

PROJECT IMPACTS AND MITIGATION MEASURES

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6 PROJECT IMPACTS AND MITIGATION MEASURES

6.1 GENERAL

The BTC project will have a variety of impacts on project affected people (PAPs). This chapter summarizes the impacts of land and asset acquisition and the mitigation measures that are currently envisaged. The sources of information used in preparing this guide to project impacts include¹:

- (i) Census of the affected land plots for the project corridor prepared by the Georgian International Oil Corporation (GIOC) and submitted to the BTC;
- (ii) Aerial photos of the project affected land plots;
- (iii) BTC inventory of the affected land parcels, crops and other assets;
- (iv) Identifications of private landowners within the 44-meter corridor² conducted by the BTC Land Acquisition Team (LTO, referred to as “Land Team”) and a local NGO, the Association for Protection of Landowners Rights (APLR);
- (v) Socio-economic RAP survey of affected households within the 44-meter corridor;
- (vi) Socio-economic RAP survey update;
- (vii) Semi-structured qualitative surveys on special groups of affected private and public owners / users;
- (viii) Project relevant data on land and crops value, project design, and construction costs collected by the BTC Land Team; and
- (ix) Data on the population of the affected districts and villages obtained from the State Department of Land Management.

The BTC project has been designed to minimize social and environmental impacts; it has been particularly sensitive to avoiding involuntary resettlement caused by damage to dwellings. Key impacts of the BTC project on peoples’ lives can be categorized as follows:

¹ See Chapter 4 for summary of when these activities were undertaken.

² All references to a 44 meter corridor in the RAP is based on the assumptions that (i) the SCP project is sanctioned, and (ii) the SCP and BTC projects agree on a joint land acquisition strategy.

Table 6.1 Summary of Land Acquisition Impacts

Type of Land Use	Types of Impact
Acquisition of land in the 44-meter pipeline construction corridor (2002 – 2004 inclusive), Above Ground Installations (AGIs), and access roads	<ul style="list-style-type: none"> ➤ Loss of arable land and related loss of income / livelihood ➤ Loss of annual and seasonal crops and related loss of income for the construction phase, including loss of subsistence use of crops ➤ Loss of trees, vines, and perennial crops and resulting loss of income / livelihoods ➤ Loss of structures, including fences, barns, hay sheds, hand pump wells and bores ➤ Loss of pasture lands including reduced access to pastures during construction period, potential impediment to seasonal movements of livestock ➤ Impacts on forests and resulting loss of resources ➤ Severance impacts, including physical obstruction of land plots and resources; fragmentation of land plots that results in some land becoming non-economic (orphaned land plots) ➤ Reduced need for agricultural labour during construction of both pipelines ➤ Potential damage to crops in the event of emergency access along the pipeline ➤ Nuisance to livestock (and possible lambing or calving losses) resulting from noise, dust and vibration during construction ➤ Potential reduced soil productivity subsequent to reinstatement ➤ Potential disturbance to existing access to communal property and resources, including pastures, rivers, canals, and forests ➤ Potential reduced productivity of affected enterprises including livestock enterprises, gravel extraction, and other industrial enterprises on leased state land ➤ Potential damage or disruption to services and infrastructure, including roads, irrigation canals and drainage systems ➤ Potential reduction in livestock income during construction and following construction while pastures recover. ➤ Potential losses of livestock from increased vehicle movement and trench development ➤ Potential damage to livestock waterholes
'Restrictions of Use' to be applied in the 58 meter pipeline protection zone	<ul style="list-style-type: none"> ➤ Restriction on building any habitable structures in the protection zones ➤ Prohibitions for an 8-metre strip over the pipeline for construction, tree crops or forestry ➤ Restriction on deep ploughing within the 8-meter protection zone ➤ Effective restriction on major irrigation extensions (deeper than 30cm) within the 8-meter protection zone

Some of the losses described above will be temporary, since original owners and users will be allowed to use most of the land acquired for construction and operation of the pipeline once construction is complete. Other losses will be permanent, such as those losses associated with acquisition of land for permanent facilities. Due compensation will be paid for these losses in line with the guidelines presented in Chapter 5.

Land Uses Affected by Permanent Land Acquisition

Land Use	Approximate to be Permanently Acquired (ha)
Irrigated Arable	16
Non-irrigated arable	1.5
Hayfield	1.1
Grazing land	16
Unutilized	
Other	

6.1.1 Impacts on Private Plots

As illustrated in Table 6.2, the distribution of the number of affected privately owned plots vary across the seven districts through which the BTC pipeline passes in Georgia. About half of all the affected plots are located in Akhaltsikhe and Borjomi districts, whereas Adigeni district has only 5 percent of these plots.

A key issues is the differential impacts of the project on individual plots. Figure 6.1 shows how the corridor might consume different portions of land from plots, depending on the affected shape of the plot, and how the pipeline intersects the plot.

Table 6.2 Number of Affected Plots - by District³

Privately owned land	58 meter safety zone	44 meters
Adigeni	157	142
Akhaltzikhe	877	764
Borjomi	715	653
Gardabani	351	297
Rustavi	156	129
Marneuli	1	-
Tetritskaro	427	414
Tsalka	426	383
TOTAL	3,110	2,782
Leased state land	58 meter safety zone	44 meters
Adigeni	1	-
Akhaltzikhe	62	60
Borjomi	5	5
Gardabani	82	80
Rustavi	1	-
Marneuli	6	6
Tetritskaro	58	57
Tsalka	42	40
TOTAL	257	248
Other state land	58 meter safety zone	44 meters
Adigeni	1	1
Akhaltzikhe	82	81
Borjomi	77	71
Gardabani	94	84
Rustavi	22	19
Marneuli	21	20
-Tetritskaro	90	85
Tsalka	78	77
TOTAL	465	438
Communally used state land	58 meter safety zone	44 meters
Adigeni	24	20
Akhaltzikhe	177	170
Borjomi	55	54
Gardabani	60	56
Rustavi	6	6
Marneuli	23	23
Tetritskaro	90	84
Tsalka	43	41
TOTAL	478	469

Source: BTC project, GIOC Data, GIS Database, 2002.

³ Gardabani District includes Rustavi City for the purposes of the RAP. Marneuli District has one private plot affected by the pipeline; thus it is excluded from the analysis.

Figure 6.1 Hypothetical Pipeline Impact

Impacts on 5,000 square meters of land would be variable subject to its shape and how the pipeline intersects the land.

