbaijan), generating concern among neighbouring countries in Europe, particularly Russia (Moutou et al., 2001). The official veterinary network is well structured and State veterinarians have first-hand clinical and field experience with FMD. However, diagnostic capability is limited, and communication between field veterinarians and regional or national laboratories is complicated. During these outbreaks, although diagnostic capability was acceptable once the disease had been suspected clinically, the number of samples sent for genetic characterisation to the OIE-Regional FMD Reference Laboratory in Vladimir, Russia, was insufficient and epidemiological investigations were incomplete (Moutou et al., 2001).

The ability of the virus to survive in the environment is dependent on ambient humidity, as the virus is sensitive to desiccation (dryness). Because diseased and contaminated animals are not slaughtered in Georgia, Armenia and Azerbaijan but are instead isolated for twenty-one days, there is significant danger that clinically asymptomatic carriers are released back into the herd, further spreading the disease.

8.4.10.4 The anti-plague system

After the Soviet Union's dissolution, the Azerbaijani Anti-plague (AP) system was reorganised and was comprised of nine facilities in 2004. These include the S. Imamaliyev Republic AP Station (formerly Central AP Station of Azerbaijan); six field AP stations in Imishly, Julfa, Khachmaz, Lenkoran, Mingechevir, and Shamkir; and two seasonal AP laboratories in Tyrkyany (Apsheon Peninsula) and Jeiran (Agstafa district, close to the border with Georgia).

The AP Station gained an increasingly important role in Azerbaijan's health care system as it absorbed structural elements of other organisations along with their personnel. In 1992, the Republic AP Station assumed epidemiological control responsibilities of the Republic SES with regard to all quarantine and especially dangerous infectious diseases other than plague, including tularemia, anthrax, brucellosis, and rabies. In addition, the Azerbaijani AP system was charged with administering epidemiological measures to prevent importation of haemorrhagic and yellow fevers. In 1998, the Republic AP Station incorporated the laboratory components of the SES system specialising in general bacteriology, immunology, and study of viruses. As of 2004, the organisational structure of the Republic AP Station consisted of three main units: the Laboratory Department, the Epidemiological Department, and the Zooparasitological Department (Ouagrham-Gormley et al., 2008). The Azerbaijani AP system carries out limited vaccination of certain groups of people who are at an

increased risk of contracting dangerous infectious diseases owing to their professional occupations or place of residence.

Azerbaijani AP specialists estimate that plague is endemic to 30,000km² (or approximately 35%) of Azerbaijan's 86,500km² territory. There are now three known natural plague foci in Azerbaijan: the Transcaucasian Foothill-Plain, the Transcaucasian Mountainous, and Nakhichevan foci. The largest and the most epidemiologically active is the Foothill-Plain focus, extending from the Apsheron Peninsula to the border with Georgia. The Transcaucasian Mountainous focus covers the mountainous central parts of Azerbaijan. The Nakhichevan focus is located on the territory of the Azerbaijani-populated Nakhichevan Autonomous Republic along the Aras River, which marks the border with Iran. The main natural host for *Yersinia pestis* in the plains of Azerbaijan is the red-tailed gerbil. Scientists have found that the *Y. pestis* strains isolated in the Transcaucasian Foothill-Plain focus are more virulent than those that are isolated in the Transcaucasian Mountainous focus.

After the dissolution of the former Soviet Union, the Azerbaijani AP system significantly reduced epidemiological monitoring of the natural plague foci owing to the lack of government funding. According to the management of the Republic AP Station, as 2004, the Azerbaijani AP system managed to carry out epizootic surveillance of only between 20 and 30% of the territory endemic for plague and seasonal laboratories fell into disrepair, becoming unusable. In 2003, limited epizootiological monitoring was made possible by a contract signed between British Petroleum (BP) and the Azerbaijani AP system. In the course of the fieldwork, the Azerbaijani AP specialists examined more than 1,495 rodents and 8,376 fleas, but did not recover any *Y. pestis* microbes. In 2005, the Republic AP Station signed an agreement with BP, providing for regular epizootiological monitoring of natural plague foci located along the BTC pipeline (Ouaghrham-Gormley et al., 2008).

8.4.11 Non-Communicable Diseases (NCDs)

Non-communicable conditions are the leading causes of death, mainly due to lifestyle factors, particularly tobacco and alcohol consumption. As in most countries of the world, cardiovascular diseases are the leading cause of death in Azerbaijan (Figure 8-14). Diabetes is important but prevalence data is unclear. Malnutrition is a serious problem in children, particularly in rural areas. NCDs are estimated to account for 85% of all deaths.

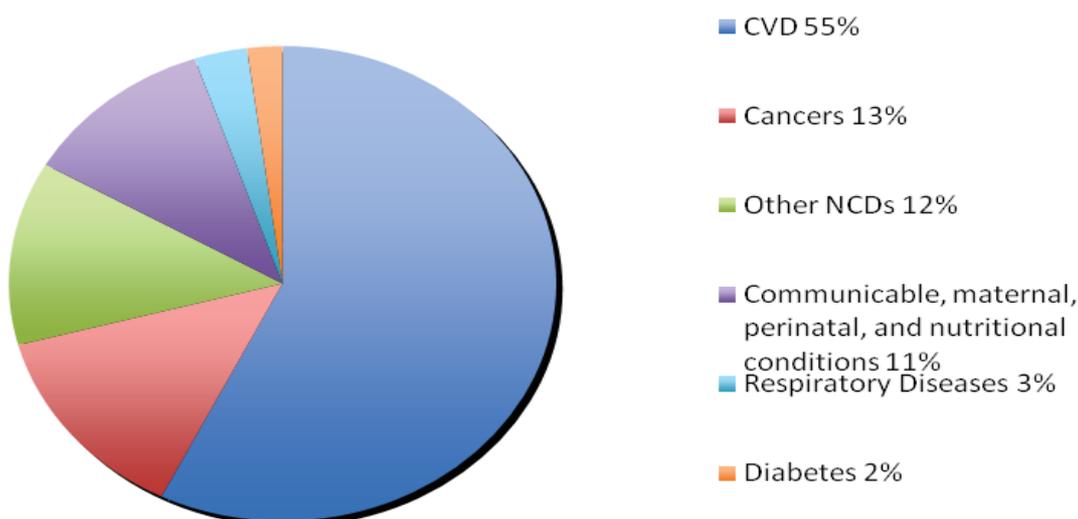


Figure 8-14: Proportional Mortality (% of Total Deaths, All Ages), 2008

Source: WHO

8.4.11.1 NCD behavioural risk factors

Between February and April 2011, the MoH conducted the 'National Survey on Risk Factors for Chronic Non-communicable Diseases in Azerbaijan' (SuRFNCD) to examine the

prevalence and risk factors for NCDs in Azerbaijan. This survey constituted the first nationwide cross-sectional survey to use the WHO Non-Communicable Disease Stepwise survey methodology. The survey data was obtained from 2000 adult participants with 83.3% response rate (MOH, 2011). The survey revealed that 52.5% of the surveyed respondents had one to two risk factors for developing non-communicable diseases, whereas 39.91% had three or more risk factors. The proportion of respondents who had three or more risk factors was higher in men than in women.

Tobacco use

Smoking is a known risk factor for cardiovascular disease, causes lung cancer and other forms of cancer, and contributes to the severity of pneumonia, emphysema and chronic bronchitis. Second-hand smoke may adversely affect children's growth and cause childhood illness, especially respiratory diseases. According to the WHO, as many as 20% of all deaths among middle-aged men in Azerbaijan in the early 1990s could be attributed to tobacco use (Peto et al., 1994).

According to SuRFNCD, the prevalence of smoking and daily smoking overall was 22.9% and 21.3% respectively (MOH, 2011). Prevalence was close to 100 times greater in men than in women. Daily smoking habits were assessed among current smokers by asking them whether they smoked on daily basis. Overall, 46.1% of men reported daily smoking and an additional 3.4% were non-daily smokers. The prevalence of daily smoking was highest among 35–44 years old (58.3%). The results showed that 93.1% (421 out of 452) of the current smokers were daily smokers.

The mean starting age of daily smokers was overall around 19 years. Furthermore, environmental tobacco smoke exposure or passive smoking in home, public places and/or in workplace was reported by 59.6% of the total respondents, by more men than by women.

Alcohol use

Adverse health impacts resulting from alcohol abuse rank among the most serious issues in the eastern European region, accounting for the increased rate of cardiovascular diseases and shortened life expectancy (State Statistical Committee of the Republic of Azerbaijan and Macro International, 2008).

The results of SuRFNCD (2011) indicated that 14.3% of the total respondents were current drinkers in the past 30 days, whereas 9.3% drank in the past 12 months but not currently. The proportions of current (past 30 days) and non-current drinkers were significantly higher among male respondents than female respondents (29.0% and 18.4% vs. 1.9% and 1.7% respectively). Approximately 34% of all respondents reported ever consuming an alcoholic drink in their lives with the remaining 66% being lifetime abstainers. The proportion of lifetime abstainers was significantly greater among women than among men (90.2% vs. 36.5% respectively).

Fruit and vegetable consumption

According to SuRFNCD (2011), fruit and/or vegetable consumption was generally low, with the majority of the respondents (78.8%) reporting to consume less than five servings per day with no significant differences among age groups and sexes. The younger age groups tended to consume slightly more fruits or vegetables than elder groups. In addition to low consumption of fruits and vegetables, the majority of households used saturated oil such as butter and ghee for cooking, which also contributes to unhealthy dietary practices.

Azerbaijan has a moderate climate favourable for agriculture. Fresh fruits and vegetables, both locally produced and imported, are available all year long. However, there is a great variability in prices between harvest and non-harvest seasons, which are summer–fall and winter–spring, respectively. Price seasonality affects affordability of fruits and vegetables, which may explain their low consumption reported by the respondents, as the survey was conducted in winter-spring.

Physical activity

Of the total respondents, 44.1% were reportedly engaged in high level of activities and the amount of time spent in physical activity was on average around three hours per day (MoH, 2011). Male and younger respondents were more physically active than female and older respondents. A significantly higher proportion of women had no transport-related activity (walking or cycling) (28.0% and 14.7% respectively), which may be explained by lower employment level among women that reduces the need in walking to work and back (or school). Almost half of the respondents did not have any recreation-related activity, including those in the youngest age group. These findings indicate to the need for increasing opportunity for adult population to engage in sports and other leisure activities.

Excessive body weight

Overweight and obesity are risk factors of a number of medical conditions including diabetes, heart disease and stroke. The body mass index (BMI) of the total respondents averaged overall 27.1, and the percentage of overweight and obese was 37.2% and 25.0%, respectively (SuRFNCD, 2011). The proportion of obese respondents was substantially higher among women than among men (30.7% and 18.4% respectively). The two youngest age groups of respondents (18–24 and 25–34 years) were found to have the least prevalent for overweight and obesity as compared to other age groups.

8.4.11.2 Hypertension

High blood pressure (hypertension) is a contributing factor to heart disease, stroke and kidney disease. According to SuRFNCD, the percentage of respondents with mild to severe raised blood pressure (SBP ≥ 140 and/or DBP ≥ 90 mmHg) and severe raised blood pressure (SBP ≥ 160 and/or DBP ≥ 100 mmHg) excluding those currently on medication for hypertension, were on average 30.7% and 12.4% respectively. The percentage of respondents with mild to severe and severe raised blood pressure or currently taking medication was respectively 43.6% and 28.8%.

The prevalence of self-reported hypertension was only 61% of the actual level (26.6% of the entire sample), which indicates to the poor screening practices at primary health care level to detect hypertension among population. Around 71.3% of those with self-reported hypertension were taking medicines, and only 17.0% of them had their blood pressure controlled, which points to the poor management of hypertension. The awareness of patients about lifestyle modifications to address raised blood pressure was also inadequate. In particular, only 36.5% of respondents had received advice to lose weight, whereas more than 80% of them were overweight. Similarly, only 20.0% and 35.9% of the respondents with hypertension were advised to quit smoking and to do more exercise respectively. These findings revealed that awareness-raising efforts to modify lifestyle factors contributing to hypertension were generally insufficient.

8.4.11.3 Diabetes

According to SuRFNCD (2011), 20.2% of all respondents had impaired fasting glycaemia (glucose level equal or greater than 100 mg/dl or 5.6 mmol/l and less than 110 mg/dl or 6.1 mmol/l), and 11.0% were found to have diabetes (glucose level equal or greater than 110 mg/dl or 6.1 mmol/l). Hyperglycaemia was more prevalent among women than men (11.9% and 9.9% respectively). The prevalence of self-reported diabetes was much lower (4.3%). As with hypertension, these findings indicate to poor screening efforts to detect elevated blood glucose levels with 62.3% of the respondents reporting never having their blood glucose measured. Around 19% of diabetes patients were not registered at local polyclinic and therefore were not eligible for the benefits available through the State Program on Diabetes. The analysis of data revealed that the counselling service for diabetes patients were not adequate with only 36.5% of the patients advised to lose weight, 22.4% advised to stop smoking and 32.9% recommended doing more physical exercise. More men were advised to stop smoking and increase exercise, whereas more women were recommended to reduce salt intake and lose weight. Generally, with increasing age the respondents were more likely to receive advice from their health providers on measures to reduce blood pressure.

8.4.11.4 Cancer

Breast cancer is the most frequent type of cancer among women and is a leading cause of cancer death among women in Azerbaijan Republic (Vatankha, 2011) with varied prevalence among different regions of the country. In study of malignant breast cancer prevalence among women residing in major Azerbaijan cities, prevalence exceeded 20% (Shirvan 21.2%, Mingechevir 22.5%, Sumgait 25.4%, Ganja 23.8%; Vatankha, 2011). Incidence was high among patients registered in the city of Ganja (74.5 per 100,000 population). The overall mortality rate was relatively low and varied in the range 0.1–0.08 per 100,000 population. The case-fatality rate was 7.1–19.0%.

8.4.11.5 Nutritional diseases and health programmes

Because there was a high prevalence of endemic goitre caused by a lack of iodine, the government enacted the Law on the Iodization of Salt for Mass Prophylaxis of Iodine Deficiency in 2002 (WHO, 2009). Under this law, the government is responsible for ensuring access for the population to iodised salt through subsidies on its production, encouragement of its import and state support for population awareness campaigns. Another important health initiative is the provision of vitamin A supplements to all children at the ages of 12 months, 18 months and 6 years, introduced in 2004.

8.4.11.6 Mental illness

Mental health disorders and suicide rates are below the NIS average for the overall population. According to a survey conducted by Clark et al. (2011) among rural village residents within three regions, respondents of Azerbaijani ethnicity were almost nine times more likely to report depressed mood than Lezgis and men were half as likely to report depressed mood as women. Regional associations were observed for depressed mood and sleep disturbances. Respondents residing in small homes were more likely to report problems sleeping.

8.4.12 Road Traffic Accidents

The latest road traffic data available on the national level is from 2007. There were 1107 reported road traffic fatalities (78% males, 22% females) and 3432 non-fatal road traffic injuries in 2007. The majority of deaths occurred among pedestrians (38%), followed by passengers (31%; Figure 8-15).

Drivers accounted for 28% of all road user deaths. The number of road traffic deaths nearly doubled from 2001 to 2007 (approximately 600 to 1107). In 2007, there were 784,018 registered vehicles in Azerbaijan, with motorcars accounting for 77%.

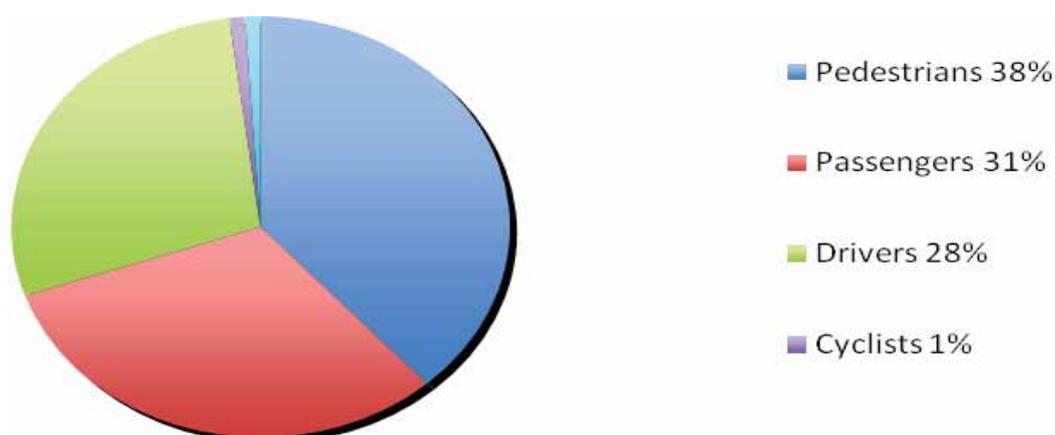


Figure 8-15: Deaths by Road User Category, 2007

Source: WHO (2007)

According to the ESIA, Project access roads are currently in poor condition with defects ranging from minor cracking of surface materials to significant potholing and, in some cases,

severe degradation. Plans are in place to upgrade roads where needed. New sections of temporary road may be needed to supplement the existing road network and provide safe access to all sections of the facilities construction and installation right of way (FCI ROW; RSK, 2012). Pipe sections, plant and other equipment to the construction areas, dedicated storage areas and construction camps, are anticipated to be transported via existing infrastructure in Azerbaijan (road and rail).

8.4.13 Environmental Health

Environmental health issues are primarily focused on air, surface water, ground water, soils/surface sediment, radiation and heavy metals contamination concerns. Currently, there are existing pipeline operations within the Project area. The SCPX Environmental and Social Scoping Study will summarise potential Project-related environmental health impacts. The HIA team will review the baseline air, water and soil quality data included in the South Caucasus Pipeline Company environmental and social baseline report for the SCPX Project ESIA, Azerbaijan upon availability. The HIA team evaluated available national environmental health data for the current baseline study in the absence of Project specific details, as outlined in the following sections.

8.4.13.1 Water and sanitation

Water quality and availability is strongly linked to hygiene-related disease (e.g. gastrointestinal and parasitic infections) and acute respiratory infections. Without adequate access to a “clean” water source, persons engage less often in hand-washing practices, which drastically reduce infection transmission. According to the 2006 Azerbaijan DHS, half of households in Azerbaijan have their drinking water piped directly into the house or yard (Table 8-16). Urban households (76%) are much more likely than rural households (19%) to have piped water in their house, yard, or plot. In rural areas, about 30% of households have a borehole or protected well and 14% obtain water from a protected spring. Almost all of urban households (91%) and half of rural households (55%) have drinking water available on premises. Seventeen per cent of rural households spent thirty minutes or longer to fetch water in households with no water in the house, yard or plot.

Table 8-16: National Water Utilities, Azerbaijan

	Year	Urban (%)	Rural (%)	Total (%)
Population using improved water sources (%)	2010	88	71	80
Piped water into home/yard	2006	75.6	19	50.2
Public tap	2006	2	5.9	3.8
Borehole	2006	2.6	19.2	10.1
Protected dug well	2006	3.5	10.1	6.5
Protected spring	2006	2.4	14.4	7.8

Source: WHO European Health for All Database and 2006 Azerbaijan DHS

A household's toilet/latrine facility is classified as hygienic if it is used only by household members (i.e. not shared) and the type of facility effectively separates human waste from human contact. Seventy-eight per cent of households in Azerbaijan use improved sanitation facilities that are not shared with another household (Table 8-17). Two in five households in Azerbaijan reportedly used a flush toilet connected to piped sewer system and a similar proportion used improved pit latrines with slab. Flush toilets were widespread in urban areas (65%), while improved latrines were the most common type of facility in rural areas (68%). One in five households reportedly used a non-improved toilet and 7% of households shared the facility with another household.

Table 8-17: National Sanitation Utilities, Azerbaijan

Indicator	Year	Urban (%)	Rural (%)	Total (%)
Population using improved sanitation facilities	2010	86	78	82
Flush/pour flush to piped sewer system	2006	62.4	1.7	35.1
Flush/pour flush to septic tank	2006	1	0.8	0.9
Flush/pour to somewhere else	2006	1.1	0.3	0.7
Pit latrine with slab	2006	18.5	67.6	40.6
Any facility shared with other households	2006	10.2	2.4	6.7
Flush/pour flush not to sewer/septic tank/pit latrine	2006	0.1	0	0.1
Open pit/hole in the ground	2006	6	26.4	15.2
No facility/bush/field	2006	0.1	0.5	0.3

Source: WHO European Health for All Database and 2006 Azerbaijan DHS

8.4.13.2 Cooking fuels

According to the World Health Organization (WHO), indoor air pollution from solid fuel use is responsible for approximately 1.6 million premature deaths each year in developing countries and is among the world's top ten causes of mortality and morbidity (Rehfuess, 2006). Pollutants from solid fuel combustion have been documented to cause or exacerbate many health problems, including reduced birth weight (Boy et al., 2002; Gouveia et al., 2004), high blood pressure (Li et al., 2009; McCracken et al., 2007), acute lower respiratory infections, chronic obstructive pulmonary disease and asthma (Smith et al., 2004). In rural parts of developing nations, where this issue is most prevalent, women and children bear a vastly disproportionate burden of such diseases, as they spend the most time at home (Fitzgerald et al., 2012). Women between the ages of 15 and 40 years old who tend to be most heavily involved with cooking experience the greatest levels of exposure (Balakrishnan et al., 2004). Children are more susceptible to the negative effects of indoor air pollution during their developmental stages with 56% of all indoor air pollution-attributable premature deaths occurring in children under five years of age (Rehfuess et al., 2006). In addition, a study conducted by Yucra et al. (2011) found the use of biofuel for cooking to be strongly associated with increased risks of low birth weight.

According to the 2006 Azerbaijan DHS, all households in Azerbaijan have electricity. Most households also had a specific place within the home for cooking, with only about one-third of rural households and one-tenth of urban households cooking in a separate building or outdoors. Gas was the main cooking fuel followed by electricity. Approximately 10% of households in Azerbaijan used biomass fuel for cooking, with rural households being much more likely to use solid fuel (23%) than urban households (<5%). Table 8-18 shows that, among households cooking with biomass fuels, around two-thirds (62%) have a closed stove with chimney, 15% cook on an open fire or stove with either a chimney or hood, and 23% cook on an open fire or stove without a chimney or hood.

Table 8-18: National Cooking Fuel Resources, Azerbaijan

Cooking Fuels	Year (%)	Urban (%)	Rural (%)	Total (%)
Population using solid fuels	2007	<5	22.7	6.6
Cooking fuel type				
Electricity	2006	16.2	29	22
Natural gas	2006	82.7	47.7	67
Wood/straw	2006	0.9	19.9	9.4
No food cooked in household	2006	0	0	0
Other	2006	0.2	3.4	1.6

Cooking Fuels	Year (%)	Urban (%)	Rural (%)	Total (%)
Closed stove with chimney	2006	59.9	58.1	58.2
Open fire/stove with chimney	2006	15.3	6.1	6.5
Open fire/stove without chimney or hood	2006	22.7	25.3	25.1
Other/missing	2006	0	0.4	0.4

Source: WHO European Health for All Database and 2006 Azerbaijan DHS

8.4.14 Sensitivities

The incidence of multi-drug resistant tuberculosis in Azerbaijan is among the highest in the WHO European Region.

New and re-emerging infectious diseases such as HIV/AIDS, avian influenza, tuberculosis and malaria are significant in Azerbaijan. The country has a dual burden of disease typical of both developing as well as developed countries; both communicable and non-communicable diseases are significant in Azerbaijan.

Vector related diseases (malaria, leishmaniasis, plague, tularaemia) are endemic in Azerbaijan. After the dissolution of the former Soviet Union, the Azerbaijani Anti-Plague system significantly reduced epidemiological monitoring of VRDs due to lack of funding.

Only a small percentage of households have tap water inside their homes (less than 5%). Forty-five per cent reported taking measures to make their water safe to drink, close to 100% boiled water.

There are no sewage systems in most communities, thus disposal of sewage and waste is a significant problem. The vast majority of households are not connected to centralised sewage system (93%) with waste draining directly into the open drain or ditch.

Although the majority of PAC members did not report using biofuel as a cooking source, 25% did, presumably in rural areas. Furthermore, the household survey revealed that between 50% and 60% of all respondents smoked cigarettes or used tobacco and over one third of all respondents said that cigarettes had been smoked in their home in the previous 7 days.

In the PACs, infections of the ear, throat and nose (including influenza and colds) were reported as the most common reason household survey respondents required medical attention in the past month, suggesting a significant underlying baseline burden of respiratory infection.

Most household survey respondents reported that medicines were not easily accessible and the majority of respondents in all cohorts reported that medicines were not affordable and the majority of vulnerable and PAP said medicines have become more difficult to afford within the past five years.

8.5 Land Ownership and Use

8.5.1 Introduction and Sources of Information

This section 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 8.7.

The information presented comes primarily from:

- BP data on land ownership and use obtained for BTC/SCP Project that are now being reused for SCPX purposes

- Results from the PAC household survey
- Results from a survey undertaken in 2008–2009 for the purpose of the BTC/SCP Resettlement Action Plan completion audit (Barclay and Salam, 2010)
- A detailed review of the SCPX route maps and associated satellite imagery
- Secondary data from various sources, including official reports issued by the Government of Azerbaijan and BTC/SCP reports.

8.5.2 Land Acquisition and Compensation Framework

A 'Land Acquisition and Compensation Framework' (LACF) will be developed for the proposed SCPX Project in Azerbaijan, together with its accompanying summary document, the 'Guide to Land Acquisition and Compensation' (GLAC). The LACF and the GLAC together describe processes and procedures by which potential Project impacts from land acquisition are assessed and detailed mitigation measures developed on a landowner by landowner and plot by plot basis.

8.5.3 Data Gaps and Methodology

The data obtained during previous baseline surveys for the BTC and SCP ESIA, which include many of the SCPX PACs, is considered too old to provide representative data, as it was obtained from surveys undertaken in 2000–2001. To eliminate these data gaps, PAC-level and household surveys were carried out to provide more up-to-date data.

The SCPX PAC household survey was used to obtain information for the ESIA and the LACF. This was achieved by both surveying a random sample of households living in PACs and by identifying a separate sample of Project-affected people (PAP), i.e. landowners and users potentially affected by SCPX land acquisition, and including this as a quota within the overall household survey sample. PAP were identified using historical BTC/SCP land ownership records as the SCPX route is generally parallel and close to that of BTC/SCP.

8.5.4 Background to Land Tenure and Land Use in Azerbaijan

Following the collapse of the Soviet Union and the independence of Azerbaijan, systematic land privatisation was implemented. The land privatisation registration process is largely complete, although there are still large areas of State or municipal land. From a land tenure perspective, there are essentially three types of land in Azerbaijan:

- Private land
- State land
- Municipal land.

State land is limited to land where buildings belonging to State entities are located; only private and municipal land, in practice, is potentially affected by the SCPX Project.

Although privatisation of rural municipal land has been ongoing since independence, there are still situations where private users farm on non-privatised municipal land. These users may be registered (via a formal lease signed with the relevant municipal authority) or not. Where they are not registered, they usually enjoy some form of informal recognition by the municipal authority and are not squatters. In addition, private land can be rented out to users, either formally or informally.

Official land use categories are as follows:

- Agricultural
- Residential
- Industrial or intended for transportation, communication and defence
- Specially protected territories
- Forest

- Water bodies
- Protected areas.

Land categories are indicated in the land registry.

A full survey of land rights and land use in the affected area is not available at the point of writing this ESIA. Such a survey will be carried out immediately before the land acquisition campaign. Information is therefore based on the BTC/SCP land acquisition exercise, as well as on the 2012 socio-economic survey of PACs undertaken for this ESIA.

8.5.5 Key Land Use Units along the SCPX Route

The proposed SCPX route in Azerbaijan is entirely located in rather flat areas and from east to west successively crosses the Shirvan plain, the Karabakh plain and the Ganja-Gazakh Plain.

In Azerbaijan, the SCPX route starts between Hajigabul and Mugan at SCPX KP0 (SCP KP57) and ends at the Azerbaijan/Georgia border at approximately SCPX KP390. The starting point is about 5km west of Hajigabul, which is the limit between the Shirvan plain (to the west) and the coastal Gobustan desert (to the east towards Sangachal and Baku).

From the pipeline starting point at Mugan to KP167 (Kura River East crossing), the route is located on the northern verge of the mostly flat alluvial plain of the lower Kura River (the Shirvan plain). This is a generally fertile area, predominantly irrigated by large-scale irrigation schemes, some of which are in disrepair and hardly functional. Where irrigation systems are functional, land can yield a variety of crops, typically including cotton, maize, wheat, rice, fodder crops, and others. Soils are susceptible to salination when poorly irrigated or drained, and have become depleted as a result of intensive farming in the Soviet era. There are now areas that cannot be farmed at all owing to salinity and disrepair of irrigation and/or drainage systems. Where land cannot be irrigated, it is typically used for grazing (if at all). Herds may be owned by State enterprises or by individual owners.

The proposed pipeline route then crosses the northern part of the Karabakh Plain from east of Yevlakh to the village of Goranboy (KP167-202). Grazing is widespread, with a few cultivated areas that have been used predominantly for the cultivation of vines and maize. Pasture generally occurs on hillsides, with cultivation and irrigation in the valley bottoms.

From KP202 to the vicinity of the town of Agstafa (KP340), topography becomes hilly and land use is a combination of intensive agriculture in the lower and flatter area and pasture on the hills. Crops include cereals, vegetables where irrigation water is available, and fruit from orchards and vineyards.

From KP340 to the Georgian border at KP390, the route is located on the verge of the alluvial plain of the Kura River (which is crossed at KP358), and crosses land that is again intensively farmed and irrigated. Crops include orchards, vegetables and some open field crops. Two to three crop cycles a year are not uncommon in the most intensively cultivated areas and where irrigation water is available (typically wheat in winter followed by maize in summer, with somewhat more complex rotations where vegetables are also cultivated).

8.5.6 Baseline Land Use Conditions – Pipeline Corridor

8.5.6.1 Land ownership

A majority of PAP own their land plot(s) as shown by the graph. Those few who do not own at least one land plot state that they cannot access land either because land is too expensive or too scarce (Figure 8-16).

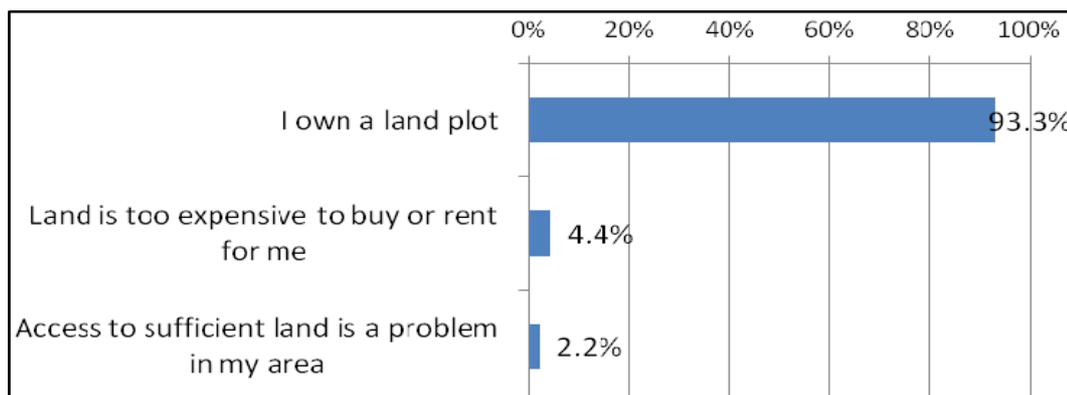


Figure 8-16: PAP Land Ownership Status

Source: SCPX 2012 Household Survey

8.5.6.2 Use of forest land

Most PAPs do not use forest land (Figure 8-17). There is in fact little forest land potentially affected by the Project. Wood for fuel is gathered by almost a quarter of those who use forest resources and a small number use the forest areas to obtain animal feed.

