

PROJECT IMPACTS AND MITIGATION MEASURES IN AZERBAIJAN

6	Azerbaijan: Project Impacts and Mitigation Measures.....	6-4
6.1	General.....	6-4
6.2	Sources of Information.....	6-4
6.3	Summary of Project Affected People	6-5
6.4	Summary of Project Land Acquisition	6-5
6.5	Permanent Loss of Land For Above Ground Installations	6-7
6.5.1	Nature of Impact.....	6-7
6.5.2	Affected People	6-8
6.5.3	Basis for Compensation	6-8
6.5.4	Mitigation Measures.....	6-9
6.6	Temporary Use During Construction.....	6-9
6.6.1	Nature of Impact.....	6-9
6.6.2	Summary of Impacts	6-11
6.6.3	Mitigation Measures.....	6-11
6.7	Restrictions of Use Over The Pipeline Protection Zone	6-12
6.7.1	Affected Land Uses.....	6-12
6.7.2	Summary of Impacts in the Pipeline Protection Zone	6-12
6.7.3	Mitigation Measures.....	6-12
6.8	Damage Caused by Access Over Land During Construction.....	6-13
6.8.1	Extent.....	6-13
6.8.2	Summary of Impacts	6-13
6.8.3	Mitigation Measures.....	6-13
6.9	Impacts on Grazing Activities and Pasture	6-14
6.9.1	Extent of Impact	6-14
6.9.2	Summary of Impacts	6-14
6.9.3	Mitigation.....	6-15
6.10	Impacts on Irrigation Systems	6-16
6.10.1	Nature of Impacts.....	6-16
6.10.2	Summary of Impacts	6-16
6.10.3	Mitigation Measures.....	6-17
6.11	Loss of Trees / Perennial Crops	6-18
6.11.1	Extent of Losses.....	6-18
6.11.2	Summary of Impacts	6-18
6.11.3	Mitigation Measures.....	6-19
6.12	Loss of Annual / Seasonal Crops	6-19
6.12.1	Extent of Losses.....	6-19
6.12.2	Summary of Impacts	6-19
6.12.3	Mitigation Measures.....	6-21
6.13	Loss of Fixed Assets	6-23
6.13.1	Extent of losses.....	6-23
6.13.2	Summary of Impacts	6-23
6.13.3	Mitigation Measures.....	6-23
6.14	Impacts on Forest.....	6-24
6.14.1	Extent of Losses.....	6-24

6.14.2	Summary of Impacts	6-24
6.14.3	Mitigation Measures.....	6-24
6.15	Impacts on Enterprises (including loss of productivity, downtime)	6-25
6.15.1	Types of Affected Enterprise	6-25
6.15.2	State Livestock Enterprises.....	6-25
6.15.3	Beekeeping.....	6-26
6.15.4	Gravel Extraction Enterprises.....	6-26
6.15.5	Industrial Enterprises.....	6-26
6.16	Loss or Damage to Community Resources.....	6-27
6.17	Loss or Damage to Services And Infrastructure	6-27
6.17.1	Nature of Impacts.....	6-27
6.17.2	Mitigation Measures.....	6-27
6.18	Loss of Cultural Property (local shrines, graves).....	6-28
6.19	Severance Impacts.....	6-28
6.19.1	Nature of Impacts.....	6-28
6.19.2	Summary of Impacts	6-29
6.19.3	Mitigation Measures.....	6-29
6.20	Livelihood & Income Restoration Measures	6-30
6.20.1	Community Investment Program.....	6-30
6.20.2	Local Recruitment of Construction Workforce in Azerbaijan	6-30
6.20.3	Local Procurement of Goods and Services.....	6-31
6.20.4	Enterprise Centre	6-31
6.21	Impacts on Vulnerable Groups	6-31
6.22	Summary of Entitlements in Azerbaijan.....	6-32

LIST OF TABLES

Table 6.1	Summary of Land Acquisition Impacts	6-4
Table 6.2	Summary of Project Affected Population in Azerbaijan (58-metre corridor)	6-6
Table 6.3	Summary of Project Land Acquisition (Hectares).....	6-6
Table 6.4	Land Uses Affected by Permanent Land Acquisition	6-7
Table 6.5	Summary of Land to be Permanently Acquired.....	6-8
Table 6.6	Cadastral Rates for Permanent Acquisition of Private Arable Land as Determined by District Valuation Commissions for Each District.....	6-8
Table 6.7	Land Uses Affected by Temporary Use During Construction in Azerbaijan.....	6-10
Table 6.8	Project Impacts on Tree Crops, Orchards and Vineyards – 44m-corridor (Detailed Inventory Underway).....	6-18
Table 6.9	Summary of Impacts on Principal Annual Crops (existing) in Azerbaijan – 44 metre corridor (Ha.).....	6-22
Table 6.10	Summary of Project Affected Forest Areas.....	6-24
Table 6.11	Assistance to Vulnerable Groups in Azerbaijan	6-32
Table 6.12	Entitlements for Permanent Acquisition of Private Land for Above Ground Installations & Permanent Access Roads (under Land Purchase Agreement with Private Owner) – Page 1 of 3.....	6-33
Table 6.13	Entitlements for Temporary Use of Land in the 44-metre Corridor, Pipe Dumps and Construction Camp sites – Page 1 of 3.....	6-37
Table 6.14	Entitlements for Right of Access (8-metre strip over the Pipeline) and Restriction of Use (58-metre corridor) - Page 1 of 1.....	6-41

LIST OF FIGURES

Figure 6.1	Level of impact of permanent land acquisition.....	6-7
Figure 6.2	Impact of Temporary Use of Land on Private Land Owners.....	6-10

6 AZERBAIJAN: PROJECT IMPACTS AND MITIGATION MEASURES

6.1 GENERAL

Through careful pipeline routing and facilities siting, the BTC Project will not require any physical relocation of people or their dwellings. The project will, however, entail impacts on other state, municipal, and privately owned assets and productive land. Types of resettlement impact of the project on affected land owners and users are summarised in the following table:

Table 6.1 Summary of Land Acquisition Impacts

Type of Land Use	Types of Impact
Permanent acquisition of land for above ground installations and permanent access roads	<ul style="list-style-type: none"> ▪ Permanent loss of arable or grazing land ▪ Loss of structures and attachments ▪ Loss of trees, vines, and perennial crops ▪ Loss of in-ground annual crops at time of acquisition
Temporary use of land in the 44 metre pipeline construction corridor (2002 – 2004 inclusive) and for pipe dumps and construction camps	<ul style="list-style-type: none"> ▪ Temporary loss of arable land and related loss of income ▪ Temporary loss of use of grazing and pasture land ▪ Loss of trees, vines, and perennial crops (and related income) ▪ Loss of annual and seasonal crops (and related income) ▪ Impacts on forests ▪ Loss of land attachments and installations ▪ Possible temporary disruption to irrigation supply ▪ Damage or temporary restrictions on access to communal property and resources ▪ Damage or temporary disruption to services and infrastructure ▪ Impacts on enterprises ▪ Impacts on cultural property ▪ Loss of livelihood ▪ Severance impacts
'Restrictions of Use' to be applied in the 58 metre pipeline protection zone	<ul style="list-style-type: none"> ▪ Alienation from orchard or vineyard use of 8-metre strips over the pipelines. ▪ Reduced potential use in 58-metre corridor (no structures, no deep ploughing, no irrigation channels deeper than 30 cm.)

Chapter 6 describes each of these impacts and summarises the mitigation measures that the project will employ to offset their effects on project affected people. Specific entitlements for project affected land owners, registered users and un-registered users are summarised in Tables 6.12-6.14.

6.2 SOURCES OF INFORMATION

Assessment of impacts and losses for the Azerbaijan section of the BTC Pipeline drew on the following principal sources of data:

- Land parcel identification survey for the project corridor conducted by the State Land and Cartography Committee in the first half of 2002, and updated to reflect route refinements in August 2002;
- 1:2000 scale coloured orthophotos of the project corridor flown in October 2001;
- BTC Co.'s GIS database encompassing the project footprint, detailed land tenure information, and inventories of crops and assets;
- Census of project affected households conducted by the project Land Acquisition Team in March 2002 and updated in July 2002;
- Preliminary Memoranda of Understanding signed with all project affected land owners and users between March and July 2002, and extended in August 2002 to take into account route refinements - these included a record of structures, trees, crops (in-ground and planned for the forthcoming growing seasons) and land uses within the pipeline corridor;
- Detailed inventory of land, assets and crops to be lost to the project completed by the Land Acquisition Team in July 2002;
- Other records and information on construction costs, normative land values, crop prices and yields assembled by the Land Acquisition Team with information from Ministry of Agriculture and district level government departments;
- Results of the socio-economic survey undertaken as part of resettlement planning in May 2002.

6.3 SUMMARY OF PROJECT AFFECTED PEOPLE

A summary of households affected by loss of land (whether temporary or permanent), assets, impairment of livelihood or restrictions of use is included in the Table 6.2. Together, these categories of people form the project affected population. In accordance with traditional land use in rural Azerbaijan, it has been assumed that where a nominated land owner, registered user or un-registered user is affected, his or her entire household will also experience asset or livelihood impacts from the project.

6.4 SUMMARY OF PROJECT LAND ACQUISITION

In total, 1,970 hectares of land will be temporarily used for the pipeline corridor and 26 hectares permanently acquired for the BTC Project. 2,537 hectares of land will be subject to some restrictions on use during the project operations phase. Land impacts are summarised in Table 6.3.