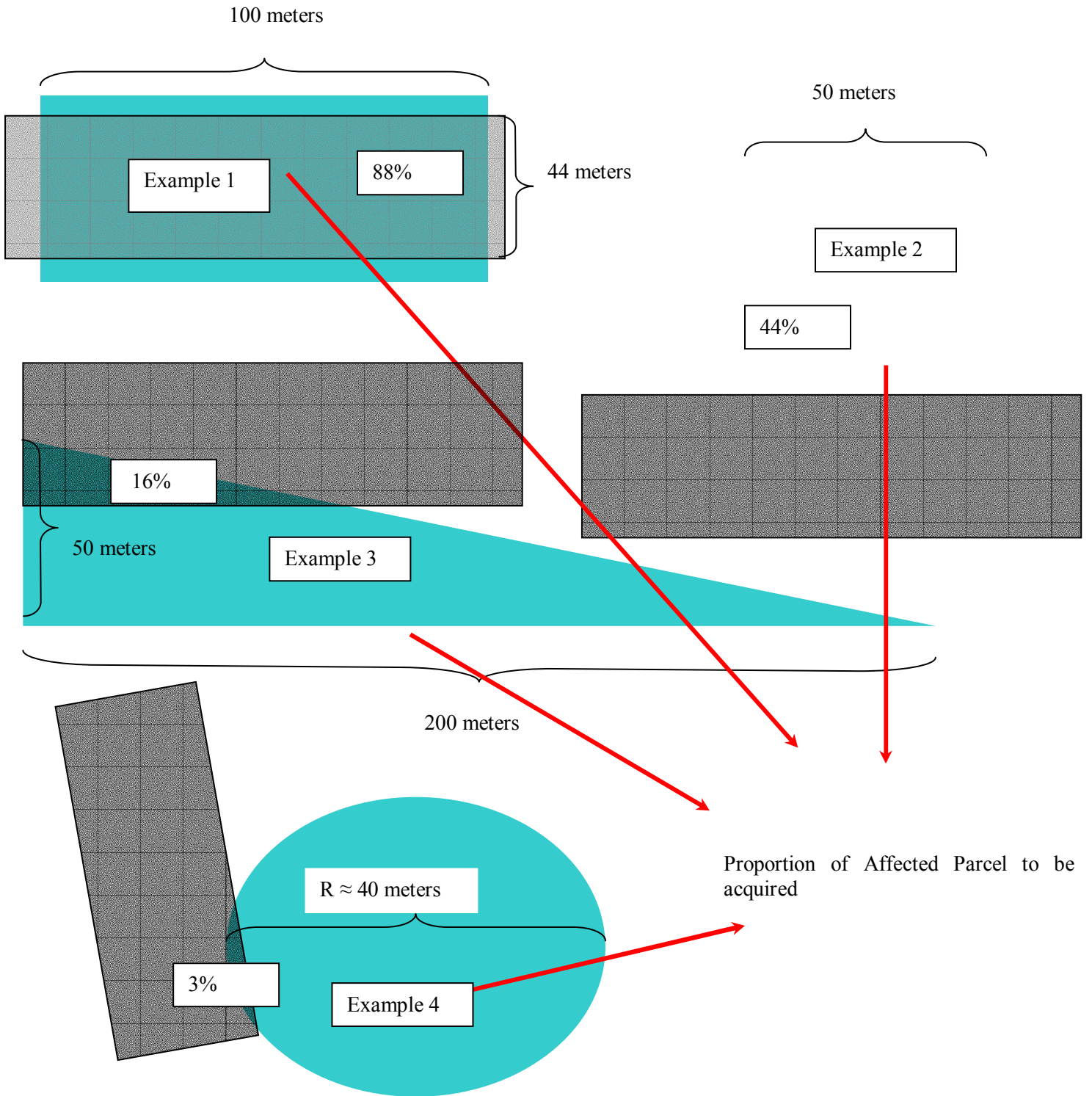
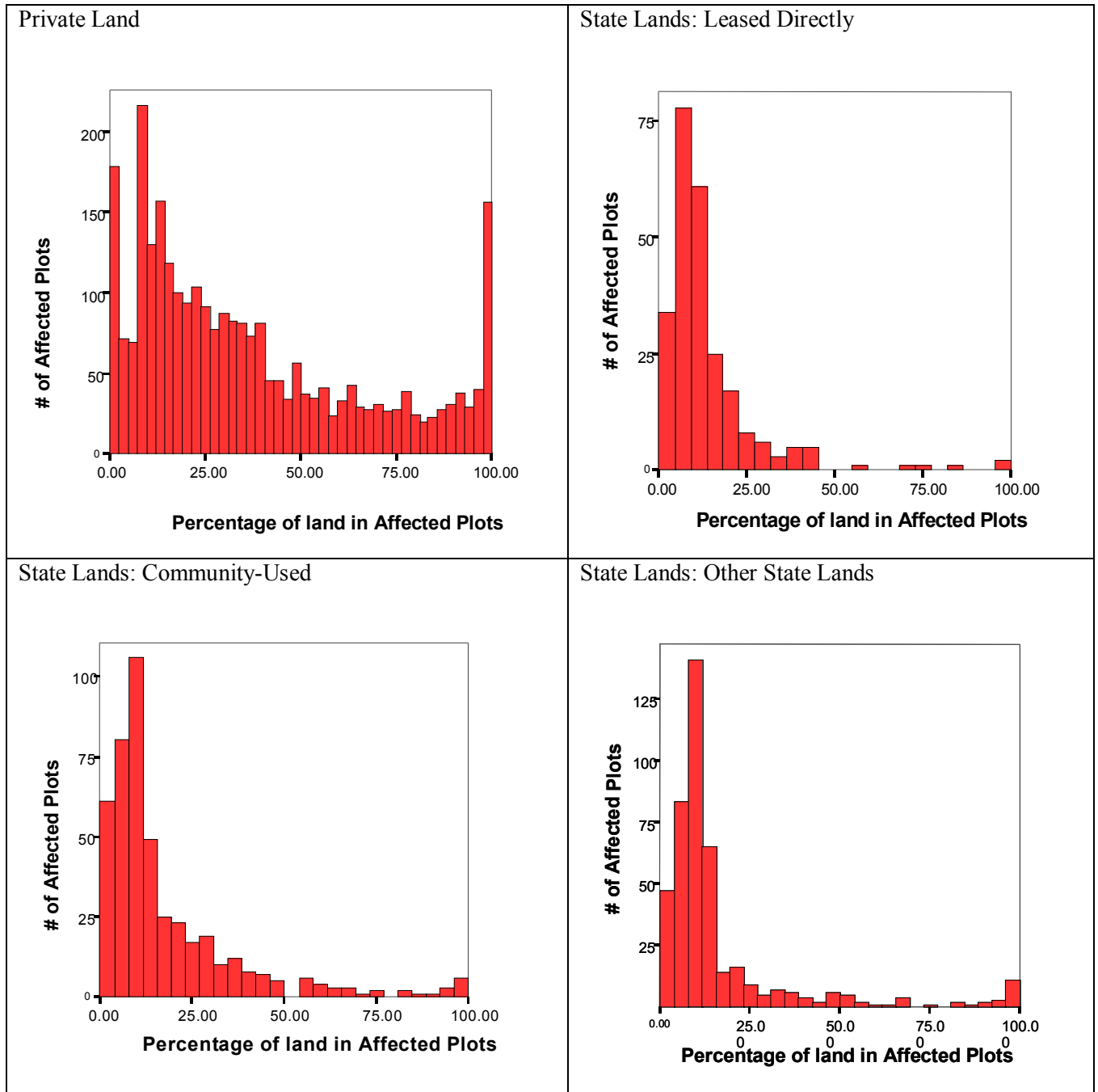


Figure 6.2 Distribution of Affected Plots (44 meters)



Source: BTC project, GIOC Data, GIS Database, 2002.

Figure 6.2 illustrates that the project will acquire 100% of a number of the privately owned plots. The level of relative impact is much lower for leased, community-used, and other State lands. The accompanying impact on livelihoods, therefore, will be more significant for owners and users of private lands than for those using State lands under various arrangements.

6.1.2 Impacts on Community-Used State Lands

Table 6.3 Characteristics of Affected State Lands Managed by Sakrebulo⁴

Type of Community-used lands (ha)	Total size of the Community-used Plots Affected (ha)	Size of Plots Affected by restrictions in 58-meter Corridor (ha)	Size of Plots Affected by 44-meter Corridor (ha)
Arable	476.3	88.6	64.3
Hayfield	248.8	29.5	20.8
Pasture	3,373.6	467.9	343.2
Non Agricultural Use	130.2	21.8	21.8
TOTAL	4,228.8	607.9	450.1

Source: BTC project, GIOC Data, GIS Database, 2002.

Impacts on community-used (Sakrebulo-managed) State lands are likely to be varied. Areas equivalent to eighty-one percent of community-used State lands that are impacted within the 44-meter corridor have been classified as pastures or hayfields in the GIS Survey.⁵ In addition, a small but significant portion is categorized as arable land. Field discussions revealed that arable community-used State lands are used for cultivation, although utilization arrangements on these lands show some diversity. [In instances where there are formal arrangements, community members utilizing these lands pay fees to Sakrebulo; in other cases, the land utilization arrangements are informal and, thus, the structure of these fees is unclear.⁶

In cases where the community-used arable State land provides income to local villagers (in addition to the income obtained through the use of common resources), then losses originating from the use of these for the pipeline will be compensated.

6.2 SUMMARY OF PROJECT AFFECTED PEOPLE

The GIS census indicates that in all areas except Adigeni, households have, on average, only a single plot that will be affected by the project. On average, people own 2.7 plots of land in total. The socio-economic survey (Chapter 4) revealed that only about 10 percent of owners have shared

⁴ According to Georgian Law on Local Self-Government, a Sakrebulo government – Gamgeoba - is elected for 4 years. Sakrebulo government is comprised of a Sakrebulo head, or Gamgebeli, his deputies and other members of Gamgeoba (not to exceed 7 members in total). There are district level representatives of the State Department of Land Management (SDLM) who, in collaboration with Gamgeoba, administer the use of community-used lands.

⁵ No major changes occurred in most of the communities since the June 2002 local government elections. The old system of community-used State lands use has not changed in principle as currently administered by Sakrebulo authorities. However, there are specific cases of more independent local decision-making with regard to the use of Sakrebulo-managed lands. In one village, a change of power resulted in a decision by the newly elected local government to re-allocate Sakrebulo-managed lands that are in communal use. In another case, Sakrebulo-managed lands that were previously used without any formal arrangements are now available for use only on the basis of a formal lease

⁶ There are serious irregularities in payments due to the population's overall low-income level, lack of cash, and delayed or inconsistent receipt of salaries and pensions.

ownership on affected plots. In the vast majority of cases, the title is also registered in the name of that one person. The majority of the landowners, however, cultivate the land together with their immediate family members, thereby providing an important means of livelihood for the entire family.

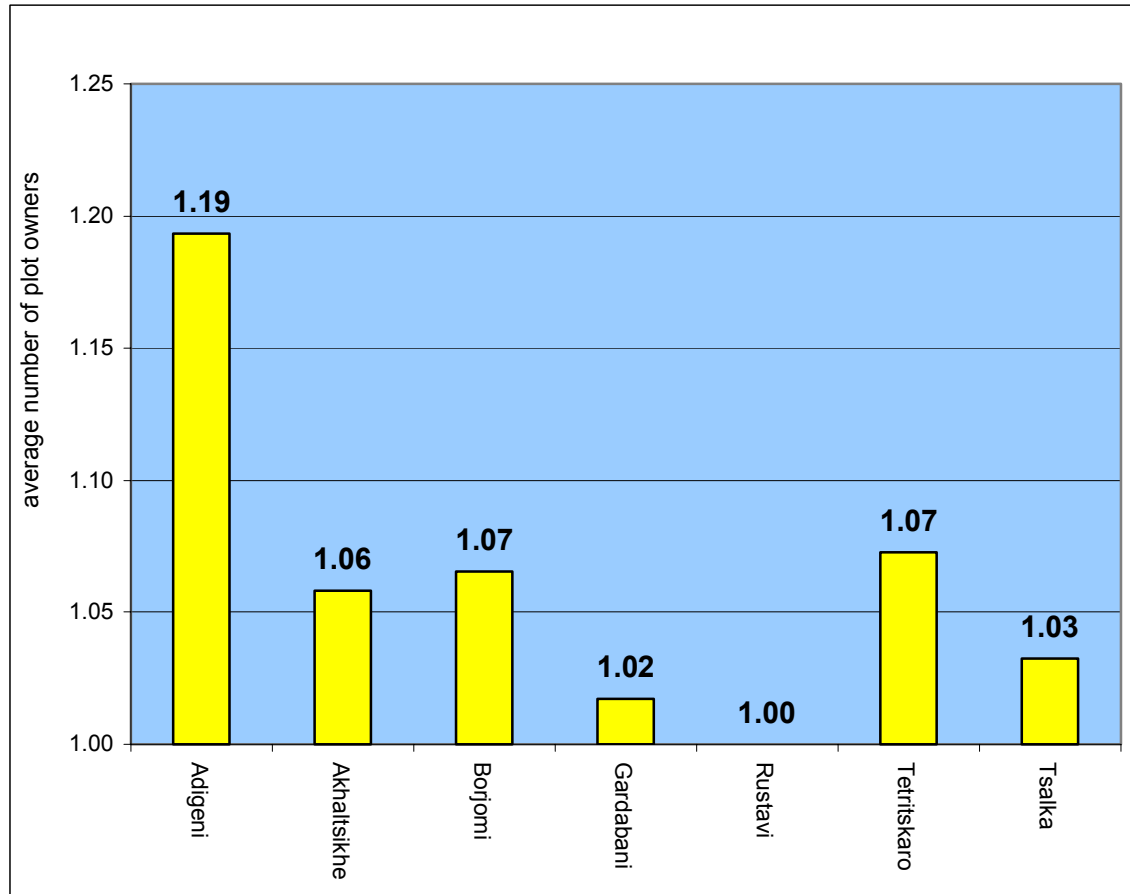
Table 6.4 Privately Owned Plots & Owners

District	Number of Affected Plots	Number of Owners
Adigeni	142	119
Akhaltzikhe	764	722
Borjomi	653	613
Gardabani	297	292
Rustavi	129	129
Tetritskaro	414	386
Tsalka	383	371
TOTAL	2,782	2,632

Source: BTC project, GIOC Data, GIS Database, 2002.