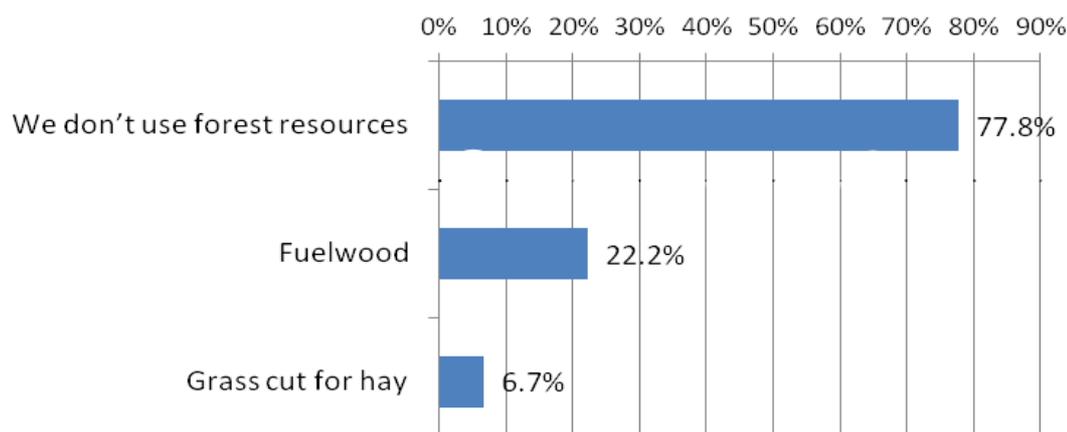


Figure 8-17: PAP Use of Forest Land

Source: SCPX 2012 Household Survey

8.5.6.3 Access to irrigation

A majority of PAP indicated that they do not have access to an irrigation system (Figure 8-18). Anecdotal evidence suggests, however, that the number of affected plots that are irrigated could be higher than what has been stated in the survey.

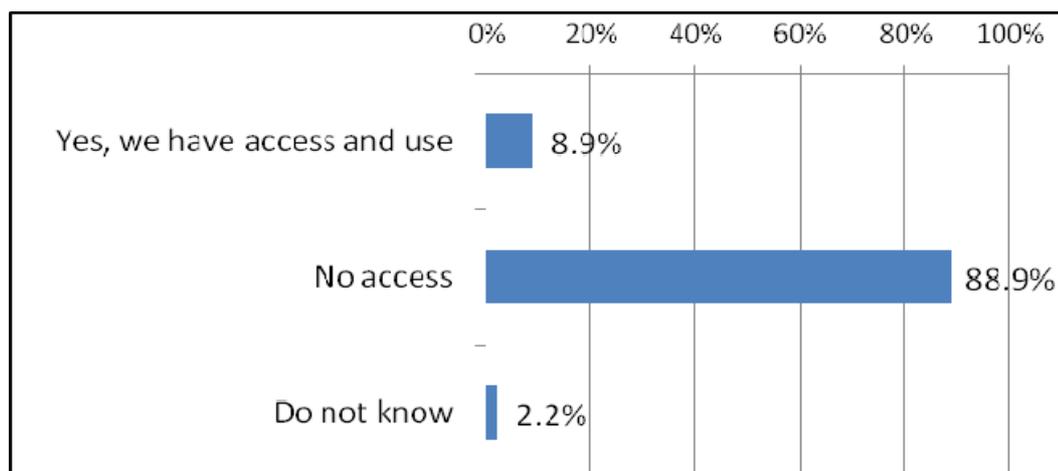


Figure 8-18: Access to Irrigation

Source: SCPX 2012 Household Survey

8.5.6.4 Affected households' reliance on agricultural plots for livelihoods

Private land plots are an important resource for inhabitants of PACs, but socio-economic investigations also indicate that non-agricultural earnings are important too. Barclay and Salam (2010) report that more than three-quarters of families in both affected and non-affected households obtain some of their income from non-agricultural earnings. Crop production is the next most frequently mentioned source of income (56.2% of affected households and 47.7% of non-affected households). About 16% of both affected and non-affected people also need land for livestock husbandry. Table 8-19 shows sources of incomes for both affected and non-affected households (Barclay and Salam, 2010).

Table 8-19: Overview of Affected Households' Sources of Income

Sources of Income	Affected HH		Non-affected HH	
	No	%*	No	%*
Crop production	222	56.2	188	47.7
Livestock husbandry	65	16.5	65	16.5
Forest non-wood and wood products	1	0.3	2	0.5
Non-agricultural earnings	312	79	329	83.5
Total households	395		394	

*Percentage of total number of households interviewed

Despite the livelihoods of three-quarters of people being partly based on non-agricultural income, land remains key to sustaining their livelihoods. Indeed, when asked about the level of importance of the different sources of income, crop production is mentioned as the most important for the most households. A further breakdown of income sources shows that for the villages surveyed, cereals, fodder crops, fruit and vegetables are the most commonly grown crops. In the case of non-agricultural earnings most consist of pensions or salaries and wages.

Table 8-20: Affected Households' Sources of Income

Income Source	Affected HH		Non-affected HH	
	No	%*	No	%
Cereals	132	33.4%	123	31.2
Leguminous	5	1.3%	6	1.5
Industrial crops	9	2.3	8	2.0
Fodder crops	65	16.5	56	14.2
Fruits and vegetables	69	17.5	45	11.4
Milk and fattening cattle	65	16.5	73	18.5
Sheep and goats	25	6.3	16	4.1
Poultry	13	3.3	9	2.3
Trade and small business	32	8.1	36	9.1
Salaries and wages	150	40	193	49
Pensions	202	51.1	157	39.8
Rents (buildings and land)	5	1.3	8	2
Remittances from relatives	13	3.3	10	2.5
Governmental aid	5	1.3	4	1.0
Input subsidies (oil, energy, seed fertiliser etc.)	0	0	2	0.5
Deficiency payments and compensations	3	0.8	1	0.3
Don't know/no answer	6	1.5	6	1.5

Table shows number of times an income source is mentioned

*Percentage of total number of households interviewed

8.5.6.5 Key conclusions of livelihood surveys

- In spite of the existence alternative, non-agricultural income streams for livelihoods, affected households rely significantly on land for sustaining their livelihoods
- Most affected land is privately held by individual landowners. This does not mean that there may not be registered or informal users on municipal land, or registered or informal tenants on private land. The entitlements of both these categories will need to be considered when devising compensation measures
- Reliance on forest land is marginal.

8.5.6.6 Potential physical displacement of a farm

A farm is potentially impacted by the Project at SCPX KP287 in the village of Dallyar Dashbulak in Shamkir District. The farm includes a residential house and 3–4 ancillary structures used as livestock pens and other farming-related purposes. According to tentative information, this farm is used by a family of 23 members, 5 of whom reside at the farm on a permanent basis, with the other 18 residing in the nearby village.



Photograph 8-1: Potentially Affected Farm near Village of Dallyar Dashbulak

8.5.7 Baseline Land Use Conditions – Permanent Aboveground Installations

8.5.7.1 Pigging station

The area at SCP KP57 (SCPX KP0) (Photograph 8-2) includes the pigging station and the tie-in to SCP where the SCPX line originates. It is located between the towns of Hajigabul and Mugan. Land has no agricultural potential or use and is in municipal ownership. There is a possibility that herds from nearby cattle-grazing enterprises use the area on an occasional basis, as seen elsewhere on similar land in neighbouring Gobustan.



Photograph 8-2: Approximate Location of Proposed Pigging Station (SCPX KP0)

8.5.7.2 *Block valves*

The line includes five block valves of 28m x 31m each in surface area at the following SCPX KPs.

SCPX KP	Block Valve
21	BVR A6
95	BVR A7
172	BVR A8
243	BVR A9
334	BVR A10

Land for these block valves will be acquired permanently from current landowners.

8.5.7.3 *Potential physical displacement of livestock pens at BVR A6*

Four buildings will potentially be impacted by the Project at BVR A6, on the outskirts of the village of Karasu. The buildings include three livestock pens and a temporary residence. The buildings are all approximately 5–10 years old and are used during the winter months and are located within the proposed SCPX safety zone. It is understood that the buildings are used by one individual.

8.5.8 **Baseline Land Use Conditions – Temporary Facilities**

8.5.8.1 *Mugan Construction Camp Option 3**

Mugan Camp Option 3 is located north-west of the town of Mugan, in an unused area. Land is in municipal ownership. Its surface area is approximately 6 hectares.

8.5.8.2 *Mugan Pipe Storage Area, Rail Spur and Offloading Area*

This site has an approximate surface area of 20 hectares. The site is situated immediately north of Mugan. The pipe storage area is situated on state land and is crossed by graziers accessing grazing land to the north. The rail spur is state owned and is used for grazing. An old soviet grain store on the site is used informally by graziers to keep livestock. The rail spurs are currently used on a monthly basis to import chicken feed and materials to a small gas terminal/storage area, south-east of the site. The access to the gas terminal/storage area is across the proposed site.

8.5.8.3 *Kurdemir Camp Option 4**

This site has an approximate surface area of 30 hectares. The site is located approximately 1km (south) from the main M27 Kurdemir/Baku highway. A shallow irrigation canal forms the west and southern boundaries and the land appears to be used for agricultural purposes. This land is believed to be held by a private landowner.

8.5.8.4 *Kurdemir Camp Option 5*

This site has an approximate area of 6 hectares and is situated on municipal owned land, 1km south of Kurdemir. A new 250m long access road will be required from the highway to the site which will pass through private arable land. A herder is known to use the site of the camp, although the frequency is not known. The site is bordered by irrigation canals.

8.5.8.5 *Kurdemir Pipe Storage Area Option 1 (Mususlu) and Kurdemir Rail Spur and Offloading Area*

These sites are located 20km to the north-west of the town of Kurdemir, close to the settlement of Mususlu. The pipe storage site, as well as the temporary rail spur and offloading areas that will be required from the main Baku–Tbilisi rail line, is on state land. The rail spurs will require significant repair and/or extension. The pipe storage area is currently used for grazing and has an irrigation ditch on the north-eastern boundary. The total surface area of the pipe storage area and rail spurs is 18.5 hectares. While not on the

site there are houses immediately adjacent to the rail spur and offloading areas and the rail spur site and the access road is used by children on their way to school. There are also several overhead electrical lines on the rail spur and off-loading site.

8.5.8.6 Kurdemir Pipe Storage Area Option 2 (Mususlu)

This site is state land and contains areas of well maintained arable land and pasture land. There are irrigation ditches around the boundaries of the site.

8.5.8.7 Ujar Camp Option 5

This camp is located to the east of Yevlakh, near to Ujar and Qarabok. Close to the village of Garabork, the site is approximately 14 hectares in area and is on municipal land. The site is level ground that appears to have been used in the past for cotton growing, and the presence of grasses and bushes may indicate potential for use by herders. It does not appear to be currently used for agriculture.

The site is enclosed by irrigation canals (of various sizes) on all four boundaries.

8.5.8.8 Yevlakh Camp, Pipe Storage and Lay-down Area*

The Yevlakh camp, pipe storage and lay-down area is located on municipal land west of the town of Yevlakh, towards the western end of an industrial area.

The total surface area is approximately 20 hectares. Some remnants (basements) of previous structures are observed on the site. The land is used for grazing.

8.5.8.9 Yevlakh Pipe Storage Area and Yevlakh Rail Spur and Offloading Area

An area of state owned land used by graziers approximately 2km south of Yevlakh. The land has an area of 19 hectares, which includes both the Yevlakh Pipe Storage Area and Yevlakh Rail Spur and Offloading Area. The rail spur is disused and will need some repair to enable Project use.

8.5.8.10 Gazanchi Pipe Storage Area Option A

An area of land that is approximately 4 hectares in size, situated 3km north-east of Kazanbulak. The site is located on grassland and is located on municipal land.

8.5.8.11 Gazanchi Rail Spur and Offloading Area

This is a state owned area of land that is approximately 2 hectares in size. The rail spur appears to be disused.

8.5.8.12 Gazanchi Pipe Storage Area Option B

An area of land that is approximately 6 hectares in size and 3km north-east of Kazanbulak. The site appears to be unused and is believed to be located on municipal land.

8.5.8.13 Goranboy Camp Option 3

This site is approximately 20 hectares in area and is believed to be private land. The land is starting to be used for agriculture, having been unused in recent history. The short grass cover on part of the site may be utilised by herders. The adjacent piece of land (approximately a further six hectares), north of this site, appears to be part of one land parcel and is utilised for agriculture.

8.5.8.14 Goranboy/Dallar Camp*, Dallar Pipe Storage Area and Dallar Rail Spur and Offloading Area

The Goranboy camp area is located north to the village of Sarov at about 17km from the city of Ganja. The surface area is about 6 hectares. Land is owned by the municipality of Sarov. Part of the parcel appears to have been used for winter cultivation (probably wheat).

Another location has been identified in the general Ganja area to be used as pipe storage, in close vicinity to the village of Dallar. The northern part of the site may be used for grazing,

while the rest to the south is occupied by a gravel plant. Land is reportedly owned by the local municipality. The rail spur is currently used to load fruit.

8.5.8.15 Samukh Camp Option 3

The proposed camp and pipe storage area is located approximately 20km north of Ganja and is 5.5 hectares in size. This land is state owned and may be used as pasture by herders. The site has disused irrigation channels on the north-east, north-west and south-west boundaries.

8.5.8.16 Dallar Pipe Storage Area Option 1B (Bayramli)

An area of land that is approximately 13.5 hectares in size and is located 300m north of the main highway. The land is privately owned pasture and there are two new buildings located on the west boundary. One of the buildings is a cow shed, whilst the other is a tall enclosed storage area, with additional administration building.

*8.5.8.17 Tovuz Camp and Pipe Storage Area Option 5**

The Tovuz construction camp is near the village of Ashagi Mulkulu. The site is approximately 30 hectares in area. Like the surrounding land this area is intensively farmed, so users will be inventoried and related compensation policies will be included in the LACF. The land belongs to the Ashagi Mulkulu municipality.

8.5.8.18 Agstafa Camp Option 3

This site is located approximately midway between Agstafa and Kochaskar. The total land area is approximately 10 hectares. The land is reportedly privately owned. Access to the site is 4km from the main (M27) highway. The area is covered in pasture so potentially used for grazing. Part of the site was being ploughed during a site visit in March 2013, which indicates the site may have been rested for a year or has changed use to arable.

8.5.8.19 Poylu Pipe Storage Area

Situated approximately 13km north of Agstafa, this area of land is 6 hectares in size. The land is privately owned and is comprised of pasture. Minor Irrigation ditches cross the site and there is a larger irrigation ditch around the boundary of the site.

8.5.8.20 Poylu Rail Spur and Offloading Area

The site is located on both privately held land and municipal land. The land is currently used for gypsum storage by one user and is leased by a company called Accord. The land area is approximately 1 hectare. The gypsum is brought to and from site by truck – the rail spur is not used but will not require significant work to bring back into use. There are several overhead electrical lines in the site and a local substation at the end of the access road. Re-routing of lines may impact temporarily on local users.

8.5.8.21 Saloghlu Rail Spur and Offloading Area

An area of state owned land approximately 2 hectares in size. Two water pipes cross the site. The site access road is used by other users. The rail spur is currently used to store rail cars.

8.5.8.22 Saloghlu Camp

An area of state land approximately 6 hectares in size. The land is currently used for grazing.

8.5.8.23 Saloghlu Pipe Storage Area

An area of state land approximately 9.7 hectares in size. The site is used for grazing and there is a hut close to the site boundary that is inhabited by a herder for approximately six months of the year.

8.5.9 Sensitivities

Key sensitivities are associated to the following situations:

- Where Project temporary facilities will be located on land that is actually used, even if the impacts are on only a temporary basis:
 - Mugan Pipe Storage Area, Rail Spur and Offloading Area, the rail spurs are used occasionally by other users and the area is crossed by graziers who also house livestock in a structure that will be left in place
 - Kurdemir Pipe Storage Area (Mususlu) Option 2, Goranboy Camp Option 3 and the new temporary access road to Kurdemir Camp Option 5 are being used for agriculture
 - The Dallar Rail Spur is used for fruit export and the Dallar Pipe Storage Area is partly used by an existing gravel extraction business
 - The Poylu rail spur and off-loading site is used to store gypsum.
- The herder at Saloghlu Pipe Storage Area who inhabits the site for some months of the year
- The relocation of the livestock pens near BVR A6 which are also used as a temporary residence. No alternative routing is technically feasible at this location due to a number of physical constraints, including, but not limited to the presence of other pipelines
- The crossing of the Kurdemir Rail Spur and Offloading area is used by school children and has safety implications that will need to be addressed
- Although temporary, the disruption to farming in the construction corridor may be significant, particularly in areas to the west of the route where intensive farming of high value crops is widespread
- The potential relocation of a farm, including a residential house, at SCPX KP287 in Shamkir District, which will affect a total of 23 individuals, 5 of whom reside in the affected structure and are physically displaced, with the other 18 using the buildings for agricultural and livestock breeding purposes. No alternative routing is technically feasible at this location due to a number of physical constraints, including, but not limited to the presence of other pipelines
- People whose livelihoods are dependent upon grazing herds may experience disruption during construction, particularly with regards to severance of usual grazing and watering itineraries due to the barrier effect of the pipeline trench and construction corridor. This is deemed more sensitive in the eastern part of the route (Shirvan plain and Gobustan desert), where more livestock is bred than in the western part.

8.6 Economy

8.6.1 Introduction

This section provides data on economics covering GDP, inflation, income distribution, and expenditure patterns. The key sources of secondary data for the national and regional level are:

- World Bank 2010: Azerbaijan Living Condition Assessment Report
- The State Statistical Committee of the Republic of Azerbaijan
- World Bank 2008 Report: The World Bank Group Country Partnership Strategy for Azerbaijan: FY11–FY14.

As discussed in Section 8.1, primary data on economics at a PAC level has been generated from the PAC surveys.

8.6.2 National and Regional Level – Economy

8.6.2.1 GDP

In recent years, Azerbaijan's GDP has risen sharply from US\$5.2 billion in 2000 to US\$63.3 billion in 2011 (Table 8-21), and poverty has fallen dramatically. Oil-and-gas sector growth has been enabled by large offshore investments that have occurred since 1995 and the construction of the Baku–Tbilisi–Ceyhan (BTC) oil pipeline and South Caucasus gas pipeline (SCP), which both came on stream in 2006, supported by growing oil prices (World Bank, 2008). In 2010, Azerbaijan was the 70th largest economy in a list of world countries ranked by GDP, just behind Luxembourg, Belarus and Oman (United Nations, 2010).

Table 8-21: GDP and GDP per Capita, 2000–2011

Years	GDP Million AZN*	GDP Million US\$	Per Capita	
			AZN	US\$
2000	4718.1	5272.8	593.2	662.9
2001	5315.6	5707.7	661.7	710.5
2002	6062.5	6235.9	747.5	768.9
2003	7146.5	7276.0	872.7	888.5
2004	8530.2	8680.4	1030.4	1048.5
2005	12,522.5	13,238.7	1494.3	1579.8
2006	18,746.2	20,983.0	2208.2	2471.6
2007	28,360.5	33,050.3	3296.6	3841.7
2008	40,137.2	48,852.5	4603.7	5603.3
2009	35,601.5	44,297.0	4033.2	5018.2
2010	41,574.7	51,799.9	4653.3	5797.8
2011	50,069.0	63,402.56	5530.6	7003.4

Source: The State Statistical Committee of the Republic of Azerbaijan

* AZN = Azerbaijan manat

According to World Bank (2008), Azerbaijan's GDP grew by an average of over 20% per annum during 2005–09. Azerbaijan managed the 2009 financial crises well and overall GDP growth for 2009 was 9.3% but mostly due to recovery of oil prices and production following technical problems in 2008 (World Bank, 2008). However, the non-oil sector grew only 3.2%, suffering a large contraction in construction and in the industrial non-energy sector (especially chemicals and steel). Agriculture maintained a positive 3.5% growth in 2009, in part due to Government support following the food crisis (rising global food prices in 2008) (World Bank, 2008).

8.6.2.2 Inflation

Figure 8-19 shows general indices including price indices for food, non-food products and services. The general index, set at 100 in 2005, was 176.7% in 2011, which has been the highest since 2007. The general price indices for food, non-food products and services have increased gradually since 2007, which indicates an increase in cost of products and a steady trend of increasing inflation rate. 'Food, beverages and tobacco' has the highest general indices, consistently, in comparison to non-food products and services.

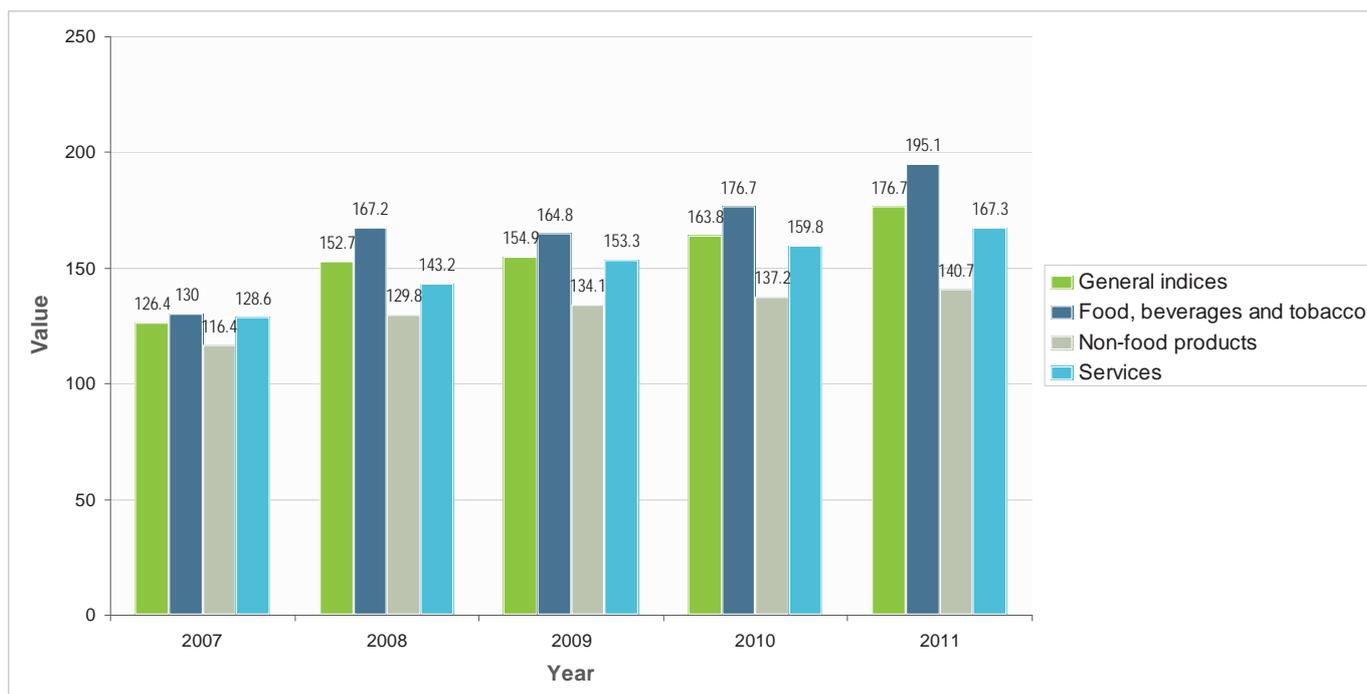


Figure 8-19: General Indices (2005=100)

Source: The State Statistical Committee of the Republic of Azerbaijan.

8.6.2.3 Incomes and poverty levels

High levels of economic growth in Azerbaijan have resulted in reduced levels of poverty since 2000. The 2008 Living Standards Measurement Study (LSMS) survey, undertaken by the World Bank in collaboration with the Ministry of Labour and Social Protection of the Population (MLSP) and other Government agencies showed that Azerbaijan's poverty rate has dropped from 49.6% in 2001 to 15.8% in 2008. Urban areas experienced a more rapid decline in poverty than rural areas.

Figure 8-20 shows that poverty declined in urban areas from 55.7% in 2001 to 14.8% in 2008 and in rural areas from 42.5% in 2001 to 18.5% in 2008. The reduction in poverty can be attributed to structural reforms, macroeconomic stability, robust economic growth and substantial public spending on social protection, all of which resulted in an increase in consumption level of many households.

Internally displaced persons (IDPs) are more likely to be poor as most of them lack economic/job opportunities and are heavily dependent on state economic transfers. IDP poverty is most apparent in regions outside of the cities. Residence in a public building or dormitory appears to lower the risk of poverty. The World Bank (2010) stated that this may be because IDPs living in 'collective' settlements tend to receive more governmental and non-governmental targeted interventions. The risk of poverty increases significantly for IDPs living in houses and apartments and with relatives, suggesting a phenomenon of 'hidden' poor among the IDP population (World Bank, 2010).

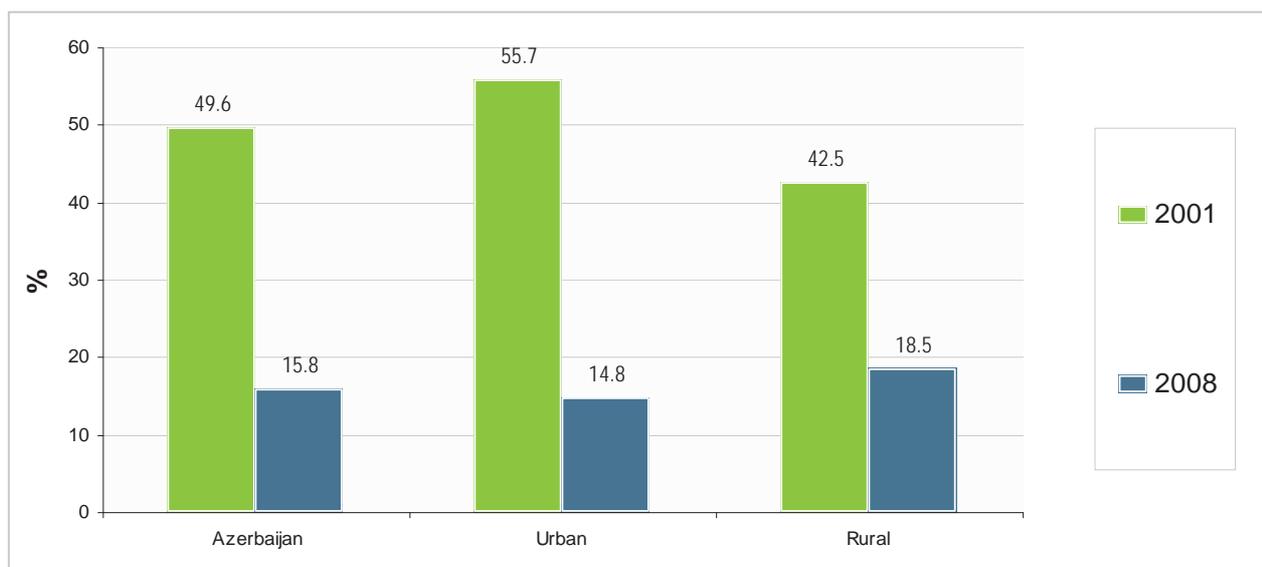


Figure 8-20: Azerbaijan Poverty Level, 2001 and 2008 (%)

Source: 2001 HBS (Household Budget Survey) and 2008 LSMS

8.6.2.4 Income distribution/inequality

An analysis of inequality was reported by the World Bank (2010) for the year 2008 and is based on per capita income/mean consumption as the key welfare indicator. Inequalities in cities (32.8%) are higher than in rural areas, but inequality declines moving towards rural areas (27.1%). Figure 8-21 shows that mean consumption (AZN per month) is highest in cities and lowest in rural areas. The Gini coefficient has been used in Figure 8-21 to measure inequality. Inequality in rural areas is lower than average national level of 31%, and inequality in the cities is above the average national level.

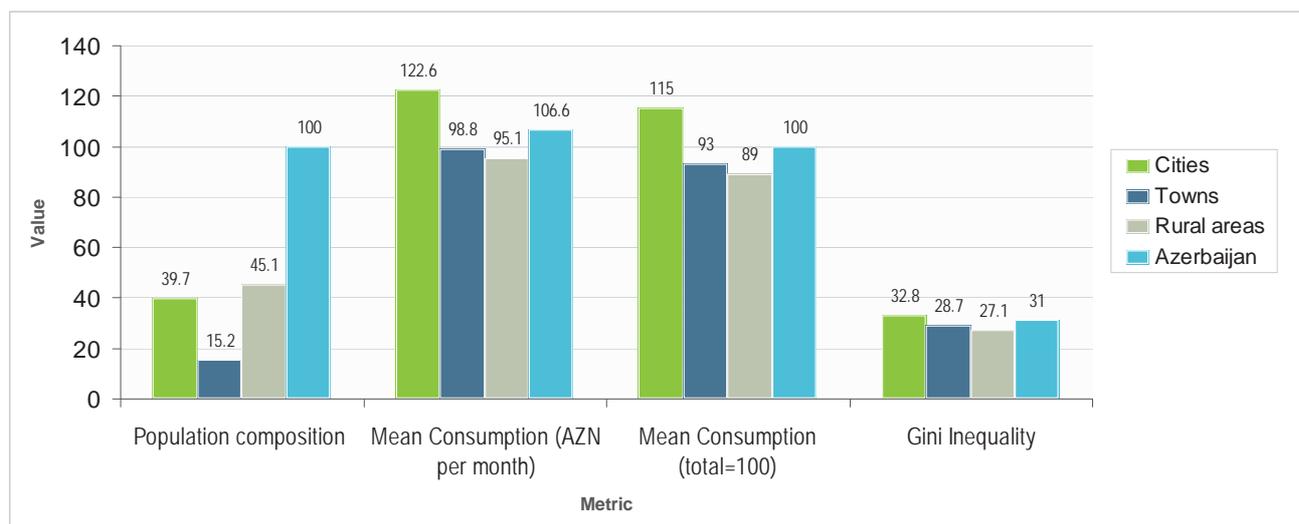


Figure 8-21: Per Capita Urban and Rural Mean Consumption and Inequality, 2008

Source: 2008 LSMS

During 2001–2008 when oil GDP grew by 23.5% and the non-oil economy grew at 12.4%, Azerbaijan established policies to increase certain wages to ensure a more equal distribution of income. The minimum monthly wage then increased by more than 6700%

from AZN 1.1 to AZN 75 (World Bank, 2010). Table 8-22 shows that average monthly wage increased from AZN 123.6 in 2005 to AZN 363.1 in 2011 (about 193% increase). However, despite the growth in wages, the minimum wage in Azerbaijan is still less than 28% of the average monthly wage (World Bank, 2010). Table 8-22 shows a gradual increase in income by economic sector in different industries, with the highest monthly income/salary gained from the mining sector (which includes the oil and gas sector). The mining sector monthly average salary has increased by 132% in 2005–2011.

Table 8-22: Monthly Income (Average Wage/Salaries) by Economic Sector (AZN)

AZN	2005	2006	2007	2008	2009	2010	2011
Agriculture, forestry and fishing	41.6	52.5	86.7	114.5	134.3	160.3	196.4
Mining	507.3	636.8	851.2	1008.2	992.8	1004.7	1180.3
Manufacturing	115.9	141.0	190.4	251.7	267.5	320.5	354.4
Electricity, gas and steam production, distribution and supply	134.6	164.1	226.6	314.9	322.7	349.4	399.1
Water supply; waste treatment and disposal	64.4	80.8	135.6	182.6	189.9	197.7	230.6
Construction	233.3	293.2	372.3	398.4	440.6	505.8	518.9
Trade; repair of transport means	120.0	129.1	173.5	211.5	215.2	282.8	335.1
Transportation and storage	124.6	157.2	226.6	300.0	349.2	395.1	447.0
Accommodation and food service activities	157.9	164.6	212.3	265.4	297.9	333.7	384.5
Information and communication	204.8	223.0	364.2	465.6	496.7	531.3	575.7
Financial and insurance activities	311.7	535.5	707.8	785.4	812.8	990.2	998.2
Real estate activities	56.3	77.7	104.9	147.2	175.8	168.1	224.8
Professional, scientific and technical activities	324.4	410.5	556.2	596.1	585.3	592.2	600.1
Administrative and support service activities	448.5	489.8	534.2	477.9	456.9	526.7	534.9
Public administration and defence; social security	133.9	157.8	209.1	287.0	350.1	376.5	392.3
Education	66.0	79.6	145.4	214.4	260.0	271.8	283.0
Human health and social work activities	45.2	69.6	94.2	130.1	154.1	155.2	163.9
Art, entertainment and recreation	51.4	63.2	103.8	143.5	204.2	208.4	211.0
Other service activities	75.8	96.0	155.3	227.8	250.5	280.3	331.8
Economy – total	123.6	149.0	215.8	274.4	298.0	331.5	363.1

Source: The State Statistical Committee of the Republic of Azerbaijan

8.6.2.5 Expenditure patterns

Household consumption patterns have noticeably changed during the 2000s. The national average share of household consumption expenditure on food decreased from 75% in 2000

to 56% in 2008 (World Bank, 2010). Spending on utilities increased substantially, especially for poor families. Private spending on health and education increased considerably between 2001 and 2008. There was a greater divergence in the share of household resources allocated for food (hence also for non-food items) in 2008 compared to 2001. The total monthly consumption expenditure per person is mainly on food products in both cities and villages as reported in 2009/2010 (Table 8-23).