Table 6.2 Summary of Project Affected Population in Azerbaijan (58-metre corridor)

District	Project Affected Population (Number)										
	Land owners		Registered Users		Unregistered Users		Enterprises			Total Project Affected Population	
	HH	People	HH	People	HH	People	No. of enter-prises	No. of Workers	People (workers & families)	HH	People
Garadagh	-	-	2	7	-	-	3	8	28	10	35
Absheron	-	-	3	15	-	-	3	5	25	8	40
Hajigabul	34	245	22	158	-	-	-	-	-	56	403
Agsu	-	-	4	25	-	-	-	-	-	4	25
Kurdemir	519	2,777	33	177	1	5	10	47	251	600	3,210
Ujar	170	923	-	-	-	-	-	-	-	170	923
Agdash	67	414	-	-	-	-	-	-	-	67	414
Yevlakh	289	1,627	20	113	-	-	2	8	45	317	1,785
Goranboy	674	3,471	24	124	5	26	2	52	270	755	3,890
Samukh	335	1,400	17	71	-	-	6	24	100	376	1,573
Shamkir	700	3,801	5	27	-	-	-	-	-	705	3,828
Tovuz	733	3,482	6	29	-	-	-	-	-	739	3,510
Akstafa	400	2,028	17	86	-	-	1	8	40	425	2,154
Total	3,921	20,168	153	831	6	31	27	152	759	4,232	21,790

Source: Land Acquisition Team Census, 2002. Number of affected people pro-rata-ed from household numbers using average household sizes for each district from the socio-economic survey.

Table 6.3 Summary of Project Land Acquisition (Hectares)

District	Land to be Permanently Acquired for AGIs			Land to be Temporarily Used During Construction – 44 m corridor			Land to be subject to Restrictions of Use (58-m pipeline protection zone)		
	State	Municipal	Private	State	Municipal	Private	State	Municipal	Private
Garadagh	-	-	-	36.7	-	-	47.6	-	-
Absheron	0.11	-	-	83.1	-	-	113.7	-	-
Hajigabul	0.23	0.12	-	204.4	32.1	33.8	266.0	41.4	44.5
Agsu	-	-	-	0.5	28.7	-	0.5	37.4	-
Kurdemir	3.10	0.24	-	53.1	51.3	93.6	68.5	66.3	121.9
Ujar	0.20	0.08	0.08	30.2	142.9	49.3	39.3	180.0	63.4
Agdash	-	-	-	17.8	67.5	23.9	22.8	81.8	30.7
Yevlakh	0.003	16.2	-	23.2	62.2	82.4	28.0	77.9	103.4
Goranboy	0.006	-	0.12	29.4	54.5	92.9	38.1	70.0	122.1
Samukh	0.20	0.03	0.16	54.2	15.3	53.3	71.1	17.9	69.5
Shamkir	-	3.1	0.23	1.5	61.8	109.0	1.7	74.5	142.4
Tovuz	-	0.01	0.38	11.9	45.1	85.7	14.6	57.8	112.2
Akstafa	0.31	0.62	0.11	90.8	76.0	72.1	115.7	99.8	94.2
Total	4.1	20.5	1.08	636.5	637.4	696.0	827.6	804.8	904.3
Grand Total	25.7			1969.8			2536.7		

Source: BTC Co. GIS database

6.5 PERMANENT LOSS OF LAND FOR ABOVE GROUND INSTALLATIONS

6.5.1 Nature of Impact

The project will require permanent acquisition of 25.7 hectares of land for a pump station, piggling stations, valve locations, and related access roads. Of this, 1.1 hectares is privately owned land. A key principle for siting these facilities was, so far as possible, avoidance of private land and cultivated land. Land uses on the permanently acquired area are as follows.

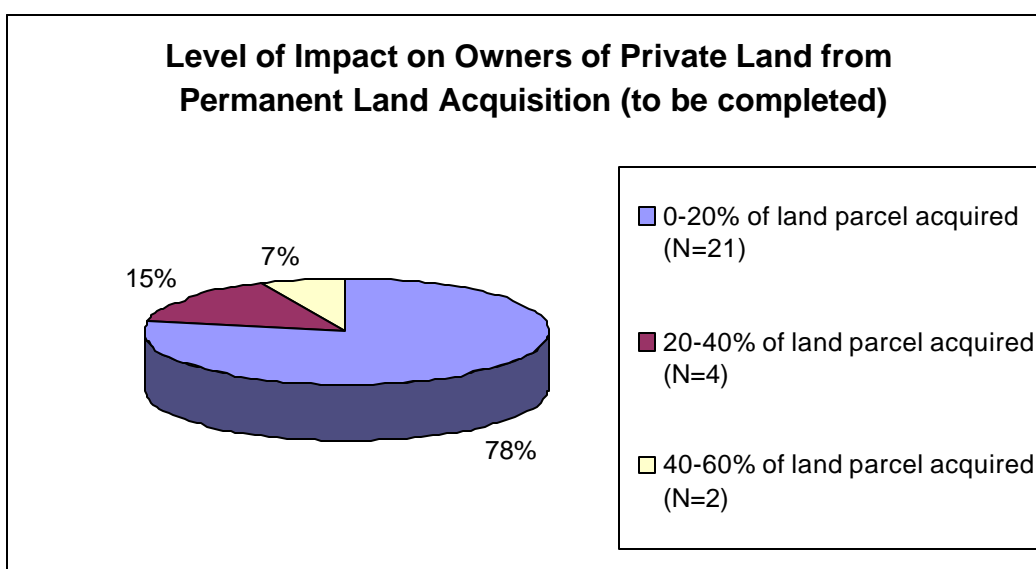
Table 6.4 Land Uses Affected by Permanent Land Acquisition

Land Use	Area to be Permanently Acquired (ha)
Irrigated Arable	1.1
Non-irrigated arable	-
Hayfield	-
Grazing land	7.1
Unutilized	17.0
Other	0.5
Total	27.7

Source: BTC Co. GIS database

Generally, the proportion of land permanently lost from any one parcel is small (see Figure 6.1). In cases where the land owner can demonstrate that permanent land loss to the project will significantly affect his or her livelihood or the economic viability of the remainder of the parcel, the owner may be offered the option of equivalent replacement land (in districts where this is available) or purchase of the total parcel. As the productivity and uses of land vary markedly along the route, this will be assessed on a case-by-case basis.

Figure 6.1 Level of impact of permanent land acquisition



Source: BTC Co. GIS database

6.5.2 Affected People

Numbers of private land owners, registered users and unregistered users affected by permanent land acquisition are as follows:

Table 6.5 Summary of Land to be Permanently Acquired

	State	Municipal	Private
Land area to be acquired	4.1 Ha	20.5 Ha	1.068 Ha
Percentage	16 %	80 %	4 %
No. of affected land parcels / households	20 land parcels	50 land parcels	27 land parcels

Source: BTC Co. GIS database, 2002

6.5.3 Basis for Compensation

Compensation for permanent land acquisition will be based on the “project offered rates” which will be at least equivalent to, but generally higher than the government cadastral rates determined by the district Valuation Commission for each crossed district. The land valuation method is described in Section 5.3. Cadastral rates determined by the district Valuation Commissions for permanent acquisition of arable land for the BTC Project are summarised in Table 6.6. Cadastral rates for other types of land will be based on those described in Cabinet of Ministers Resolution No. 158 *On Establishment of New Normative Prices for Lands in the Azerbaijan Republic* (23 July 1998).

Table 6.6 Cadastral Rates for Permanent Acquisition of Private Arable Land as Determined by District Valuation Commissions for Each District

District	Cadastral or Standard Land Value (Az. Manats / hectare)
Garadagh	1,027,720
Absheron	1,027,720
Hajigabul	2,926,460
Agsu	4,193,613
Kurdemir	4,123,114
Ujar	2,978,070
Agdash	3,543,903
Yevlakh	4,006,422
Goranboy	2,907,285
Samukh	2,547,970
Shamkir	2,547,970
Tovuz	3,789,137
Akstafa	3,404,786

Source: District Valuation Commissions, 2002

In accordance with the conditions of the BTC HGA, the State will make available state and municipal lands at no cost to the project. Where leases are extant over state and municipal land to

be acquired, users will be entitled to the compensation measures summarised in Table 6.12. The State will be responsible for compensating municipalities for land affected by the project.

6.5.4 Mitigation Measures

Measures to address adverse impacts from permanent land acquisition will be as follows:

- Careful selection of sites for permanent above ground installations to avoid, so far as possible, privately owned or arable land;
- Cash compensation for permanent acquisition of land based on “project offered rates” to be equivalent to, though generally higher than the government cadastral rates for each district as determined by its Valuation Commission;
- Where the land is used for cropping, cash compensation equivalent to one year’s income for crops to take into account uncertainty about the time when the land will be acquired;
- Where the proportion of land permanently acquired from any one land parcel may result in the balance of the land parcel being uneconomic to work, the project will give consideration to purchasing the entire land parcel; or, if suitable land is available in the district, will assist the owner to find equivalent replacement land;
- Monitoring by BTC Co.’s Environmental and Social Department to check on adequacy of compensation measures with consideration of appropriate additional intervention in cases of hardship or difficulty attributable to the project.