As a result of the relationships summarized above, the numbers of affected plots are almost identical with the number of affected persons (Table 6.3). As reported in Chapter 4, several families may jointly cultivate plots and, thus, the impacts in these cases will go beyond the owner family. In such cases of joint land use, joint tenants have had equal access to disclosure materials that explain land acquisition process and entitlements. similar to other tenants on private lands, and the cash compensation due for the plot will be shared among the relevant parties. As noted below, the public lands are also used by many families, even though one person representing all such families may lease such land on behalf of all the families.

Figure 6.3 Average number of affected plots per owner



Source: BTC project, GIOC Data, GIS Database, 2002.

6.2.1 Affected Populations

The affected populations fall into two major groups:

- Private land owners
- Lessees

Among these, the following four sub-groups deserve particular investigation to determine the special mitigation measures needed (Chapter 4):

- Communities using state lands managed by Sakrebulo
- Women
- Elderly persons
- Minorities

Owners: These consist of owners of both agricultural and urban land. The owners of agricultural land are more numerous. Their compensation will be based on the State Land Replacement Fee (SLRF), which currently provides owners a level of compensation greater than both the market

values of the land and its capitalized net income (Chapter 5). Rural landowners will also receive compensation for the value of standing crops on their land. Compensation payable to urban landowners will not be less than the “market value” of their land. Since the number of joint landowners appears to be low, few or no disputes are expected in cases of joint ownership.

The socio-economic survey found that only about 4.5 percent of the land is registered under more than one name, and most people work the land with their families. To ensure that all joint owners are recognised and agree to sell their land shares, extracts from the public registers will be reviewed and consent from co-owners will be sought during the land acquisition process. As the GLAC is being so widely distributed, all co-owners will have had relevant information enabling them to make an informed decision. In cases of contested ownership, BTC Co. will pay for any legal fees relating to the establishment of legal ownership, and it will then purchase the land from the legal owner. If the ownership is not contested but also not officially registered, BTC Co. will help register the land in the owner’s name and then provide the due compensation.

Owners will be fully entitled to cash compensation for their land, based on the SLRF.⁷ Of the 2,782 privately owned plots, 786 (28 percent) will lose more than 50 percent of their plot to the 44-meter corridor.⁸ For these owners, cash compensation alone may not be sufficient to restore incomes, especially in rural Georgia where reliable banking and commercial activities and opportunities are highly limited. One option for restoring incomes would be improving the productivity of garden plots (if they own such land) or by intensifying agriculture in the remaining portion of their land. The RAP Fund will provide technical assistance in the areas of agriculture intensification, and small enterprise development in rural areas to fully restore or improve incomes (Chapter 5). Additionally, the Community Investment Program (CIP) is a key project activity that will assist people in affected communities to improve their livelihoods, , although it is not directly related to land acquisition. The RAP and activities described within this document are targeted at those people impacted by land acquisition. The CIP is targeted at communities which are affected by the project on a broader level. See Section 6.17 for more information on the CIP.

Non-resident (absentee) owners appear to constitute a minor, but important segment of the affected population. Nevertheless, absentee owners must be identified and their concerns addressed to enable efficient implementation of compensation procedures. The relevant data are being gathered. Once absentee owners are identified, their new addresses will be obtained and information about BTC Co’s land and asset acquisition and compensation procedures will be shared with them.

Lessees: There are 248 formal tenants on State lands, and an undetermined number of formal and informal tenants on privately owned land. In addition, some of the land leased from the State is sub-leased to individual users. These users will be entitled to compensation, regardless of the existence of formal contracts. Their entitlements will typically be limited to the gross value of crop cultivation on the affected lands for three years, trees (if planted by the lessee) and any structures (including informal irrigation works) that they may have built. Also, depending on the contractual arrangements (such as joint cultivation of land), a portion of affected assets (such as crops) might have to be shared between the owner and the lessee.

⁷ The minimum amount of compensation will be the equivalent of 300 Georgian lari or approximately US\$150, no matter how small the piece of land clipped by the 44 meter corridor is.

⁸ The socio-economic survey (Chapter 4) revealed that the vast majority of households have garden plots attached to their houses, at an average size of almost 1 acre. It is therefore possible that even though these households may lose large sections of their land, intensified agriculture on garden plots may help offset the loss. The project will provide assistance to affected households in these matters.

On some State lands,⁹ pastures are leased out to individuals on a one-year basis and, sometimes, on a multi-year basis (3-10 years). Such lands are leased to people of power or significant experience in agriculture, notably to former managers of old collective farms or their family members. The sizes of land leased for pastures or arable land are large (60-100 hectares per lessee) and they are often sub-leased informally to other villagers. There are also cases where arable lands are being used by the residents without any formal agreement with the Sakrebulo administration or district authorities.

Communal Users of State-owned Lands: With the exception of arable lands, typically, everyone in a community is eligible for the use of pasture and hayfields,

Affected State-owned land in communal use will be compensated for on the basis of one harvest of hay per year in the affected area during the construction period (3 years). This payment will be made to the Sakrebulo. In addition, the RAP Fund will pay grazing fees to each Sakrebulo for 3 years while community members will be exempt from making these payments. The amount of these fees will be determined based on the total budget of livestock grazing fees (regardless of whether they have been successfully collected in the past) from communities in the year preceding construction for each Sakrebulo. The RAP Survey results estimate that, on average, each Sakrebulo will receive about 9,000 GEL/year (or \$4,500/year) per Sakrebulo to cover these payments, although exact amount of payment to each Sakrebulo will vary depending on factors such as the size of the community, land area, and number of livestock.¹⁰ The payment will be made for 3 years, and during this time, community members will be exempt from making grazing payments to the Sakrebulo for their livestock.¹¹ See Section 6.17 for a discussion of the Community Investment Program, which has been developed for the project.

Women: Elderly women constitute the majority of females with one plot of land or more (Tables 6.5). While women and men have equal rights to land under civil law, the percent of women landowners is relatively low and highly variable from one district to another (Figure 6.3). In no region do women constitute even 50 percent of landowners. Given that a majority of female owners are elderly, these women may have difficulty in using compensation payments to restore income levels. The project will focus especially on assisting vulnerable population groups, which will include elderly female landowners (Chapter 4).

⁹ The Rayon, or district government, has full authority in the management of State-owned lands including allocation of land, arrangement of a lease agreement, and defining the terms and conditions of the lease. The district governor approves a lease agreement and sends it to the SDLM for processing. The Sakrebulo chief does not have the power to object to the decision of the district government. In the majority cases, State-owned pastures and hayfields are used informally, without any formal agreement.

¹⁰ For budgeting purposes, the RAP survey established that on average, each household pays about 43 GEL for communal grazing rights to Sakrebulo during the construction period of three years, or about 14 GEL/year. The average population of each Sakrebulo is 1,250 people, which corresponds to 291 families. Therefore, the total payments over three years per Sakrebulo can be expected to be around 12,500 GELs (or 4,200 GEL/year). However, qualitative interviews revealed that many members are in arrears in their fee payments. Since the payments will be made based on Sakrebulo budgets (and not actual receipts), these numbers are averages, and, indeed, both the range of community-used lands and people utilizing them may vary, it is estimated that an average of 27,000 GEL/Sakrebulo over a period of 3 years (9,000 GEL/year/Sakrebulo) from the RAP Fund should comprise a sufficient budget.