Table 8-23: Azerbaijan, City and Villages – Household Expenditure: 2009–2010

Consumption Expenditure: Azerbaijan, City and Villages									
Monthly per Person (AZN)	Total – Azerbaijan			Cities			Villages		
	2009	2010	2010 2009 (%)	2009	2010	2010 2009 (%)	2009	2010	2010 2009 (%)
Food products	68.6	71.1	103.7	70.1	73.2	104.4	67.0	68.6	102.4
Alcohol	0.7	0.8	106.8	0.8	0.8	106.0	0.7	0.8	107.6
Tobacco products	1.7	1.7	103.8	1.7	1.8	104.8	1.6	1.6	102.0
Cloth and shoes	8.3	10.4	126.3	8.8	11.1	126.6	7.7	9.7	125.1
Water, electricity, gas and another fuel types	8.4	9.9	117.7	8.8	9.9	113.1	8.0	9.9	123.1
Household goods, household appliances and home daily care	7.5	10.1	134.9	7.8	10.2	130.5	7.2	10.0	139.8
Health services	4.4	5.4	123.2	4.5	5.4	121.1	4.2	5.3	125.5
Transportation expenses	7.6	8.6	113.3	8.3	9.1	110.3	6.8	7.9	116.4
Communication expenses	3.2	3.9	120.1	3.8	4.6	120.8	2.6	3.0	116.0
Recreation and cultural expenses	3.5	4.7	135.0	3.9	5.1	131.7	3.1	4.3	138.2
Educational expenses	1.7	2.2	128.5	2.1	2.8	129.5	1.3	1.6	129.2
Hotel, cafe, restaurant and canteen	9.5	12.6	132.2	10.5	13.4	127.6	8.5	11.7	137.4
Other goods and services	4.5	5.9	130.7	4.5	5.9	131.7	4.5	5.9	130.6
Consumption expenditure (total)	129.6	147.4	113.7	135.5	153.3	113.2	123.2	140.4	113.9

Source: The State Statistical Committee of the Republic of Azerbaijan

Table 8-24 shows that average amount of total fixed monthly pension has increased from AZN 62.9 in 2008 to AZN 145.1 in 2012. The total fixed monthly pension includes old age pension, disability pension and 'loss of family head' pension.

Table 8-24: Amount of Average Monthly Fixed Pensions (Beginning of the Year, AZN): 2008–2012

	2008	2009	2010	2011	2012
Average amount of fixed monthly pensions, total	62.9	95.8	100.4	112.9	145.1

Source: The State Statistical Committee of the Republic of Azerbaijan

Table 8-25 shows that the number of disabled people receiving pensions and benefits has almost doubled during the period 2000–2011.

Table 8-25: Number of Registered Disabled People Receiving Pensions and Benefits (Beginning of the Year, Person)

Years	Total Number of Disabled Receiving Pensions and Benefits	Of Which Children Under 18 Years Old with Limited Health
2000	250,712	21,739
2005	393,058	49,135
2007	426,946	48,479
2008	437,627	55,066
2009	458,851	56,433
2010	473,185	58,122
2011	488,551	57,941

Source: The State Statistical Committee of the Republic of Azerbaijan

8.6.3 PAC Level – Economy

8.6.3.1 Incomes and poverty

Pension and social allowances are the main source of income for about 45% of households. About 39% of households are also dependent on crop cultivation. Other sources of household incomes include salaries from governments (about 27%), raising own livestock (about 15%), intermittent earnings and sales from private enterprises (about 14%) (Figure 8-22).

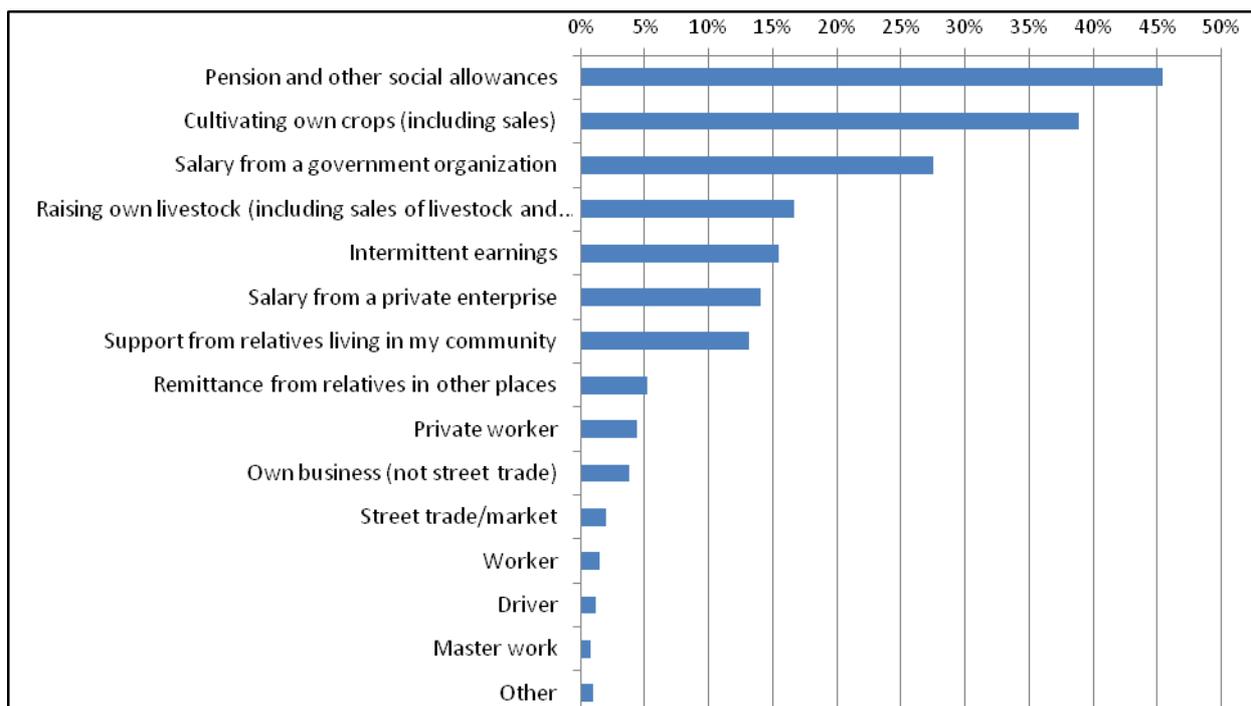


Figure 8-22: Main Sources of Income

Figure 8-23 shows seasonality of income (Yes = income fluctuates seasonally, No = no fluctuation). Incomes are seasonal for about 32% of households who are dependent on agricultural production. The highest increase for most such households occurs in summer (Figure 8-23).

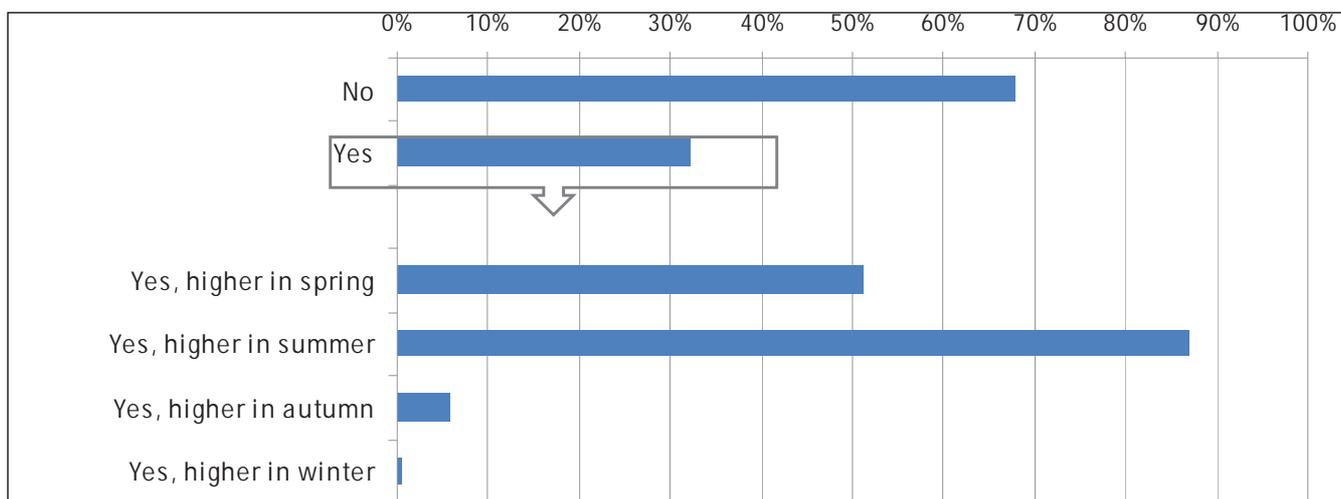


Figure 8-23: Seasonality of Income

Figure 8-24 shows changes in the amount of income over the past five years. The average monthly income of the households is calculated as 266 AZN based on household survey results. Income has increased for about 29% of households, while about 40% state that their income has not changed over the past five years (Figure 8-24). About 30% of households state that their income has decreased over the past five years. Average monthly income of households is lower, by 26%, than the average national monthly income of AZN 363.1 in 2011 (Table 8-22). Monthly incomes at national level have increased in the past few years

as shown in Table 8-22, but this average increase is not reflected at PAC level where only 29% of households report an increase in incomes.

In almost all areas, PAC level income is not affected by access to markets, or rather lack of it owing to issues such as poor road conditions. Most of the PACs are located near a main road and thus access to markets is not restricted.

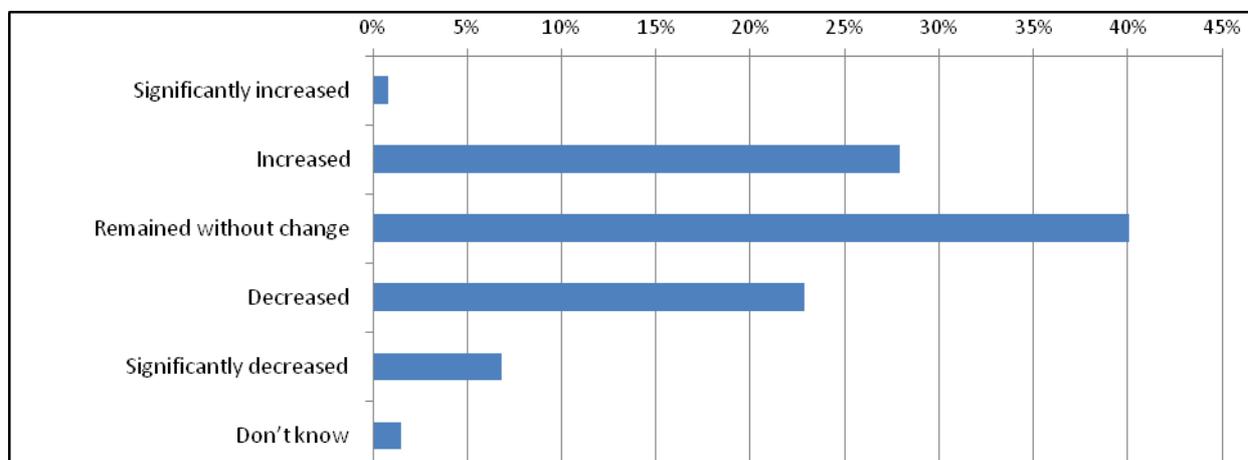


Figure 8-24: Changes in Income Amount over the Past Five Years

8.6.3.2 Economic status of households

The economic status of households is shown in Table 8-26. Details have already been discussed in Section 8.1 in respect to comparison with vulnerable households, although a summary of non-vulnerable households is provided below. Thirty-three per cent of households state that there is enough money to buy food but they have difficulty buying clothes. Thirty-two per cent of households also have enough money to buy food and clothes, but they cannot afford durables goods, and about 29% of households do not have enough money even for food, without external assistance.

Table 8-26: Economic Status of Households

Which of the Following Statements Best Describes Your Family's Financial Conditions?	Households
There is not enough money even for food, we have to go into debt or get help from relatives or friends	29%
There is enough money for food, but we have difficulty with buying clothes	33%
There is enough money for food and clothes, but purchasing expensive durable goods such as a TV or refrigerator, are beyond our means	32%
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	6%

8.6.3.3 Expenditure patterns

Figure 8-25 shows expenditure structure at PAC level. Owing to the reported low income in the PACs, households devote 42% of their income to food purchases; 15% of income is spent on utilities and fuel; and 12% on medical treatment. Expenses on education or leisure are below 10%. The amount spent on food is lower than the national average probably because many PAC households are involved, at least partly, in subsistence agriculture.

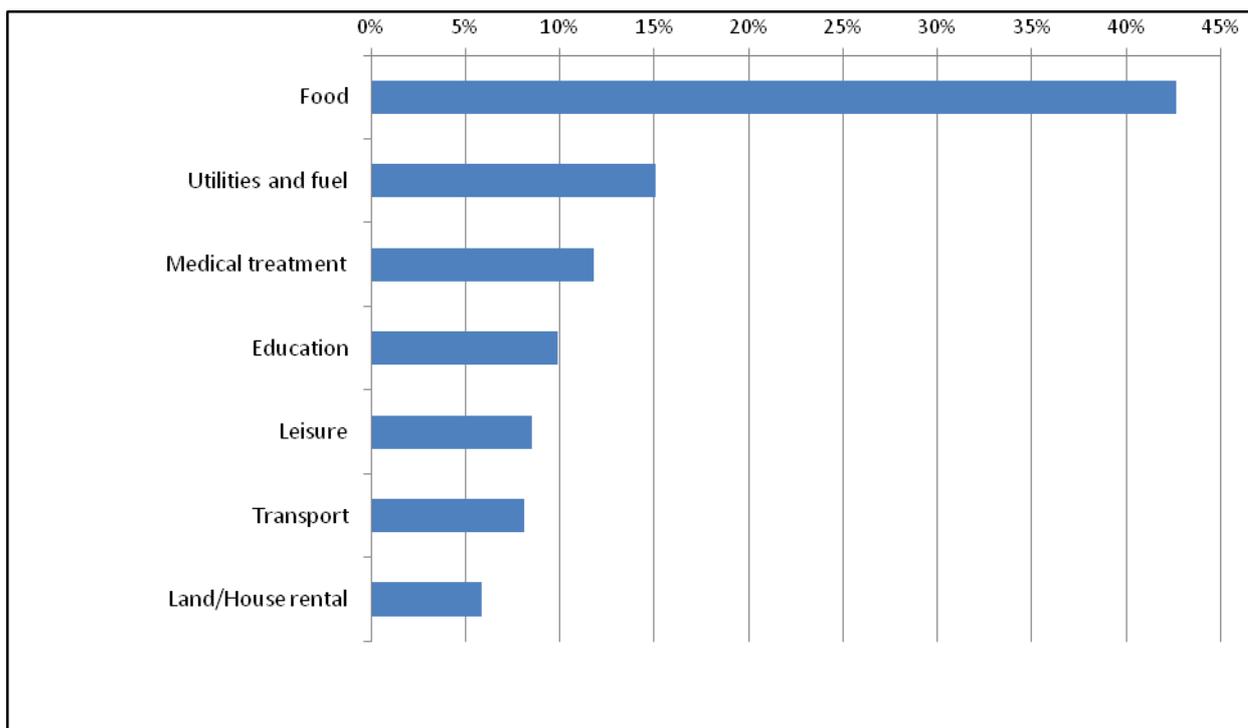


Figure 8-25: Expenditure Structure

Figure 8-26 shows the payment of utility bills and whether the households can afford the payment of bills without any delay.

According to results of the household survey, 53% of households state that they always make payment without any delay, and 37% state that they make payments with a minor delay. Only a very small percentage of households do not pay for public utilities (Figure 8-26).

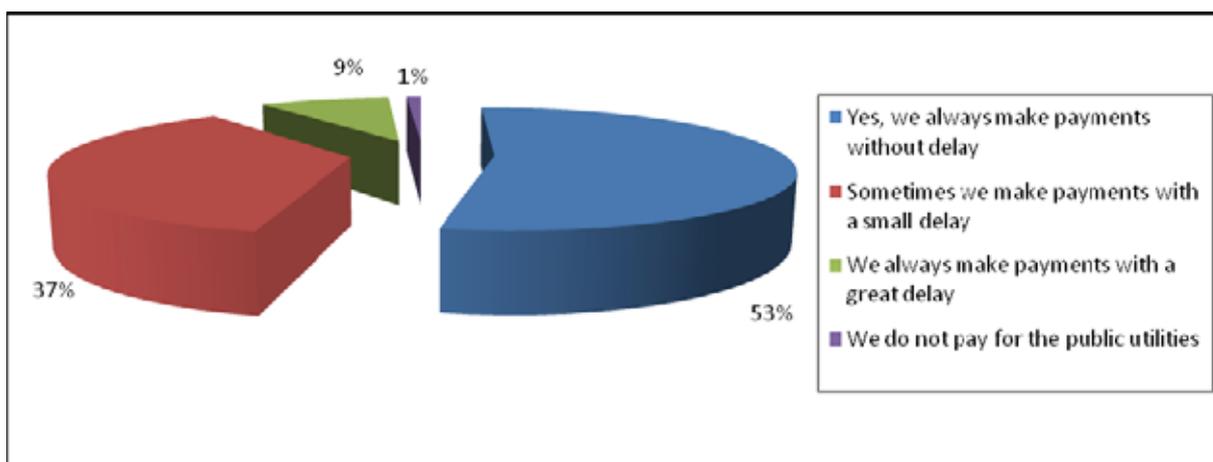


Figure 8-26: Payment of Utility Bills

Table 8-27 shows the percentage of households with outstanding loans or credit that is used for consumer products, businesses, medical treatment, education and mortgage.

Almost half (45.5%) of households have outstanding loans with an average value AZN 1510. Credits are mainly given for household items (washing machine, dishwasher, refrigerator etc.), as many stores readily sell these goods on a credit basis, and require only

a person's ID. However, just over 25% of the loans are used for business purposes. It is more difficult to get a business loan: there are certain conditions, such as providing a business plan, which are required. In rural areas, people may not be aware of the procedures, and training is often conducted to increase their knowledge, and therefore ability to access loans (Table 8-27).

Table 8-27: Outstanding Household Loans or Credit

Reason for Credit	Percentage
Consumer loan – home appliances/ furniture/utility provision/home repair	39.91%
Business loan – agricultural activities: hire vehicles and workers/connect to irrigation system/expand greenhouse/buy pesticides/buy cattle	27.4%
Medical treatment	9%
Education loan	2.8%
Mortgage loan/home repair	12.8%
Other	12.8%
No reason given	2.3%
Total number of HHs with loans or credit owed	45.5%
Average value of the credit	AZN 1510

8.6.4 Sensitivities

For the PACs surveyed the sensitivities with respect to economic factors the potential SCPX Project are:

- Average monthly income is approximately 26% below the national average
- Insufficient income is the most significant household issue for the PACs surveyed. Therefore, there will be a high sensitivity to employment opportunities created by the Project and any Project activities that affect livelihood
- Approximately 30% of households state that their income has decreased over the past five years
- Access to business loans within the rural community is difficult owing to the onerous application process and lack of knowledge within the rural population
- Approximately 40% of households are dependent on agricultural income, which would mean they have a high sensitivity to activities that would affect crop yield
- Access to sell locally produced goods at market will be a sensitivity where a PAC is not close to a main road (most PACs are close to the main east–west highway so this sensitivity is considered low)
- The poverty index has decreased in Azerbaijan in the last 10 years. However, this is seen to a lesser extent in the PACs and rural areas. Therefore, sensitivities with respect to economic factors within the PACs will be higher than they would be nationally, or in the urban areas, but will be lower than during BTC and SCP construction.

8.7 Employment, Skills and Livelihoods

8.7.1 Introduction

This section provides data on employment, unemployment, sources of livelihood, and livestock agriculture at both national/regional and PAC level. At PAC level, improvement in general economic circumstances and social situation have been considered as key factors for assessing the livelihood condition of the PACs.

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

- World Bank 2010: Azerbaijan Living Condition Assessment Report
- The State Statistical Committee of the Republic of Azerbaijan
- World Bank 2008 Report: The World Bank Group Country Partnership Strategy for Azerbaijan: FY11–FY14.

As discussed in Section 8.1, primary data on employment, skills and livelihoods at a PAC level has been generated from the PAC surveys.

8.7.2 National and Regional Level – Employment

8.7.2.1 Employment and unemployment

Table 8-28 shows that nationally, the number of employed people in Azerbaijan has gradually increased during 2005–2010, with 4329.1 (thousand persons) in employment in 2010. However, the proportion of economically active people, compared to the overall population of Azerbaijan, has fallen slightly year-on-year since 2005, with 50.7% of the country's total population economically active in 2010. The majority of the economically active population are in employment. The number of unemployed people has decreased from 317.8 (thousand persons) in 2005 to 258.3 (thousand persons) in 2010 (19% decrease). The number of women in employment has increased by 7% during 2005–2010.

The World Bank (2010) states that the informal employment sector is sizeable in Azerbaijan and it appears to be growing. The share of workers employed without an employment contract is 59.5%, as reported in 2006. The proportion of people in various forms of self-employment is very high, which could confirm the importance of unprotected forms of labour, informal labour and work under poor conditions (World Bank, 2010).

Table 8-28: Employment Data, 2005–2007

	2005	2006	2007	2008	2009	2010
Average annual number of population (thousand persons)	8500.3	8609.6	8723.0	8838.5	8897.3	9054.3
Number of economically active population (thousand persons) ¹	4380.1	4402.0	4443.3	4477.7	4531.9	4587.4
Number of employed persons in economy (thousand persons) ¹	4062.3	4110.8	4162.2	4215.5	4271.7	4329.1
Property form: state	1229.8	1271.9	1234.6	1244.4	1149.7	1142.7
Property form: non-state	2832.5	2838.9	2927.6	2971.1	3122.0	3186.4
Unemployed persons (thousand persons) ²	317.8	291.2	281.1	262.2	260.2	258.3
Number of employed women in economy (thousand persons)	1957.6	1984.4	2013.0	2042.1	2071.9	2101.7
Number of employees in economy (thousand persons) ³	1300.4	1337.5	1376.0	1410.3	1385.4	1382.9
GDP for one person of employed persons, in AZN ⁴	3236.9	4203.4	5210.3	5682.9	6205.2	6145.1
Average annual wages of employees occupied in economy, in AZN	123.6	149.0	215.8	274.4	298.0	331.5

¹ Calculated taking into account total unemployed during 2000–2010 based on International Labour Organization's methodology

² Based on International Labour Organization's methodology (including unemployed persons receiving official status)

³ Number of employees in the structure of list for the end of 2005–2010

⁴ In 2005 prices

Note: Number of economically active population and employed was precise since 2000 based on number of 15 years and more population according to the results of 2009 population census

Source: The State Statistical Committee of the Republic of Azerbaijan

Figure 8-27 shows a gradual increase in the percentage of employed people among the economically active population. In 2011, 94.6% of the economically active population were employed, and 5.4% of the economically active population were unemployed. The unemployment rate fell by 1.9 percentage points over the years and the percentage of unemployed people among economically active population decreased by 26% between 2005 and 2011. This shows an improving/decreasing trend in level of unemployment.

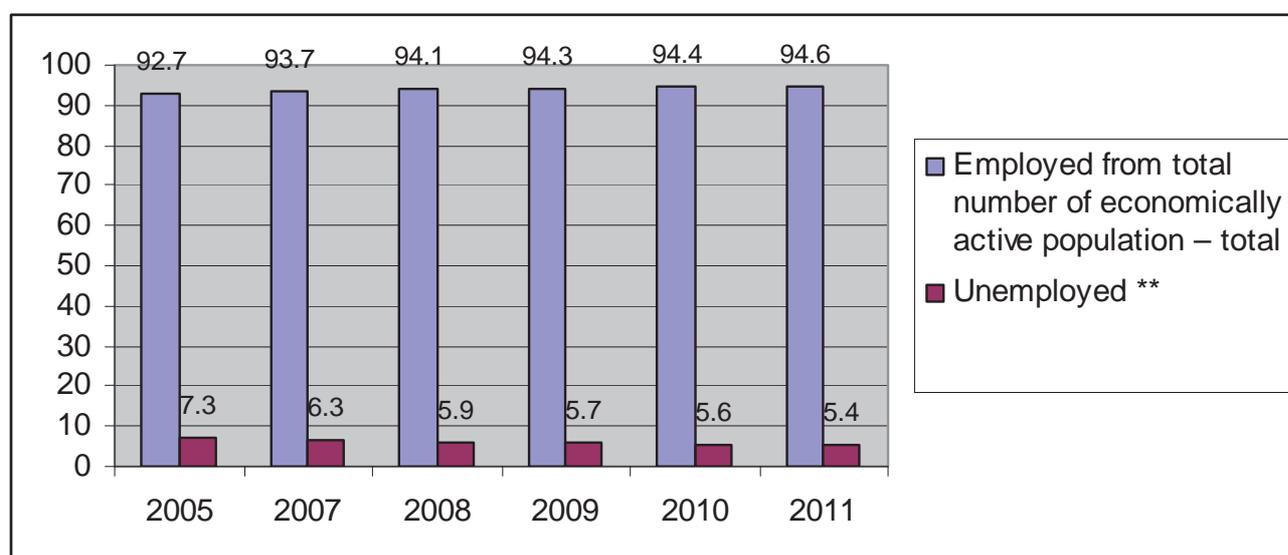


Figure 8-27: Structure of Economically Active Population (%)

** Based on International Labour Organization's methodology (including unemployed persons earned official status)

Note: Total number of economically active population is 100

Source: The State Statistical Committee of the Republic of Azerbaijan.

8.7.2.2 Newly created jobs

Table 8-29 shows that the number of newly created jobs per year has increased from 73,613 in 2009 to 94,111 in 2011 (28% increase). The majority of newly created jobs are permanent jobs (72,353) as reported in 2011.

Table 8-29: Number of Newly Created Jobs, 2003–2011

	Total	Fourth Quarter of 2003–2008	2009	2010	2011
New enterprises and organisations	128,960	106,626	7291	7425	7618
Existing enterprises and organisations	220,990	193,091	7948	10,792	9159

	Total	Fourth Quarter of 2003–2008	2009	2010	2011
Reactivated enterprises and organisations	20,416	18,899	801	391	325
Natural entities	356,796	228,957	38,475	34,113	55,251
Other (international and local projects, works of renovation, etc.)	279, 848	218,704	19,098	20,288	21,758
Total number of newly created jobs	1,007,010	766,277	73,613	73,009	94,111
Of which permanent jobs	727,162	547,573	54,515	52,721	72,353

Source: The State Statistical Committee of the Republic of Azerbaijan

8.7.2.3 Gender aspects

Women play an important role in the economy of Azerbaijan with 2.1 million women contributing to it, as reported in 2010 (Table 8-28). Table 8-30 shows 596,404 female hired/salaried employees in 2010, with the highest number of women working in human health and social work related activities. The remaining women contribute to the national economy through self-employment or other economic activities.

The highest number of female hired employees was reported in 2008; this number decreased slightly (by 1.2%) in 2008–2010 (Table 8-30). Proportionally, the sectors with the highest growth rate of women employees over the period were real estate activities, financial and insurance activities and administrative and support service activities. Although it is worth noting these sectors did not employ a significant proportion of Azerbaijan's female workforce. Indeed the largest real time growth in female workers was in its already largest employment sectors: education and human health and social work activities.

There were significant falls in the number of women employed in manufacturing (-9,285) and transport and storage (-4666) between the years.

Table 8-30: Number of Employed Women by Economic Sector (Salaried Employees), 2005–2010

Sector	2005	2006	2007	2008	2009	2010
Agriculture, forestry and fishing	8170	8973	8902	9241	8851	7802
Mining	7052	5952	5983	5665	4474	4321
Manufacturing	33,286	31,649	32,301	29,087	25,916	24,001
Electricity, gas and steam production, distribution and supply	4911	5370	5903	5458	4809	4334
Water supply; waste treatment and disposal	9258	9354	9977	10,638	9426	8079
Construction	5172	6401	6460	7088	6653	5818
Trade; repair of transport means	89,594	88,457	85,855	82,989	86,782	89,748
Transportation and storage	16,263	17,162	16,704	18,420	14,710	11,597

Sector	2005	2006	2007	2008	2009	2010
Accommodation and food service activities	4555	4346	4795	4852	4916	4591
Information and communication	9461	9090	8823	8383	8166	8076
Financial and insurance activities	4328	4988	5912	6863	7095	7258
Real estate activities	2396	2528	2832	3136	3406	4468
Professional, scientific and technical activities	14,811	15,175	15,217	16,027	15,885	16,979
Administrative and support service activities	3651	4333	5088	6696	6391	6195
Public administration and defence; social security	14,957	16,351	13,860	14,526	14,734	15,226
Education	227,837	234,217	236,100	231,195	232,892	233,579
Human health and social work activities	99,579	102,458	99,732	105,607	104,678	105,192
Art, entertainment and recreation	32,812	33,434	33,476	33,690	34,513	34,408
Other service activities	3562	3622	3830	4350	4458	4732
Total	591,655	603,860	601,750	603,911	598,755	596,404

Source: The State Statistical Committee of the Republic of Azerbaijan

8.7.3 PAC Level – Employment

8.7.3.1 Employment status

The unemployment rate in the PACs surveyed (18.2%) is significantly higher than national estimates (5.4% in 2011). In rural areas, 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. There are more housewives (16.5%) than hired employees (15.3%) (Figure 8-28). Only a small percentage of households operate businesses (mainly family businesses, not employer). Overall, it seems local hired employment opportunities are limited and people work in the agricultural sector.

The PAC baseline interview with PAC leaders showed that there are available labour skills for jobs such as driving (passenger, truck), carpentry, building, electric installation and administrative work.

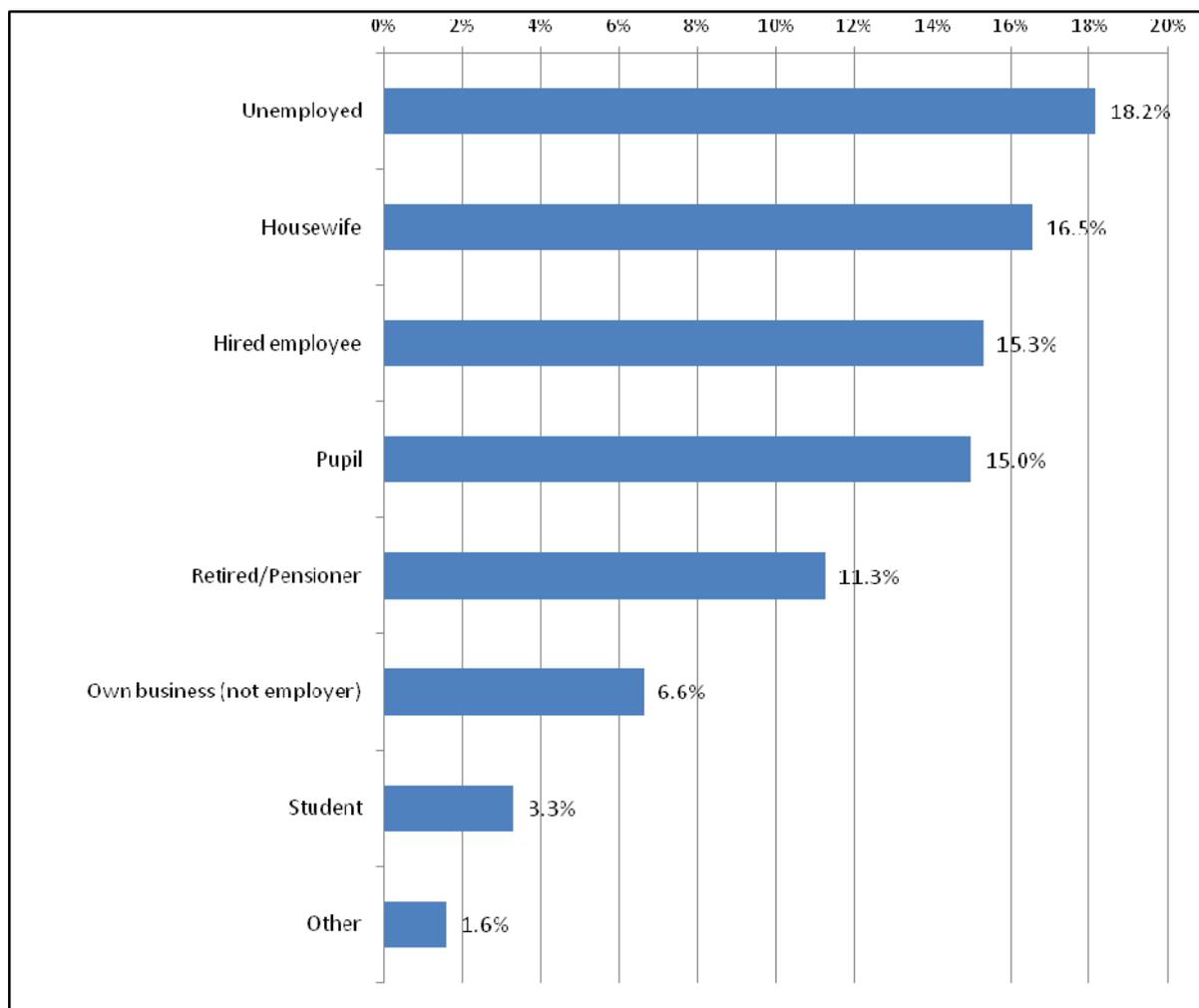


Figure 8-28: Employment Status and Sector of Employment

Figure 8-29 shows the percentage of respondents actively seeking a job and those who are not. Of the respondents 61.4% are jobseekers and try to find job opportunities via personal networking; 38.6% of respondents are not looking for a job. The main information source for job vacancies is “word of mouth” through friends and relatives. Other sources of information are the state labour office, newspapers/magazines, TV/radio and private employment agencies (Figure 8-30).