6.6 TEMPORARY USE DURING CONSTRUCTION

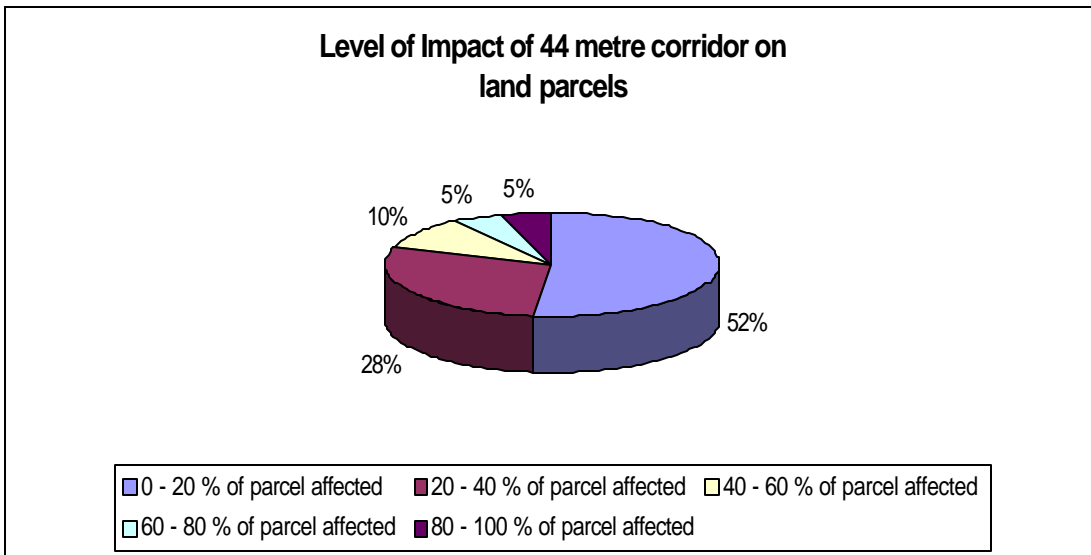
6.6.1 Nature of Impact

A total of 2,170 hectares will be used by the projects for the three-year construction period. This consists of the land within the 44-metre pipeline construction corridor (1,970 hectares) and land required for construction camps and pipe dumps (about 200 hectares). This affects state (32 percent of temporarily affected land), municipal (32 percent), and private land (36 percent).

Ownership of temporarily used private land will remain vested with the existing land owner. Rights to use the land for pipeline construction will be secured by the DSA by means of leases with each affected owner. Upon construction completion, rights to use the land will revert to the owner (or registered user), subject to the restrictions described in Section 2.8.2.

Of 4,202 affected private land parcels, the majority (74 percent) will lose use of less than 20 percent of their total land parcel for the three-year construction period. A small number of owners will experience much more significant losses, including some who will lose use of their entire parcel for the construction period. Levels of impact on private users are summarised in Figure 6.2 below.

Figure 6.2 Impact of Temporary Use of Land on Private Land Owners



Source: Derived from RAP Socio-Economic Survey, based on BTC Co. data for 629 randomly selected plots along the 44 metre corridor

Land uses within the pipeline construction corridor that will be affected during the construction period are summarized in Table 6.7.

Table 6.7 Land Uses Affected by Temporary Use During Construction in Azerbaijan

District	Land Uses in the 44-Metre Corridor (Ha)							Total
	Not utilized	Grazing Land	Irrigated Crops	Dryland Crops/ Hayfield	Orchards/ vineyards	Forest	Other	
Garadagh	-	36	-	-	-	-	1	36
Absheron	-	80	-	-	-	-	3	83
Hajigabul	-	226	40	-	1	-	3	270
Agsu	-	21	8	-	-	-	1	30
Kurdemir	-	-	70	83	-	-	43	196
Ujar	-	90	49	0	3	1	79	222
Agdash	-	66	24	0	-	-	19	109
Yevlakh	-	17	88	0	-	19	43	167
Goranboy	-	17	82	17	-	-	62	178
Samukh	-	55	47	8	3	0.1	10	123
Shamkir	-	37	67	39	1	1	27	172
Tovuz	-	39	98	-	-	1	6	144
Akstafa	5	85	41	75	1	1	31	239
Total	5	769	614	222	9	23	328	1,970
%	0.3	39.0	31.2	11.3	0.5	1.2	17	99.8

Source: BTC Co. GIS database, 2002. 'Other' includes roads, river crossings, canals, ditches, utility corridors, oil/gas pipeline servitudes and the like.

All crops and attachments within the 44-metre corridor will be cleared prior to construction commencing.

6.6.2 Summary of Impacts

- Loss of grazing land and related reduction in livestock income;
- Loss of income from annual crops for the construction period;
- Physical loss of trees, vines, and other perennial crops; and, loss of income for three years plus income foregone till replacement trees, vines, and shrubs reach pre-project levels of production;
- Loss of land attachments and fixed assets (fences, barns, hay sheds, hand pumps wells and bores, etc);
- Loss of other land improvements (roads, drainage channels, irrigation);
- Reduced crop yields from construction affected soils for 2-3 years following construction.

6.6.3 Mitigation Measures

- The BTC Pipeline and the SCP pipeline will share use of the construction corridor to reduce construction land requirements by 30 percent;
- Leasing of land for construction use so that land ownership is retained by the existing owners and owners are allowed to continue with their agricultural production following construction completion;
- Cash compensation for loss of income from annual crops during the construction period (see Section 6.12);
- Cash compensation to cover loss of pasture and related livestock income (see Section 6.9);
- Cash compensation to cover loss of trees, vines and perennial crops, and related loss of income (see Section 6.11);
- Cash compensation (or replacement) to cover loss of land attachments and fixed assets (see Section 6.13);
- Reinstatement of land to pre-project condition upon completion of construction;
- Monitoring by BTC Co.'s Environmental and Social Department to check impact on land owners or users and effectiveness of restoration measures with consideration of appropriate additional intervention where warranted;
- Cash compensation to cover reduced yield during soil recovery for 2-3 years post construction (see Section 6.12).

6.7 RESTRICTIONS OF USE OVER THE PIPELINE PROTECTION ZONE

6.7.1 Affected Land Uses

Restrictions of use will be applied in a 58-metre “protection zone” that will extend over the BTC and SCP pipelines. The types of restrictions are described in Section 2.8.2. The restrictions will apply for the operational life of the BTC Pipeline, which is forty years with the option for extension. A total of 2,537 hectares of land will be covered by restrictions of use.

For the majority of current uses such as grazing and general cropping, the restrictions of use will not affect present land use practices. In Azerbaijan, the restrictions will impact most significantly on a small number of farmers with tree crops (fruit trees, forests) and vineyards as they will not be allowed to re-establish trees or vines within 4 metres of the centreline of each pipeline i.e. there will be two 8 metre strips alienated from use for tree crops running for the length of the pipelines. Based on current planting patterns, there are presently about five land owners with tree crops (with more than 2-3 trees in the 8 metre corridor) and nine vineyard owners with productive trees or vines likely to lie over the pipeline alignments¹. Some State Fund forest land will also be affected by the tree planting restrictions. While most of the forest land is presently without trees, the restrictions will prevent re-forestation of the 8-metre strip directly over the pipeline.

6.7.2 Summary of Impacts in the Pipeline Protection Zone

- Restriction on building any structures in the protection zone;
- Alienation of an 8-metre strip over the pipeline for use for tree crops or forestry;
- Restriction on deep ploughing;
- Effective restriction on major irrigation extensions (deeper than 300 mm);
- Damage to crops in the event of emergency access along the pipeline.

6.7.3 Mitigation Measures

Mitigation measures for restriction of use are as follows:

- Adoption of international oil pipeline safety standards that allow much greater flexibility to accommodate existing land uses in the vicinity of the pipeline than the SNIP standards more commonly used in Azerbaijan;
- Development of project specific “tree planting proximity guidelines” that minimize the area that cannot be used for tree crops or vines;
- Cash compensation for the right to access land (the 8-metre strip over the BTC Pipeline) for routine inspection and emergencies;

¹ It is not possible to say definitively which areas of land will be over the pipeline as the pipeline alignment within the 44 metre construction corridor will only be finally determined by the contractor at time of laying.

- Cash compensation to land owners for the right to restrict uses in the pipeline protection zone.

6.8 DAMAGE CAUSED BY ACCESS OVER LAND DURING CONSTRUCTION

6.8.1 Extent

Movement of construction plant and materials will generally occur longitudinally along the pipeline corridor to avoid impacts on adjacent agricultural land. In some circumstances, such as where access along the corridor is constrained by topography, rivers or other conditions, it may be necessary to construct temporary access roads across grazing or cultivated land. The need for such temporary access roads will be determined by the construction contractor as part of detailed construction planning.

6.8.2 Summary of Impacts

- Damage to crops or pasture;
- Loss of income from arable land used for the access roads;
- Nuisance from noise, dust and vibration (to people and livestock);
- Possible reduction in crop yields due to soil structure changes for two to three years following reinstatement.

6.8.3 Mitigation Measures

In determining compensation payments and entitlements, the construction contractor will follow the framework established by this RAP. Mitigatory measures for temporary access roads will essentially be similar to those for the pipeline corridor and will include:

- Avoidance of use of temporary access roads so far as possible;
- Use of shortest possible routes (identified in consultation with affected land owners/users) to minimize impacts on productive land;
- Initial liaison and notification of any affected owners through BTC's Land Acquisition Team;
- Payment of cash compensation by the construction contractor for loss of income from annual crops based on the valuation principles established in Section 6.12;
- Cash compensation for loss of trees, vines and perennial crops (see Section 6.11);
- Cash compensation for three seasons crop yield reduction following construction completion;
- Compensation to be paid not less than 30 days before occupation as required by Azerbaijan law;
- Reinstatement of land to pre-project condition upon completion of construction;

- Monitoring by BTC's Environmental and Social Department to check adequacy of compensation and reinstatement measures with consideration of appropriate additional intervention in cases of hardship or difficulty attributable to the project.

6.9 IMPACTS ON GRAZING ACTIVITIES AND PASTURE

6.9.1 Extent of Impact

A total of 769 hectares of pasture (39 percent of corridor) will be temporarily used by the project during the 3-year pipeline construction period. Pastures include state, municipal, and private land. Along the corridor, much of the State land has been leased to state livestock enterprises for winter grazing use. Municipal pastures are often leased for short-term grazing use (12-18 months). Villagers also commonly use unutilized municipal land for grazing their livestock. In many villages, this is still undertaken on a roster system with households taking turns to look after all the village's livestock for a day.

Schedules have been made of all regular livestock movements (daily movements around villages, seasonal movements), stock numbers and the locations where the pipeline corridor will be crossed. All villages along the route (N=83) have indicated that their daily routes used to access pastures will involve crossings of the pipeline corridor.

Pipeline construction also has the potential to disrupt seasonal movements of stock between summer and winter pastures. These movements occur within prescribed periods controlled by the Ministry of Agriculture, generally between April - May, and October - November. Seventeen seasonal graziers have official movement corridors that traverse the pipeline route. If given advanced notice of the construction schedule, the Ministry of Agriculture will be able to forewarn graziers of construction activities so they may be able to vary movement times and routes to avoid active works areas.