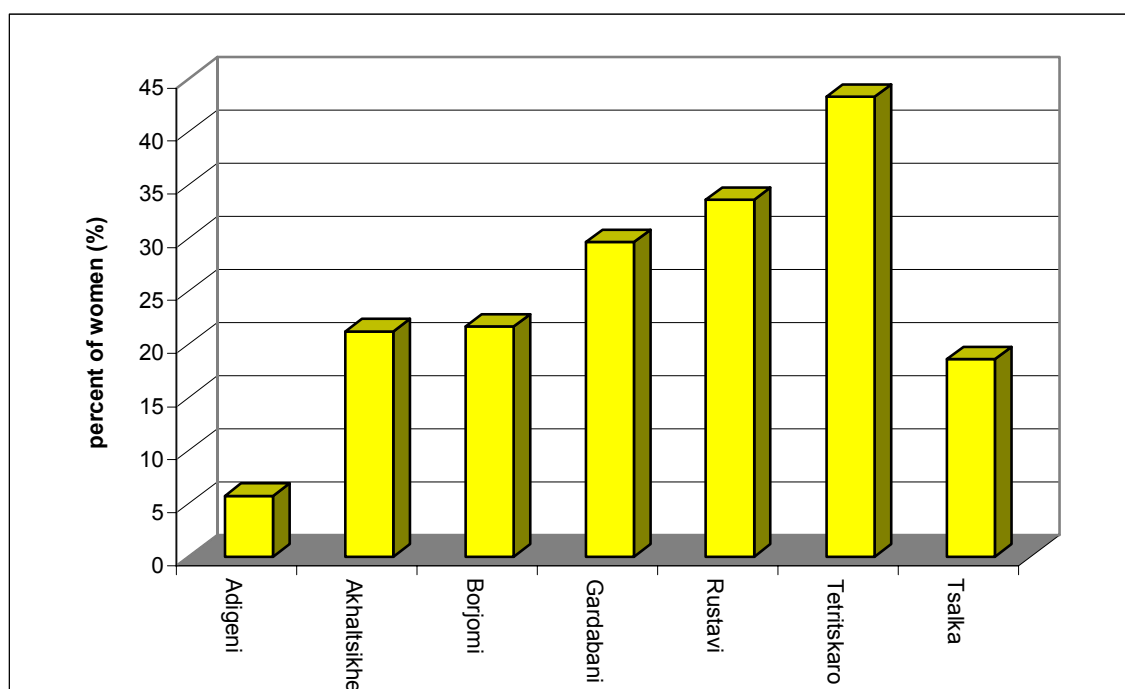
¹¹ The \$5mn Community Investment Program (CIP) being implemented by the project, while not linked to land acquisition in particular, will support sustainable development in the communities affected by the project. Information on the CIP is available on www.caspiandevlopmentandexport.com

Table 6.5 Gender & Age Characteristics of people with one plot and people with more than one plot

		Male (percent)	Female (percent)	Overall (percent)
People who own more than one plot	Ages 23-50	43	22	38
	Ages 50 and above	57	78	62
People who own only the affected plot	Ages 23-50	51	31	46
	Ages 50 and above	49	69	54

Source: Georgia RAP Socio-Economic Survey 1, 2002.

Figure 6.4 Percentage of female owners among affected populations¹²



Source: BTC project, GIOC Data, GIS Database, 2002.

Women in Georgia outnumber men in general as well as in some of the project districts. There are several explanations for this phenomenon. These include a decrease in the birth rate (both rural and urban), an increase in mortality rates, and deteriorating health among all gender and age groups over time.

There are certain coping or survival strategies that are evident among rural women, and enhancement of these would be part of the RAP Fund's activities. Women of working age and capacity look for temporary and occasional informal jobs that are mainly paid in-kind.¹³ The majority of women in affected areas live off their gardens and land plots that are used for raising vegetables, potatoes or fruits intended for family consumption. It is also clear that owning livestock

¹² Previous version of the GIS Data (10-Sep-2002) is used in this table. Latest version of the data (10-Oct-2002) has incomplete gender information.

¹³ Use of the term "in-kind" refers to payment in commodity and not cash.

(typically a cow or a pig, or a few sheep and/or poultry) appears to be a “life-saver” for rural families.

Minorities: There are Greek and Armenian communities in Tsalka, Borjomi, and Tetrtskaro where women, and elderly women in particular, disproportionately outnumber men and youth. There are also Russian households in Tetrtskaro that are comprised of elderly parents left alone by their children. Although Greek households may represent a “transitional” group where elderly women are in the process of selling their houses and other property before they depart for Greece to join their extended families, there are also many of those who are not supported by their families abroad.

6.3 SUMMARY OF PROJECT LAND ACQUISITION PLOTS

The BTC project will impact both public and private lands as shown in Table 6.6. Private plots are nearly three times as numerous as public ones. The latter, however, tend to be larger in size.

Table 6.6 Average Size of Total Affected Plots by 44-meter corridor

	Number of Affected Plots	Average Total Size of Plots (44-meter) (ha)
State Lands: Leased Directly	245	12.8
Private Lands	2,782	0.32
State Lands: Other State Lands	438	3.62
State Lands: Community-used	469	9.3

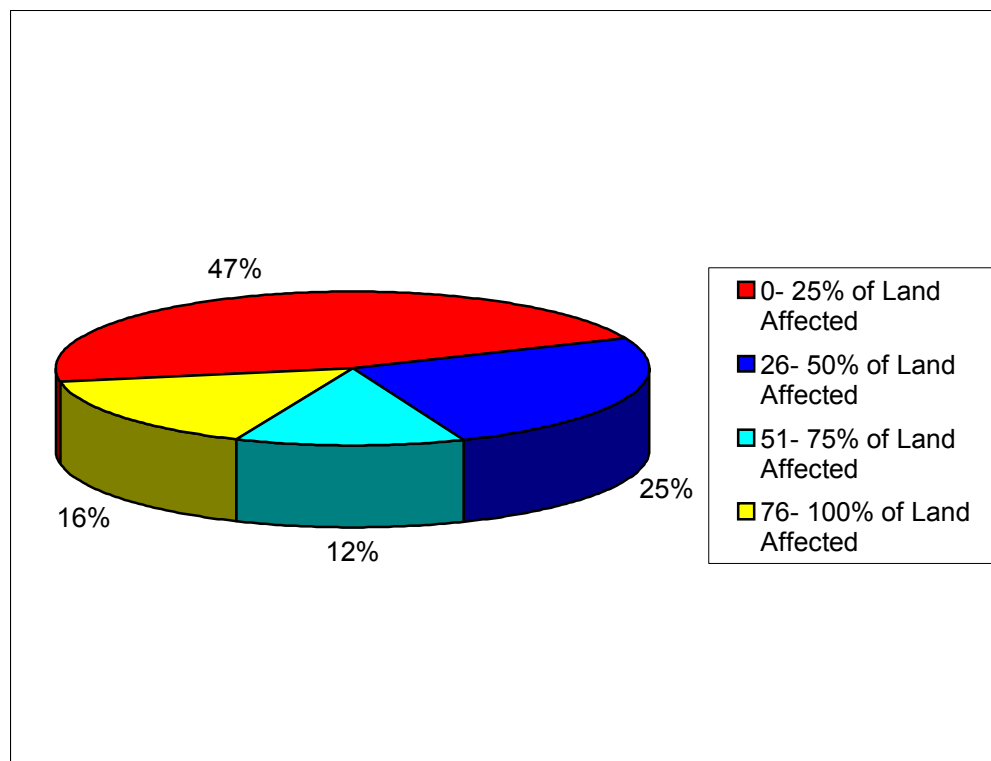
Source: BTC project, GIOG Data, GIS Database, 2002.

6.3.1 Level of Impacts on Local Populations

A significant portion of the owners (45 percent) will be impacted on more than 25 percent of their land, and thus, additional compensation may be necessary to account for lost economic productivity on the remaining land. Chapter 4 indicates that average land loss as compared to size of total land holdings is relatively small, but not insignificant. In addition, existing land ownership differences between male and female landowners would slightly exacerbate the negative impacts of the project on female landowners.

A significant portion (25 percent) of landowners will have more than between 25-50 percent of their land affected by permanent or temporary acquisition, and there is a chance that resulting income impacts will be severe (Figure 6.5). In addition to other vulnerable groups, the RAP Fund will focus on these disproportionately affected owners for in-kind assistance.

Figure 6.5 Level of Impact on Privately Owned Plots Affected by 44-meter corridor



Source: BTC project, GIOC Data, GIS Database, 2002.

Table 6.7 Number of Plots and Size of Affected Area Affected by BATCH project

	# of Plots	Total Area of Affected Plots (ha)	Area Affected by 58m. (ha)	Area Affected by 44 meters (ha)	Area Affected by 32 meters (ha)
State Lands: Leased Directly	248	3,205.3	512.3	305.6	192.3
Private Lands	2,782	956.9	377.0	254.4	177.8
State Lands: Other State Lands	438	1,663.3	193.7	147.6	67.1
State Lands: Community-used	469	4,269.6	607.9	450.1	251.7

Source: BTC project, GIOC Data, GIS Database, 2002.

In the case of private owners, BTC will use a modest amount of land both during and after construction. Following construction completion, lands would be re-opened for restricted use, except for the lands acquired for AGIs. This will be more land once SCP AGIs are constructed.

Compensation will be paid for the acquisition of land and assets of private owners and tenants. Private owners will be paid the SLRF for land in addition to standing crops, no matter where they are in growth cycle. In addition to cash compensation for acquired land, non-moveable assets located on the land, as explained in previous sections and in the entitlement matrix, will be replaced or, compensated at replacement value (or the market value, if higher). If a piece of land is heavily severed, leaving an uneconomic piece of orphaned land, the project will pay cash compensation with respect to such orphan land as well.

The State will not be paid for the acquisitions of public lands, but tenants of the State lands will typically be compensated for their crops for three years¹⁴. Details of such compensation are discussed under the “Lessees” section.

6.4 RESUMPTION OF USE OF CULTIVATED LAND

There are 970 hectares of privately owned land in plots crossed by the 44 meter corridor, which will be acquired by the project. In the legal sense, the project will involve the transfer of legal title of 258 hectares of this land from original owners to BTC Co. In practical terms, however, except for land for permanent facilities, land on the ROW will be available to the owners for cultivation, albeit with restrictions, after construction is complete and the pipeline is commissioned. The use of this land will be returned to the ex-owners free of charge. BTC Co. will purchase privately held land in the 44-meter corridor; and it will be allocated State land that is in the 44-meter corridor, for which BTC Co. will pay compensation to the user. During BTC construction, only 32-meters of the corridor will be used, but the owners and users of the 12 meters not being used by the project will not have access to that land during BTC construction. Subsequent to construction, contractors will reinstate the land to its original condition following guidelines set out in a detailed reinstatement specification¹⁵, and it is anticipated that the former owner or user will be allowed to reenter the land in due course.

All land for AGIs is permanently acquired (i.e. no reuse will be allowed) as described in Chapter 1.

Table 6.8 Total Area Affected by BTC– by District

	Total Size of the Affected Plots¹⁶ (ha.)	Total Area Affected by 44 meters (ha.)	Area Affected by 32 meters (ha.)
Adigeni	33.5	9.7	6.4
Akhalsikhe	187.5	69.1	42.6
Borjomi	263.2	65.8	45.1
Gardabani	61.7	22.6	19.6
Rustavi	11.0	5.0	3.2
Tetritskaro	264.9	44.2	30.9
Tsalka	148.2	42.0	33.3
TOTAL	970.0	258.4	177.8

Source: BTC project, GIOC Data, GIS Database, 2002.