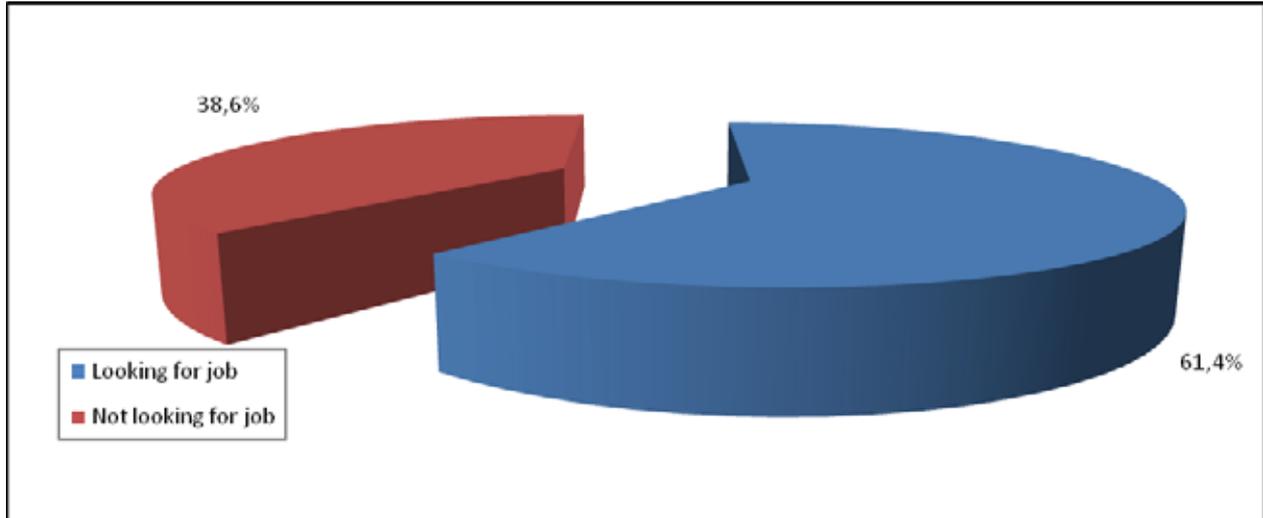


Figure 8-29: Percentage of Unemployed Seeking/Not Seeking a Job

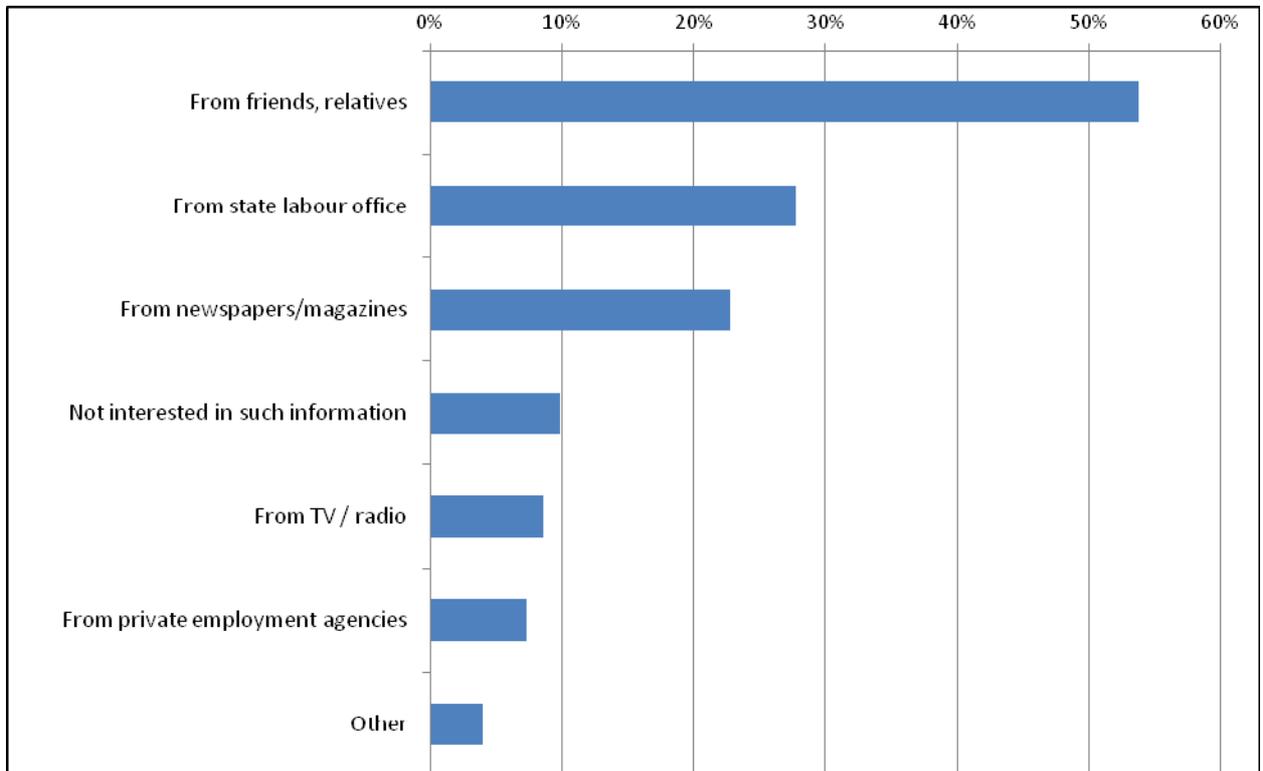


Figure 8-30: Sources of Information for Job Seekers

Figure 8-31 shows problems related to the search for a job. Of the respondents 80% state that the main problem is lack of vacancies, while 40% of respondents state that lack of appropriate education is also an obstacle for job seekers (Figure 8-31).

As personal networks are considered the most effective information source for seeking a job, unsurprisingly the lack of personal networks, including connections to business owners/managers, is mentioned as one of the most important barriers to employment.

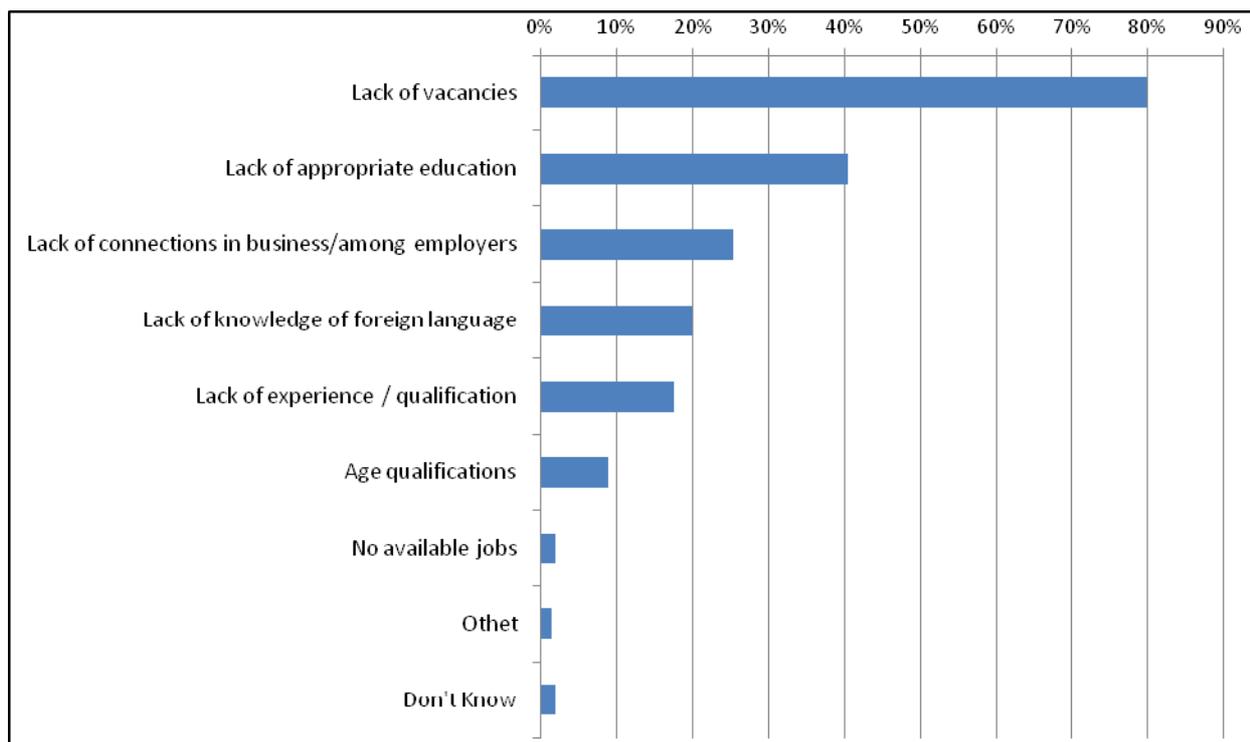


Figure 8-31: Problems Related to Job Search

8.7.4 National and Regional Level – Livelihood

8.7.4.1 Source of livelihood

Agriculture is the main livelihood activity and source of income for rural dwellers in Azerbaijan and comprises 40% of total employment (World Bank, 2010). The majority of those engaged in agriculture are self-employed living in rural areas. The non-agricultural sectors, however, account for the majority of hired labour employment. The oil sector's contribution to livelihood/employment is not significant compared to the agricultural sector.

Crop growing still has a higher agricultural output compared to livestock, but the gap in output value has been narrowing in recent years. It is too soon to know if this trend will continue (Table 8-31). Private owners, family farms and households contribute to agricultural production mainly through crop growing (52.6%), and the remaining 47.4% of their agricultural production is livestock (2011 data). There have not been significant changes in levels of crop growing and livestock production in the period 2005–2011 (Table 8-31).

Table 8-31: Structure of Agricultural Production (By Prices: Percentages)

	2005*	2007*	2008*	2009	2010	2011
All economic categories (%)						
Crop growing	53.6	59.2	59.5	55.3	51.6	51.7
Livestock	46.4	40.8	40.5	44.7	48.4	48.3
Agricultural enterprises (%)						
Crop growing	20.2	19.4	22.0	30.7	31.2	34.8

	2005*	2007*	2008*	2009	2010	2011
Livestock	79.8	80.6	78.0	69.3	68.8	65.2
Private owners, family peasant farms and households (%)						
Crop growing	54.9	60.9	61.6	56.9	52.6	52.6
Livestock	45.1	39.1	38.4	43.1	47.4	47.4

* Data for 2005–2008 is precise based on Household Survey materials

Source: The State Statistical Committee of the Republic of Azerbaijan

In 2011, agricultural lands comprise almost 4.8 million hectares, mainly including pasturelands followed by sown areas. There are only 415,000 hectares of fallow lands. About 60% of land is privately owned (Table 8-32).

Table 8-32: Agricultural Lands by Types of Property (1 January 2011, Thousand Hectares)

Type of Land	All Economic Categories	State Property	Property of Municipality	Private Property
Sown area	1842.7	318.2	101.9	1401.3
Hayfields	117.5	22.1	3.2	83.5
Pastures	2537.7	1382.6	1008.4	8.4
Perennial plants	227.4	55.6	5.2	150.3
Fallow lands	41.5	11.8	3.3	19.5
Total	4766.8	1790.3	1122.0	1663.0

Source: The State Statistical Committee of Republic of Azerbaijan

8.7.5 PAC Level – Livelihood

8.7.5.1 Livestock agriculture

Poultry and cattle breeding is the most common form of livestock agriculture, with 32% of households owning, on average, 2–3 cows and 66% owning, on average, 12 domesticated fowl (Table 8-33)

Table 8-33: Livestock Agriculture

	Ownership	Average Number
Cows	32%	3
Sheep	9%	14
Goats	1%	5
Horses	2%	1
Donkeys	1%	2
Poultry (chickens, geese, ducks)	66%	12

	Ownership	Average Number
Bees	0.5%	5 (hives)

8.7.5.2 General economic, household and social situation

Figure 8-32 shows general economic circumstances in the PACs as one of the key factors in assessing the livelihood condition of the PACs. More than twice as many households felt general economic circumstances in their settlement had improved (36%) over the past five years, than the proportion of households who felt that circumstances had deteriorated (16%). This positive trend can be attributed to regional economic growth and the introduction of the government Regional Development Programme⁵ in Azerbaijan over the period. Thirty-nine per cent of households state that the economic circumstances have not changed (Figure 8-32). Overall, on this measure, the situation is either stable or improving for most households.

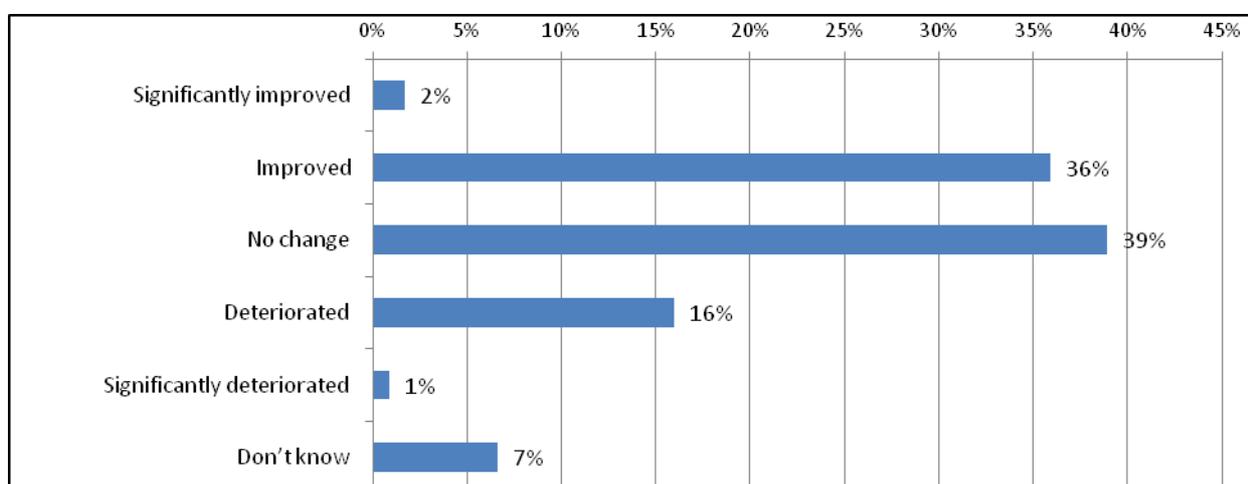


Figure 8-32: Economic Status (Over Past Five Years)

Figure 8-33 shows the level of household goods ownership as one of the factors in assessing the livelihood condition of the PACs. The majority of the households own a colour TV (97%), mobile phone (93%) and refrigerator (84%); various other appliances are owned by a significantly smaller share of households (for example, only 43% own a washing machine), and 30% of households own a car (Figure 8-33)

⁵ State Program on social-economic development of the regions of Azerbaijan Republic in 2009-2013 years" was approved by the decree of the President of Azerbaijan Republic. The Republic of Azerbaijan Ministry of Economic Development, 2012: <http://www.economy.gov.az/eng/>

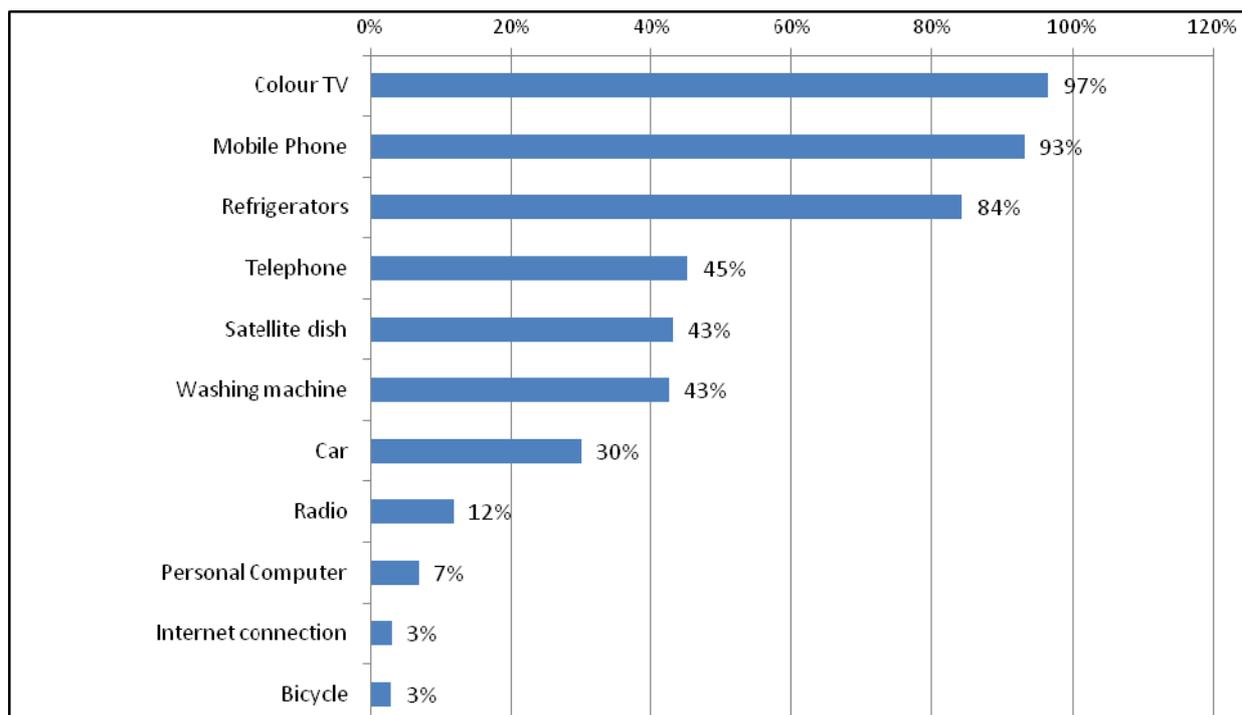


Figure 8-33: Level of Ownership of Household Goods

Figure 8-34 shows level of satisfaction of households with employment status, income and community situation. Despite almost 40% of households considering that their economic status has improved, just over 60% of households are dissatisfied with their employment status and household income and just under 40% of households are dissatisfied with their community situation (Figure 8-34)

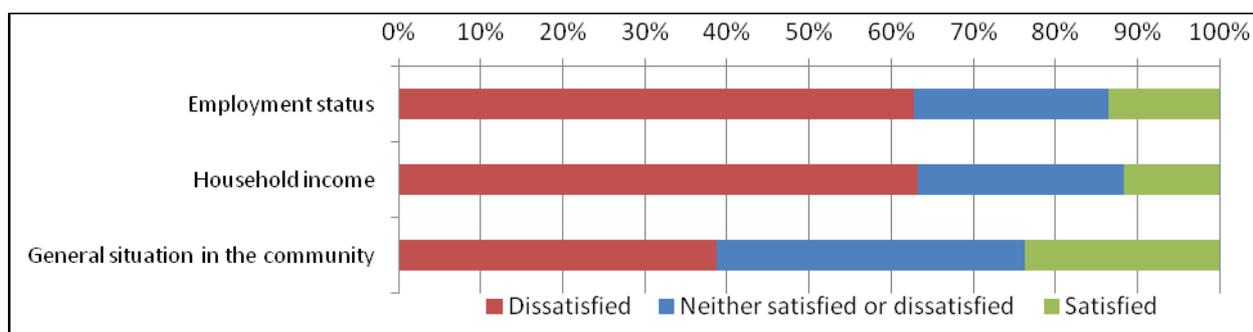


Figure 8-34: Level of Satisfaction with Employment Status, Income and Community Situation

Figure 8-35 shows important household issues. Seventy-eight per cent of households state that insufficient income is a major problem. Unemployment is also of major concern for 60% of households. Other household issues include health care, roads, housing, childcare, water supply and waste disposal. Energy supply, crime and culture are considered as a household issue only by a small percentage of respondents (Figure 8-35).

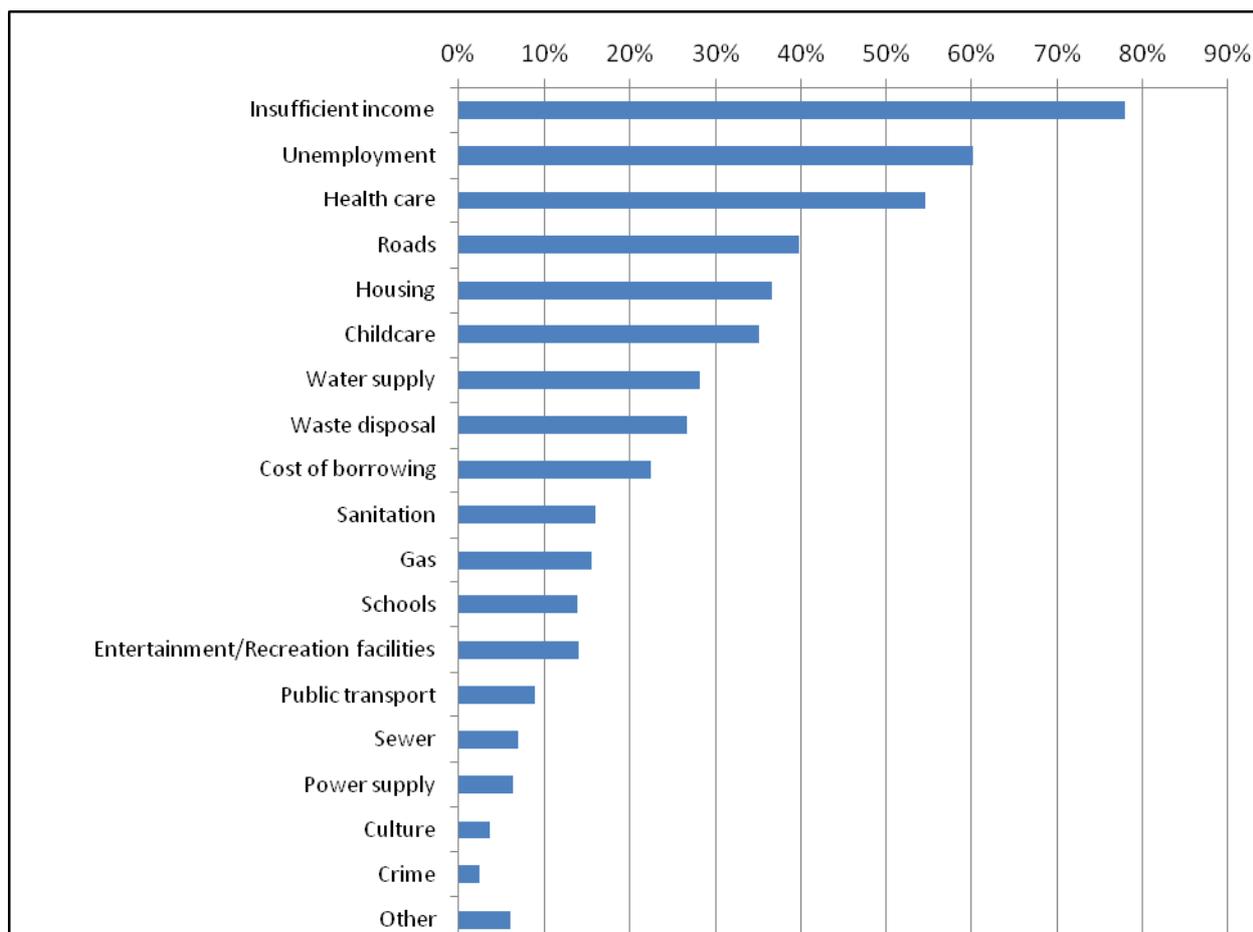


Figure 8-35: Important Household Issues

Figure 8-36 shows social problems present in the PACs. Only a very small percentage of households (about 2–3%) state that crime and family breakdown is a significant and widespread problem. The majority of households state that social problems such as crime: including drug abuse and domestic violence, do not exist in the PACs. However, up to 10% of households consider that alcohol abuse and family violence/breakdown is a problem amongst certain 'groups'. Most households state that only a few instances of crime, drug abuse, violence, alcohol abuse, family violence and family breakdown occur (Figure 8-36).

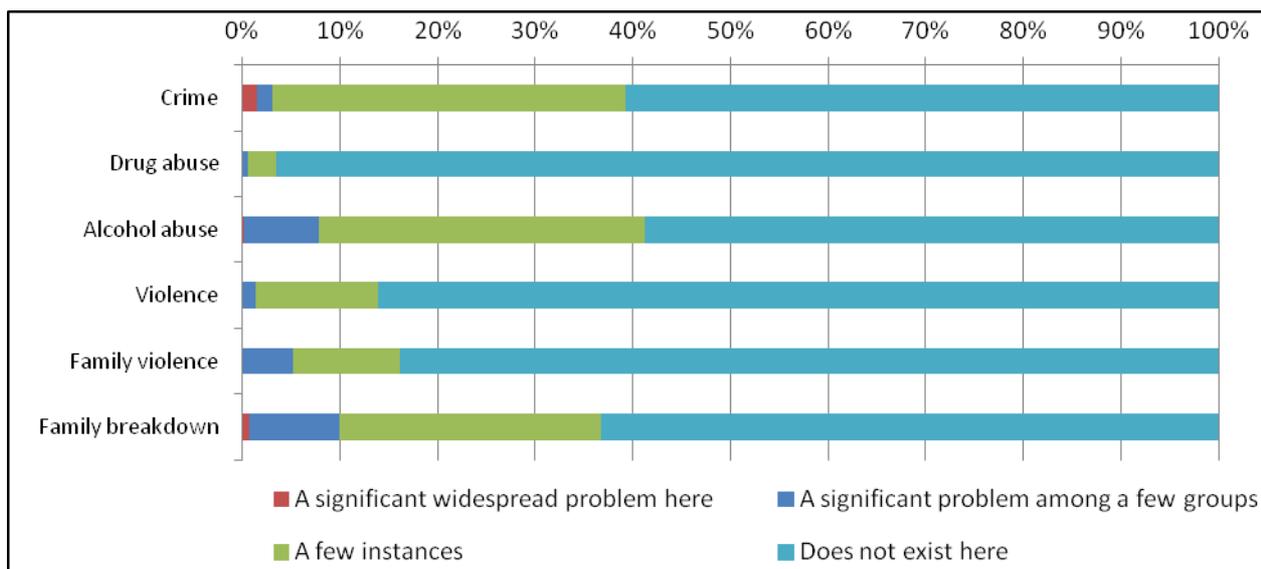


Figure 8-36: Social Problems

8.7.6 Sensitivities

For the PACs surveyed, the employment and livelihood sensitivities with respect to the potential SCPX Project are:

- Unemployment levels in the PACs are higher than the national average, and unemployment is classed a significant household issue for the PACs surveyed. Therefore, there will be a high sensitivity to employment opportunities created by the Project and any Project activities that affect livelihood. There will also be sensitivity to retrenchment and consequent loss of income following any temporary employment
- Lack of education and skills have been identified as one of the key reasons for PAC members being unable to gain employment. The lack of a significant skilled and semi-skilled labour force within the PACs could lead to unmet employment expectations
- Local hired employment opportunities are limited and people work in the agricultural sector. Agricultural workers will therefore have a particular sensitivity (see below)
- Agriculture is the main source of livelihood in the PACs, providing 40% of employment. Workers in the agricultural sector are generally self-employed and therefore will be sensitive to any impacts to their ability to undertake agricultural activities
- There has been an increase in the level of women in employment in the last 10 years. Therefore, the sensitivity to employment for women as a vulnerable group will be lower than during BTC and SCP construction
- General dissatisfaction among the PACs with respect to employment status (over 60% dissatisfaction) is likely to create raised expectations with respect to employment and improvement of livelihood conditions as a result of SCPX activities.

8.8 Infrastructure and Services

8.8.1 Introduction

This section provides data on condition of infrastructure at both national/regional and PAC level. The key sources of secondary data for the national and regional level are:

- World Bank 2010: Azerbaijan Living Condition Assessment Report
- World Bank 2009 Report: The Azerbaijan Country Economic Memorandum.

As discussed in Section 8.1, primary data on infrastructure and services at a PAC level has been generated from the PAC surveys.

8.8.2 National Level – Infrastructure and Services

The Azerbaijan Country Economic Memorandum (World Bank, 2009) noted that Azerbaijan's poor quality of public infrastructure has been one of the factors affecting development of the country since the mid-1990s. Most of Azerbaijan's infrastructure was built during Soviet times and, because of the lack of financial investment, most infrastructures are in a poor condition, and the quality of services is not satisfactory. However, the level of infrastructural problems varies by sector. For example, the reliability of water supply has improved, mainly in Baku, in the past few years. However, people in many places outside Baku have poor access to water supply (as low as three hours per day). The water and sanitation systems also suffer from lack of maintenance and investment, and are of low quality (World Bank, 2009).

Access to electricity is reported to be 95% in Baku, and almost 100% in the rest of the country, although occasional power outages occur. The quality and reliability of the service has improved significantly as the country had restored a 24-hour electricity supply to most paying consumers. Every building has meters for electricity and gas, but not for water. Only some buildings have meters for water consumption.

In the past few years, the Azerbaijani government has increased the level of public spending on public utilities. The revenue received from oil operations in the past few years has helped the government to increase the level of public investment in public utilities (World Bank, 2010). Access to public utilities is limited for the poor, and the quality of the access is less in comparison to that of wealthy people to the services. The poor also have limited access to hot water, electricity, sewerage and health care facilities.

Table 8-34: Access to Computer, Internet and Mobile Phone for Inhabitants

	2005	2007	2008	2009	2010	2011
Computers per 100 inhabitants	2.3	3.7	4.4	5.7	9.4	11.7
Internet users per 100 inhabitants	8	11	17	27	46	51
International internet band per inhabitant	0.04	0.73	1.2	1.2	4.6	6.4
Internet access tariff (20 hours per month)	99	99	99	99.6	99.8	99.8
Internet access tariff per capita income	5	4	2.1	2	1.9	1.8
Mobile cellular tariff per capita income (monthly), in percentage	4.5	1.7	0.9	0.7	0.6	0.5

Source: The State Statistical Committee of the Republic of Azerbaijan

Table 8-34 shows that there has been an increase in the number of computers and Internet users per 100 inhabitants. Internet users have increased from 8 per 100 persons in 2005 to 51 per 100 persons in 2011.

8.8.3 PAC Level – Infrastructure and Services

8.8.3.1 Condition/quality of infrastructure

About 60–70% of households state that they consider energy supply, shopping facilities, postal services and local government/administration services to be of good quality. Public transport is considered relatively good by about 40% of respondents, with only 20% stating that public transport is of poor condition. About 55–75% state that sewage and waste disposal facilities are either in poor condition or not available (Figure 8-37).