6.9.2 Summary of Impacts

Impacts of the BTC Pipeline will include:

- Potential loss of access to village daily pastures for the construction period (assuming no mitigation);
- Potential impediment to seasonal movements of livestock (assuming no mitigation);
- Reduced livestock income as a result of loss of pasture area during construction;
- Reduced livestock income for 2-3 years following construction period while pasture recovers;
- Potential calving and lambing losses where construction activity occurs in close vicinity to settlements and coincides with lambing and calving periods (generally November until May);
- Potential loss of livestock (through falling in the trench, or as a result increased vehicle movements);
- Potential damage to livestock waterholes or restriction of access to waterholes;

- Nuisance from noise and dust.

As stock densities in project affected areas are very low (1-4 sheep/hectare) and areas used for grazing tend to be large (both in areas used by state livestock enterprises and for communal grazing by municipalities), actual impacts of project related pasture losses on livestock carrying capacity (and income) will be very small (eg. on average, about 1 percent of livestock enterprise land will be lost to the project). In reality, graziers will not downsize their herds, but will range further to find forage, or will graze balance pastures marginally more intensively.

From discussions with graziers at the eastern end of the corridor in Garadagh, who experienced construction of the WREP, principal adverse impacts they experienced were: (i) the inconvenience of managing their herds and dogs in and around pipeline workers and machinery; (ii) damage to livestock waterholes; and (iii) nuisance from noise and dust. The graziers also said they had concerns about a lot of activity around their flocks in the lead up to lambing and calving, as this could lead to miscarriages.

6.9.3 Mitigation

Mitigation measures for loss of pasture caused by the project are as follows:

- An inventory of all regular livestock movements (daily and seasonal) that involve crossings of the pipeline corridor has been undertaken, including recording of numbers of stock involved, crossing locations and times;
- Construction contractor will liaise with the Ministry of Agriculture and keep the Ministry advised of construction activities and schedules to enable the Ministry to plan seasonal stock movements and corridors to avoid BTC Pipeline construction activities;
- Construction contractor's community liaison officers will provide villagers with advanced notice of construction activities in their location and will consult with village heads to ensure adequate arrangements are in place to enable villagers to access their pastures throughout the period the construction spread is active in each village's administrative area;
- Construction contractor will liaise with livestock enterprise directors and directly affected grazer group heads to identify water holes and dams and agree arrangements to ensure herds have access to these while the construction spread passes, or that alternative water supply arrangements are made;
- Where necessary, the construction contractor will provide temporary access, or otherwise maintain crossing points across the pipeline trench, to facilitate regular stock movements;
- The construction contractor will ensure timely backfilling of the trench;
- Cash compensation for temporary loss of use of pasture areas (see valuation principals, Section 5.3.6) paid either to private owners or users, or to the executive power of the affected municipality;
- Reinstatement of pasture area following pipeline construction completion;
- Cash compensation equivalent to one-third of annual pasture production to cover a three-year period while pastures are restored;

- Contingency funds will be available to enable cash compensation to be paid where an affected person can reasonably demonstrate that he or she has experienced livestock losses as a result of construction activities.

A detailed construction schedule was not available at the time of RAP preparation, so it was not possible to assess the likelihood of construction activities coinciding with seasonal stock movements or calving/lambing activities at any given location. It is important that the Ministry of Agriculture be kept advised of proposed construction activities and schedules so that it can disseminate information to livestock enterprise directors and seasonal graziers, so that they can adjust livestock movement routes and timing to avoid construction activities.

6.10 IMPACTS ON IRRIGATION SYSTEMS

6.10.1 Nature of Impacts

A key lesson from WREP construction was that there is a mutual need for the construction contractor and affected farmers to manage impacts on irrigation systems. From the farmers' point of view, lack of notification can lead to them missing their monthly water allocation. Unplanned disruptions in water supply at critical times in the crop cycle can lead to crop and income losses. From the construction contractor's perspective, uncontrolled movements of water can flood the pipeline trench and make conditions unworkable for equipment, causing delays.

About 614 hectares of the land in the pipeline corridor is irrigated cropland, though disruptions to irrigation flows have the potential to affect many hundreds of farmers well beyond. A key irrigation period in Azerbaijan is February to April when spring crops are establishing. Commonly, an individual farmer is only entitled to receive his or her water quota from the irrigation association on two or three days each month. The water is then distributed through fields by means of ploughed furrows. These are progressively closed off to spread water across the entire area to be cultivated.

6.10.2 Summary of Impacts

Potential impacts of the project on irrigation services might include:

During construction:

- Farmers not receiving allocated water quotas as a result of construction activities with resultant cost (for foregone water) and potential loss of crops (dependent on the season, the crop and the point in the growing cycle when disruption occurs) – assuming no mitigation;
- Compensation claims from downstream irrigation users outside of the pipeline corridor where water allocations are impeded as a result of construction contractor activities;
- Pipeline trench impeding intra-field irrigation by cutting off parts of fields from their irrigation source;
- Problems arising from poor reinstatement (resulting in water losses, inadequate water delivery).

During the operations:

- Requirement for owners or users to obtain BTC Co. approval before extension of irrigation channels across the pipeline protection zone (with limitation of 30 cm depth over the pipeline).

One of the issues arising from the WREP project was that defects in reinstatement of the irrigation system did not become apparent until the growing season after construction was finished. There was no contractual provision for the contractor to return and make good defects. For the BTC Pipeline, the construction contractor will be responsible for making good irrigation defects attributable to the project for 12 months following construction completion.

6.10.3 Mitigation Measures

Lessons learnt from the WREP construction have been used to inform the approach taken to managing impacts on the BTC Pipeline. Key mitigation measures are as follows:

- Pipeline routing sought to reduce impacts on major irrigation schemes (though some impacts were unavoidable as trade offs were involved in routing the pipeline to avoid settlements and steeper topography);
- A careful inventory (including photographic records) was carried out of all irrigation channels crossed by the pipeline corridor – these were used to inform the design process and were incorporated in construction tender documents.;
- The construction contractor is bound to give notice to all affected irrigation associations and irrigation-reliant land owners/users advising them of likely construction timing and duration of disruption, well ahead of construction commencement in the subject village;
- Special trench-less construction techniques will be employed in crossing one major irrigation canal to avoid any disruption to irrigation supply;
- On smaller channels, flumes will be used to maintain irrigation flows across the open pipeline trench;
- Contractor will maintain a rapid response team to be available to promptly effect repairs or reinstate damaged irrigation lines;
- Irrigation channels and trenches will be fully reinstated by the contractor immediately upon completion of backfilling and compaction;
- Requirement for the construction contractor to be responsible for repair or correction of any defects for a 12-month period following construction completion;
- Contractor to use community liaison officers to ensure clear communication with affected people on irrigation issues to avoid conflict and losses;
- Clear grievance channels will be established with rapid response to irrigation related complaints;
- Provision in land acquisition agreement covering restrictions of use to enable owners to seek the operator's consent for extension of irrigation channels across the pipeline protection zone;

- Cash payment for restriction of use over the pipeline protection zone.

6.11 LOSS OF TREES / PERENNIAL CROPS

6.11.1 Extent of Losses

Fruit and nut trees are common, particularly in the better horticultural districts including Agsu, Kurdemir, Ujar, Agdash, Yevlakh, Goranboy, Samukh and Shamkir. Many households along the corridor have several fruit trees as part of their household gardens that are used for producing for household use, for preserving and for sale in markets. Production of grapes for wine is also common in Samukh and Shamkir.

As part of the survey of affected land, the Land Acquisition Team has prepared an inventory of all affected fruit trees and vines within the corridor. This is summarised in Table 6.8. Trees and vines will be compensated on a per tree and per vine basis using the formula described in Section 5.3.5.

Table 6.8 Project Impacts on Tree Crops, Orchards and Vineyards – 44m-corridor (Detailed Inventory Underway)

District	Village	Type of Fruit / Nut Trees (No.)								
		Grape	Mulberry	Apple	Pear	Persimmon	Quince	Apricot	Peach	P'granate
Hajigabul	Renjbar		2	80	20	205	56	34	33	3
Ujar	Alpout		2							5
	Qarabork									509
Samukh	Alibayramli	3267								
	Hajali	453								
Shamkir	Kechili 1							144		
	Meshad	1244								
	Hyseynli									
Akstafa	Qiraq	690								
	Kesemen									
Total to date		5654	4	80	20	205	56	178	33	519

Source: Land Acquisition Team inventory (ongoing)

6.11.2 Summary of Impacts

The project will result in the following impacts:

- Physical loss of all trees and vines and other perennial crops within the pipeline corridor and on land to be permanently acquired;
- Loss of income for affected owners and users for the construction period and for the period required for replacement trees and vines to reach full production (often a period of 7-10 years);
- Need for ongoing labour and chemical inputs to nurture and prune trees to maturity;

- Restriction on planting trees and vines within an 8-metre strip directly over the pipeline, resulting in the effective alienation of this strip for orchard use.

With respect to restrictions of use, tree growers will be more significantly affected than the majority of agricultural land users who will be able resume pre-project activities following construction completion. While the areas of affected fruit trees are relatively small, the impacts on affected owners incomes are long in duration, with some permanent reduction in potential output resulting from the loss of the pipeline 8-metre strip.

6.11.3 Mitigation Measures

Mitigation measures for loss of trees, vines and perennial crops will include:

- Careful routing of the pipeline corridor to minimize impacts on fruit trees and vineyards;
- Minimization of the corridor width to be cleared in densely planted areas;
- Use of horizontal directional drilling (HDD) to enable the pipeline to pass under (>10 metres depth) orchards in the villages of Garabork and Chiyni;
- Where impacts are unavoidable, cash compensation on a per tree (or per vine or per shrub) basis to cover (i) full replacement cost of the tree including labour, water and agricultural chemicals inputs; (ii) income foregone during the three-year construction period; and (iii) income foregone for the period that the replacement tree takes to reach full production;
- Access to technical assistance to be provided as part of agricultural extension services through the BTC community investment program (see Section 6.20).