¹⁴ The complication arises when the lease is held by one person on behalf of a group, or when a long-term lease is sub-let to other families.

¹⁵ A summary of the reinstatement specification is available in the BTC ESIA.

¹⁶ For plots within the 44 meter corridor and the 58-meter pipeline restriction zone

Table 6.9 Average Size of Affected Land - by District (ha)

	Average by 44-meter corridor	Average by 32-meter corridor
Adigeni	0.21	0.05
Akhaltzikhe	0.22	0.06
Borjomi	0.38	0.07
Gardabani	0.14	0.06
Rustavi	0.07	0.03
Tetritskaro	0.63	0.10
Tsalka	0.36	0.09
TOTAL	0.32	0.07

Source: BTC project, GIOC Data, GIS Database, 2002.

6.5 PERMANENT RESTRICTIONS ON LAND USE IN THE PIPELINE PROTECTION ZONE

Restrictions of use are typically applied around crude oil pipelines and related installations to protect the integrity of the pipeline, to reduce the potential for accidental damage, and to minimize risks to people and communities living and working in the immediate vicinity. Such restrictions can, in some cases, limit the types of installations that be constructed or the activities that can be conducted by owners or users within a prescribed zone.

“Restrictions of use” will be applied to an area 15 meters either side of the pipelines, effectively creating a 58-metre corridor (referred to as the pipeline “protection zone”) that will extend 7 metres either side of the total 44-metre construction corridor for both projects. Restrictions will apply throughout the operational life of the projects. The restrictions will be consistent with international codes and will be considerably less restrictive on land owners and users than Soviet standards that have historically been applied to crude oil and natural gas pipelines.

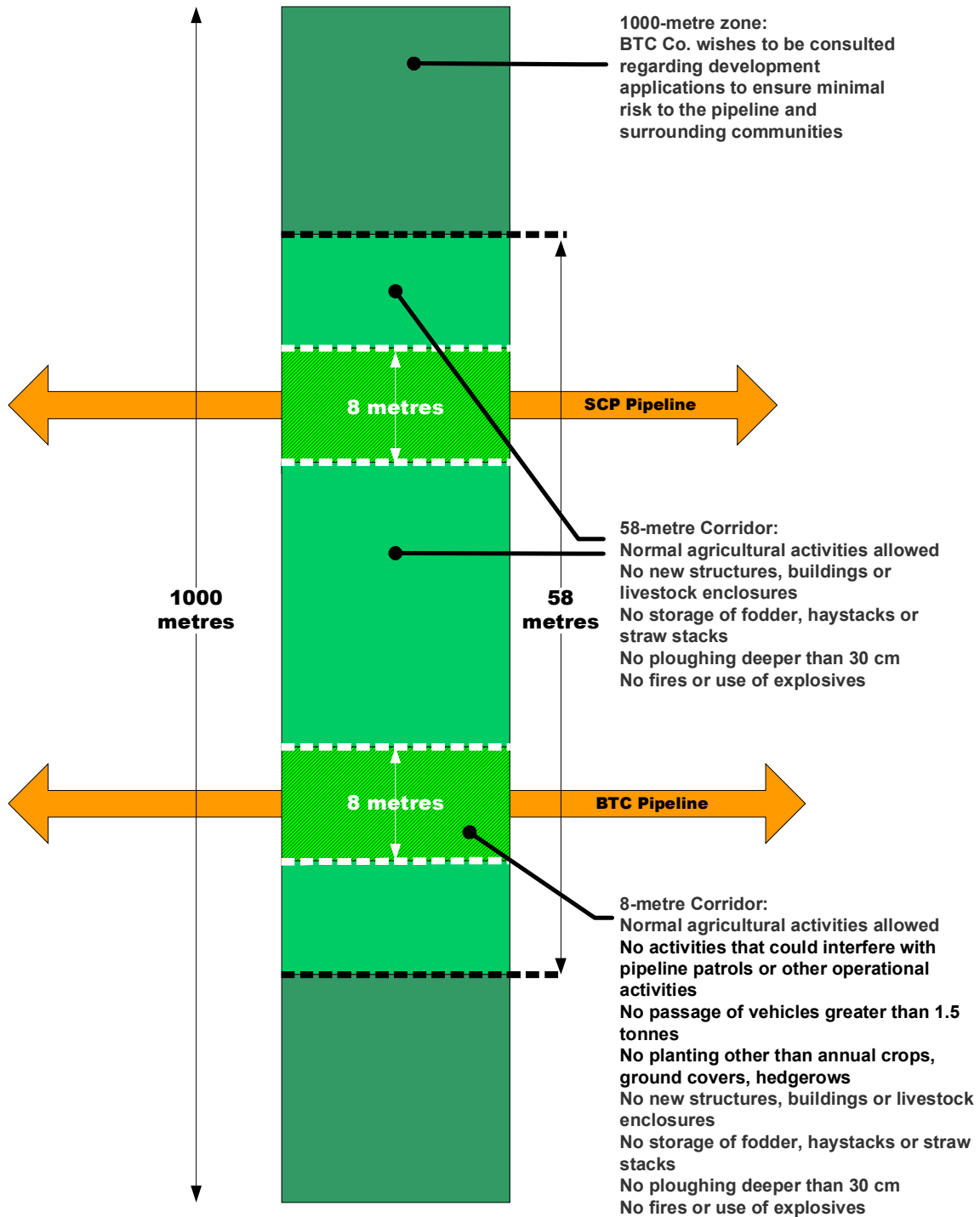
The majority of existing uses such as grazing, hayfields and cultivation will be able to continue as before the project.

The following work and activities will be **prohibited** within 15 meters either side of the pipeline (i.e. within a 58 meter pipeline protection zone):

- Construction of any building, whether habitable or not
- Construction of any facility or the erection of any installations, including livestock enclosures
- Storage of fodder, fertilisers and materials, making of haystacks and straw stacks
- Fires of any sort
- The construction of passages, vehicular accesses and roads
- The construction or use of parking lots for tractors, agricultural machinery or other machine driver vehicles

- The use of explosives, piling or similar activities
- The pouring of any acid, alkali solutions or other inflammable corrosive or toxic fluids
- Any welding or flames, except as required for activities in section below, as approved by the pipeline operator and carried out under the pipeline operator's permit supervision
- Interference with any marker post or cathodic test point, including relocation, burying, breaking or knocking down
- Interference of any kind with any of the pipeline operator's equipment in the zone, including, opening and closing valves, switching on and off any communication or logging devices, interfering with any power supplies
- Significant change to the ground profile
- Alter, divert or otherwise interfere with any drainage ditches, irrigation canals or dykes and banks that protect the pipeline and the pipeline zone from damage, and any erosion control materials/measures
- Alter, divert or otherwise interfere with the dykes and banks designed to contain any oil spill or protect adjoining areas in the event of an oil spill

Figure 6.6 Pipeline Protection Zones



The following activities are **prohibited** within 15 meters either side of either pipeline (i.e. within the 58 meter pipeline protection zone), **except with full approval of BTC Co.**, and if they are being carried out under the pipeline operator's permit system, and the pipeline operator supervision.

- Installation of lines (including electrified stock fencing), cables or pipes of any kind either under the land, or over the land (whether surface laid or on poles)
- Installation of essential agricultural fences
- Road, track or railway construction
- Construction of new irrigation (greater than 30 cms deep) or drainage ditches
- Excavations
- Small alterations in the ground profile

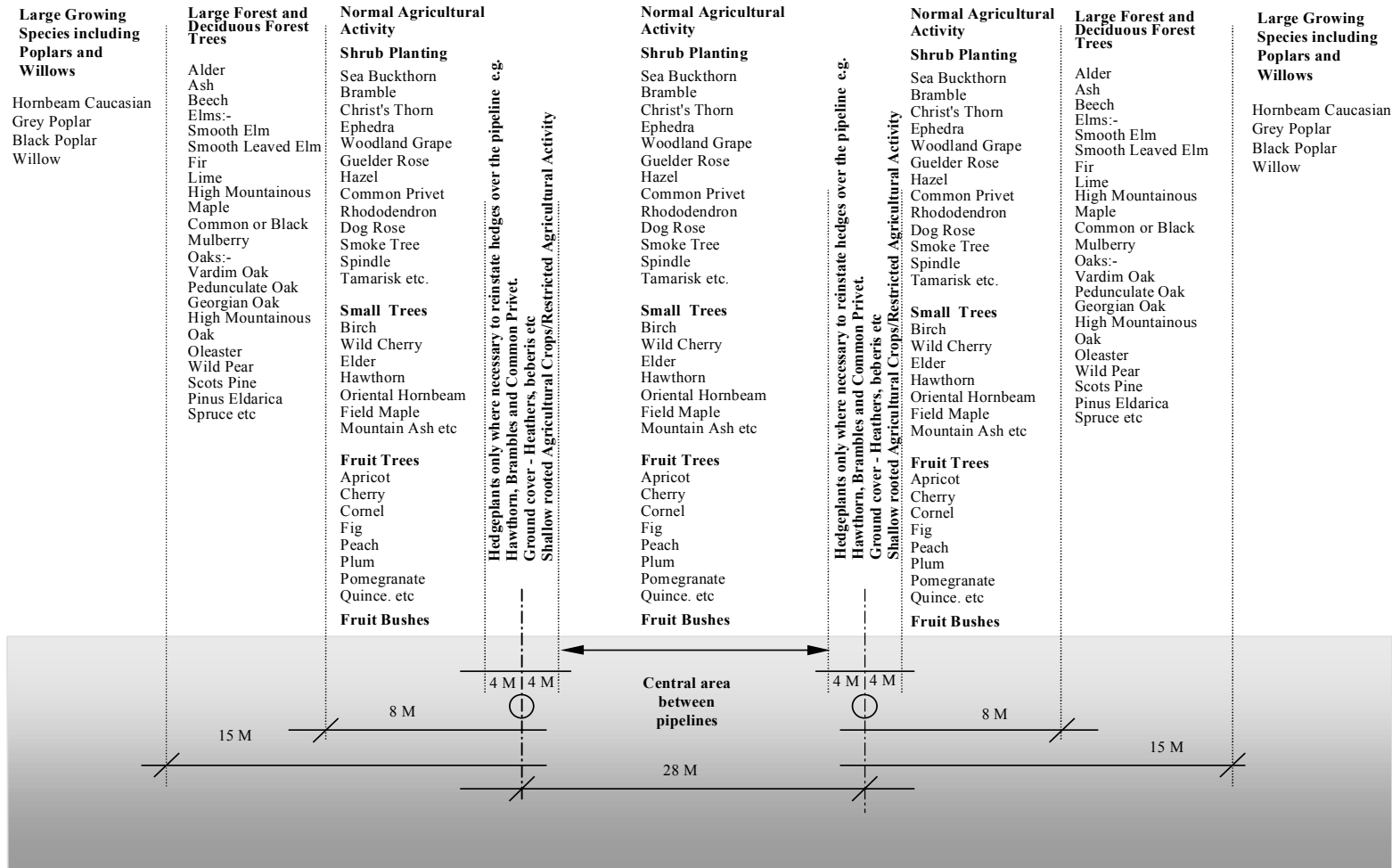
The following are additional restrictions that apply only to 4 meters either side of the pipelines:

- Any activity which could interfere with the performance of pipeline patrols and other necessary operational activities
- Any activity which could cause or lead to damage to the pipelines
- The passage of any vehicles (not permitted under permitted activities across the pipelines), if greater than 1.5 tonnes weight, except at designated pipeline crossing points, or with full approval of the pipeline operator, and carried out under the pipeline operator's permit system and supervision
- Construction of new irrigation (greater than 30 cms deep) or drainage ditches
- Taking of soil samples, including survey, mining, reclamation or other such works
- Boreholes, for any reason whatsoever
- Any alteration to the ground profile
- Any material alteration to the zone affecting support of the surrounding soil to the pipeline.
- Any increase in the cover over the pipelines, however caused
- Any decrease in the cover on the pipelines, however caused (including agricultural activity)
- Any placement of substances, including general rubbish, wastes or detritus.

The land and community liaison teams will be able to provide information on the minimum allowable distance from the pipelines for different tree species, based on Figure 6.7.

As described in the foregoing section, regular horseback patrols will be conducted along the pipeline for liaison with owners, users and occupiers and to monitor activities within the 58-metre pipeline protection zone.

Figure 6.7 Tree Planting Schedule



6.6 IMPACTS ON GRAZING LAND AND PASTURE

An important portion of land to be acquired is either in pastures or areas classified as forestlands, although the impacts on such lands are expected to be minimal. The following explains the compensation that will be offered for these impacts.

Table 6.10 Affected Pasture and Forest Land Distribution (44-meter corridor)

	n	Forest ¹⁷ (ha)	N	Pasture (ha)
State Lands: Leased Directly	-	-	43	95.4
Private Lands	-	-	-	-
State Lands: Other State Lands	84	59.4	14	11.1
State Lands: Community-used	5	1.2	285	343.2
TOTAL	89	60.6	342	449.7

Source: BTC project, GIOC Data, GIS Database, 2002.

Table 6.10 shows expected project impacts on State (including community-used) pastures and privately owned grazing lands. During the construction phases of both the BTC and SCP pipelines, measures will be taken to permit passage of livestock from one side of the pipeline route to the other in the interest of minimizing adverse impacts. The acquired land represents a very small percentage (0.038 percent across districts) of all lands in community use and, thus, project impacts on grazing are not expected to be highly significant.¹⁸

The amount of pastureland to be acquired will be highest in Borjomi, Tetrtskaro and Tsalka districts. There is extensive reliance on open grazing in these districts, with a high proportion of income being generated through livestock management. Although no impacts are expected, BTC Co. will pay special attention to reinstatement to avoid losses.

Also, as shown previously in Table 6.3, many Sakrebulo use State-owned land for cultivation as hayfields. BTC Co. will, through the RAP Fund, pay for the grazing fees that each Sakrebulo had in their budget during the year preceding construction. This will be done on a case-by-case basis, since each Sakrebulo is different in terms of its size and the number of community members.

¹⁷ Previous version of the GIS Data is used for Forest Figures.

¹⁸ Fees that have been set for the use of community-used lands vary by the type and size of land. They include 57 GEL (GEL) for irrigated arable land, 22 GEL for arable lands and gardens, 6 GEL for meadows and 3-4 GEL for hayfield and pasture per 1 hectare.

Table 6.11 Anticipated Effects on Pastureland by Corridor Size and District

	Total Affected Size of Pastureland (ha)	% of Pastureland affected by 44-meter corridor	% of pastureland affected by 32-meter corridor
Adigeni	22.5	11.0	3.0
Akhaltzikhe	583.8	9.3	2.6
Borjomi	1085.8	9.1	5.9
Gardabani	479.1	9.7	6.2
Rustavi	92.3	10.6	6.8
Marneuli	204.9	8.3	4.9
Tetritskaro	1,077.7	11.6	5.4
Tsalka	1,031.1	9.3	6.3
TOTAL	4,577.2	9.8	5.4

Source: BTC project, GIOC Data, GIS Database, 2002.

6.7 LOSS OF INFRASTRUCTURE

Based on the RAP socio-economic survey, the affected plots have a number of structures on them; a number of plots have houses on them, although none of these are in or directly adjacent to the ROW and are therefore not affected by land acquisition. Where existing structures are located within the 44-meter construction corridor, compensation values will represent the full replacement cost, inclusive of all fees (e.g. construction permits and labor), or the market value if higher. Full details of all affected fixed assets and structures have been recorded during the inventory.

6.8 IMPACTS ON IRRIGATION SYSTEMS

Impacts on irrigation systems could be significant, with some 110-distribution canals affected. However, the construction technology adopted by the project will help avoid these impacts. While building the pipelines, irrigation canals will be flumed, so that they run through a pipe under the running track. Larger irrigation canals will be thrust-bored by pushing the pipeline under the canal, rather than digging a trench through the canal or if necessary, water will be pumped over the running track.

Community liaison staff will be in touch with the villagers and will monitor the situation to make sure there is no adverse impact. If there is an impact, a corrective action will be taken which includes arranging alternative access to water where necessary. Construction contractors will cover any accidental damage that occurs, although BTC Co. is ultimately responsible for fair and full payments for damages (Chapter 5, Section 5.4.10).

6.9 LOSS OF TREES / PERENNIAL CROPS

A relatively large number of plots have trees on them but only a few of these are in the ROW, and even fewer in the protection zone directly over the pipeline on which trees cannot be replanted. The estimated area of orchard that will be affected by the restriction is 5 hectares. Compensation for perennial plants/trees will be made based on the gross market value, including all input costs, plus the loss of production based on yield at full maturity, market price of perennial crop, and number of years required for a replacement plant/tree to reach same level of maturity. See Annex 1 – Guide to Land Acquisition and Compensation – for details on prices and yields that the project will use to determine compensation.

6.10 LOSS OF ANNUAL / SEASONAL CROPS

Some of the private land subject to acquisition by BTC Co. is under cultivation. Crop rotation appears to be absent.

During the construction of the 44-meter corridor, crop production will be interrupted. Affected tenant farmers will be compensated for the duration of construction (approximately 3 years), or proportionately less where the tenancy is due to expire earlier. The landowners, in addition to the SLRF payable for land, will be paid compensation for standing crops. In addition, the RAP Fund will be used for community based livelihood restoration efforts (Chapter 5). The total compensation will be calculated based on the market price of the crop, the average yield and the total standing area of crop.

6.11 LOSS OF OTHER PRODUCTIVE ASSETS

Based on current information, no other productive assets will be affected by the BTC project. The full replacement cost (or market value, if higher) of any here to unidentified assets, if found on affected land, will be paid to owners.

6.12 IMPACTS ON FORESTLANDS

Project impacts on forestlands are confined to about 60 hectares of land to be acquired by BTC Co. While not severe, community-based impacts will be mostly present in Tetrtskaro and Borjomi where a degree of woodcutting, wood collection, and herb and mushroom gathering take place. In no case does non-timber forest use make up a significant portion of PAP's incomes. Small trees and branches that are cleared from the ROW will be made available to local communities for firewood. In addition, the equivalent value of the timber logged will be contributed into a community fund to benefit affected communities. For all directly affected communities, marginal losses will be identified and addressed through the RAP Fund. (Chapter 5).

Table 6.12 Impacts on Forests¹⁹

District	Total Size of Affected Forest Plots (Ha)	% of forest plot within 58-meter ²⁰	% of forest plot within 44-meter	% of forest plot within 32-meter
Adigeni	14.0	12.5	9.4	6.9
Akhaltzikhe	16.3	8.2	6.2	4.6
Borjomi	483.1	8.2	6.1	4.0
Gardabani	24.6	11.8	8.9	6.5
Marneuli	19.6	9.9	7.4	5.4
Tetritskaro	255.3	10.1	7.6	3.8
Tsalka	71.2	10.9	8.0	5.3
TOTAL	884.1	9.2	6.8	4.2
TOTAL (ha)		80.9	60.5	37.0

Source: BTC project, GIOC Data, GIS Database, 2002.

6.13 IMPACTS ON ENTERPRISES

There are a number of enterprises on the affected land plots. While expected to be minimal, the actual level of impact on the operations of these enterprises due to project activities needs to be defined. A portion of the RAP Fund (see Chapter 9 for budget details) has been set aside in the RAP Fund cover disruption of entrepreneurial activities and any temporary loss of employment/remuneration for employees.