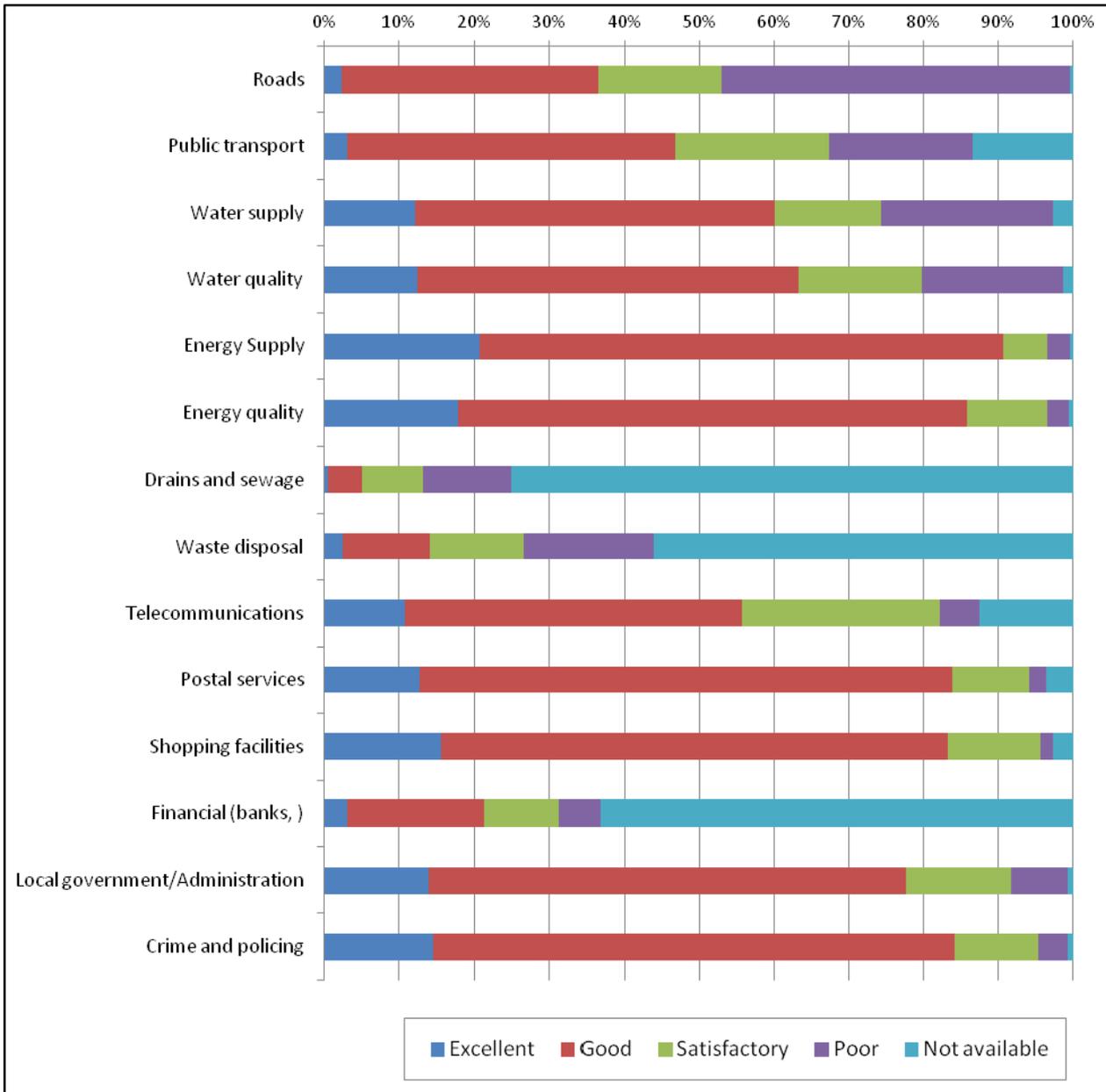


Figure 8-37: Condition of Infrastructure

Figure 8-38 shows changes in infrastructure condition. Most respondents state that the quality of public infrastructure, except waste disposal and sewage/drainage facilities have improved within the past few years. Energy supply, shopping facilities and the crime/policing situation have improved the most in the past few years (Figure 8-38). The improvement in public utilities and infrastructure is due to the Government’s increased level of spending in the regions as a result of regional development programme in Azerbaijan.

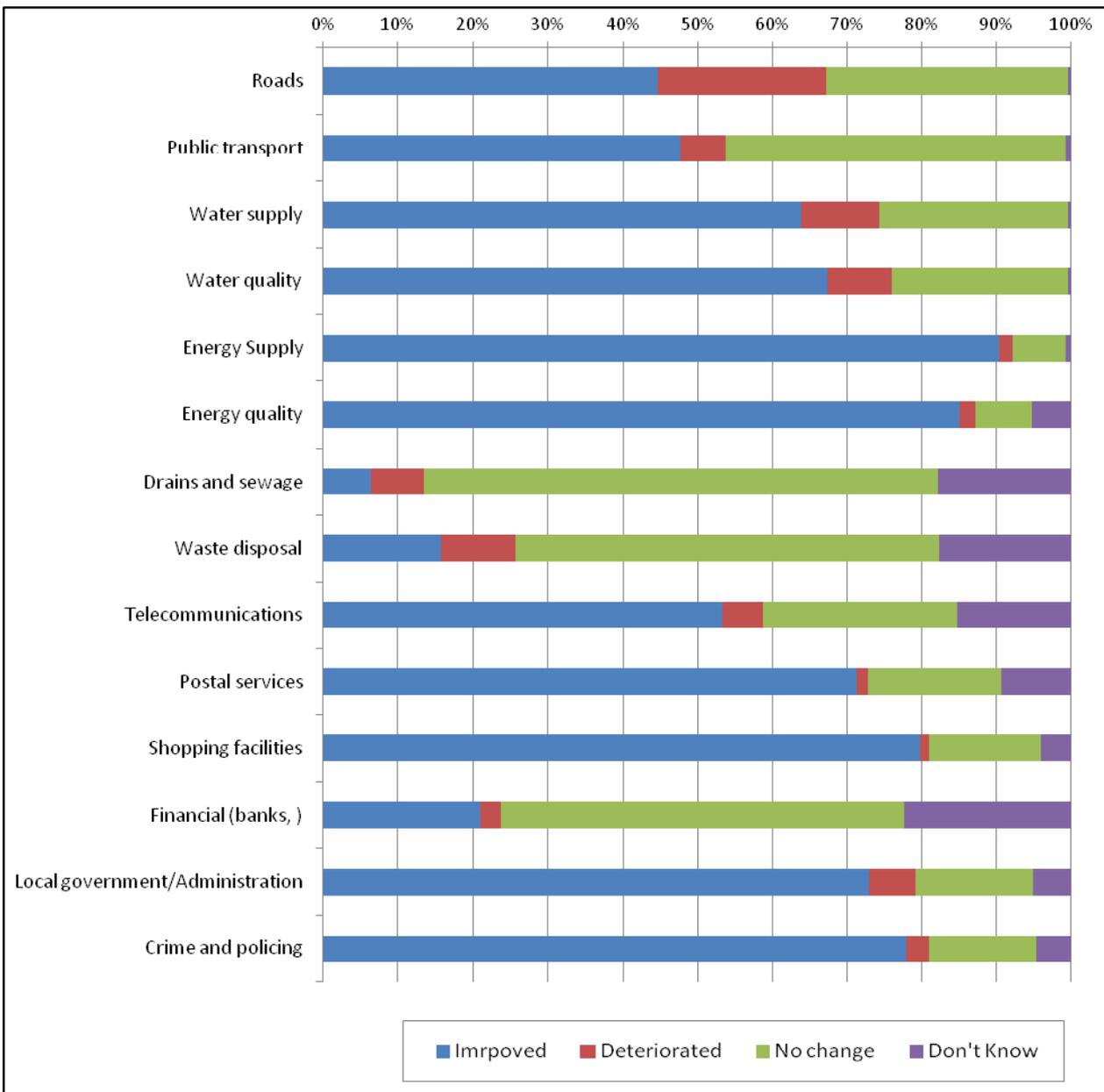


Figure 8-38: Change in Infrastructure Condition

8.8.3.2 *Electricity and gas*

The majority of households have access to electricity (99%) and piped gas (74%). Bottled gas is used by 46% of households (Figure 8-39).

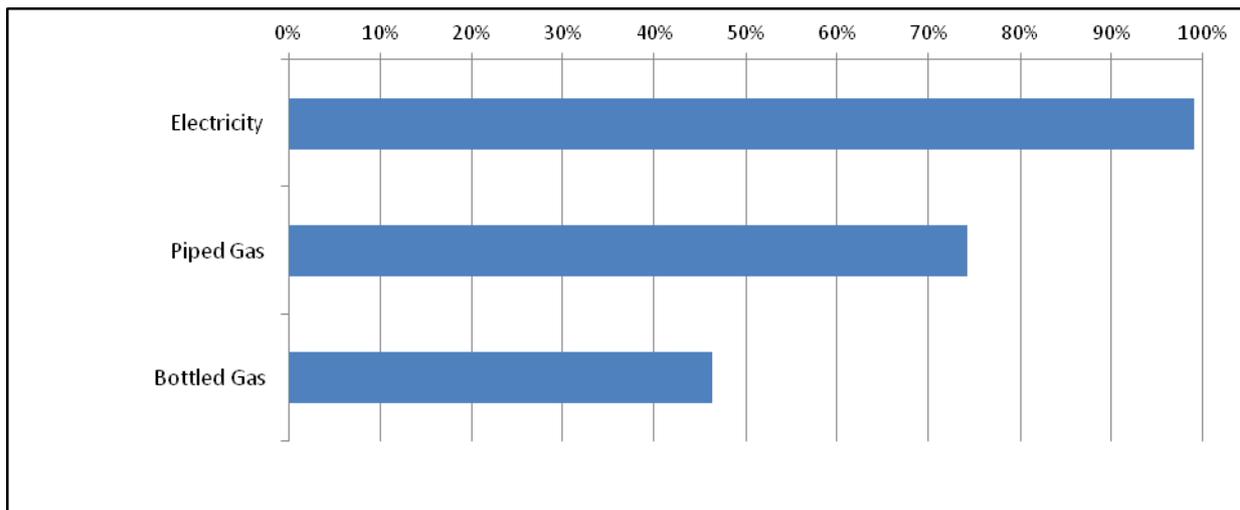


Figure 8-39: Access to Electricity and Gas

8.8.3.3 *Quality of gas supply*

Figure 8-40 shows quality of electricity and gas supply. About 80% of respondents state that the quality of gas and electricity is either 'good' or 'excellent'. A very small percentage states that the quality of electricity is poor.

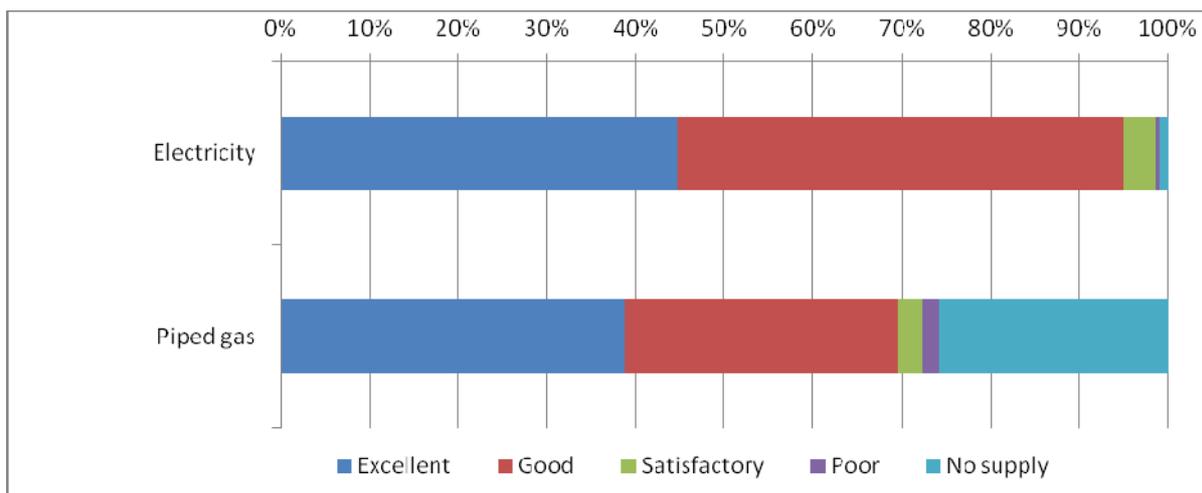


Figure 8-40: Quality of Electricity and Gas Supply

Figure 8-41 shows sources of energy for cooking and heating. For about 92% of households gas is the main fuel for cooking and heating. Fewer than 10% of households use wood for cooking, and about 25% use wood for heating.

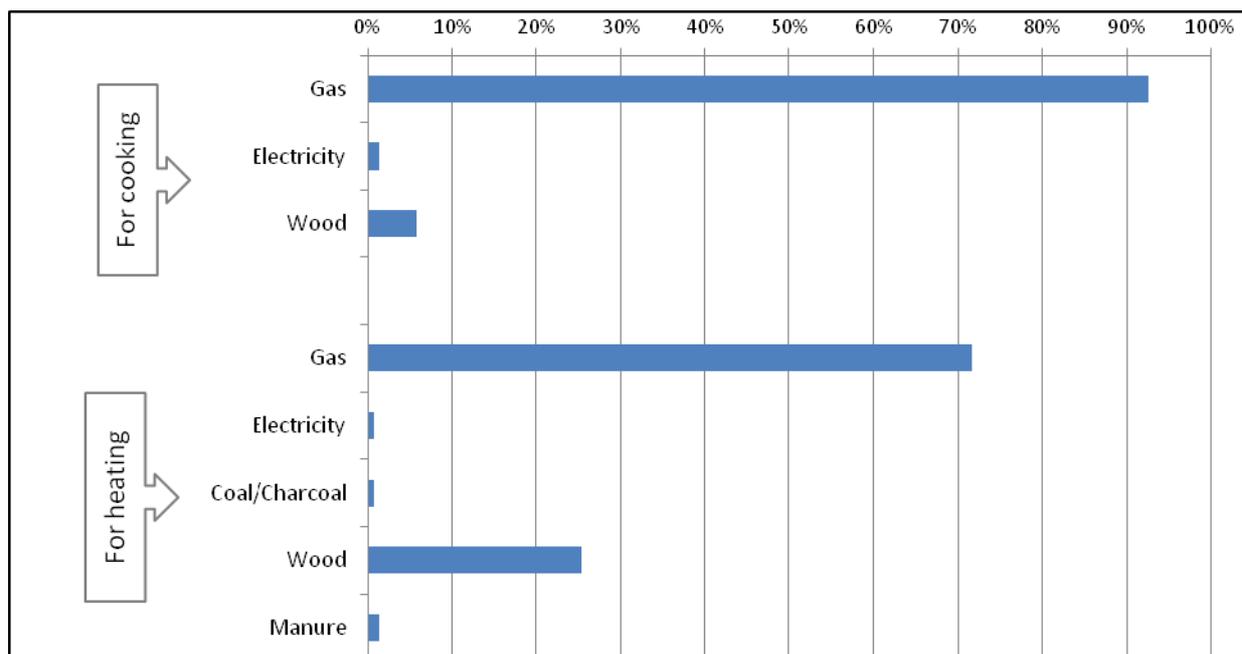


Figure 8-41: Energy Sources for Cooking and Heating

Figure 8-42 shows the presence of a cooking place and availability of a kitchen in the house. Cooking is mainly done in the house, and about 79% of households have a special room/kitchen for cooking.

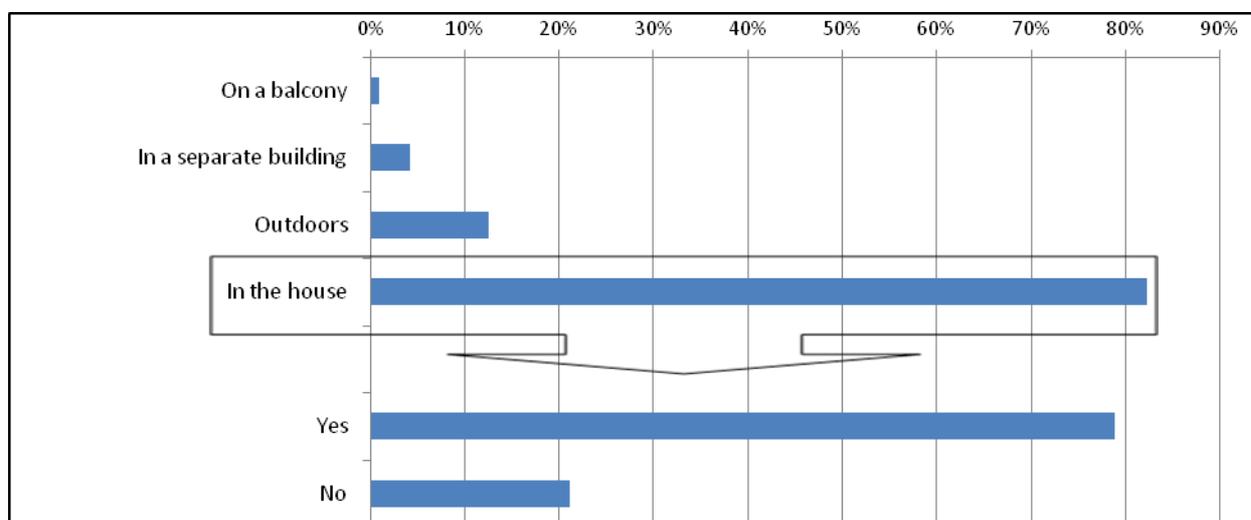


Figure 8-42: Cooking Place and Availability of Kitchen in House

8.8.3.4 Water supply

The main sources of drinking water are tanker truck (about 25% of households), tap water in yard (about 22% of households), tap water from elsewhere (about 18% of households) and ground water (about 16% of households). Water from irrigation ditches is also used by about 12% of households for drinking (Figure 8-43).

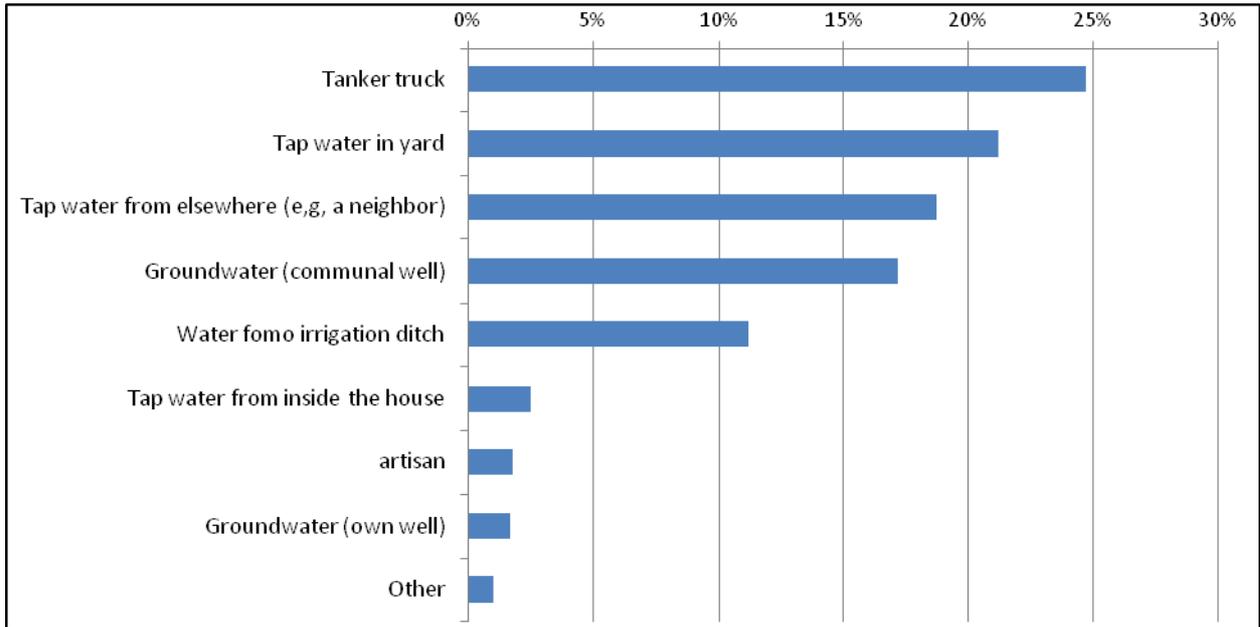


Figure 8-43: Main Source of Drinking Water

Figure 8-44 shows the percentage of households that treat water for drinking use. About 45% of households treat the water to make it potable. The most common method of water processing for drinking is to boil water while a minority of households use other processing methods such as alum stone (about 14%) and filtering (using stone and cotton).

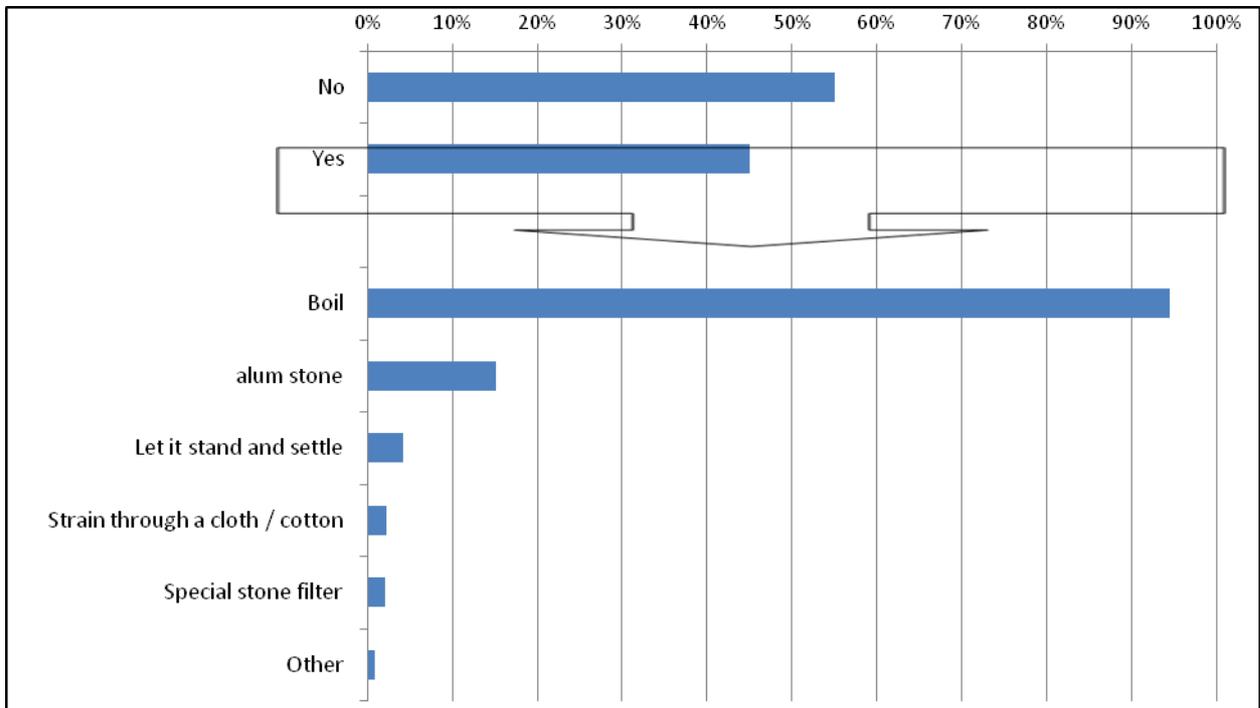


Figure 8-44: Processing Water for Drinking Use

Access and quality of water supply

Only a small percentage (about 8%) of households has a constant water supply in the house while about 77% of households have no access to piped water in their houses. This is largely because of the rural nature of the communities and there is a lack of water supply

infrastructure in these areas. As for the quantity of water, 72% of households state that the water supply is sufficient (Figure 8-45).

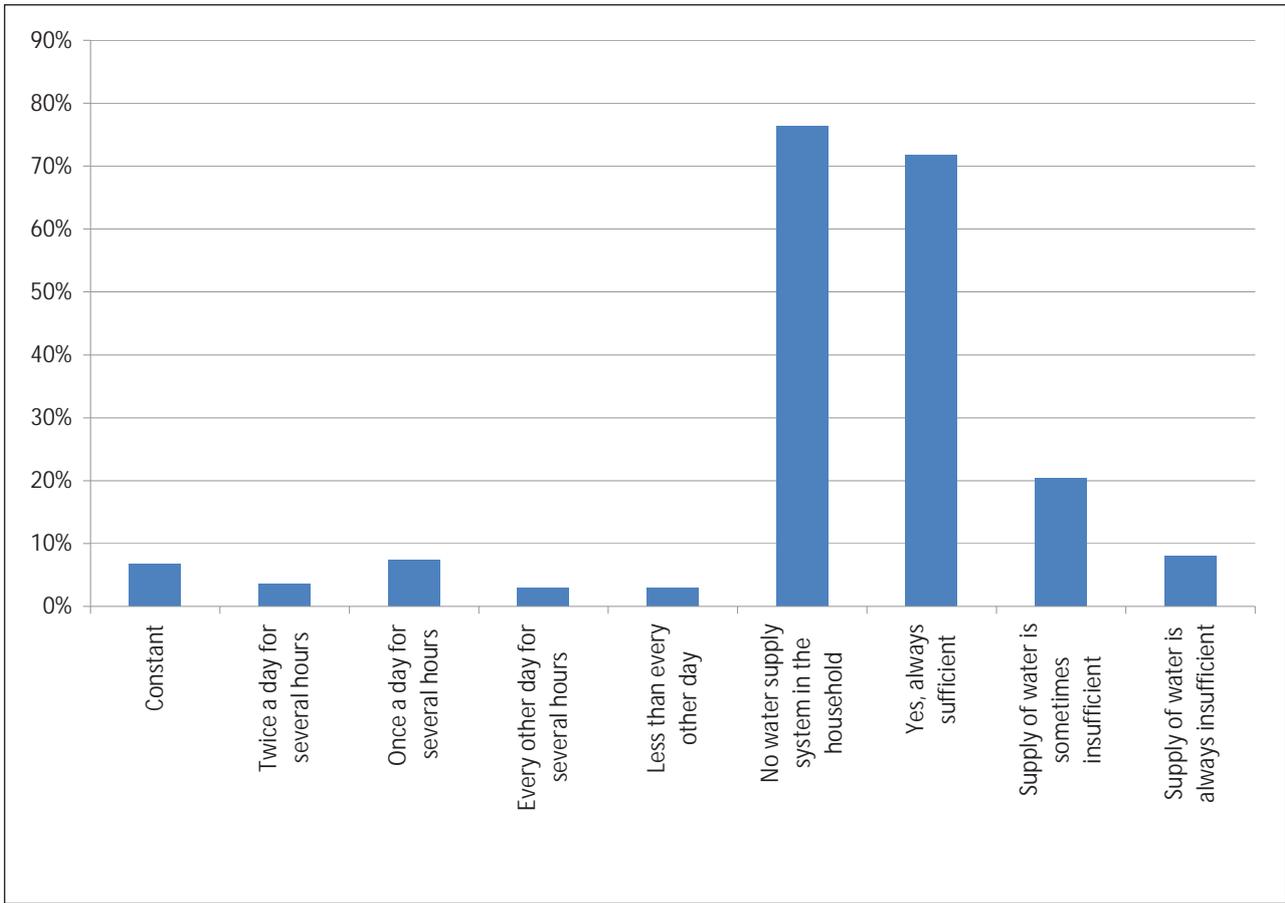


Figure 8-45: Regularity and Quantity of Water Supply

Figure 8-46 shows quality of water as stated by the households. About 75% of households state that the quality of water is either 'good' or 'satisfactory', although around 10% of households state that the quality of water is 'bad'.

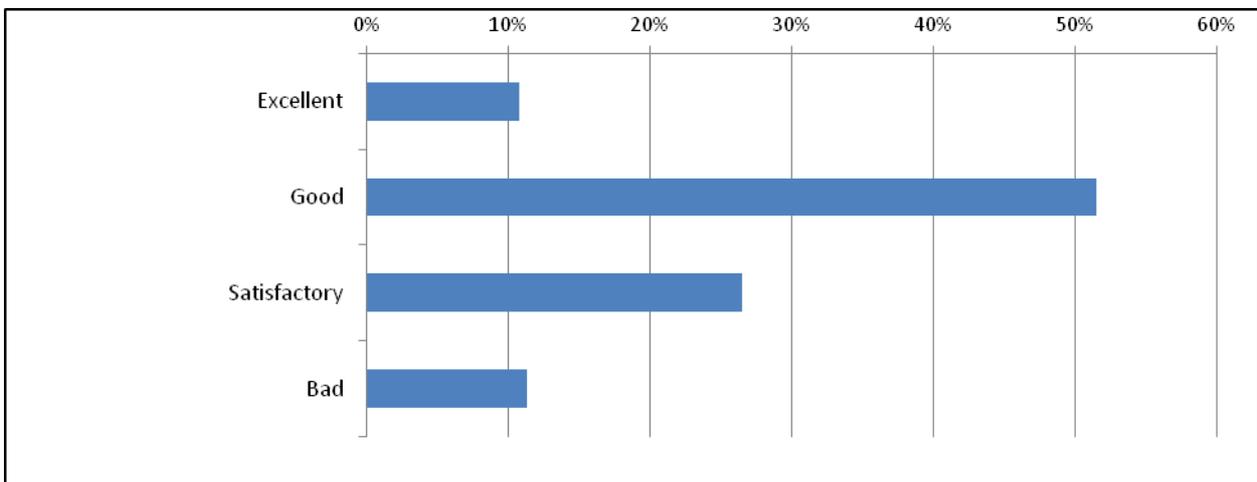


Figure 8-46: Water Quality

8.8.3.5 Irrigation/industrial water use

About 47% of households have access to and use irrigation systems. About 15% of households have access to but do not use the irrigation system. The remaining households (about 35%) do not have access to irrigation system (Figure 8-47)

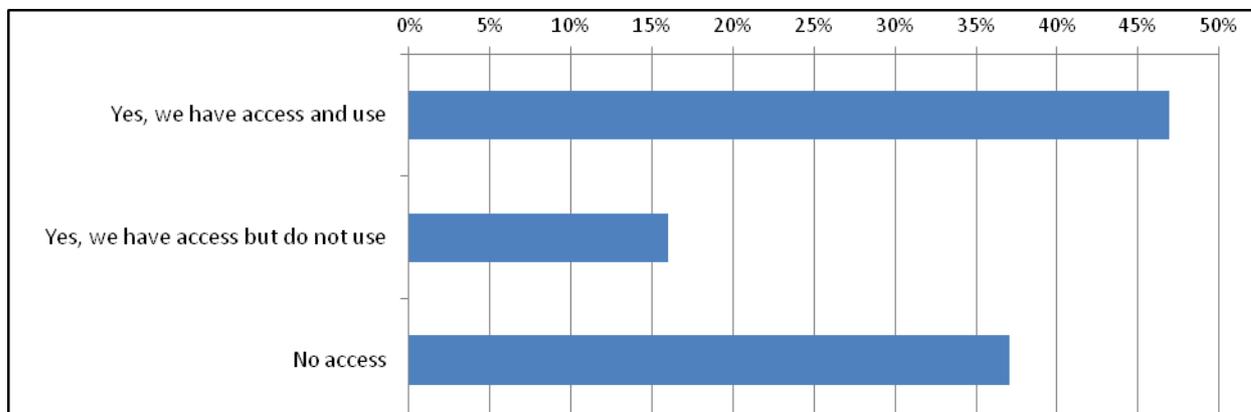


Figure 8-47: Access to/Use of Irrigation Systems

8.8.3.6 Sewerage and waste disposal

About 93% of households are not connected to centralised sewage system and the waste discharges directly into the open drain or ditch. Twenty per cent of households also state that their waste discharges directly into their yard (Figure 8-48)

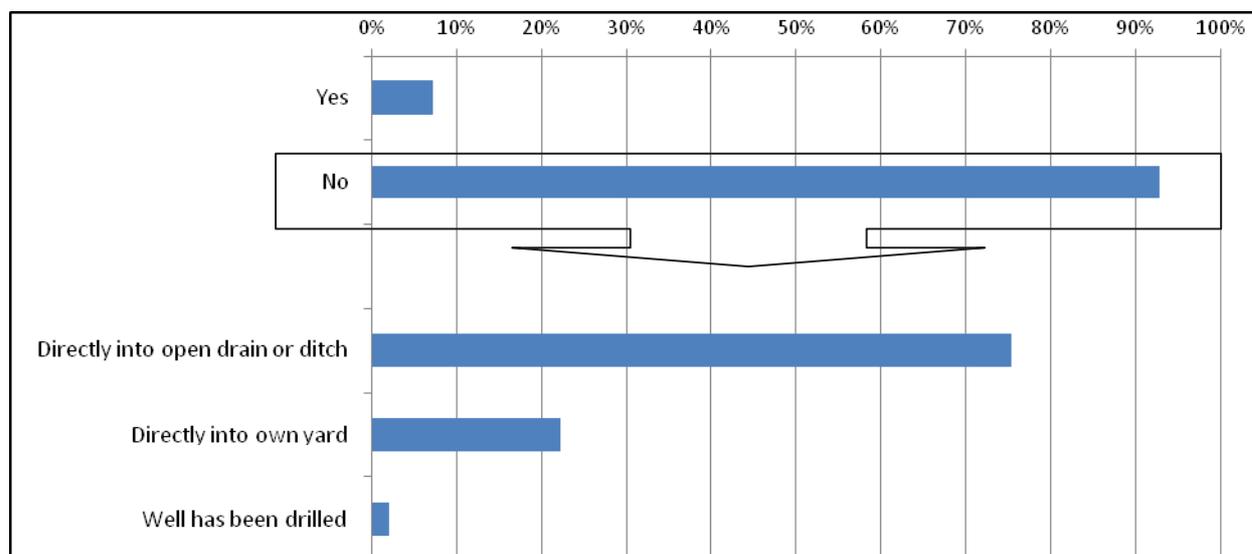


Figure 8-48: Sewerage and Domestic Liquid Waste Disposal

8.8.4 Education

8.8.4.1 Introduction

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

- World Bank 2010: Azerbaijan Living Condition Assessment Report
- The State Statistical Committee of the Republic of Azerbaijan.