6.12 LOSS OF ANNUAL / SEASONAL CROPS

6.12.1 Extent of Losses

An inventory has been conducted of all annual crops grown in the pipeline corridor. As crops are typically grown on a rotational basis, the inventory included gathering information about land owners' and users' current crops, and planned crops over the forthcoming three years. This information was recorded in the preliminary Memoranda of Understanding (MOUs) which were signed with all land owners and registered users. Where applicable, information on users was also noted in MOUs. The total area of arable land affected by the project will be 836 hectares. An inventory of affected crops is summarised in Table 6.9.

6.12.2 Summary of Impacts

Principal impacts of the project on annual crops will be as follows:

- Loss of in-ground crops at the time the construction contractor takes possession of the land (minimal as notice of construction start will be given ahead of the 2003 growing season);

- Loss of crops for subsistence use where they are grown in the construction corridor;
- Possible loss of access to some remaining parts of agricultural land where land is bisected or fragmented by the pipeline construction corridor (see Section 6.19 Severance Impacts);
- Loss of income for the construction period (three years assuming the SCP pipeline is constructed consecutively following the BTC Pipeline);
- Some possible short-term (2-3 years) reduction in crop yields and income from the land affected by pipeline construction while soil structure and condition recover from construction disturbance;
- Possible reduced labour input requirement from household members² for the three-year period that land cannot be worked during pipeline installation (impact dependent on extent of land lost to the project).

For many households, receipt of cash-in-hand for three years' crop value based on premium market prices will have benefits including: (i) it will provide money for investment to meet other household needs; (ii) it will provide for a social safety net against family illness or other misfortunes; (iii) to varying degrees, dependent on the area of proportion of land lost, it provides guaranteed income not subject to vagaries of market prices or crop failure; and (iv) in some cases, reduced need for labour inputs freeing affected household members' time to pursue other activities. During the Soviet era, many households were wages-reliant, employed by various state enterprises, so have experience of operating in a cash economy and managing cash savings.

Cash-in-hand may also have some disbenefits. Increased liquidity may expose households to demands for unofficial payments or theft. Used imprudently, compensation may be dissipated leading to shortfalls in meeting a household's longer term subsistence needs. For the majority of households, who will lose use of only a small proportion of their overall landholding for three years, and who are not solely reliant on crop sales for their household livelihood, risks from these factors are assessed as manageable.

There are other households that are less well positioned to take advantage of cash compensation and that may well be disadvantaged by it. These include, in particular, households with elderly owners, and in particular women. Where their subsistence use of land is replaced with cash compensation, this group may experience pressures from other family members to relinquish their cash for purposes other than their own subsistence. They will also face the problem of how to safeguard their compensation payments against being stolen, as traditionally rural community reliance on banks is very low.

Other vulnerable groups are those without registered agreements or other documentation supporting their use of land. Land owners and other influential groups may choose to displace such people with a view to usurping their compensation entitlement. The preliminary MOUs, the census and encouragement by the Land Acquisition Team for informal dwellers to formalise their land use at least at the district level, will reduce the risks to this group.

² Expenditure records of households indicated that amounts spent on hired (outside) labour were very small. It is probable, therefore, that the project will have negligible impact on demand for outside labour.

6.12.3 Mitigation Measures

The following mitigation measures will be extended to affected people to offset impacts from loss of annual crops:

- Cash compensation to offset the loss of income from annual crops for the three-year construction period, and taking into account planned crop rotation;
- Cash compensation to offset any reduction in yield that may be caused by project impacts on soils to be based on 30 percent of the Valuation Commission annual crop yields defined for each district, to cover the three year period following construction completion (to be paid prior to construction commencement (see also Section 5.3.4);
- Stripping and re-use of topsoil following construction completion
- Contractual obligations for the contractor to fully reinstate project soils to their pre-project productivity levels
- Technical assistance to be offered to project affected people and their wider communities as part of a rural extension program to be funded by BTC Co. (see Section 6.20)
- Monitoring by BTC Co.'s Environmental and Social Department to check on adequacy of compensation measures with consideration of appropriate additional intervention in cases of hardship or difficulty attributable to the project
- A flyer will be issued to each land owner and user signing the agreement indicating that the payment is free of all taxes and duties. The flyer will provide a contact number to be given to any official seeking to extract tax on compensation payments.

The latter measure is no guarantee that project affected people will not be subject to pressures to pay unofficial duties or taxes. It will, however, make it clear to all parties that any such claims are unlawful.

BTC PROJECT RESETTLEMENT ACTION PLAN
AZERBAIJAN
FINAL REPORT

Table 6.9 Summary of Impacts on Principal Annual Crops (existing) in Azerbaijan – 44 metre corridor (Ha.)

District	Wheat	Luce rne	Melons & gourds	Cotton	Rice	Onions	Garlic	Tomatoes	Corn	Vegetables	Sunflower	Potatoes	Broom
Garadagh	-	-	-	-	-	-	-	0.1	-	-	-	-	-
Absheron	-	-	-	-	-	-	-	1.4	-	-	-	-	-
Hajigabul	38.7	1.0	-	-	-	-	-	-	-	-	-	-	-
Agsu	6.6	-	1.5	-	-	-	-	-	-	-	-	-	-
Kurdemir	48.4	11.0	9.0	1.2	-	-	-	-	-	-	-	-	-
Ujar	14.3	16.7	-	-	-	-	-	1.3	-	1.5	-	-	-
Agdash	16.3	-	-	0	-	-	-	15.3	-	0.2	-	-	-
Yevlakh	50	19.3	0.6	4.8	17.0	9.6	0.5	45.7	0.9	-	2.1	-	-
Goranboy	57.4	4.7	-	5.9	16.8	8.2	-	-	1.5	3.9	-	-	-
Samukh	32.6	11.7	1.2	-	-	-	-	36.0	0.1	-	0.1	1.2	-
Shamkir	38.4	22.2	-	-	-	-	-	-	1.3	3.3	-	0.1	-
Tovuz	32.1	2.5	0.5	-	-	-	-	-	5.7	5.4	-	24.0	-
Akstafa	39.5	2.5	-	-	-	-	-	-	-	1.1	4.4	0.6	43.9
Total	374.3	91.6	12.8	11.9	33.8	17.8	0.5	99.8	9.5	15.4	6.6	25.9	43.9

Source: Land Acquisition Team Inventory of Crops

6.13 LOSS OF FIXED ASSETS

6.13.1 Extent of losses

A preliminary inventory has been conducted of assets within the pipeline corridor. This is presently being finalised by the Land Acquisition Team with affected land owners, leaseholders and users at the time of negotiating final agreements. The project is generally passing through sparsely settled agricultural and grazing land so the number of affected land attachments is quite minimal. Types of affected structures and land attachments include:

- A small number of basic fences and walls
- Small farm structures (hay shelters)
- Temporary structures of wood, mud and reeds (for livestock)
- Livestock water holes
- Hand pumps
- A small number of artesian wells (many not functioning)
- Simple tanks and water retention structures

6.13.2 Summary of Impacts

- Loss of asset
- Loss of water sources (artesian wells, hand pumps), including those used for irrigation

6.13.3 Mitigation Measures

Assets will be treated on a case-by-case basis. Where feasible, and in consultation with owners, one or more of the following measures may be followed:

- Relocation of the asset from the construction corridor and reinstallation at a replacement location;
- Construction or installation of a replacement asset organised by the Land Acquisition Team (in case of hand pumps, artesian wells);
- Cash compensation to the owner based on full replacement value prior to removal or demolition of the asset.

Wherever possible artesian bores and hand pumps will be protected in situ. Where this is not feasible, the project will either pay full costs of reinstalling replacement pumps or bores, or will engage a contractor to complete the work directly on the owner's behalf. In cases where an asset may belong to a user, the triangle principal (owner-user-Land Acquisition Team) will be used to agree who is entitled to receive compensation.

6.14 IMPACTS ON FOREST

6.14.1 Extent of Losses

Some small areas of forest are affected by the project. These predominantly occur where the pipeline corridor cuts through linear plantings alongside roads and round fields that are designated as state forest fund lands. There is no forest in the arid and semi-arid districts at the eastern end of the corridor. Affected forest lands are summarised in Table 6.10.

Table 6.10 Summary of Project Affected Forest Areas

District	Affected Forest Area (Ha)
Ujar	0.95
Agdash	-
Yevlakh	19.35
Goranboy	-
Samukh	0.09
Shamkir	0.97
Tovuz	0.59
Akstafa	0.57
Total	22.52 ha

BTC Co. GIS database

The principal function of many of the forest strips is as shelterbelts for arable land. The only larger 'forest' area affected by the project is in Yevlakh.

6.14.2 Summary of Impacts

- Reduction of shelter to fields
- Loss of firewood resources
- Loss of timber resource
- Costs for re-planting preparation

6.14.3 Mitigation Measures

Mitigation measures will be as follows:

- Cash compensation for lost timber (firewood or construction timber)
- Cash compensation to cover costs of establishing replacement forest

6.15 IMPACTS ON ENTERPRISES (INCLUDING LOSS OF PRODUCTIVITY, DOWNTIME)

6.15.1 Types of Affected Enterprise

A census was undertaken of all enterprises affected by acquisition of land rights (temporary or permanent) along the pipeline route. Many of the enterprises nominated as land owners are remnants of the Soviet era. While they exist on paper, and have nominated employees, they have not generated revenue or paid wages for many years. Compensation entitlements for these enterprises will be the same as for other registered land users, eg. for damage to crops, rights to use land to construct and operate the pipeline, and for access and restriction of use. Other types of enterprise identified as potentially impacted by the project were as follows:

- State Livestock Enterprises
- Beekeeping
- Gravel Extraction Enterprises
- Industrial Enterprises

Each type of enterprise and the potential impacts they may experience from the project are summarised below.