A small number of cases (7) were investigated during the RAP finalization stage that allowed some preliminary conclusions on the matter. These conclusions can be summarized as follows:

All enterprises are lessees of State land with long-term leases of 49 years. The enterprises pay annual lease fees to district authorities.

There are two main categories of affected enterprises: (i) industrial enterprises, and (ii) agricultural enterprises. Industrial enterprises include oil transporting pipeline company, a railway company, basalt producing company, and a plaster-producing factory. Agricultural enterprises include an olive and almond farm, and three livestock farms (pig, sheep, and poultry).

Both types of enterprises have important productive and non-productive assets, including buildings, reservoirs, pumps, pipes, perennial trees (40,000 olive and 22,000 almond trees), although almost none of these assets are within the 44 meter corridor²¹.

The number of employees on enterprises range from 20-30 people to 1,200.

The size of a land plot affected by the project ranges between 2 to 45 ha of agricultural and non-agricultural land, including arable and pasturelands.

¹⁹ Previous version of the GIS Data is used for table 6.12

²⁰ A few species of large forest trees cannot be planted newly within 15 either side of the pipeline, but those existing outside the 44 meter corridor but within the 58 meter corridor will not be removed.

²¹ There are industrial enterprises that allow villagers use their lands, e.g. an oil transporting company that is currently not operational (Trans Company, Navtobsadani).

Four out of seven assessed enterprises are industrial enterprises. Only one of them is temporarily non-operational.

The interviewed people working in potentially affected enterprises raised several concerns regarding potential project impacts, including, but not limited to, disruption of operations and damage to land and water resources. Another area of serious concern relates to the loss of employment and, thus, the need for adequate compensation to employees.

The impact on enterprises is expected to be minimal. For instance, while the land that is used by a railway company will be needed during pipeline construction, there will be no disruption to rail traffic as all rail crossings are bored under the rail track. The actual impacts on each specific enterprise will be determined during the construction period. A portion of the RAP Fund has been set aside to compensate for potential losses that may emerge due to project impacts.

6.14 LOSS OR DAMAGE TO COMMUNITY PROPERTY AND RESOURCES

Some of the State-owned pasture or grazing lands affected by the project are in communal use. These are discussed above and will be compensated through payments to Sakrebulo. The valuation methodology is detailed in Chapter 5.

6.15 LOSS OR DAMAGE TO SERVICES AND INFRASTRUCTURE

Based on the preliminary data, the only anticipated damage to infrastructure will occur accidentally to small irrigation canals; and the construction contractor will repair such damage.²² Project impacts on the construction and/or repair of roads are not yet known. However, people are keen to have community roads improved. The project will use the ROW as much as possible and/or upgrade the existing roads rather than build new ones. Nonetheless, private land and/or public leased lands may be affected through road upgrading or road construction activities. These impacts will be mitigated through compensation measures defined in this RAP for temporary or permanent use of land.

6.16 SEVERANCE IMPACTS

The construction corridor will pass directly through some plots of land, potentially leaving smaller sections of land on either side of the construction corridor that will not be required for use by the project. Agricultural activities on these sections of land can be continued as normal. In some cases, however, the remaining plot may be too small to make cultivation economically worthwhile.

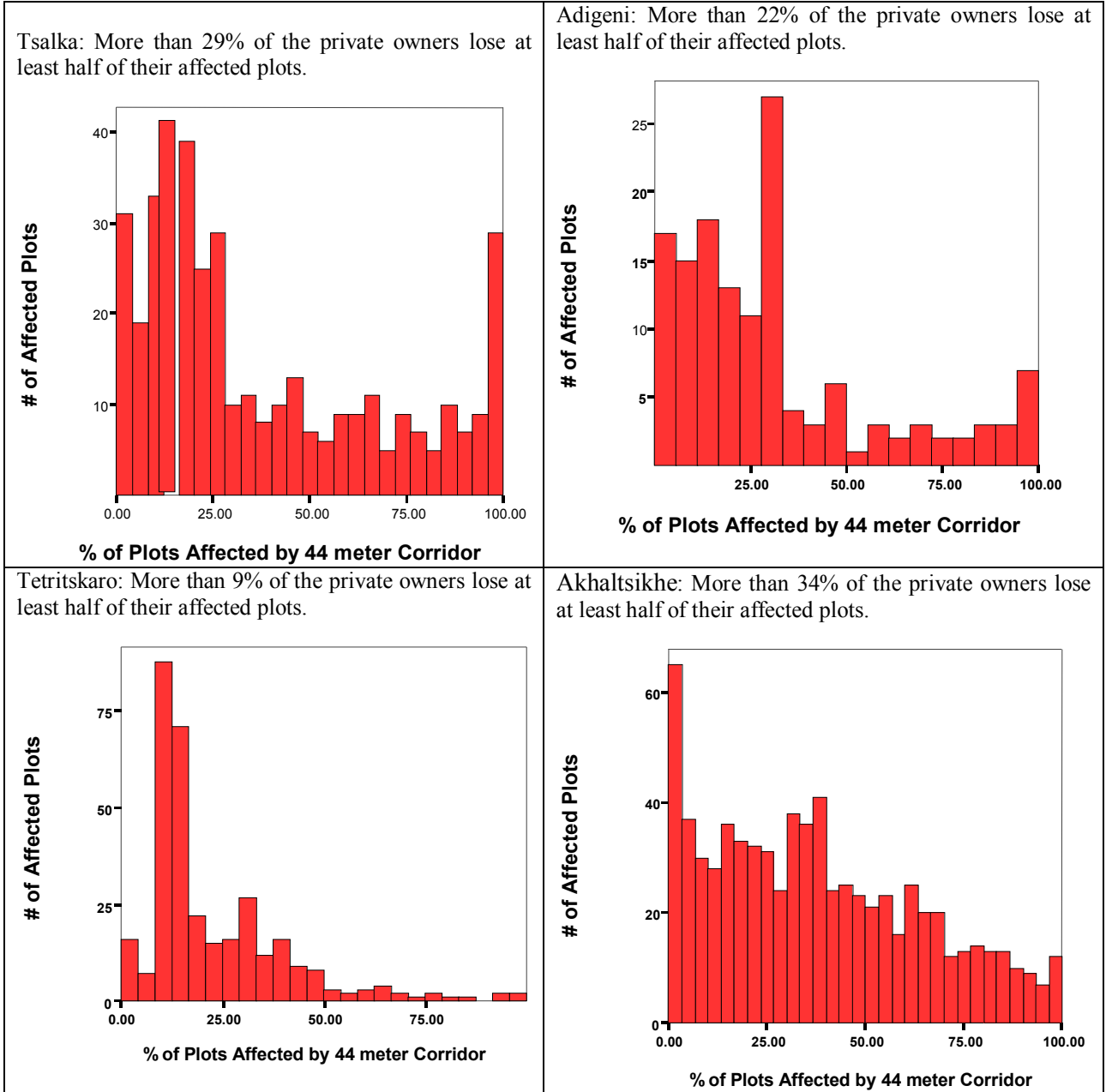
Existence of orphaned land will be determined on a case-by-case basis. Compensation will be calculated based on the same compensation rates applicable to the portion of the plot that is within the 44 meter corridor.

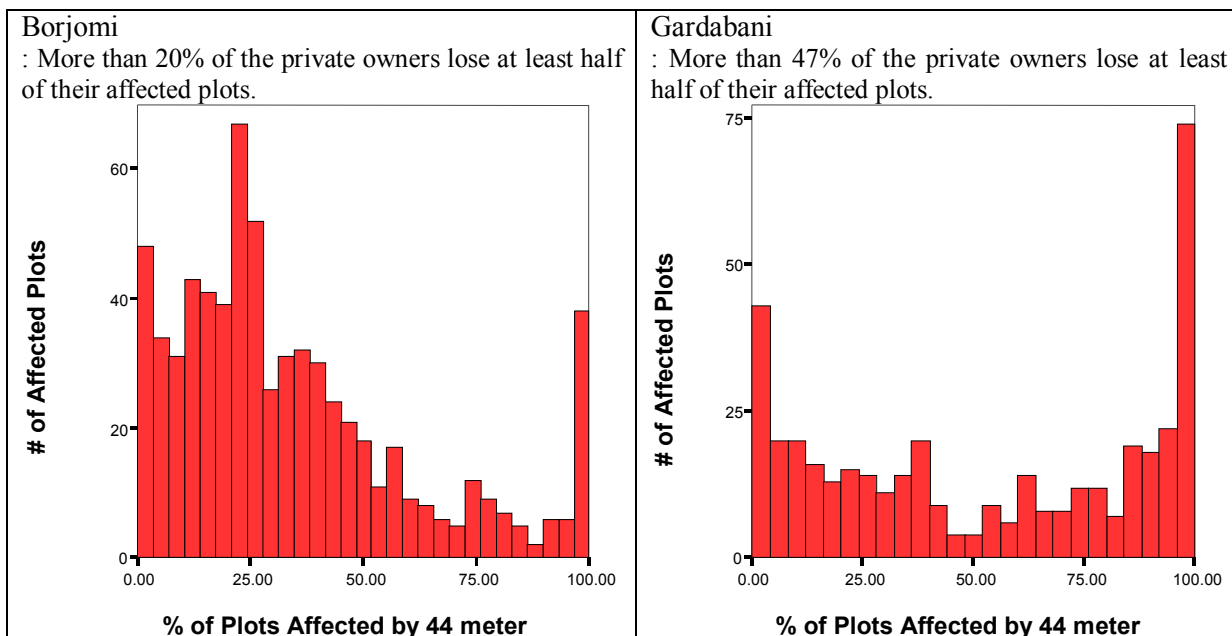
The GIS Database illustrates that the people who lose more than 50 percent of their lands are predominantly concentrated in the following districts: Gardabani, Rustavi, Tsalka, and Akhaltsikhe.