Primary data on education at a PAC level has been generated from the PAC surveys.

8.8.4.2 National level – educational provision and access to facilities

There are notable achievements in the education system in Azerbaijan. The enrolment rates are equitable between poor and non-poor children, and there is little difference between the performance of children in poor and non-poor households (World Bank, 2010). Azerbaijani students obtain high scores in maths that equal those of much richer countries. However, there are some challenges that need to be addressed in relation to quality of teaching and learning, for example, higher education enrolment rates are low.

There is a significant difference between the specialisation of graduates and the demands of the economy. In professional and higher education institutions, there is an overproduction of specialists in areas such as education, health, and manufacturing, which have relatively limited job opportunities, whereas very few graduates have been trained in agriculture and services, from where much of the new demand for employment is currently coming (World Bank, 2010).

There is a significant disparity between the poor and the rich with regard to access to higher education, while compulsory primary/secondary education is provided for almost everyone. In comparison to Europe and Central Asia, World Bank (2010) reports that Azerbaijan spends less public resources on higher education, leaving a very high burden to be carried by families (World Bank 2010).

Table 8-35 shows the number of educational establishments in Azerbaijan 2006–2011. The number of pre-school educational institutions has decreased from 1790 in 2001 to 1638 in 2011, with an increase in the number of school-kindergartens during this period (from a very low base number) (Table 8-35).

Table 8-35: Number of Educational Establishments, 2006–2011

State and Non-State Pre-School Educational Institutions (Beginning of the Year) in Urban and Rural Localities	2001	2006	2008	2009	2010	2011
Kindergartens	552	545	501	484	479	506
Day nurseries-kindergartens	1194	1182	1124	1094	1115	1103
School-kindergartens	2	4	1	2	5	5
Day nurseries	42	33	32	32	36	24
Total	1790	1764	1658	1612	1635	1638

Source: The State Statistical Committee of the Republic of Azerbaijan

8.8.4.3 National level – teaching staff/vocational schools

The number of vocational schools and vocational lyceums in Azerbaijan has increased from 107 in 2005 to 109 in 2010 (only two new schools). There has also been an increase in the number of students (by about 23%) and teachers (by about 3%) in vocational schools and vocational lyceums in 2005–2010 (Table 8-36).

Table 8-36: Vocational Schools- Numbers, Students and Teachers: 2005-2010

	2005	2006	2007	2008	2009	2010
Number of vocational schools and vocational lyceums	107	107	107	108	108	109
Number of students attending vocational schools and vocational lyceums	22,189	23,813	24,455	25,184	25,562	27,330

	2005	2006	2007	2008	2009	2010
Admittance to vocational schools and vocational lyceums in each year	12,935	14,590	14,718	13,761	13,497	15,743
Number of qualified staff graduated from vocational (technical) schools	11,095	12,862	13,156	11,927	12,485	13,011
Number of teachers in vocational schools and vocational lyceums (key staff)	1906	1971	2051	2163	1996	1969
Number of staff who passed professional training in enterprises, institutions and organisations	5254	6549	6840	4890	4393	4792
Number of officials and specialists who improved/increased their qualifications	10,368	10,707	11,242	11,673	12,670	22,972

Source: The State Statistical Committee of the Republic of Azerbaijan

The total number of general educational establishments, mainly state schools, has decreased, while non-state schools experienced an increase (six new schools) in their number in 2005–2012 (Table 8-37). The number of pupils and teachers in state schools has also decreased (Table 8-38).

Table 8-37: Number of General Educational Establishments (Beginning of the Year)

Form of Education	2005/2006	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Day	4550	4555	4550	4539	4532	4516
Of which						
State	4538	4538	4 533	4 522	4515	4498
Non-state	12	17	17	17	17	18 ¹
Total	4559	4562	4557	4546	4539	4523

¹ There are also six branches

Table 8-38: Number of Pupils and Teachers in General Educational Establishments (Beginning of the School Year, Thousand Persons)

Form of Education	2005/2006	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Total Pupils	1586.2	1490.2	1431.5	1367.9	1327.5	1294.1
Night	2.6	2.7	2.6	2.9	3.0	2.8
Day	1583.6	1487.5	1428.9	1365.0	1324.6	1291.3
Of which						
State	1578.6	1480.6	1421.7	1357.8	1318.1	1284.7
Non-state	5.0	6.9	7.2	7.2	6.5	6.6
Total teachers	171.8	176.3	174.4	173.3	172.6	163.5

Form of Education	2005/2006	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
State	171.0	175.2	173.2	172.2	171.4	162.4
Non-state	0.8	1.1	1.2	1.1	1.2	1.1

Source: The State Statistical Committee of the Republic of Azerbaijan.

There have not been any changes to the number of boarding schools for orphans. However, general types of boarding schools have decreased from 38 in 2001 to 22 in 2011 (Table 8-39). The reason for this decrease is not known.

Table 8-39: Boarding Institutions for Children (Beginning of the Year)

	2001	2006	2008	2009	2010	2011
Number of nurseries	4	4	4	4	4	4
Number of children's homes	6	6	6	6	6	6
Number of boarding schools for orphans and children	2	2	2	2	2	2
Number of special boarding schools for children with health problems	13	12	14	11	11	11
Number of boarding schools for children with an intellectual disability	2	2	2	2	2	2
General type of boarding schools	38	39	31	30	23	22

8.8.4.4 PAC level – educational provision and access to facilities

About 60% of respondents have completed secondary or technical education, while 20% of respondents state that they do not have any education. Less than 10% of households have a higher education degree (Figure 8-49).

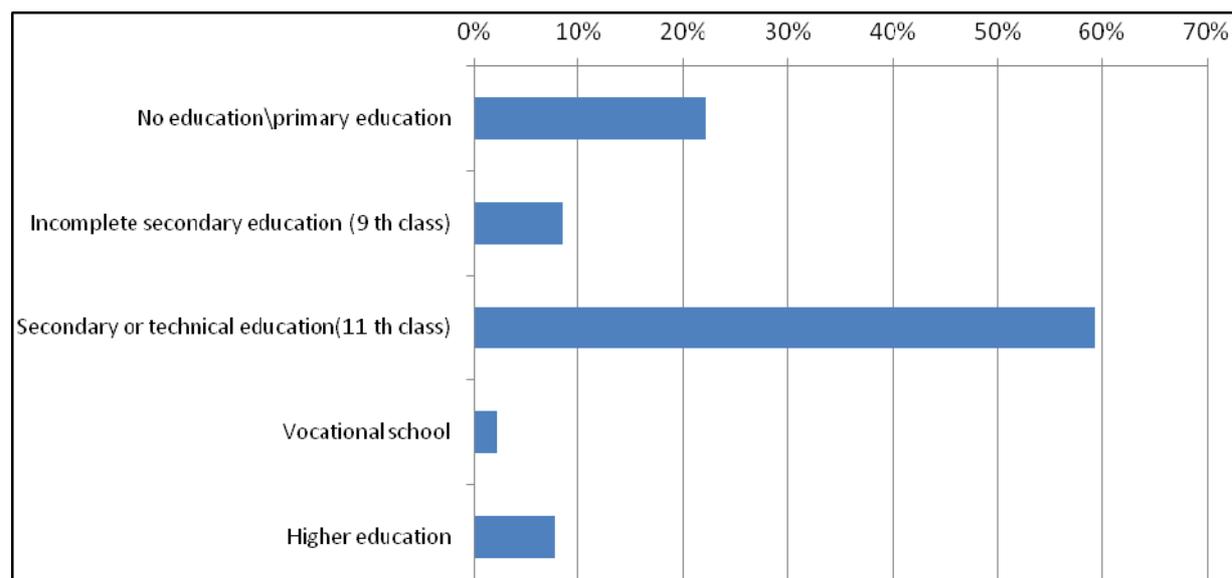


Figure 8-49: Education Level

Figure 8-50 shows attendance of school-age children at school. About half of the households have school-age children and almost all attend school. Only 1% of households have school age children that do not attend school.

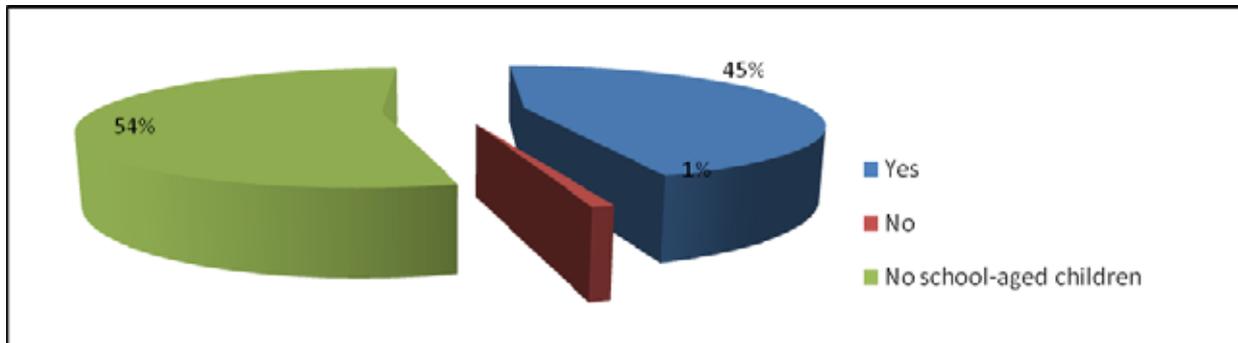


Figure 8-50: Attendance of School Age Children at School

Figure 8-51 shows that 69% of households face difficulties in paying for educational materials and 72% of households have difficulty paying for school uniforms. Eighteen per cent of households also have difficulty paying for extra classes. Only a very small percentage of households can easily afford to pay for tuition fees and extra classes.

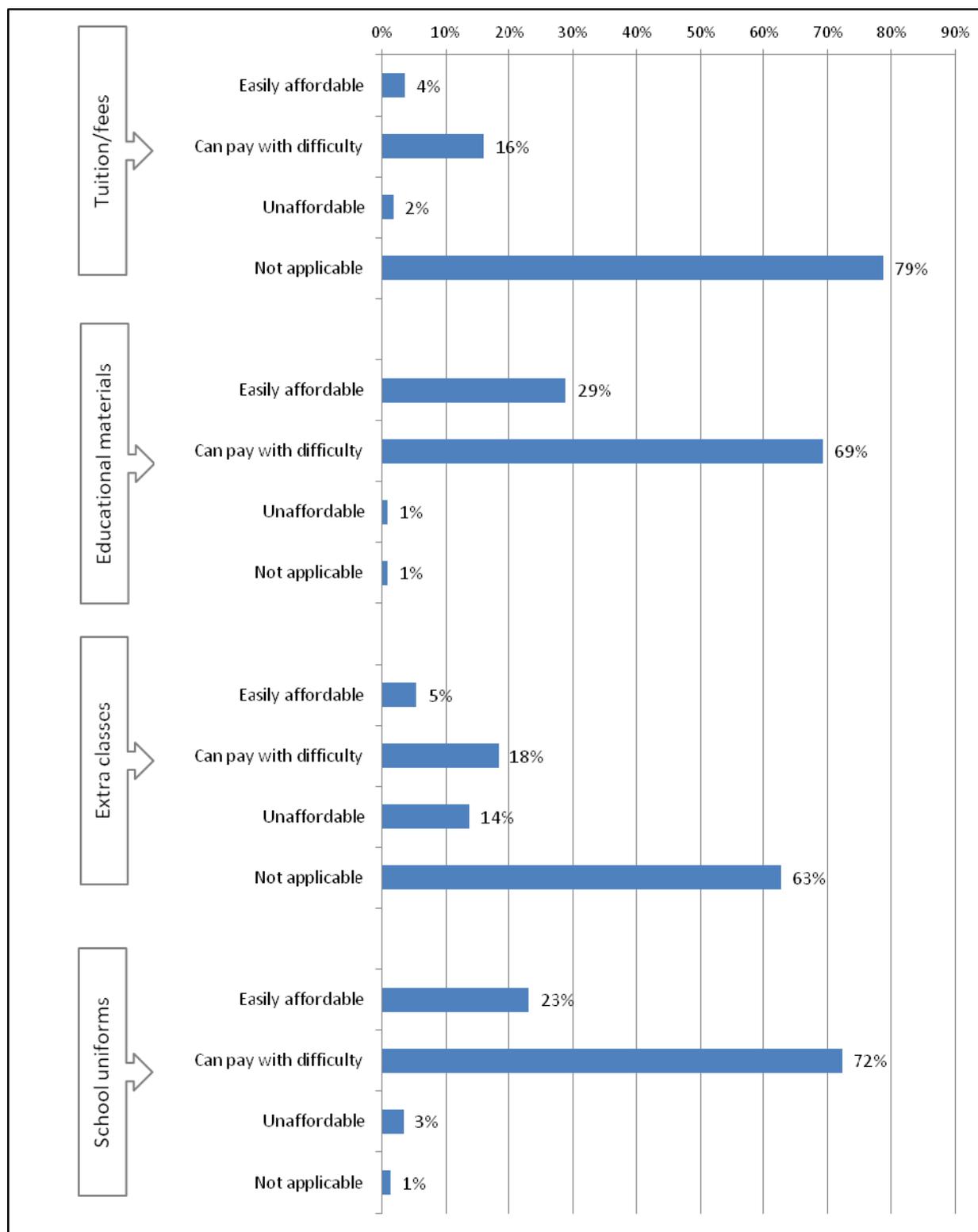


Figure 8-51: Affordability of School Education Fees and Education Materials

Forty-three per cent of respondents who have school-age children state that the quality of local schools is good (Figure 8-52), and 47% of respondents state that the quality of local schools has improved in the past five years (Figure 8-53).

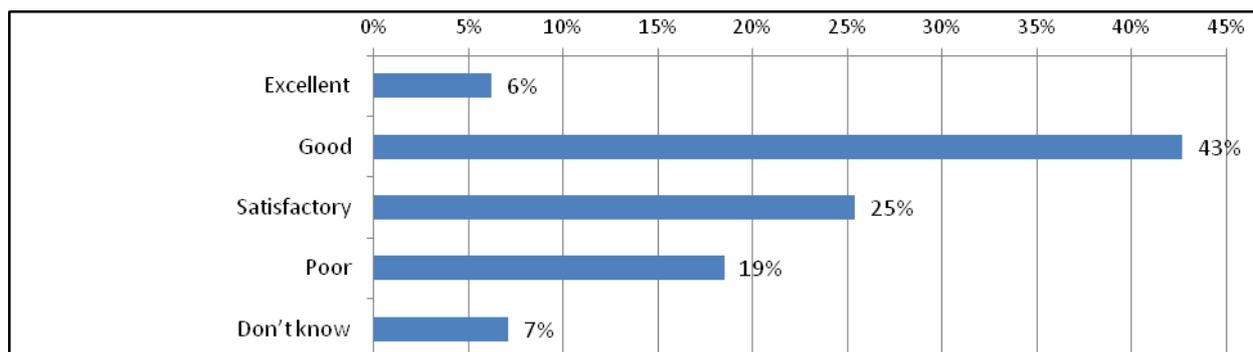


Figure 8-52: Quality of Local Schools (For Those Who Have School Age Children)

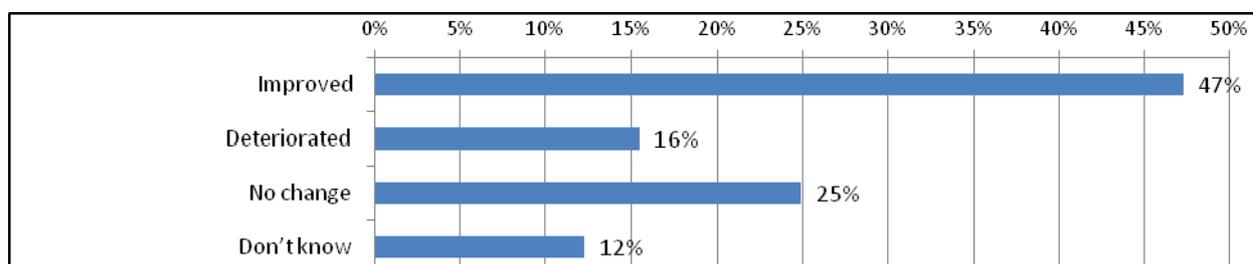


Figure 8-53: Quality of Schools (in the Past Five Years)

Figure 8-54 shows respondents' perceptions of higher education: 68% believe it extremely important that their children obtain a higher education degree, whereas 10% of respondents thought that while it was desirable to obtain a higher educational qualification it was not absolutely necessary.

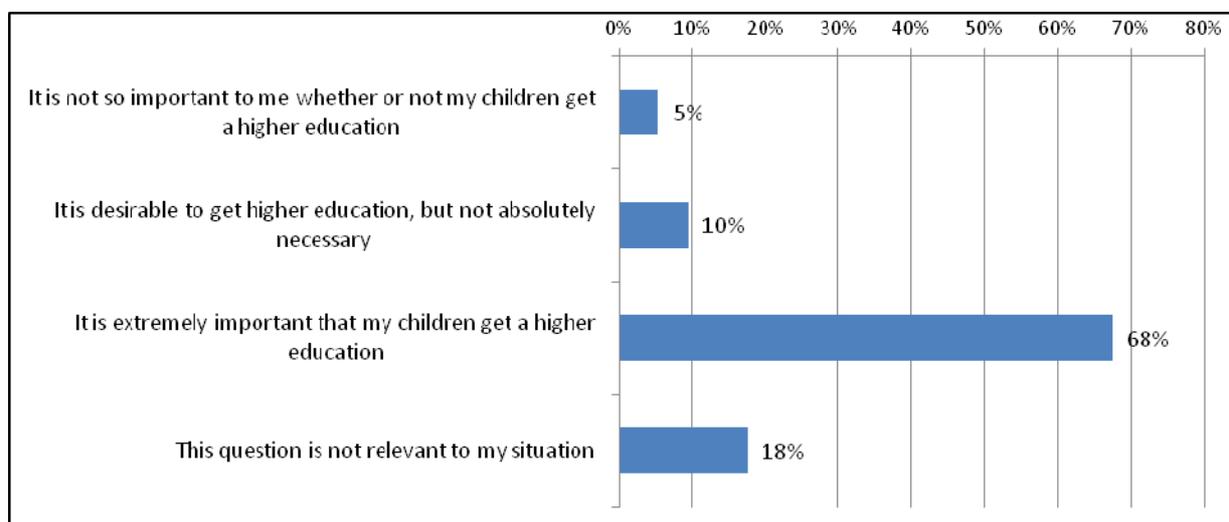


Figure 8-54: Perceptions about Higher Education

8.8.5 Housing

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

- UNDP, 2010: 'Country profiles on the Housing Sector'
<http://www.unece.org/fileadmin/DAM/hlm/documents/Publications/cp.azerbaijan.e.pdf>
- The State Statistical Committee of the Republic of Azerbaijan.

Primary data on housing at a PAC level has been generated from the PAC surveys.

8.8.5.1 National level – overview of housing

The existing housing stock in Azerbaijan can generally be classified according to the period in which it was constructed:

- Housing constructed before the Soviet period (i.e. prior to the 1920s), which is located mainly in the historical parts of the cities. In general, these dwellings are in need of reconstruction and renovation to achieve modern housing standards. Parts of these dwellings are in a very poor physical condition
- Housing estates built before the Second World War (1920–1940), which are mainly situated in rural areas
- Housing stocks constructed after the Second World War. The mass construction of prefabricated housing began in the 1960s. Many new districts were planned and constructed with these houses
- Housing constructed in the 1990s. The rate of public sector financed housing construction declined in this time, with mainly private cottage-type estates being constructed.

The housing sector in Azerbaijan faces significant problems. Housing-related issues are not coordinated by one State institution responsible for national housing policy and relevant activities. There is no single document that sets out a national housing policy. Housing-related issues are regulated by a number of laws and they are unclear and incomplete (UNDP 2010).

Total dwelling stock increased from 97.7 million square metres (m²) in 2002 to 107.9 million m² in 2008, with average floor area per resident of 12.7 million m² in 2008. Total dwelling stocks in both urban and rural areas increased by about 10–11% during 2002–2008 (Table 8-40).

Table 8-40: Total Dwelling Stocks, 2002–2008 (millions, m²)

Dwelling stocks (m ² , millions)	2002	2003	2004	2005	2006	2007	2008
Urban localities	55.4	56.4	57.0	57.8	59.3	60.1	60.7
Average floor area per resident (m ²)	13.5	13.8	13.6	13.8	13.9	13.9	13.9
Rural localities	42.3	42.8	43.4	43.8	44.7	45.3	47.2
Average floor area per resident (m ²)	10.8	10.7	11.1	11.0	11.2	11.2	11.5
Total	97.7	99.2	100.4	101.6	104.0	105.4	107.9

Dwelling stocks (m ² , millions)	2002	2003	2004	2005	2006	2007	2008
Average floor area per resident (m ²)	12.2	12.2	12.4	12.4	12.6	12.6	12.7

Source: The State Committee of the Republic of Azerbaijan on deals of refugees and internally displaced persons

8.8.5.2 PAC level – housing

About 99% of households live in a privately owned house, with 45% of households living in houses with a total living space of 60–100m². Of the remaining households, slightly more occupy larger living areas compared to the number of households occupying areas under 60–100m² (Figure 8-55).

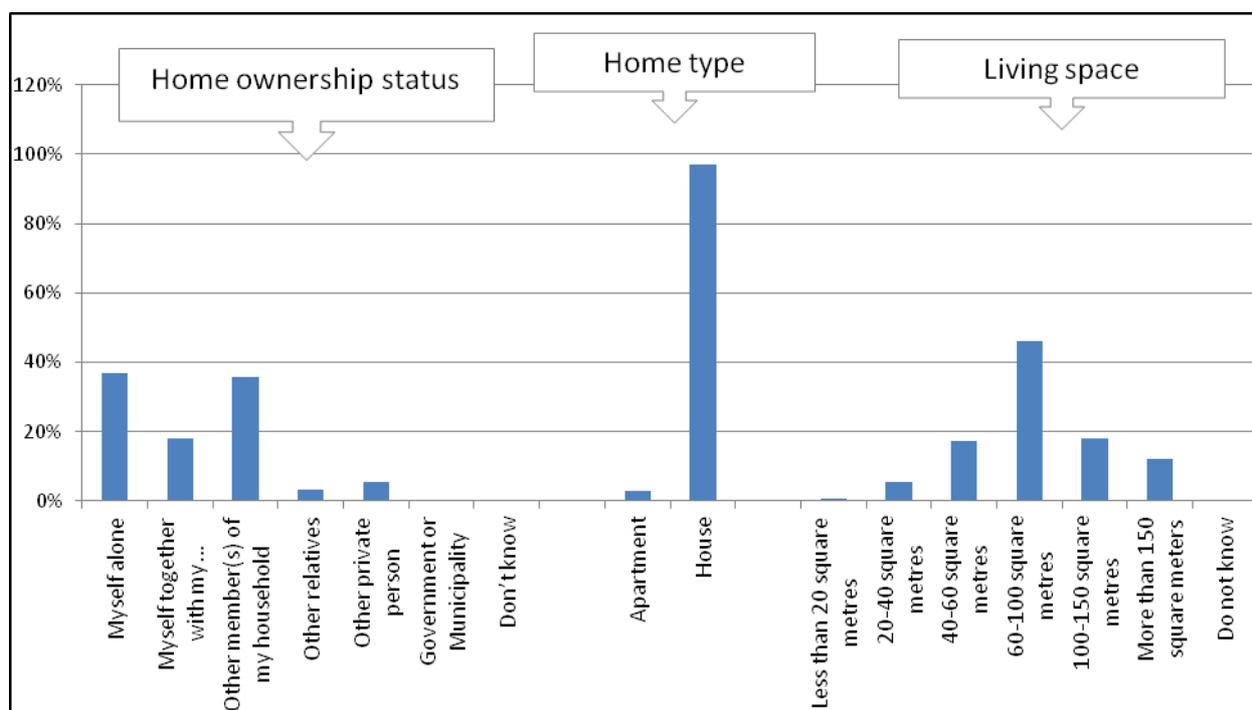


Figure 8-55: Type of Housing and Housing Condition

Figure 8-56 shows house repair period and current repair status. About 26% of respondents state that their houses were repaired less than five years ago; about 22% of houses were repaired between 5 and 10 years ago. About 55% of respondents state that their houses are in need of major repair, with fewer than 10% stating that their houses are in a very good state of repair (Figure 8-56).

Figure 8-57 shows living conditions of households. Half the households assess their living condition as 'satisfactory', and about 20% of households state that their living condition is either poor or good. Less than 1% of households say their living conditions are 'excellent' (Figure 8-57).

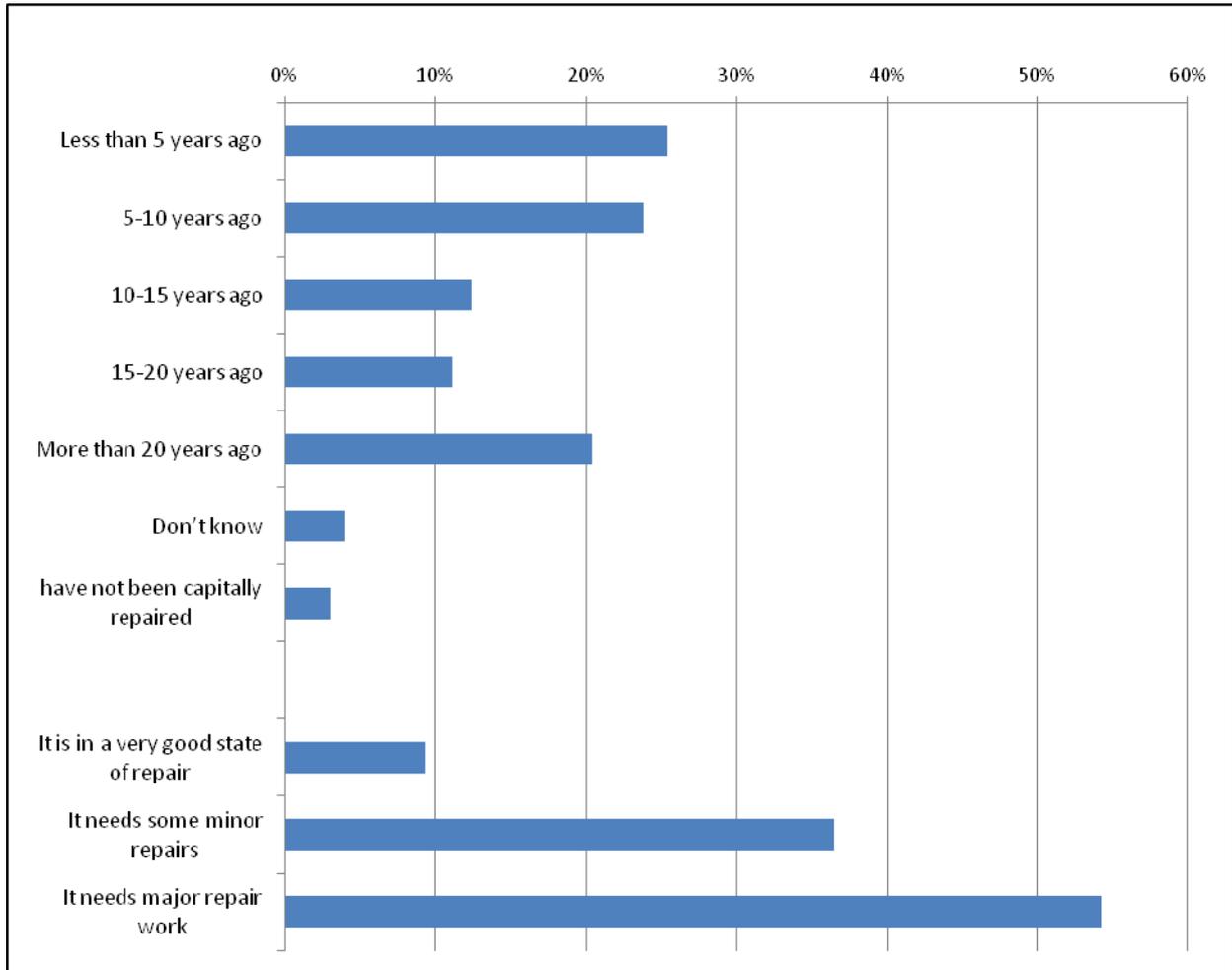


Figure 8-56: House Repair Period and Current Repair Status

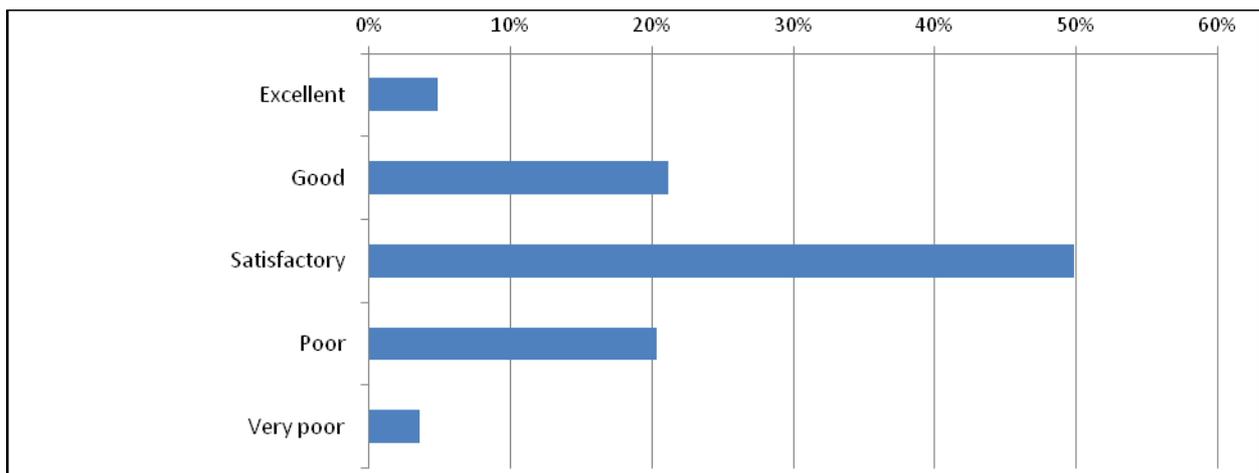


Figure 8-57: Living Conditions of Households

Figure 8-58 shows the main problems related to living condition of households. The main problems relating to living conditions include lack of sewerage (mentioned by 60% of respondents) and poor condition of houses (walls, floors and roof, presence of mice/rats and damp) (Figure 8-58).

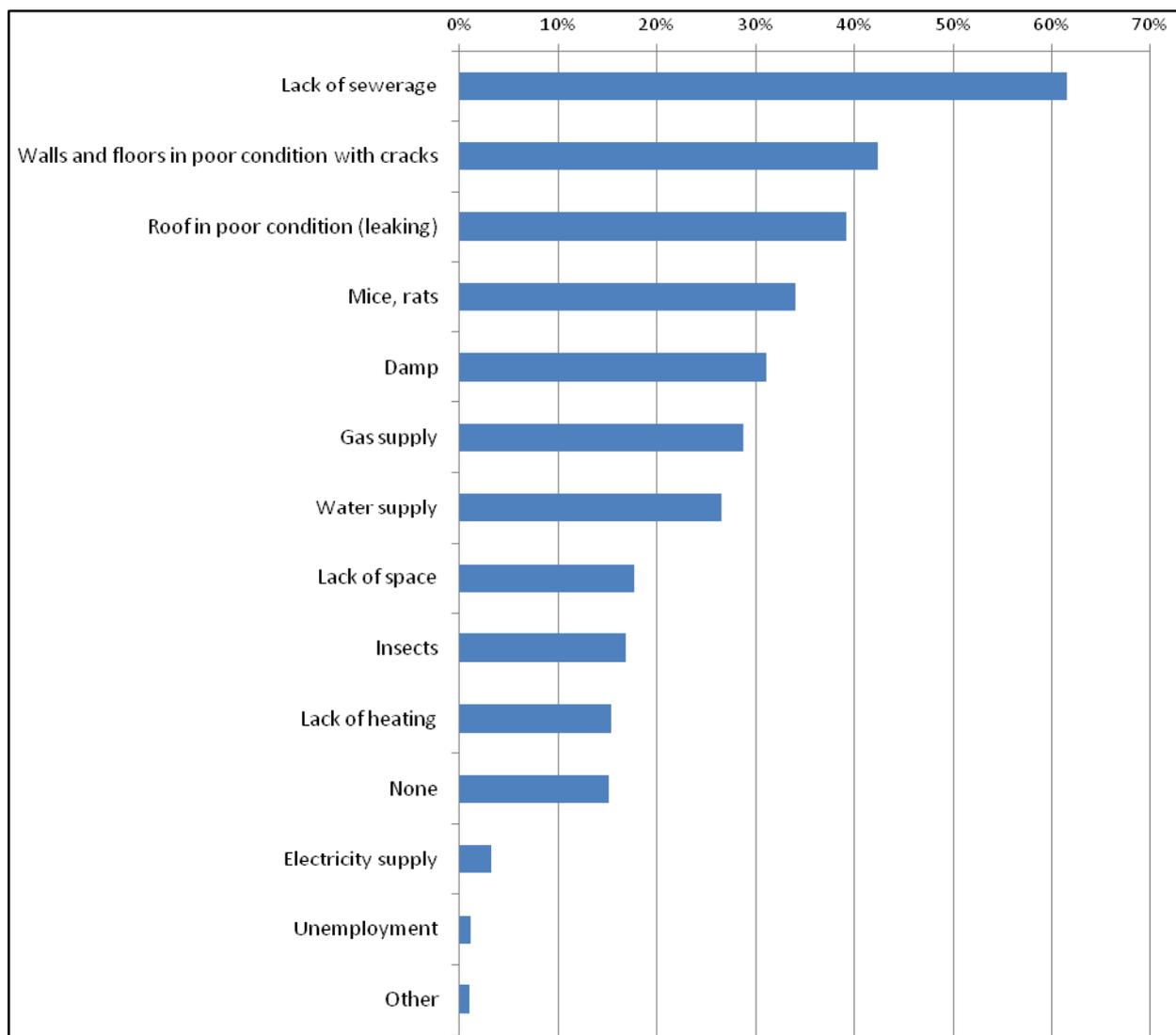


Figure 8-58: Main Problems Related to Households Living Conditions

8.8.6 Other Social Services

8.8.6.1 Historical and cultural sites

A significant number of PACs have areas of general, historical or cultural significance (Figure 8-59). Cultural heritage issues with respect to the Project are discussed in details in Section 7.10 of Chapter 7.