6.15.2 State Livestock Enterprises

There are six state livestock enterprises operating land affected by the project. As noted in Section 5.2.3.1, the graziers that manage livestock on these lands are nominally wage-earning employees, though the majority no longer receive any wages payment and are reliant on raising their own livestock for income and subsistence. The census revealed there are 92 employees on state livestock enterprises with land directly affected by land acquisition. Together with their families, this represents a project affected population of about 500 people (BTC enterprise census, September 2002).

Affected state livestock enterprise graziers will:

- Experience loss of pasture for use by their state cattle and their own livestock
- Not be eligible for compensation for loss of use of land or damage to pasture because the lease right for the land they use is vested with their state collective enterprise

While there is no requirement that state livestock enterprise workers be directly compensated under Azerbaijan law, their livelihood from livestock is potentially directly impacted by loss of pasture caused by the project, therefore BTC Co. will compensate them as follows:

- Compensation entitlements will be negotiated on a triangular basis (Land Acquisition Team, Director of the State Livestock Enterprises, grazier family head or heads) with hand-to-hand payment to the affected livestock employees.

6.15.3 Beekeeping

While not a major commercial activity, a number of households along the pipeline corridor keep beehives to produce honey for their own use or for sale in stalls or at market. Bees are very sensitive to dust, noise and vibration. The construction contractor's community liaison team will advise people keeping bees in the vicinity of the corridor of the need to relocate any hives not less than 500 metres outside of the construction corridor. Where necessary, the project will assist with transportation of hives to locations away from the construction corridor.

6.15.4 Gravel Extraction Enterprises

Studies are still underway to ascertain whether or not there will be a need to place restrictions on gravel extraction in the vicinity of pipeline river crossings. In the event restrictions are needed, BTC Co. will undertake the following actions:

- Identify all gravel extraction enterprises operating in areas affected by restrictions;
- Consult with each enterprise and assess the extent to which each enterprise will be affected, (and the extent to which enterprise workers might be affected);
- In the event there are likely to be adverse impacts, identify and implement necessary mitigatory actions.

6.15.5 Industrial Enterprises

Some of the sites proposed for construction camps include land and buildings that are on registered leases held by Soviet era enterprises. These enterprises are no longer functioning though most still have a nominated director. In some cases their land and premises were previously used for construction camps and pipe dumps during WREP construction. A private enterprise (a transport company) has also recently established an office in a building on one of the camp sites. It is unclear at this stage as to whether or not this enterprise will need to be relocated.

Acquiring the rights to use land for construction camps and pipe dumps will be the responsibility of the construction contractor who will follow the procedures outlined in the RAP.

For use of non-active enterprise land, the contractor will negotiate rights to use land and any buildings based on a fair market rental for the period of use to be negotiated with the enterprise director.

For the active enterprise (in the event relocation is required), the construction contractor in consultation the Land Acquisition Team will negotiate a relocation package to consist of some or all of the following components as applicable:

- Inclusion on the register of project affected people and socio-economic assessment of the enterprise circumstances;
- Consultation and agreement on a compensation package;
- Assistance to find equivalent replacement space;

- Assistance to relocate the enterprise to the replacement premises;
- If applicable, allowance to cover any enterprise downtime or other costs incurred as a result of the relocation;
- Ongoing monitoring by BTC Co. to check that the enterprise does not experience any unforeseen difficulties arising from its relocation with consideration of appropriate additional intervention where warranted.

6.16 LOSS OR DAMAGE TO COMMUNITY RESOURCES

Principal community-used resources affected by the project are as follows:

- Municipal pastures - used by nearly 50 percent of affected households (see mitigation measures described in Section 6.9.3);
- Water resources (rivers, canals, artesian) – used by 51 percent of households (see mitigation measures described in Section 6.10.3);
- Forests – used by less than 5 percent of households (see mitigation measures described in Section 6.14.3);
- Infrastructure and services – all households (see mitigation measures described in Section 6.17.2).

6.17 LOSS OR DAMAGE TO SERVICES AND INFRASTRUCTURE

6.17.1 Nature of Impacts

Potential impacts of the project on services and infrastructure and associated mitigation measures are described in the Azerbaijan BTC ESIA. Potential impacts are summarised as follows:

- Increased traffic on roads, including heavy vehicle movements, leading to deterioration of roads;
- Possible disruptions in service where the pipeline trench intersects existing roads, drains, and utilities;
- Potential for accidental damage to utilities;
- Increased demands on local power, water, telecommunications and sanitary infrastructure to meet project needs.

6.17.2 Mitigation Measures

Detailed mitigation measures are described in the Azerbaijan BTC ESIA. Measures include:

- Use of specialized construction techniques to minimise disruption at key infrastructure crossings;

- Provision of temporary crossings of the pipeline trench by the construction contractor to maintain important public pathways, connections to schools, markets and other community infrastructure;
- A crossing schedule of all known roads, telecom lines, power, oil, gas and water mains has been prepared;
- Construction contractor to provide timely notice of any planned disruption to services to local authorities and to affected communities;
- In the event of accidental damage or disruption to services, the contractor will be responsible for advising the service's owner and facilitating rapid restoration of service;
- The construction contractor will be responsible for reinstating all roads and services with "no net loss" in terms of condition, quality, reliability or capacity of the service compared to pre-project conditions;
- The construction contractor will be responsible for making good any defects or damage to infrastructure and services for a 12 month period following construction completion;
- Use of package treatment plants for all construction camps;
- Monitoring by BTC Co. to ensure construction contractor compliance with contractual requirements for crossings and that community needs are addressed.

6.18 LOSS OF CULTURAL PROPERTY (LOCAL SHRINES, GRAVES)

Cultural property impacts are addressed in the BTC Environmental and Social Impact Assessment. An archaeological team is conducting pre-construction surveys of the pipeline corridor route and will monitor for potential impacts throughout the construction process. Known culturally significant sites have been avoided through careful route selection. The project archaeological team will monitor and investigate any sites or artefacts uncovered during the construction process.

6.19 SEVERANCE IMPACTS

6.19.1 Nature of Impacts

Severance can occur during both construction and operations. Severance refers to conditions where the project bisects a land parcel causing (i) physical obstruction that prevents an individual or members of a community from accessing or working part of their land parcel or resources (eg. an open pipeline trench prevents movement of stock to pasture); (ii) physical obstruction of commonly used roads, community pathways or other infrastructure connections that are important to local community functioning (eg. pipeline trench prevents children going to school or involves a long diversion) or, (iii) division of a land parcel in such a way that it can no longer be economically worked (eg. dimensions or boundary angles preclude the use of ploughing or turning of agricultural machinery).

Severance can also refer to conditions where a project physically divides a community. Through route selection that avoids settlements, and the fact that the pipeline will be buried upon completion, the project will not result in long-term severance of this nature.

During construction, the pipeline laying process will proceed at a nominal rate of about 1.8 kilometres a day. The area of open trench will not generally exceed 15 kilometres, so the duration that the pipeline will cause a physical obstruction at any one location is about 8-10 days (assuming no mitigation measures). At crossings, where specialized construction techniques are employed, the period of physical obstruction may be longer.

During operations, once the pipeline has been reinstated, the pipeline will not significantly limit ploughing or other agricultural activities. Subdivision of parcels for AGIs or construction of access roads to AGIs may however fragment land leaving some portions unworkable.

6.19.2 Summary of Impacts

- Temporary or permanent loss of use of part or of a land plot or grazing area (and related loss of income);
- Loss of access to resources;
- Loss of access to community facilities or infrastructure (schools, medical clinics, markets).

6.19.3 Mitigation Measures

- Use of a buried pipeline rather than an above-ground pipeline;
- Use of alternative construction techniques to pass under major community roads and pathways;
- If necessary, provision of temporary bridges across the pipeline trench to maintain movements of local people and their animals;
- During construction, where a land owner or user can demonstrate that the pipeline construction corridor, access roads or other activity will prevent him or her utilising parts of a land parcel beyond the defined construction area, the Land Acquisition Team will consider compensation for the additional loss of use and damage to crops on a case-by-case basis;
- For land parcels affected by permanent land acquisition, where the owner can demonstrate that the subdivision of land from his plot has fragmented parts of the balance of his plot rendering some or all of it uneconomic to work, the Land Acquisition Team will consider purchasing balance areas on a case by case basis;
- Prompt backfilling of the pipeline trench upon completion of pipeline installation so that people and their animals can cross safely;
- Reinstatement of the pipeline construction corridor for agricultural use upon construction completion so that most agricultural activities can be resumed across it.

6.20 LIVELIHOOD & INCOME RESTORATION MEASURES

6.20.1 Community Investment Program

As part of a wider program of community investments, BTC Co. will support specialist NGOs to provide rural extension services to communities in the vicinity of the BTC Pipeline corridor, including but not limited to, project affected people. The scope of the community investment program is still being defined using the following steps:

- a community needs assessment has been completed drawing on BTC Project consultations and further discussions with communities and key informants that focused on social investment priorities;
- a shortlist of possible areas for BTC Co. assistance has been prepared based on their fit with overall project social goals and objectives;
- types of possible intervention in the targeted areas (health, income generation, agriculture) have been reviewed;
- log-frame analysis is underway to define measurable outcomes and performance indices;
- investment delivery and procurement options have been assessed;
- a short list of groups with the capacity to implement types of assistance will be developed;
- short listed groups will be interviewed and invited to tender.

Overall, a budget of US\$6.0 million has been established for community investments in Azerbaijan.

6.20.2 Local Recruitment of Construction Workforce in Azerbaijan

The construction contractor estimates that 70 percent of all construction positions will be awarded to local staff. Longer-term skilled positions will be recruited from communities along the Azerbaijan corridor. Temporary and unskilled positions will be recruited from within each district through which the pipeline passes.