²² The mitigation for this will consist of restoring the flow of water from the canal as soon as possible, or make alternative arrangements for water to be delivered to fields.

Income and livelihood impacts are also likely to be higher in these districts. As stated earlier, RAP Fund will target disproportionately affected owners. Figure 6.8 illustrates the level of impacts on affected plots by district.

Figure 6.8 Level of Impact on Affected Plots by District





Source: BTC project, GIOC Data, GIS Database, 2002.

6.17 COMMUNITY INVESTMENT PROGRAM

The BTC and SCP projects are making a large capital investment in Georgia. Most of the pipeline will be buried on land currently used by communities as their main source of livelihood. While this land will be returned to the communities for their use after the pipes have been buried, with limited restrictions, there will be an impact on livelihoods. It is important to BP that the pipelines' 'host communities' view the project in a favorable manner. If communities are happy with the way the pipeline project is implemented, they may play a role in insulating the project from the risks inherent in a politically and economically unstable region. As such, BTC Co. has sought applications from qualified national and international Non-Governmental Organizations (NGO's) and other organizations registered in Georgia to implement the "Community Investment Program" (CIP) on behalf of the project²³.

The goal of the Georgia Community Investment Program is to promote sustainable social, economic and environmental development for the communities along the BTC and SCP route. The allocated budget for this component of an overall project community investment program is US\$5 million, which will be awarded in two contracts. Contracts will be awarded in early 2003. Implementation timeframe is to the end of 2005.

²³ See BTC Environmental and Social Impact Assessment Draft for Disclosure (April 2002) and BTC ESIA Addendum Response to Comments from ESIA Disclosure Phase (September 2002) for detailed discussion of social impact mitigations and management of social issues. These document contain detailed commitment on employment, recruitment, camp management etc. For instance, commitments on employment and recruitment include the commitment to maximize employment of people from villages in the pipeline area and the commitment to be transparent in hiring and not accept preferred lists form any individuals. Both ESIA documents are available on www.caspaindevelopmentandexport.com

The CIP will carry out activities in the 4 key sectors to address the main concerns of host communities. These sectors were selected based on the priorities found in the survey carried out for the Environmental and Social Impact assessment (ESIA), and were verified as crucial priorities for Georgia in meetings and discussions with multilateral and bilateral donors active in Georgia. These sectors are:

- Infrastructure development, focusing on rehabilitation of village infrastructure;
- Sustainable income generation through micro-credit, agriculture/agri-business, and small business development;
- Water supply, whether for drinking, irrigation or household use;
- Environmentally sustainable energy projects, the specifics of which will vary depending on the local circumstances in each of the villages.

Table 6.13 Entitlement Matrix

Land Owners/Users	Entitlement	Basis for entitlement	Eligibility
<p>Owner/users of Private Land - for 44-meter corridor</p>	<p>Informed in writing that his/her land will be affected Informed in writing that he/she is entitled to provide Power of Attorney to whomever he/she chooses</p>	<p>Information / communications effort</p>	<ul style="list-style-type: none"> All owners
	<p>Land Purchase Cash compensation for standing crops, regardless of the stage in growth cycle Legal work is ongoing to return full use of land, with safety restrictions, back to ex-owners 115% of value of neighboring agricultural land for housing allotments Value of full plot for housing allotments under 500 square meters in size, regardless of area intersected by 44 m corridor</p>	<p>State Land Replacement Fee (SLRF) for land purchase as valuation method Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory Premium on housing allotments to reflect presence of building rights. Full payment for small housing allotments in recognition of fact that restriction zones might impact ability of some landowners to build dwellings on their land.</p>	<p>Owner(s) registered in the Public Register Person or one of the other owner(s) with notarized Power of Attorney to act on behalf of the all of the owner(s)</p>

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Land Owners/Users	Entitlement	Basis for entitlement	Eligibility
	Cash compensation or full replacement of all non-moveable assets (productive and non-productive)	Full replacement value (or market value, if higher), or replacement of equivalent asset Value of timber for non-productive tree.	Owner(s) registered in the Public Register Person or one of the other owner(s) with notarized Power of Attorney to act on behalf of all of the owner(s) Legally-binding pre-entry agreement between the construction company and the land owner on reinstatement of land and assets on it or a cash payment for these assets
	Contested ownership: Cash compensation for legal fees (including power of attorney for use by absentee and joint owners), transaction fees and related taxes for determination of owner (in addition to full ownership entitlements)	Relevant legal fees and taxes	As determined by law
	Ownership not registered: Cash compensation for relevant registration fees and taxes, and assistance to undertake the registration process.	Relevant registration fees and taxes	Owners who can establish ownership of land but do not have formal documentation in order
	Cash compensation for heavily severed (“orphaned”) land		Case-by-case basis
	Return the use of land	With restriction, post-construction	All ex-owners and users
	Cash compensation for legal fees, power of attorney and reasonable travel expenses	Relevant legal fees and taxes	All owners and users; absentee owners on a case-by-case basis.
	Disproportionate effects: In-kind assistance for income improvement from RAP Fund Potential land-for-land arrangements Providing investment advice	<ul style="list-style-type: none"> • Disproportionate impact based on vulnerability and amount of land taken. 	Case-by-case basis

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Land Owners/Users	Entitlement	Basis for entitlement	Eligibility
	<p>Tenants / users: Cash compensation for lost crops on affected land for duration of construction period, typically 3 years unless lease expires earlier than 3 years.</p>		<p>Tenants with leases on private lands or confirmed informal arrangements</p>
	<p>Joint tenants / users: Cash compensation for lost crop value divided between joint tenants / users</p>	<p>Crop compensation for gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory</p> <p>Total amount payable to joint tenants will not exceed 3 years compensation and will be split based on lease, or as requested.</p>	<p>Users whose joint land use have been established, based on production shares on the lease, or as requested</p>
<p>Owner/users of Private Land – for temporary facilities (camps, pipe yards)</p>	<p>Cash compensation for lost crops</p>	<p>Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory</p>	<p>All owners</p>

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Land Owners/Users	Entitlement	Basis for entitlement	Eligibility
Owner/users of Private Land –permanent acquisition (for AGIs)	Land Purchase (unless replacement land offered and accepted) Cash compensation for standing crops, regardless of the stage in growth cycle Land for AGIs will not be returned to ex-owners	State land Replacement Fee (SLRF) for land purchase as valuation method Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory	Owner(s) registered in the Public Register Person or one of the other owner(s) with notarized Power of Attorney to act on behalf of all of the owner(s)
Privately Owned Land for 58 m - use restrictions	Cash compensation for direct economic losses resulting from restrictions on lands beyond the purchased 44 meter corridor	Based on same principles and methods as outlined in this document	Case-by-case basis
State land leased to individuals	Cash compensation (unless replacement leased land offered, by state, and accepted) for lost crops for construction period, depending on duration of lease Cash compensation for lost crops on agreed heavily severed (“orphaned”) land, for duration of construction Cash compensation or replacement of immovable assets	Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory. Assets that may be built by lease holders	Tenants with confirmed leases on state lands (based on shares in the lease if the lease is held in more than one person’s name). The State Authorities will compensate lessees for suspension of leases that were started on state land after 18 th October 2000, where this land had not previously been leased. Compensation for orphaned land on case-by-case basis

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Land Owners/Users	Entitlement	Basis for entitlement	Eligibility
	Return land for use	With restriction, still governed by lease, post-construction	Tenants with confirmed leases on state lands where the term of the lease would normally be in effect on the date by which land is to be returned.
	Sub-lease holders: Cash compensation (unless replacement land offered, by state, and accepted) for lost crops and assets, including agreed “orphaned” land	Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory Assets that may be built by the sub-lease holders	Tenants with confirmed formal or informal sub-lease arrangements on leased state lands
State lands under community use	Cash compensation to individual (non-state) users (unless replacement land offered, by state, and accepted) for lost crops and assets, including crops on agreed “orphaned” land	Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory	Tenants with leases or confirmed informal arrangements on community-used lands

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Land Owners/Users	Entitlement	Basis for entitlement	Eligibility
	Cash compensation to Sakrebulo	One harvest of hay per year unless other basis for valuation can be otherwise demonstrated	Cash paid to Sakrebulo Administration.
	Cash compensation for communal uses	Three annual payments to each Sakrebulo, through the RAP Fund, in lieu of grazing payments budgeted to be collected from village population during the year preceding construction ²⁴	Cash paid to Sakrebulo Administration.
Non-leased state lands	Small trees and branches from clearing ROW will be made available to local communities for use.	Need for firewood in particular	Local communities
	Cash compensation for squatters	Land improvements by squatters (structures, trees, perennial crops)	Squatters recorded during contractor's pre-entry survey; case-by-case basis
	Special case: Cash compensation for crops for communal uses, in which communities traditionally use and claim ownership of state lands but do not yet have the formalization of this claim	Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory	Community-based organizations, based on the communally accepted (or, if exists, formal) sub-division of the land belonging to community-based organization

²⁴ This amount will vary by Sakrebulo and it will cover all the grazing fees that the community members are meant to pay to the Sakrebulo for grazing their animals in the year preceding construction. During the period when payments are made, community members will be exempt from making such payments. This payment will ensure the receipt of full livestock grazing fees to Sakrebulo as if they were obtaining this from the local community, while at the same time benefiting the community members by taking over their payments to Sakrebulo.

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Land Owners/Users	Entitlement	Basis for entitlement	Eligibility
	Existing infrastructure such as roads, water canals, electricity towers, and other infrastructure assets	Immediate restoration to original state of infrastructure	All infrastructure on state-owned land
Workers of Registered Non-State Agricultural Economic enterprises	Same compensation as any other user for annual and perennial crops as well as productive / non-productive assets, if land is adversely impacted	Crop compensation based on gross market value. Annual crop compensation based on market price, average yield, total standing area of crop. Perennial crop compensation based on yield at full maturity, market price, number of years required for replacement plant/tree to reach same level of maturity as recorded during inventory	If they are using the affected enterprise land