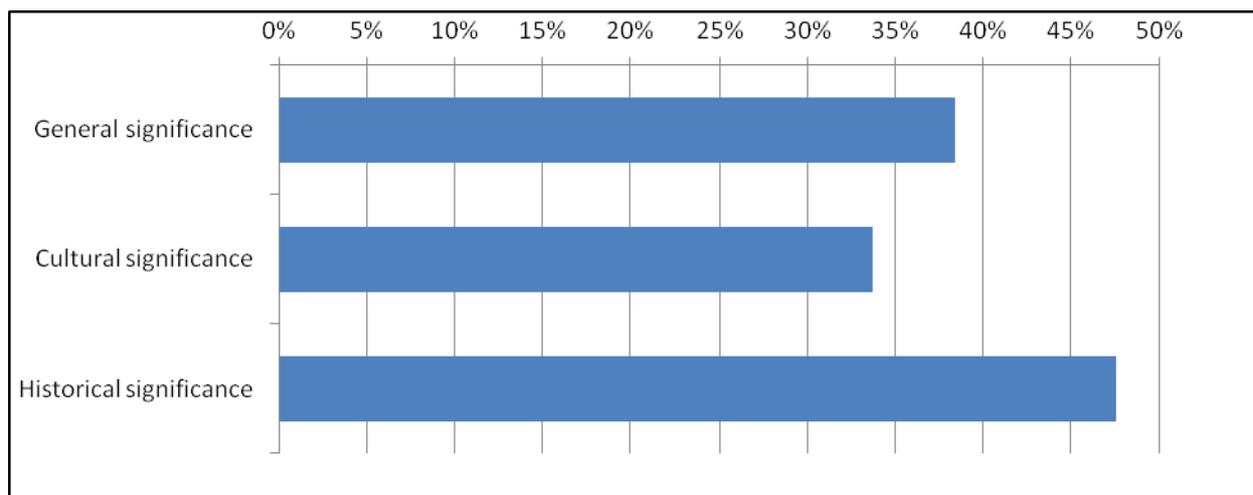


Figure 8-59: Presence of Areas of General, Historical or Cultural Significance

8.8.7 Sensitivities

For the PACs surveyed, the infrastructure and services sensitivities with respect to the potential SCPX Project are:

- Waste disposal facilities are generally in poor condition or unavailable. There has been no significant improvement in the last few years
- Lack of sewerage is the most significant issue with respect to living conditions in the PACs. In many communities, sewerage discharges directly into an open drain or ditch. There has been no significant improvement in the last few years
- Lack of mains potable water. PACs rely mainly on tankered-in water and, in some cases, wells to abstract groundwater for potable use
- Lack of higher education graduates/professionals to meet requirement for skilled/semi-skilled labour. Less than 10% of households have someone with a higher education degree present within the household
- Poor general state of housing and other buildings in the PACs. A significant number of houses reported to be in a poor state of repair.

8.9 Traffic and Transport

8.9.1 Introduction

This section presents a description of the baseline road traffic conditions of key routes that are likely to be used during the proposed SCPX Project construction phase. These key routes are anticipated to include the main roads proposed to be used by construction traffic (primarily the M-3 east–west highway), access roads to the proposed construction camp and pipe storage areas, roads from the proposed construction camp and pipe storage areas to the pipeline right of way (ROW) and other access roads to the ROW. This section is based primarily on data collected during field surveys conducted in February 2012 as well as a review and comparison with previous traffic baseline data from the environmental and social impact assessments (ESIAs) for the Baku–Tbilisi–Ceyhan (BTC) pipeline and South Caucasus Pipeline (SCP) (2002).

The section reviews the existing baseline data sources and describes the field survey methodology used to obtain new baseline data to gain an understanding of the baseline traffic conditions. Subsequent to this, the section provides a general description of the traffic conditions in terms of direction, volume, vehicle make-up and times. The section concludes with a brief summary of the key sensitivities identified.

8.9.2 Methodology

8.9.2.1 Desktop data sources and data gaps

To gain an understanding of existing baseline data, the baseline traffic surveys presented in appendices to the BTC/SCP project ESIA (2002) were reviewed and a gap analysis undertaken to identify any outstanding information that would be needed to determine the traffic baseline, with regard to the SCPX Project footprint. The traffic baseline surveys for the BTC and SCP ESIA were undertaken in 2001, when the road network was generally poor and many roads were unpaved, with limited lighting or safety infrastructure. This is still largely the case for the majority of the minor roads in the country. However, there have been some major road improvement schemes in the last 10 years including the Silk Road Project, which has significantly improved the main M-3 east–west highway from Baku through Azerbaijan and into Georgia, and also the north–south highway, a key road that carries traffic between Russia and Iran through Azerbaijan. The east–west highway parallels the majority of the SCPX pipeline route and will therefore be utilised by most Project traffic. Access roads to the pipeline ROW will typically originate from the highway, and proposed construction camps and pipe storage areas will be located in close proximity for easy access.

Considering the existing BTC/SCP traffic survey data is approximately 10 years old, and the changes that have taken place in vehicle ownership (type and number) as well as improvements in the quality of the road system, it was considered that the existing 2001 data would not be representative of current baseline traffic conditions. An up-to-date traffic baseline survey would therefore be required to adequately assess the impacts from the proposed SCPX Project.

8.9.2.2 SCPX traffic field survey

Introduction

Up-to-date traffic surveys were undertaken to define the current baseline conditions for the SCPX ESIA. Traffic counters were mobilised to ten survey locations between 21 and 29 February 2012 to record traffic flows at locations considered to represent roads likely to be utilised by SCPX construction traffic (see Table 8-41). Surveys were conducted on weekdays at each location, with additional weekend surveys being carried out at three locations (locations 4, 6 and 8) to ascertain whether weekend traffic volumes and patterns differ significantly from weekdays. This was considered a sufficient baseline, as there may be a requirement for construction activities to be carried out over a seven-day working week.

Traffic survey locations

The survey locations chosen by the survey team are detailed in Table 8-41 and were considered the most suitable sites close to the proposed SCPX facilities, which were likely to be used by the majority of construction traffic. The survey locations were selected for the following reasons:

- Location 1 is in close proximity to Sangachal Terminal, on the main north–south highway, and is likely to be used to transport Project personnel from Baku to the proposed construction camps and pipeline storage areas and ROW locations
- Location 2 is in close proximity to the Alternative 1 SCPX construction camp and pipe storage areas at Mugan, and is on the main east–west highway
- Location 3 is in close proximity to the Alternative 1 SCPX construction camp and pipe storage areas at Kurdemir, and is on the main east–west highway
- Locations 4 is in close proximity to the Alternative 1 SCPX construction camp and pipe storage yard at Yevlakh, and is on the main east–west highway
- Locations 5 is in close proximity to the Alternative 1 SCPX construction camp and pipe storage area at Yevlakh and is on an existing SCP/BTC access road that may also be used during SCPX construction

- Location 6 is sited on an existing SCP/BTC access road to the ROW, that may also be used during SCPX construction, and is approximately 3km north-west of Ganja
- Location 7 is in close proximity to the Alternative 1 SCPX construction camp and pipe storage areas at Goranboy and the Zazali Rail Spur site, and is on the main east–west highway
- Location 8 is in close proximity to the Alternative 1 SCPX construction camp and pipe storage yard at Tovuz, and is on the main road south to Tovuz off the east–west highway
- Location 9 is in close proximity to the Alternative 1 SCPX construction camp and pipe storage area at Tovuz, and is on an existing SCP/BTC access road that may also be used during SCPX construction
- Location 10 is in close proximity to the Alternative 1 SCPX pipe storage area at Agstafa, and is on the main road north from Agstafa towards the pipeline ROW.

These traffic survey locations outlined above are considered representative of the roads associated with the additional temporary facilities. As such additional data is not required to inform the traffic and transport baseline.

A map of the survey locations across the whole pipeline route is provided in Figure 8-60. Individual survey locations are provided in Figure 8-61 to Figure 8-67.

Table 8-41: Traffic Survey Locations

Survey Location	Vicinity	Road Type	Easting	Northing	Survey Time
Location 1	Sangachal	Main Road	8879160	4454645	Weekday
Location 2	Mugan	Main Road	8825022	4447293	Weekday
Location 3	Kurdemir	Main Road	8764112	4473378	Weekday
Location 4	Yevlakh	Main Road	8676493	4500746	Weekday/Weekend
Location 5	Yevlakh	Access Road	8681417	4497324	Weekday
Location 6	Ganja	Access Road	8618101	4488483	Weekday
Location 7	Ganja	Main Road	8623773	4506947	Weekday/Weekend
Location 8	Tovuz	Main Road	8550393	4543924	Weekday/Weekend
Location 9	Tovuz	Access Road	8550972	4544264	Weekday
Location 10	Agstafa	Main Road	8537084	4554815	Weekday

The traffic survey was undertaken prior to the identification of the Alternative 2 construction camp and pipe storage areas; access road survey locations were therefore identified based on the Alternative 1 sites. Owing to time constraints it was not possible to undertake traffic surveys based on the Alternative 2 construction camp and pipe storage area locations. However, site reconnaissance visits were made to these sites and information from these is presented.

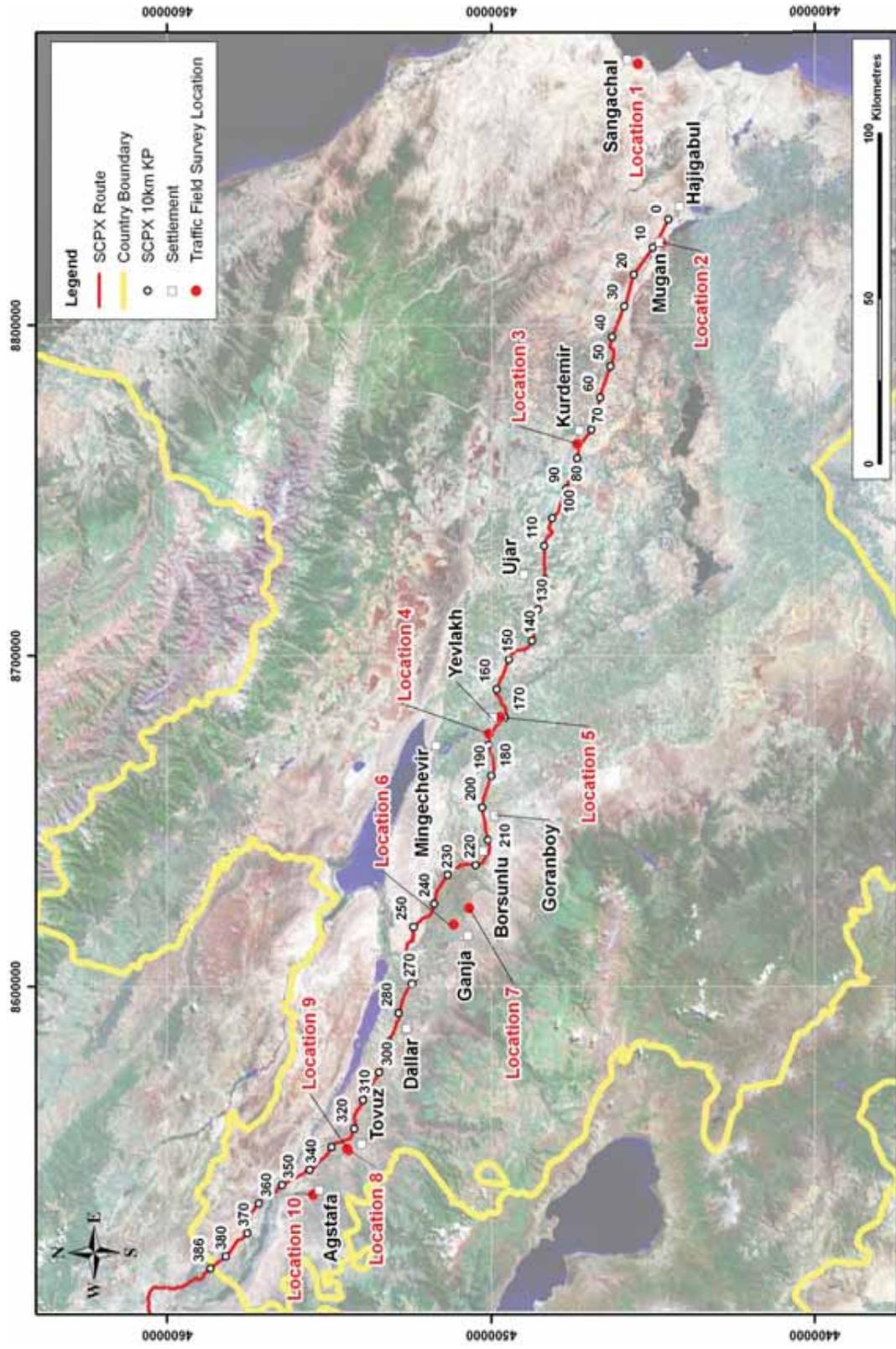


Figure 8-60: Traffic Survey Locations

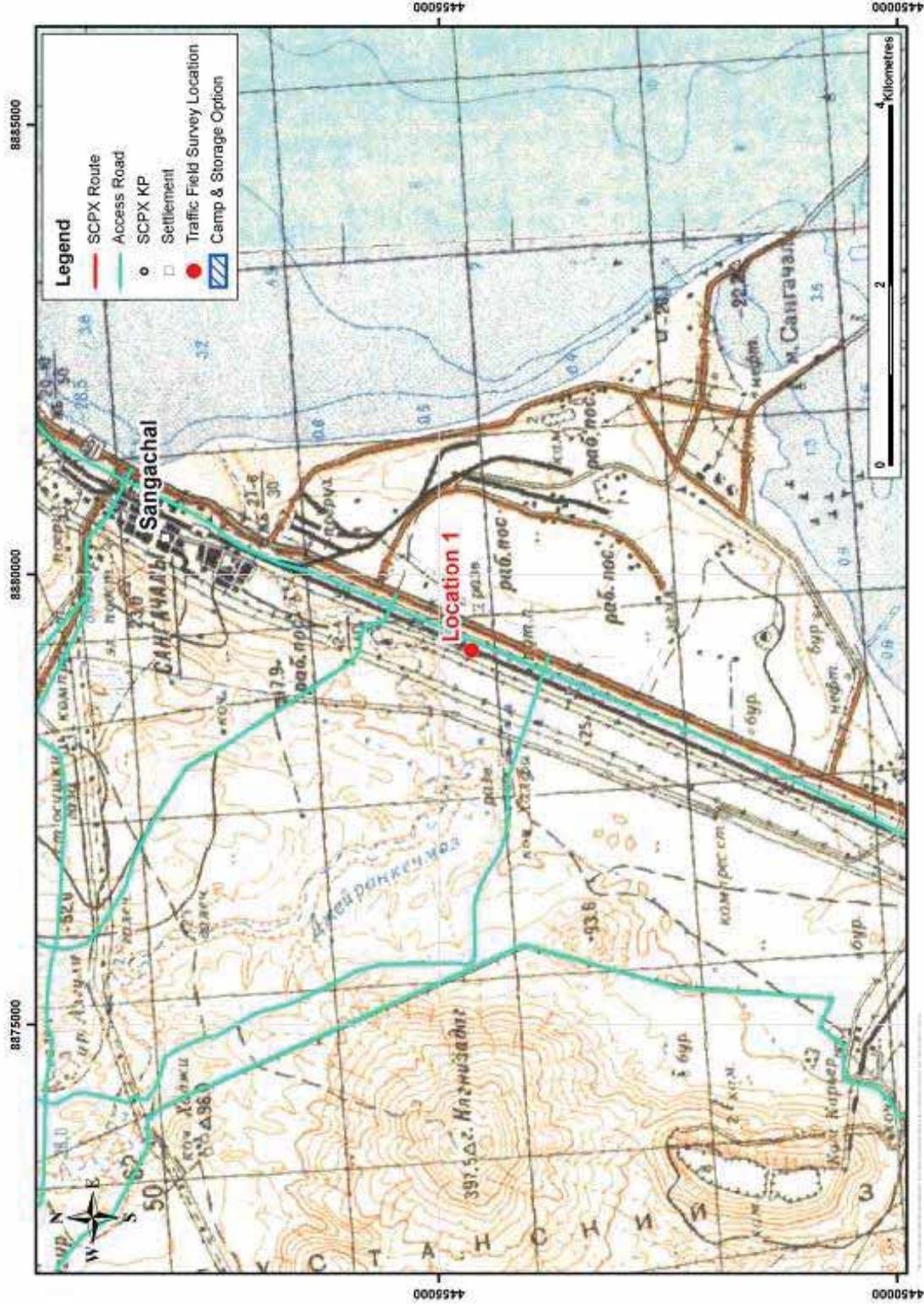


Figure 8-61: Traffic Survey Location 1, Near Sangachal

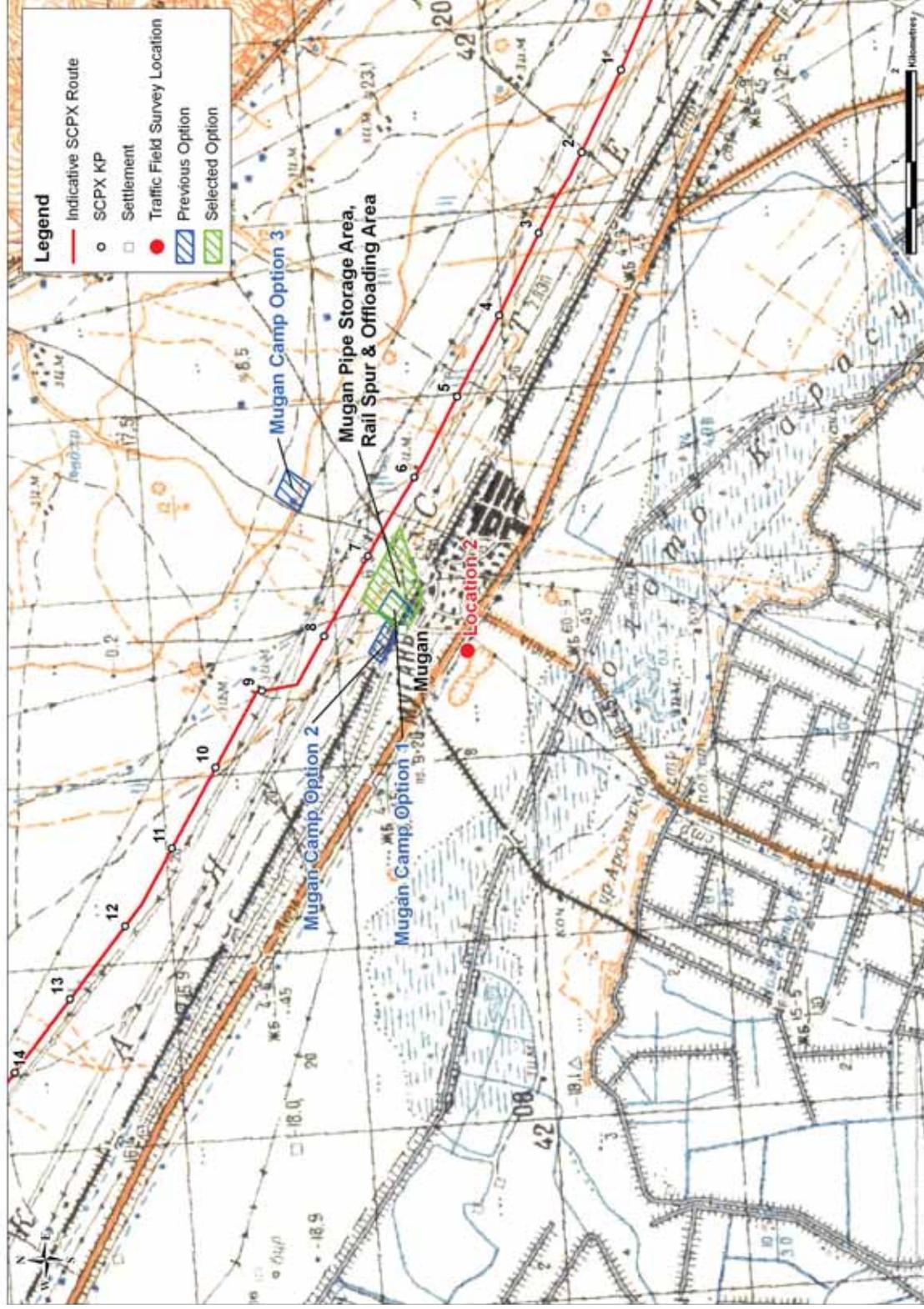


Figure 8-62: Traffic Survey Location 2, Near Mugan

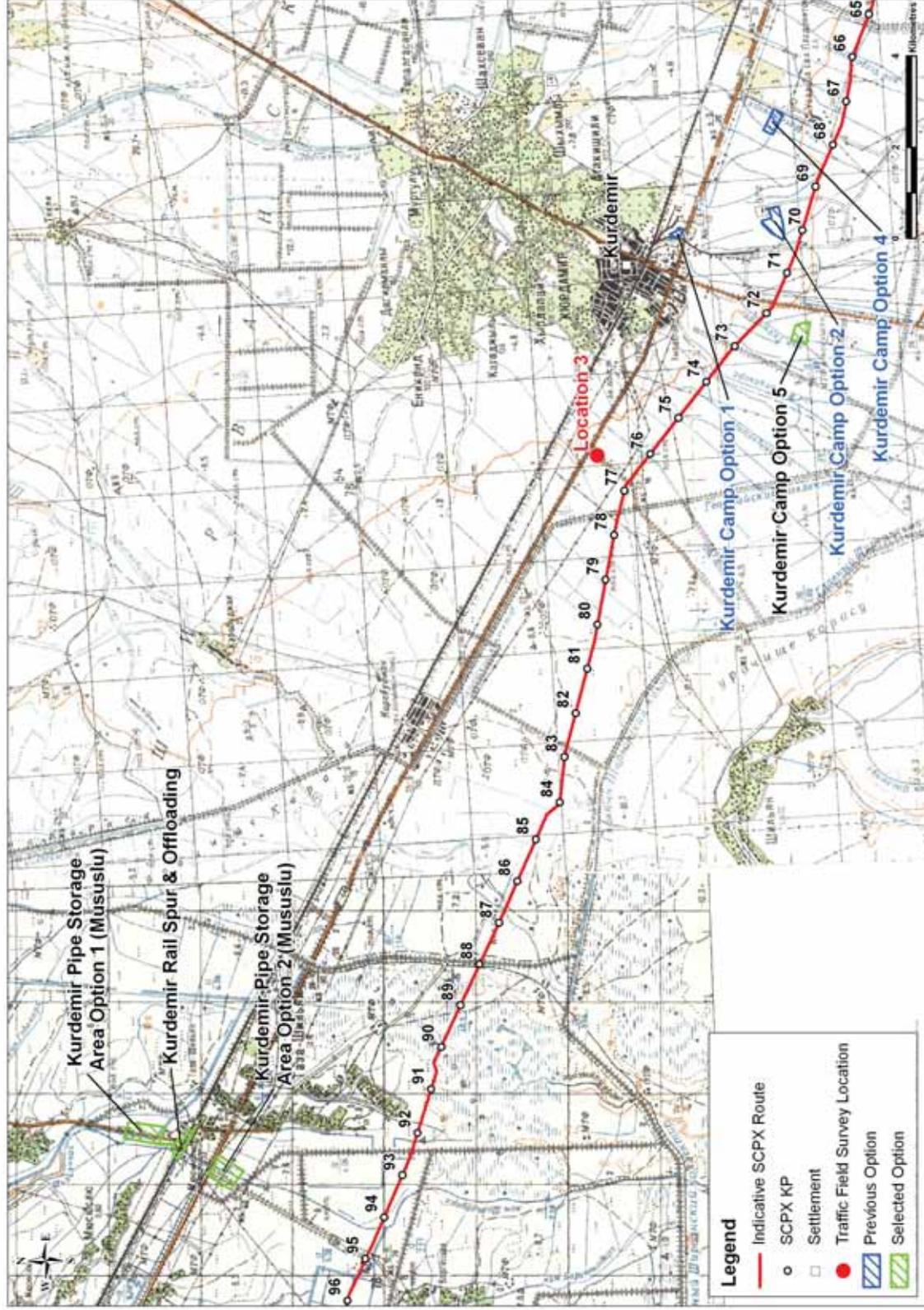


Figure 8-63: Traffic Survey Location 3, Near Kurdemir

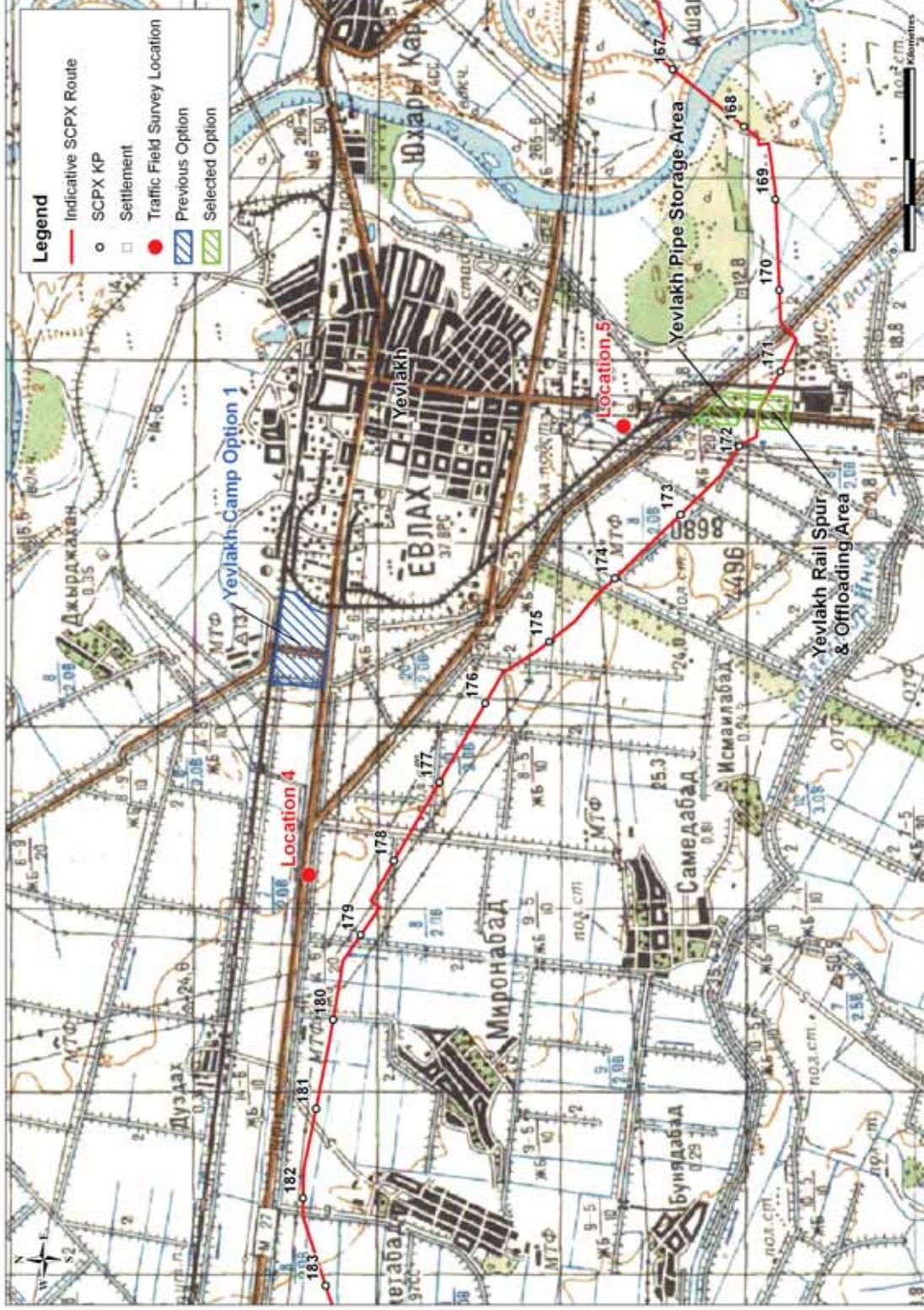


Figure 8-64: Traffic Survey Locations 4 and 5, Near Yevlakh

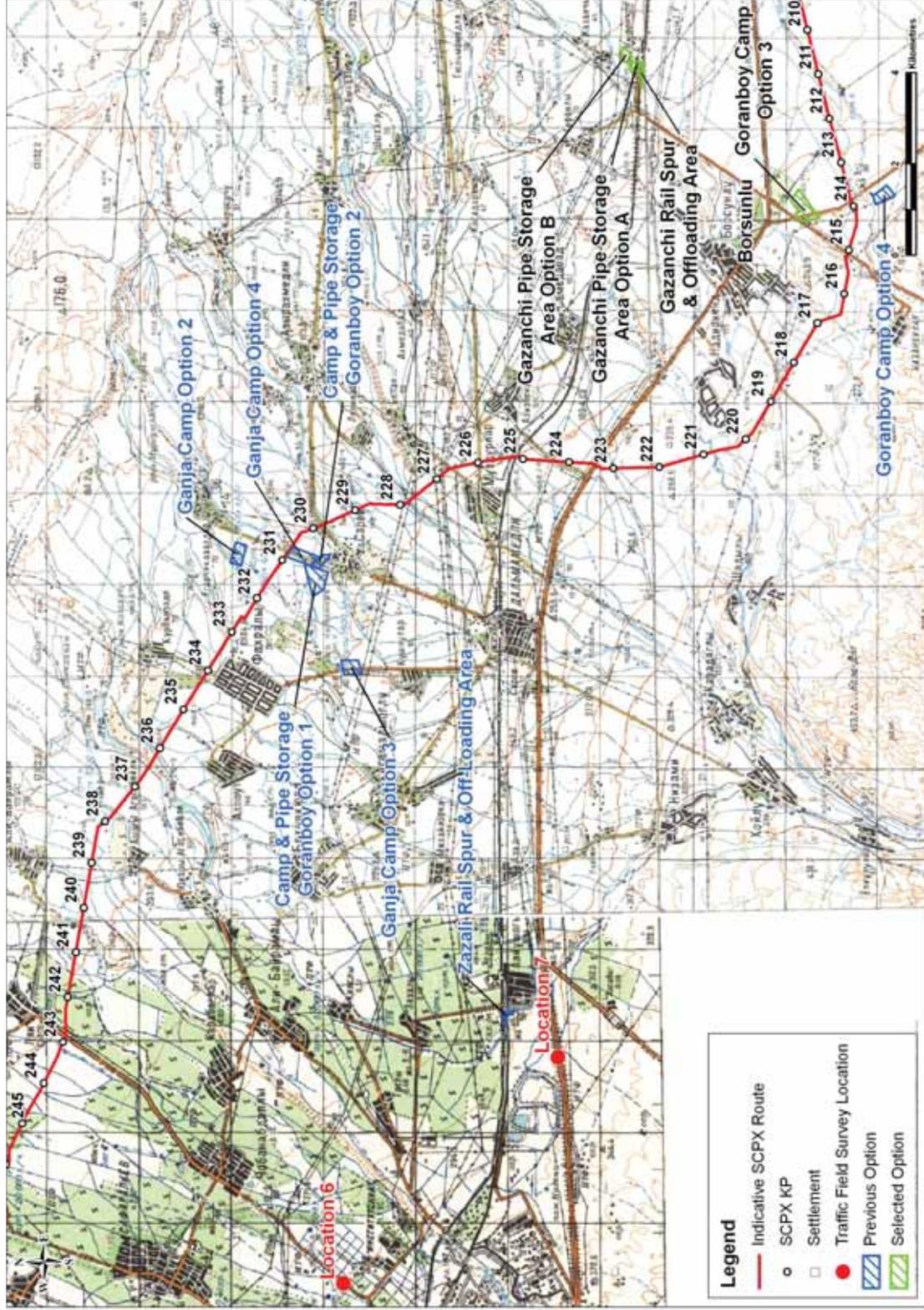


Figure 8-65: Traffic Survey Locations 6 and 7, Near Ganja



Figure 8-66: Traffic Survey Locations 8 and 9, Near Tovuz



Figure 8-67: Traffic Survey Location 10, Near Agstafa

Field survey methods

At least two surveyors were mobilised to each location. Two survey teams operated in tandem and undertook surveys simultaneously at different locations. At all survey locations, the surveys were conducted between 09.00 and 17.00, an 8-hour counting period, generally over the busiest time of the day, when construction traffic is most likely to be using the roads and would be most likely to interact with other road users.