The contractor has committed to provide skills and knowledge training to local people in at least the following areas:

- Welding
- Road vehicle driver training
- Construction plant operation
- English language

The contractor is also required to prepare an Employment Strategy to demonstrate how community expectations regarding employment and training will be managed. BTC Co.'s E & S Department will monitor the contractor's performance with respect to commitments made

regarding local employment and training. Performance will be reported in internal RAP monitoring reports to be prepared quarterly.

6.20.3 Local Procurement of Goods and Services

The construction contract included provisions that require the contractor to source services and materials locally wherever possible.

6.20.4 Enterprise Centre

BTC Co. Operator, BP, supports an Enterprise Centre to assist Azeri businesses to meet contract compliance requirements and qualify for procurement opportunities arising from the BTC Pipeline project as well as other international oil and gas projects planned or underway in the region. The Enterprise Centre provides the following services:

- Maintains a database of potential local contractors and subcontractors available to meet services and supplies requests from the oil and gas industry;
- Provides information on BP procurement processes, HSE requirements and ethics;
- Provides information on current and future supply opportunities in the energy sector;
- Provides pre-tendering support and coaching services;
- Provides training services on HSE, various aspects of doing business with oil companies and general business training.

Thirty five local companies have been profiled and registered on the Enterprise Centre's data base to date. It is targeted to expand this to 250 companies by the end of 2002. The Enterprise Centre has received more than 500 inquiries from local businesses interested in registering and receives on average 10 supply requests a month from the ACG, BTC and SCP project teams.

The Centre has facilitated meetings between BP's supply chain management and potential catering contractors. It has also hosted a series of information seminars for local contractors and sub-contractors.

6.21 IMPACTS ON VULNERABLE GROUPS

The strategy for addressing impacts on vulnerable groups has the following elements: (i) careful identification and recording of vulnerable people as part of the census; (ii) making sure they have at least equivalent eligibility and entitlements as other owners and users; (iii) where necessary, identifying specific compensation measures over and above Azerbaijan legal requirements; (iv) providing for appropriate delivery of compensation; and (v) monitoring to check against any unforeseen cases of hardship arising from the land acquisition, compensation and livelihood restoration processes. Specific measures for each of the vulnerable groups identified in Chapter 4 are summarised in the following table.

Table 6.11 Assistance to Vulnerable Groups in Azerbaijan

Vulnerable Group	Areas of Risk	Project Mitigation Measures
Employees of state livestock enterprises	No direct right to compensation, yet reliant on grazing land for their livelihood (in lieu of wages) At risk of being displaced where there is a prospect of compensation Often very poor	Additional census to specifically identify all directly affected livestock enterprise workers Use of triangular negotiation principle (enterprise director –LAT–enterprise workers) to agree compensation split. Hand to hand payment of compensation Monitoring for effectiveness of RAP measures with consideration of appropriate additional intervention where warranted
IDPs	Don't have right to own land Often reliant on informal agreements for shelter/ land use At risk of being displaced where there is a prospect of compensation Often very poor Limited social safety net	Identified in census Use of triangular negotiation principle (owner–LAT–IDP household head) to agree compensation split (where applicable) Hand to hand payment of compensation Monitoring for effectiveness of RAP measures Targeted measures for IDP involvement in the CIP and SIP
Informal Land Users	No legal entitlement to compensation under Azeri law	Project assistance to achieve registration or at least, to get written agreements with land owners Project will offer same compensation entitlements as to registered users, subject to reasonable verification of 2-year's use
Elderly couples or individuals	Reduced mobility may limit access to information, compensation collection, lodgement of complaint May be vulnerable to pressure from family / relatives to divert income to family needs at expense of subsistence Physically vulnerable to theft or intimidation	Elderly specifically identified in census. Where necessary, the project will support mobile teams to manage signing of agreements and hand-to-hand compensation payment at place of residence Project will encourage use of bank accounts Monitoring for effectiveness of RAP measures with consideration of appropriate additional intervention where warranted
Women-headed households abandoned by husbands, now living abroad	Potential difficulties in securing compensation (where husband is nominated as household head on land ownership papers)	As appropriate, the Project will provide assistance to help women: (i) through their husbands, get Power of Attorney so that they can sign agreements and receive compensation in their husband's absence; or (ii) in case of missing husbands, assist women to apply to the District Court for appointment of a trustee. Project will ensure CIP provides equal opportunities for women Monitoring teams will be given gender awareness training and will include women members

Abbreviations: SIP: Social Investment Program CIP: Community Investment Program LAT: Land Acquisition Team IDP: Internally Displaced Persons

6.22 SUMMARY OF ENTITLEMENTS IN AZERBAIJAN

Entitlements for project affected people are summarised in Tables 6.12 –6.14

Table 6.12 Entitlements for Permanent Acquisition of Private Land for Above Ground Installations & Permanent Access Roads (under Land Purchase Agreement with Private Owner) – Page 1 of 3

Type of Loss	Compensation Entitlements					
	Private land owners	Registered User	Un-Registered Private Users	State Agricultural Enterprise Employees	Industrial Enterprise	State / Municipal L
Eligibility	<ul style="list-style-type: none"> ▪ Land owner with registered land ownership certificate ▪ Land owner with passport (or registerable) ownership documentation ▪ Land owner with right to ownership from long possession ▪ Person with notarized Power of Attorney to act on behalf of absentee/ incapacitated owner ▪ Trustee appointed by Civil Court to act for a missing land owner 	<ul style="list-style-type: none"> ▪ State agricultural enterprise with registered lease over state or municipal land ▪ Private user or entity with registered lease over state or municipal land ▪ Private user or entity with registered lease over private land ▪ Private user or entity with third party rights 	<ul style="list-style-type: none"> ▪ Private users with verbal or informal agreement with land owner ▪ Private users of state or municipal land without lease or formal agreement ▪ Private users of private land without agreement of landowner (subject to reasonable verification) 	<ul style="list-style-type: none"> ▪ Employees of state agricultural enterprises no longer receiving salary from their enterprise but who are reliant on enterprise land for livelihood 	<ul style="list-style-type: none"> ▪ Industrial enterprise with registered lease over state or municipal land 	<ul style="list-style-type: none"> ▪ State Land ▪ State Funds forest land ▪ State Funds agricultural land ▪ Municipal land
Loss of land	Cash compensation based on “project offered rates”; or, where impact is significant, choice of replacement land parcel (if available) or cash compensation for total land parcel.	No entitlement	No entitlement	No entitlement	Not applicable	Under HGA, State Authorities (including municipalities) to make available land to BTC Co. without cost State to compensate municipalities for loss of land.
Loss of immovable assets	Cash compensation at full replacement value; or replacement of the asset equivalent to that lost to the project (eg. artesian wells) – to be agreed on a case-by-case basis.	Where asset may have been installed or erected by the user, triangular negotiation (LAT, user & land owner) to agree compensation due to the user, based on full replacement value.	Where asset may have been installed or erected by the user, triangular negotiation (LAT, user & land owner) to agree compensation due to the user, based on full replacement value.	Where asset may have been installed or erected by the user (eg. water holes), triangular negotiation (LAT, user & enterprise director) to agree compensation due to the user, based on full replacement value.	Not applicable	Cash compensation at full replacement value or replacement of the asset equivalent to that lost to the project (eg. artesian wells) – to be agreed on a case-by-case basis.

Table 6.12 Entitlements for Permanent Acquisition of Private Land for Above Ground Installations & Permanent Access Roads (under Land Purchase Agreement with Private Owner) - Page 2 of 3

Type of Loss	Compensation Entitlements					
	Private land owners	Registered User	Un-Registered Private Users	Employees of State Agricultural Enterprise	Industrial Enterprise	State / Municipal L
Loss of trees, vines & perennial crops	Cash compensation to cover loss of each tree/vine/shrub based on cost of sapling; inputs & labour to re-establish tree/vine/shrub to maturity plus value of lost production for the total re-establishment period.	Cash compensation to cover loss of each tree/vine/shrub based on cost of sapling; inputs & labour to re-establish tree/vine/shrub to maturity plus value of lost production for the total re-establishment period.	No known cases	In cases where an employee or sub-lessee has entered into an agreement whereby they are able to manage state trees, vines or perennial crops for income, triangular negotiation between LAT, the sub-lessee and the enterprise director to agree an equitable split of compensation to cover income lost.	Not applicable	Cash compensation to cover loss of each tree/vine/shrub based on cost of sapling; input labour to re-establish tree/vine/shrub to maturity plus value of lost production for the total re-establishment period.
Loss of annual crops, including hayfields	Cash compensation for annual crops equivalent to one season's production less input costs (irrespective of whether or not crop is in ground at time of acquisition).	Cash compensation for annual crops equivalent to one season's production less input costs (irrespective of whether or not crop is in ground at time of acquisition). Where crop or crop income is shared with owner, triangular negotiation (LAT, user & land owner) to agree equitable basis for distributing compensation based on historical arrangements between owner & user – overall compensation basis as for private owners.	Triangular negotiation (LAT, User & land owner) to agree equitable basis for distributing compensation based on historical arrangements – overall compensation basis as for private owners.	Triangular negotiation between LAT, the employee & enterprise director to agree compensation due to the employee – overall compensation basis as for private owners.	Not applicable	Cash compensation to the municipality when no other user identified after reasonable period has elapsed.

BTC PROJECT RESETTLEMENT ACTION PLAN
AZERBAIJAN
FINAL REPORT

Table 6.12 Entitlements for Permanent Acquisition of Private Land for Above Ground Installations & Permanent Access Roads (under Land Purchase Agreement with Private Owner) - Page 3 of 3

Type of Loss	Compensation Entitlements					
	Private land owners	Registered User	Un-Registered Private Users	Employees of State Agricultural Enterprise	Industrial Enterprise	State / Municipal L
Loss of pasture	Cash compensation equivalent to one season's pasture production, based on value of grass consumption/sheep/year x stocking rate (sheep/ha)	Cash compensation equivalent to one season's pasture production, based on value of grass consumption/sheep/year x stocking rate (sheep/ha)	Cash compensation equivalent to one season's pasture production, based on value of grass consumption/sheep/year x stocking rate (sheep/ha)	Triangular negotiation (LAT, the employee & enterprise director) to agree compensation due to the employee -- overall compensation basis as for private owners.	Not applicable	Cash compensation to the municipality when no other user identified after reasonable period has elapsed.
Allowance for unforeseen duties and taxes (for IFIs info only)	Percentage of compensation loading to be added to cover unforeseen duties and taxes				Not applicable	Not applicable
Top up payment to minimum compensation	Minimum compensation payment will be 500,000 Az. manats				Not applicable	No entitlement
Notarization and registration costs	Costs covered by the project	Costs covered by the project	Not applicable	Not applicable	Not applicable	No entitlement

Abbreviation: LAT – Land Acquisition Team

Table 6.13 Entitlements for Temporary Use of Land in the 44-metre Corridor, Pipe Dumps and Construction Camp sites – Page 1 of 3

Type of Loss	Compensation Entitlements					
	Private land owners	Registered User	Un-Registered Private Users	Employees of State Agricultural Enterprise	Industrial Enterprise	State / Municipal Land
Eligibility	<ul style="list-style-type: none"> ▪ Land owner with registered land ownership certificate; ▪ Land owner with passport (or registerable) ownership documentation; ▪ Person with notarized Power of Attorney to act on behalf of absentee/incapacitated owner ▪ Next of kin awarded temporary ownership rights by Civil Court 	<ul style="list-style-type: none"> ▪ State agricultural enterprise with registered lease over state or municipal land ▪ Private user or entity with registered lease over state or municipal land ▪ Private user or entity with registered lease over private land ▪ Private user or entity with third party use rights agreed with local executive authority 	<ul style="list-style-type: none"> ▪ Private users with verbal or informal agreement with land owner ▪ Private users of state or municipal land without lease or formal agreement ▪ Private users of private land without agreement of landowner (subject to 	<ul style="list-style-type: none"> ▪ Employees of state agricultural enterprises no longer receiving salary from their enterprise but who are reliant on enterprise land for livelihood. 	<ul style="list-style-type: none"> ▪ Industrial enterprise with registered lease over state or municipal land 	<ul style="list-style-type: none"> ▪ State Land ▪ State Funds forest land ▪ State Funds agricultural land ▪ Municipal land
Loss of land	No permanent acquisition of land					
Loss of immovable assets	Cash compensation at full replacement value; or replacement of the asset equivalent to that lost to the project – to be agreed on a case-by-case basis.	Where asset may have been installed or erected by the user, triangular negotiation (LAT, user & land owner) to agree compensation due to the user, based on full replacement value.	Where asset may have been installed or erected by the user, triangular negotiation (LAT, the user & land owner) to agree compensation due to the user, based on full replacement value.	Where asset may have been installed or erected by the employee, triangular negotiation (LAT, the employee & land owner) to agree compensation due to the user, based on full replacement value.	Cash compensation at full replacement value; or replacement of the asset equivalent to that lost to the project – to be agreed on a case-by-case basis.	Cash compensation at full replacement value; or replacement of the asset equivalent to that lost to the project – to be agreed on a case-by-case basis.
Loss of trees, vines & perennial crops	Cash compensation to cover loss of each tree/vine/shrub based on cost of sapling; inputs & labour to re-establish tree/vine/shrub to maturity plus value of lost production for the total re-establishment	Cash compensation to cover loss of each tree/vine/shrub based on cost of sapling; inputs & labour to re-establish tree/vine/shrub to maturity plus value of lost production for the total re-establishment	No identified cases of unregistered users losing trees, vines, or perennial crops	No entitlement for employees. (Enterprise eligible as registered user)	Not applicable	Cash compensation for private owners where no other eligible registered user identified, after reasonable period has elapsed.

BTC PROJECT RESETTLEMENT ACTION PLAN
AZERBAIJAN
FINAL REPORT

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Table 6.13 Entitlements for Temporary Use of Land in the 44-metre Corridor, Pipe Dumps and Construction Camp sites - Page 2 of 3

Type of Loss	Compensation Entitlements					
	Private land owners	Registered User	Un-Registered Private Users	Employees of State Agricultural Enterprise	Industrial Enterprise	State / Municipal L
Loss of annual crops, including hayfields	Cash compensation for annual crops equivalent to 3 season's production less input costs (irrespective of whether or not crop is in ground at time of acquisition).	Cash compensation for annual crops equivalent to 3 season's production less input costs (irrespective of whether or not crop is in ground at time of acquisition). Where crop/crop incomes are otherwise shared with owner, triangular negotiation (LAT, User & land owner) to agree equitable basis for distributing compensation based on historical arrangements between owner & user – based on 3 season's production	Triangular negotiation (LAT, User & land owner) to agree equitable basis for distributing compensation based on historical arrangements, based on 3 season's production	Triangular negotiation between LAT, the employee & enterprise director to agree compensation due to the employee – only in cases where employee no longer receives wages & is reliant fully or in part on crops for livelihood.	Not applicable	Cash compensation to the municipality where no other eligible user identified, after reasonable period has elapsed.
Yield reduction for 2-3 year period of soil recovery following construction completion.	One-off lump sum cash payment equivalent to 30 percent of a season's crop production for three years	One-off lump sum cash payment equivalent to 30 percent of a season's crop production for three years. Where crop/crop incomes are otherwise shared with owner, triangular negotiation (LAT, User & land owner) to agree equitable basis for distributing compensation based on	Triangular negotiation (LAT, User & land owner) to agree equitable basis for distributing compensation based on historical arrangements – compensation calculated as for private land owners	Triangular negotiation between LAT, the employee & enterprise director to agree compensation due to the employee – only in cases where employee no longer receives wages & is reliant fully or in part on crops for livelihood – compensation calculated as for private land owners	Not applicable	One-off cash payment to the municipality where no other eligible user identified, after reasonable period has elapsed.

BTC PROJECT RESETTLEMENT ACTION PLAN
AZERBAIJAN
FINAL REPORT

		historical arrangements between owner & user				
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Table 6.13 Entitlements for Temporary Use of Land in the 44-metre Corridor, Pipe Dumps and Construction Camp sites - Page 3 of 3

Type of Loss	Compensation Entitlements					
	Private land owners	Registered User	Un-Registered Private Users	Employees of State Agricultural Enterprise	Industrial Enterprise	State / Municipal L
Loss of pasture	Cash compensation equivalent to 3 season's pasture production, based on value of grass consumption/sheep/year x stocking rate (sheep/ha)	Cash compensation equivalent to 3 season's pasture production, based on value of grass consumption/sheep/year x stocking rate (sheep/ha)	Cash compensation equivalent to 3 season's pasture production, based on value of grass consumption/sheep/year x stocking rate (sheep/ha)	Triangular negotiation (LAT, the employee & enterprise director) to agree compensation due to the employee - cash equivalent to 3 season's pasture production.	Not applicable	Cash compensation to the municipality when no other user identified after reasonable period has elapsed.
Use of vacant enterprise premises	Not applicable				Payment of commercial market rental appropriate for the location of the premises	Not applicable
Use of occupied enterprise premises	Not applicable				Assistance to enterprise to locate replacement premises. Cash compensation to cover any transaction costs/bonds/any additional rental costs incurred by the enterprise. Cash allowance to cover removal costs. Allowance to cover any enterprise downtime (including provision for direct payment to workers to make up any loss of wages)	Not applicable
Allowance for unforeseen duties and taxes (for IFIs info only)	Percentage of compensation loading to be added to cover unforeseen duties and taxes				Not applicable	Not applicable
Make up to minimum compensation	Minimum compensation payment will be 500,000 Az. manats				Not applicable	No entitlement

Abbreviation: LAT – Joint Land Acquisition Team

Table 6.14 Entitlements for Right of Access (8-metre strip over the Pipeline) and Restriction of Use (58-metre corridor) - Page 1 of 1

Type of Loss	Compensation Entitlements					
	Private land owners	Registered User	Un-Registered Private Users	Employees of State Agricultural Enterprise	Industrial Enterprise	State / Municipal L
Eligibility	<ul style="list-style-type: none"> ▪ Land owner with registered land ownership certificate; ▪ Land owner with passport (or registerable) ownership documentation; ▪ Person with notarized Power of Attorney to act on behalf of absentee/incapacitated owner ▪ Next of kin awarded temporary ownership rights by Civil Court 	<ul style="list-style-type: none"> ▪ State agricultural enterprise with registered lease over state or municipal land ▪ Private user or entity with registered lease over state or municipal land ▪ Private user or entity with registered lease over private land ▪ Private user or entity with third party rights to land 	<ul style="list-style-type: none"> ▪ Private users with verbal or informal agreement with land owner ▪ Private users of state or municipal land without lease or formal agreement ▪ Private users of private land without agreement of landowner (subject to 	<ul style="list-style-type: none"> ▪ Employees of state agricultural enterprises no longer receiving salary from their enterprise but who are reliant on enterprise land for livelihood. 	<ul style="list-style-type: none"> ▪ Industrial enterprise with registered lease over state or municipal land 	<ul style="list-style-type: none"> ▪ State Land ▪ State Funds forest land ▪ State Funds agricultural land ▪ Municipal land
Restriction of use (58-metre corridor)	Cash compensation equivalent to 20 percent of the “project offered rate” for the subject land	No entitlement	No entitlement	No entitlement	Not applicable	No entitlement – State/municipalities t make available rights land at no cost to BT Co.
Right of access (8-metre pipeline strip)	Cash compensation equivalent to 80 percent of the “project offered rate” for the subject land	No entitlement	No entitlement	No entitlement	Not applicable	No entitlement – State/municipalities t make available rights land at no cost to BT Co.