The surveyors carried out manual classified counts (MCC) following general UK guidance (*Guidelines for Traffic Impact Assessment*, published by the Institution of Highways and Transportation (IHT) in 1994 and Department for International Development (DFID) Overseas Road Note 40) to determine the quantity and type of traffic travelling on the roads. The vehicle classification used in the survey was developed from the DFID Overseas Road Note 40, modified to include the types of road users anticipated to be found on roads in Azerbaijan, and is presented in Table 8-42.

The surveyors were positioned at safe observation points that offered a clear view of the road and oncoming traffic. MCC of road users was recorded continuously over the survey period (with staff breaks taken at regular intervals when needed). Details of the road user were recorded on the count form as they passed a survey point. One form and one counter were used to record road users for each direction of the carriageway.

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 45 minutes recorded in that hour was converted to an hourly flow by applying a 60/45 correction factor.

Table 8-42: 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 Project 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 (two axles)	Two-axled vehicles with twin tyres on rear axle
Medium goods vehicles/heavy trucks (three axles)	Larger trucks with three axles
Heavy trucks (four 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.

8.9.2.3 Assessment of importance and sensitivity of receptors for project traffic and transport

An assessment has been made of the importance and sensitivity of receptors that may experience impacts from Project-related traffic. As a result, the importance and sensitivity of receptors has been classified into categories that range from very low to very high.

Information on this process is given in Chapter 1 and the assessment table, defining the categories used, is included in Chapter 3.

8.9.2.4 *Technical difficulties or uncertainties*

The survey team were constrained by the available daylight hours at the time of year the survey was undertaken (February), and the need to observe the SCPX Project HSE requirement of no night-time driving. It would have been useful to have obtained data outside of the time period surveyed, i.e. before 9am and after 5pm, as construction traffic may occur outside of these hours. However, the data obtained suggests that there are not strong peaks in traffic flows and that the roads are free from congestion, so it is not predicted that the additional data that could have been obtained would have affected the conclusions drawn from the data.

8.9.3 *Traffic Survey Results and Baseline Traffic Conditions*

8.9.3.1 *Introduction*

This section describes the baseline traffic conditions as encountered during the field surveys conducted in February 2012. It provides an overview of road conditions as observed during the surveys, and follows by reporting on the traffic flows recorded for each of the ten locations described in 'Traffic survey locations' above.

8.9.3.2 *Baseline road conditions*

As described in Section 8.9.1 of this baseline chapter, there have been considerable efforts to improve the roads and transport infrastructure within Azerbaijan over the past decade. A number of roads have been upgraded and importantly the Silk Road Project now means that the main east–west highway, which runs predominately parallel to the pipeline ROW, is in generally good condition with long sections of dual carriageway.

It was observed during the survey that the majority of main public roads likely to be used by SCPX Project construction traffic are presently in good condition. There are, however, some sections of major roads still undergoing construction or repair, for example the east–west highway to the west of Yevlakh.

Road safety

During the survey the majority of roads were observed to be without dedicated footpaths or pedestrian crossing locations. Consequently, pedestrians were observed to be walking directly on the road itself or, when available, on roadside verges, and to be crossing the roads in locations that could be considered unsafe.

Several locations along the Silk Road, both directly on the Silk Road and on side roads adjoining it, were observed during the survey to be used for trade, the movement of livestock (see Photograph 8-3) and the selling of produce at stalls (see Photograph 8-4). Livestock was often herded directly on the main road, with vehicles having to navigate around the animals. Stalls were generally located immediately adjacent to the road, within 5–10m of moving traffic, with vehicles pulling up on an ad-hoc basis to purchase items.



Photograph 8-3: Sheep Herded onto the Silk Road, Close to Kurdemir



Photograph 8-4: Trading Stall Adjacent to the Silk Road, Close to Tovuz

8.9.3.3 *Baseline traffic flows at survey locations*

Traffic flows in Azerbaijan would be expected to vary from month to month, largely owing to factors such as increased human activity during summer months, festivals and public

holidays and reduced traffic movements during winter and periods of snowfall. The traffic surveys were conducted in late February 2012 when daylight hours were short but starting to get longer, and the weather was relatively mild. Traffic flows recorded during the course of this survey are considered representative of the average annual traffic flows likely to be found on the roads within the region. The results are unlikely to contain any abnormal traffic flows (i.e. there were no extreme weather events or public holidays or festivals during the period of survey).

Traffic data from the survey are presented in Appendix H-1 and H-2 of the ESBR and contain:

- Appendix H-1: Daily one-way traffic flow summary sheets by location
- Appendix H-2: 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 8-43, Figure 8-68 and Table 8-44 below. Traffic flows were lighter closer to the Georgian border, perhaps owing to the distance from Baku and other large cities. Main roads tended to experience only slightly higher traffic flows than the access roads (roads to the pipeline ROW from the main road network) and a higher proportion of heavy vehicles. There were no clear trends between weekend traffic and weekday traffic. Traffic flow throughout the day was largely consistent although there were notable peak times. Out of the 10 locations surveyed (plus 3 of the 10 locations repeated at weekends), five experienced peak hourly flow between 11.00 and 12.00 and another five experienced peak hourly flow between 16.00 and 17.00. Seven locations experienced a low hourly flow between 09.00 and 10.00.

Table 8-43: 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 Sangachal)			
North to Sangachal	619.63	653.00	21.30
South from Sangachal	747.50	929.00	23.55
Location 2 (vicinity of Mugan)			
East to Mugan	331.00	355.00	22.00
West from Mugan	345.00	421.00	22.15
Location 3 (vicinity of Kurdemir)			
East to Kurdemir	251.00	270.00	20.46
West from Kurdemir	278.71	306.00	24.96
Location 4 (vicinity of Yevlakh) – main road			
East to Yevlakh (weekday)	302.13	342.00	20.31
West from Yevlakh (weekday)	275.25	290.00	17.67
East to Yevlakh (weekend)	283.38	247.00	19.54
West from Yevlakh (weekend)	282.00	333.00	13.74
Location 5 (vicinity of Yevlakh) – access road			
North to Yevlakh	276.13	322.00	12.58
South from Yevlakh	278.13	322.00	8.90
Location 6 (vicinity of Ganja) – access road			
South to Ganja (weekday)	328.25	379.00	11.19
North from Ganja (weekday)	329.75	396.00	10.72

Location	Average Flow Per Counting Period (Vehicle/hr)	Peak hourly Flow (Vehicle/hr)	Percentage of Heavy Vehicles
South to Ganja (weekend)	318.25	356.00	9.74
North from Ganja (weekend)	347.88	394.00	12.68
Location 7 (vicinity of Ganja) – main road			
West to Ganja	350.50	420.00	10.63
East from Ganja	382.25	442.00	12.72
Location 8 (vicinity of Tovuz) - main road			
South to Tovuz (weekday)	155.75	200.00	10.67
North from Tovuz (weekday)	138.00	178.00	7.25
South to Tovuz (weekend)	131.38	144.00	10.94
North from Tovuz (weekend)	148.13	180.00	12.15
Location 9 (vicinity of Tovuz) – access road			
South to Calili	10.13	15.00	3.70
North from Calili	11.75	19.00	2.13
Location 10 (vicinity of Agstafa)			
South to Agstafa	104.12	156.00	14.53
North from Agstafa	114.63	149.00	12.54

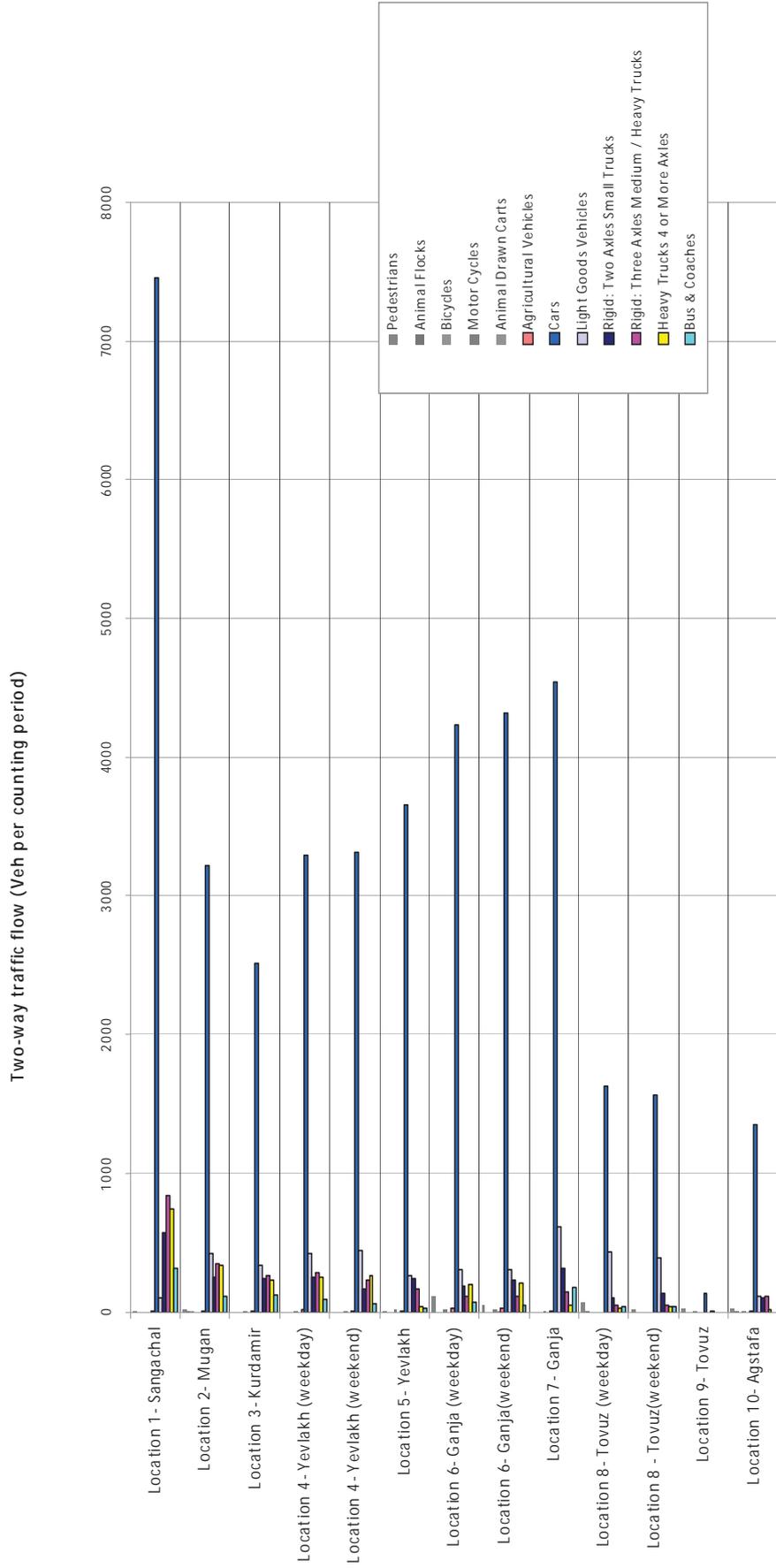


Figure 8-68: Two-Way Traffic Flow

Table 8-44: Hourly Traffic Flows (by Percentage) for Each Location

Survey Location	09.00– 10.00	10.00– 11.00	11.00– 12.00	12.00– 13.00	13.00– 14.00	14.00– 15.00	15.00– 16.00	16.00– 17.00
Location 1 Sangachal	10.49*	11.58	12.22	11.63	12.80	12.98	14.37 ⁺	13.94
Location 2 Mugan	14.19	14.80	16.41 ⁺	13.96	0.00**	13.30*	13.64	13.68
Location 3 Kurdemir	13.77	13.25*	13.60	15.19 ⁺	0.00**	14.76	15.03	14.39
Location 4 Yevlakh (weekday)	9.50*	13.36	12.42	12.71	12.56	12.71	13.14	13.60 ⁺
Location 4 Yevlakh (weekend)	8.56*	12.43	12.65	12.85	11.67	13.73	13.73	14.39 ⁺
Location 5 Yevlakh	12.70	13.53	13.67 ⁺	11.89	11.78	12.14	12.70	11.59*
Location 6 Ganja (weekday)	11.28	12.97	13.98 ⁺	13.96	11.78	12.37	12.58	11.07*
Location 6 Ganja (weekend)	10.98*	12.16	13.94 ⁺	12.70	12.39	12.14	12.65	13.04
Location 7 Ganja	12.27	12.90	14.12 ⁺	12.47	12.42	12.21	11.74*	11.87
Location 8 Tovuz (weekday)	14.89 ⁺	11.49	13.15	13.19	14.13	12.64	10.04*	10.47
Location 8 Tovuz (weekend)	9.19*	12.60	12.87	12.20	13.41	13.41	12.69	13.63 ⁺
Location 9 Tovuz	8.00*	15.43	13.71	11.43	8.57	9.14	16.57	17.14 ⁺
Location 10 Agstafa	9.03*	15.71	12.86	10.51	9.71	12.69	13.60	15.89 ⁺

*Daily low flow

+Daily peak flow

**No data were recorded for these hours owing to an extended break. Percentages have been calculated using a seven-hour recording window.

Traffic conditions at location 1 (vicinity of Sangachal)

The road at the survey location (see Photograph 8-5) is a six-lane dual carriageway in good condition suitable for heavy vehicles.

The location had the largest volume of traffic recorded of all the survey locations, with 10,937 vehicles counted throughout the day. This is more than double any of the other survey locations. This is likely to be because this road not only joins the east–west highway, which carries traffic from Baku to Tbilisi, but also is the main road through Azerbaijan between Dagestan (Russia) in the north to Iran in the south.

The peak hourly flow travelling north to Sangachal was 653 vehicles/hour, which occurred between 13.00 and 14.00. Peak hourly flow travelling south from Sangachal was 929 vehicles/hour, which occurred between 15.00 and 16.00. However, traffic flows were generally balanced throughout the day with the peaks only marginally higher than the hourly average.

Heavy vehicles made up a significant proportion (an average of 22.43%) of road users.

‘Other’ road users comprised an average of 0.19% of the total counts at location 1, of which 0.09% (9 individuals) were pedestrians.



Photograph 8-5: View of Road West from Sangachal

Traffic conditions at location 2 (vicinity of Mugan)

The single-carriage trunk road at the survey location (see Photograph 8-6) was in good condition suitable for heavy vehicles.



Photograph 8-6: View of Road East to Mugan

The location had 4728 vehicles counted throughout the day. The peak hourly flow east to and west from Mugan was 355 and 421 vehicles/hour respectively, which both occurred between 11.00 and 12.00. Traffic flows were generally balanced throughout the day with the peaks only marginally higher than the hourly average.

Heavy vehicles made up a significant proportion (22.14%) of road users.

'Other' road users comprised an average of 0.89% of the total counts at Location 2, of which 0.49% (23 individuals) were pedestrians and 0.17% were cyclists (8 individuals).

Traffic conditions at location 3 (vicinity of Kurdemir)

The road at the survey location (see Photograph 8-7) was a wide single-carriage trunk road in good condition suitable for heavy vehicles.

The location had 3705 vehicles counted throughout the day. No congestion was observed and the traffic appeared to flow smoothly. The peak hourly flow east to Kurdemir was 270 vehicles/hour and occurred early in the day between 09.00 and 10.00. Peak hourly flow west from Kurdemir was 306 vehicles/hour and occurred between 15.00 and 16.00, with more traffic observed during the afternoon than in the morning.

Heavy vehicles made up a significant proportion (22.83%) of road users.

'Other' road users comprised an average of 0.35% of the total counts at location 3, of which 0.08% (3 individuals) were pedestrians.



Photograph 8-7: View of Road East to Kurdemir

Traffic conditions at location 4 (vicinity of Yevlakh)

The road at survey location 4 (see Photograph 8-8) was a four-lane dual carriageway in good condition suitable for heavy vehicles. Low volumes of vehicles meant that there was no congestion on either of the survey days.

On the weekday survey the peak hourly flow east to Yevlakh was 342 vehicles/hour, which occurred between 16.00 and 17.00. The peak hourly flow west from Yevlakh was 290 vehicles/hour, which occurred between 13.00 and 14.00. Heavy vehicles made up a significant proportion (19.05%) of road users.



Photograph 8-8: View of Road East to Yevlakh at Location 4

On the weekend survey the peak hourly flow east to Yevlakh was 347 vehicles/hour, which occurred between 14.00 and 15.00 and between 16.00 and 17.00. The peak hourly flow west from Yevlakh was 333 vehicles/hour, which occurred between 15.00 and 16.00. Heavy vehicles made up 16.65% of road users.

There was little difference between total traffic counted on the route on weekdays and weekend total counts, 4619 and 4523 respectively. The type of traffic recorded was also similar in composition with a slight decrease in heavy vehicles at the weekend and slight increase in light vehicles. Peak low flows for weekday and weekend were both between 09.00 and 10.00 and peak high flows were both between 16.00 and 17.00. Traffic flows were balanced throughout the days with the peaks only marginally higher than the hourly average.

'Other' road users comprised an average of 0.54% of the total counts at location 4 on the weekday and 0.33% on the weekend, although on both occasions. The total pedestrian count was zero.

Traffic conditions at location 5 (vicinity of Yevlakh)

The road at survey location 5 (see Photograph 8-9) was a single carriage in good general condition, suitable for heavy vehicles but with a lack of road markings. There was a total vehicle count of 4433 vehicles over the course of the survey. No congestion was observed on the survey day and traffic was flowing well. Traffic flows were generally balanced throughout the day with the peaks only marginally higher than the hourly average.

The peak hourly flow north to and south from Yevlakh was 322 vehicles/hour at 09.00–10.00 and 11.00–12.00 respectively. Light vehicles made up a large majority of road users (88.52%).

'Other' road users comprised an average of 0.77% of the total counts at location 5, of which 0.2% (9 individuals) were pedestrians.



Photograph 8-9: View of Road North to Yevlakh at Location 5

Traffic conditions at location 6 (vicinity of Ganja)

The road at survey location 6 (see Photograph 8-10) was a single carriageway in good condition, suitable for heavy vehicles but with a lack of road markings. The road is located within the suburbs of Ganja, near a range of shops and therefore experienced higher total pedestrian movement than in other survey locations, with 164 people being counted over two days of survey. However, owing to a large volume of total traffic movements, 'other road users' (which includes pedestrians) only accounted for 2.49% of the traffic flow at this location.

On the weekday survey, the peak hourly flow south to Ganja was 379 vehicles/hour, which occurred between 11.00 and 12.00. The peak hourly flow north from Ganja was 396 vehicles/hour, which occurred between 12.00 and 13.00. Heavy vehicles made up 10.96% of road users.

On the weekend survey the peak hourly flow to Ganja was 356 vehicles/hour, which occurred between 16.00 and 17.00. The peak hourly flow north from Ganja was 394 vehicles/hour, which occurred between 11.00 and 12.00. Heavy vehicles made up 11.21% of road users.

In terms of comparison between weekday and weekend surveys, there was little difference in total traffic counts, 5264 and 5329 respectively. There was, however, a noticeable decrease in pedestrians at the weekend, 54 compared to 110 on the weekday survey. Both weekday and weekend surveys experienced total peak flows between 11.00 and 12.00. Traffic flows were generally balanced throughout the days with the peaks only marginally higher than the hourly average.

'Other' road users comprised an average of 3% of the total counts at location 6 on the weekday and 2% on the weekend, of which 2.09% (110 individuals) and 1.01% (54 individuals), respectively, were pedestrians.



Photograph 8-10: View of Road South from Ganja at Location 6

Traffic conditions at location 7 (vicinity of Ganja)

The road at survey location 7 (see Photograph 8-11) was a four-lane dual carriageway in good condition suitable for heavy vehicles. The total traffic count was 5862 vehicles over the course of the day. There was no congestion encountered throughout the day and the road appeared to be operating below capacity.



Photograph 8-11: View of Road East from Ganja at Location 7

The peak hourly flow west to Ganja was 420 vehicles/hour, which occurred between 10.00 and 11.00. The peak hourly flow east from Ganja was 442 vehicles/hour, which occurred between 13.00 and 14.00. Light vehicles made up the majority of vehicles recorded throughout the day (88.02%).

'Other' road users comprised an average of 0.02% of the total counts at location 7, of which 0.2% (1 individual) were pedestrians.

Traffic conditions at location 8 (vicinity of Tovuz)

The road leading south to Tovuz from the new roundabout junction at survey location 8 (see Photograph 8-12) was in good condition suitable for heavy vehicles.

The total traffic count for the weekday survey was 2350 vehicles over the course of the day. The peak hourly flow south to Tovuz was 200 vehicles/hour between 09.00 and 10.00 and 178 vehicles/hour north from Tovuz between 12.00 and 13.00. The category 'other road users', consisting mainly of pedestrians, made up 2.81% of the total road users. The total traffic count for the weekend survey was 2230 vehicles over the course of the day. The peak hourly flow south to Tovuz was 144 vehicles/hour between 13.00 and 14.00 and north from Tovuz 180 vehicles/hour between 17.00 and 18.00.



Photograph 8-12: View of Road South to Tovuz

The comparison between weekday and weekend surveys shows similarities between total counts. There was, however a significant difference in pedestrians, 66 were counted on the weekday survey, compared to 16 on the weekend survey. The weekend and weekday surveys had very different peak and low flows, with the weekday having peak flows in the morning and low flows in the afternoon and the weekend showing the reverse.

'Other' road users comprised an average of 3.20% of the total counts at location 8 on the weekday and 0.98% on the weekend, of which 2.81% (66 individuals) and 0.89% (20 individuals), respectively, were pedestrians.

Traffic conditions at location 9 (vicinity of Tovuz)

Location 9 (see Photograph 8-13) is located off the new Tovuz roundabout junction on the east-west highway. The road is in bad condition. The total traffic count for the day was 175, significantly lower than all survey locations and the percentage of this accounted for by heavy vehicles was very low.

The peak hourly flow south to Calili was 15 vehicles/hour, which occurred between 10.00 and 11.00 and between 15.00 and 16.00. The peak hourly flow north from Calili was 19 vehicles/hour between 16.00 and 17.00. Despite this location showing a high 'other road users' count (mainly pedestrians) in terms of percentage of total traffic flow (16.57%), only 24 individuals were counted across the survey window. The high pedestrian count here when displayed as a percentage is misleading owing to the low total traffic flow.

'Other' road users comprised an average of 16.75% of the total count at location 9, of which 13.71% (24 individuals) were pedestrians.



Photograph 8-13: View of Traffic South to Calili

Traffic conditions at location 10 (vicinity of Agstafa)

Sections of the road north from Agstafa were under various stages of reconstruction at the time of the survey. The overall road condition was observed to be poor. At survey location 10 (see Photograph 8-14) the road is narrow, on an embankment, and close to a bend as the road goes over an existing railway track.

The total traffic count for the day was 1750. The peak hourly flow south to Agstafa was 156 vehicles/hour between 10.00 and 11.00 and peak hourly flow north from Agstafa was 149 vehicles/hour between 16.00 and 17.00. Traffic generally fluctuated throughout the day with the peak hours approximately 50% higher than the average hourly flows.

'Other' road users comprised an average of 2.47% of the total count at location 10, of which 1.43% (25 individuals) were pedestrians.



Photograph 8-14: View of Traffic South to Agstafa

8.9.3.4 Road and traffic observations of access to the Alternative 2 construction camp areas and selected pipe storage, rail spur and off-loading areas

Mugan Pipe Storage Area, Rail Spur and Offloading Area

The access road to the site is approximately 800m long. It comprises a non asphalt road less than 10m wide, in good condition, which passes through the town of Mugan from the highway in the south. There are houses and shops along the road and a number of side roads lead off it into the town. The road passes across the railway line over an uncontrolled crossing before reaching the site. The road will be used by construction traffic and site staff accessing the site but not by heavy vehicles carrying pipe as there is direct access to the pipeline ROW via an existing track from the sites.

Kurdemir Camp Option 4*

The proposed site is 1km south of the main east–west highway and is accessed from a road constructed by BP to access a pump station no. 1 on the BTC pipeline. The road is in good condition and will not require any significant upgrade or repair. Existing traffic flows are likely to be light as the road only serves two small settlements as well as the pump station.

Kurdemir Camp Option 5

This proposed site is approximately 1km south of the main east-west highway and is accessed by an existing asphalt road that is approximately 8m wide. The road is in good condition and will not require any significant upgrade or repair. From the road to the site, a new 250m long access track will need to be constructed.

Kurdemir Pipe Storage Area Option 1 (Mususlu), Kurdemir Rail Spur and Offloading

The access road required to transport pipe from the pipe storage area south to the east-west highway will require upgrade in the area of an old disused and derelict railway bridge. The road that bypasses the bridge has a sharp bend, is single track only and can become very wet.. The access road and the rail spur and offloading area associated with the pipe storage area is used by children walking to and from school.

Kurdemir Pipe Storage Area Option 2 (Mususlu)

The transport of pipe from the rail spur area to the pipe storage area would be via the road that bypasses the old (dangerous) railway bridge so there will be the same requirement for upgrade as described above for Kurdemir Pipe Storage Area Option 1 (Mususlu).

The pipe storage area site itself is accessed off a short length of road that leads south from the east-west highway and which is in good condition. If the southern area of the pipe storage area is used for pipe storage access would be via an existing access track over an internal drainage ditch.

Ujar Camp Option 5

The proposed site is 2km south of the main east-west highway. The road is in good condition and will not require any significant upgrade or repair. The road is busy with traffic at some times of the day and passes a number of small shops and vendors.

Yevlakh Pipe Storage Area and Yevlakh Rail Spur and Offloading Area

The site is accessed from the main east-west highway southwards via the R28 road to Barda, passing over the rail spur via a bridge and then via a small unpaved road that passes close to two houses and an old military camp that is also occupied. There is direct access from the sites to the pipeline ROW which will reduce but not completely eliminate the need to transport pipe by road to the ROW.

Gazanchi Pipe Storage Area Option A, Gazanchi Rail Spur and Offloading Area and Gazanchi Pipe Storage Area Option B

Access to all of the Gazanchi sites is off the main east-west highway along the local road to Gazanchi village. Traffic on this road will need to be stopped temporarily in order to enable construction vehicles to access the sites. However, pipe will be transported direct from the pipe storage area(s) to the pipeline ROW, avoiding the need for the majority of the traffic associated with Project use of the site to use the public road.

Goranboy Camp Option 3

The proposed site is 1km south of the main east-west highway and is accessed from the Goranboy ring road. The road is in good condition and will not require any significant upgrade or repair. Access onto the site (from the asphalt road) requires construction of a new 50m long access road.

Dallar Pipe Storage Area and Dallar Rail Spur and Offloading Area

Access is off existing wide asphalt roads that are in good condition and close to the east-west highway. Pipe can be transported overland from the rail spur to the pipe storage area, avoiding the need to use the public road. The access road to both sites passes houses.

Samukh Camp Option 3

The full access route to this proposed site has yet to be confirmed but may be via Ganja or Zazali on asphalt roads passing through these communities. Existing traffic flows and road conditions have not been assessed but flows may be high given the size of these communities. The access road from the outskirts of Ganja to the site is wide and suitable for construction traffic without significant upgrade or repair.

Dallar Pipe Storage Area Option 1B (Bayramli)

Access is via a good asphalt road a short distance from the main Tovuz to Ganja highway. The same road will also be used to transport pipe from the pipe storage area north to the pipeline ROW. Apart from the new farm buildings adjacent to the proposed site, there are no houses or other sensitive receptors along the road.

Agstafa Camp Option 3

The proposed site is accessed off a 4km-long concrete road off the main east-west highway. The road is 4m wide so passing spaces may be needed. The road is used by farmers and visitors to a satellite tracking station and other buildings along the road.

Poylu Pipe Storage Area

The pipe storage area is accessed by a private track from the rail spur and off-loading area which passes underneath the railway line. There is direct access from the pipe storage area onto the pipeline ROW.

Poylu Rail Spur and Offloading Area

The site is connected to the main east-west highway by the R24 road to Poylu. The road has recently been upgraded, including asphaltting, and is in good condition. The access to the site from this road passes through a small concrete underpass under the rail line. There are a number of houses in Poylu along the R24 road in the vicinity of the site. The R24 is used by heavy traffic generated by the gypsum storage operation at the rail spur site.

Saloghlu Rail Spur and Offloading Area and Saloghlu Camp and Pipe Storage Area

These sites are connected to the main east-west highway by an unpaved road (the R24) that passes over the bridge at the Kura River. This road is in fairly good condition having recently been widened and graded. However, the bridge over the Kura is single track which may result in congestion at this point.

Access to the camp and pipe storage areas will be direct from the R24. Access to the rail spur and offloading area will be via an existing narrow access track that is used by other users. This may need to be widened or an alternative access designated for other users. There are only a few houses along the R24 in the area of the rail spur site. Pipe will be transported east along the R24 to the pipe storage area avoiding Poylu.

8.9.4 Sensitivities

Sensitivities relating to the SCPX Project traffic baseline are summarised below:

- With the exception of survey locations 9 and 10 the main roads that are likely to carry the bulk of construction traffic are in good condition and suitable for heavy vehicles without repair or upgrading. The poorer condition of the roads at Locations 9 and 10 mean they will be more sensitive to increases in traffic flow, particularly increases in heavy goods vehicles, which will worsen the condition
- At all locations, apart from location 4, pedestrians comprise a low percentage of the total count, with the recorded numbers generally indicating an increase the further west that is travelled. Pedestrians were often observed walking directly on the road, which increases their vulnerability to accidents
- 'Trading' locations were observed, both directly on the Silk Road and on side roads adjoining it, where roadside stalls and livestock herding were common place. In such areas, there is a higher risk of accidents.

8.10 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:

- Sudden changes caused by in-migration to communities and associated religious and ethnic tensions from both in-migration and presence of foreign workers in camps
- The vulnerable groups are more at risk of impacts from the Project compared to the general public/PACs mainly owing to poorer housing conditions, poorer health care situations and a reliance on pensions as their only source of income

- The incidence of multi-drug resistant tuberculosis in Azerbaijan is among the highest in the WHO European Region
- New and re-emerging infectious diseases; both communicable and non-communicable diseases are significant in Azerbaijan
- Vector related diseases (malaria, leishmaniasis, plague, tularaemia) are endemic in Azerbaijan
- Many PACs have inadequate water supplies, wastewater treatment and waste disposal and are sensitive to changes in the quality of groundwater and surface water
- In the PACs surveyed, infections of the ear, throat and nose (including influenza and colds) were commonly reported, suggesting an underlying baseline burden of respiratory infection
- Within most of the PACs surveyed, medicines were not affordable for a significant portion of the vulnerable groups
- There is a sensitivity where Project temporary facilities will be located on land that is used for other activities, potentially resulting in changes to livelihood
- Disruption to farming in the construction corridor, is particularly sensitive in areas to the west of the route where intensive farming of high value crops is widespread
- The potential relocation of house and farm structures due to Project activities would affect a number of individuals
- Livelihoods and poverty levels will be sensitive to changes to access to nearby grazing pasture
- Many 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
- Employment opportunities created by the Project and any Project activities that affect livelihood
- Sensitivity to retrenchment and consequent loss of income following any temporary employment
- 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
- Potential increase in accidents to traders and pedestrians due to increases in traffic flow.