

ANNEX III

The Three Approaches to Valuation: Audit Summary

Annex 3

The Three Approaches to Valuation: Audit Summary

In traditional valuation theory, the three approaches to estimating the value of an asset are cost approach, the income approach and the sales comparison approach. For this appraisal, we have emphasized the sales comparison and income approaches as the most appropriate measure of the subject's market value.

The cost approach is not applicable to the subject property and no such data is available. The sales comparison approach was used to discover the balance that is influenced by social and economical factors. The income approach was also used.

Sales comparison approach

The Sales comparison approach estimates value based on what other purchasers and sellers in the market have agreed to as prices for comparable improved properties. This approach is also based on principle of substitution, which states that the limits of prices, rents, and rates tend to be set by the prevailing prices, rents and rates of equally desirable substitutes. However, because the subject market is a newly emerging one, there is a shortage of transactions that would reveal such relationships, thus the conclusion provided by this approach may be impacted by the degree of departure from a more complete appraisal process.

The principles of the sale comparison approach was in estimating the revenues achievable by the property and other elements of net economic benefit in the income approach. In conducting the comparison approach we have examined occurred land sale transactions in Gardabani, Marneuli, Tetritskaro, Borjomi, Adigeni and Akhaltsikhe regions as well as the will of local landowners to sell their land allotments.

During the field-work information about current market prices for land allotments, occurred land sale transactions, official land registry records, crop culture productivity, costs and average market prices for each region was collected. We have based our analysis on the data collected through local landowner interviews and information provided by the Georgian Ministry of Agriculture.

Most of landowners own land allotments less than 0,5 Ha. Therefore the analysis includes some variation, from market value of 1 Ha land, as though the market value of land allotment dose not grow proportionally with its size. Nevertheless values derived through this analysis can be considered as the highest border of the price range. The most relevant data was obtained from the people who were informed that their land allotments were not located inside 500-meter corridor, thus their expectations reflected natural market balance. The table below summarizes the results received from these three sources:

RESETTLEMENT ACTION PLAN
GEORGIA

Region	Description	Data source	Parcel size sqm	Price GEL	Price for 1 Ha GEL	Average market value**
Gardabani	Outside corr.	Registry record	1,300	1,300	10,000	14,000
	Outside corr.	Registry record	1,500	1,500	10,000	
	Outside corr.	Expectation	2,000	4,000	20,000	
	Outside corr.	Expectation	1,000	1,500	15,000	
	Outside corr.	Registry record	1,300	2,000	15,380	
Marneuli	Outside corr.	Expectation	1,000	2,000	20,000	14,200
	Outside corr.	Expectation	2,000	2,500	12,500	
	Outside corr.	Registry record	1,500	1,500	10,000	
	<i>Inside corr.</i>	Expectation	600*	10,000	-	
Tetritskaro	Outside corr.	Expectation	2,500	1,200	4,800	4,800
	<i>Inside corr.</i>	Expectation	3,000	2,000	6,700	
	<i>Inside corr.</i>	Expectation	2,500	1,500	6,000	
	<i>Inside corr.</i>	Expectation	2,500	2200	8,800	
Tsalka	Outside corr.	Expectation	10,000	2,000	2,000	3,500
	Outside corr.	Expectation	1,000	500	5,000	
	<i>Inside corr.</i>	Expectation	1,500	1,500	10,000	
Borjomi	Outside corr.	Registry record	1,500	2,000	10,300	10,300
	Outside corr.	Expectation	2,500	3,000	12,000	
	Outside corr.	Expectation	2,300	2,000	8,700	
Adigeni	Outside corr.	Expectation	2,000	600	3,000	2,650
	Outside corr.	Expectation	10,000	2,300	2,300	
Akhaltzikhe	Outside corr.	Registry record	1,000	1,500	15,000	12,500
	Outside corr.	Expectation	10,000	8,000	8,000	
	Outside corr.	Expectation	1,000	1,300	13,000	
	Outside corr.	Expectation	1,500	2,500	16,600	
	Outside corr.	Registry record	2,500	2,500	10,000	

* The land is not used for agricultural purposes. The property represents a village-house with the garden.

400 square meter house allotment and 900 square meter garden allotment with house building rights located in Rustavi, Georgia.

The transactions in Rustavi 19th micro region were reviewed, where the 400 square meter house allotment and 900 square meter garden allotments with house building rights are located. It was found out that 19th micro region is mostly disliked by the citizens of Rustavi (because of hot climate, high windiness and presence of reptiles). As a result only one transaction has occurred after the government had transferred land into private property. Following the official land registry record the 400 square meter house allotment with two unfinished dwellings was sold for 1,500 GEL. We have visited the current owner of the above-mentioned 400 square meter land allotment owner who told us that he has bought land with two unfinished dwellings for 2,500 USD.

Although the transactions were few, the expectations of landowners whose land allotments were located inside 500-meter corridor were reviewed. Several landowners and visited them during three days. During the first meeting the average expectation of landowners were 2 USD for 1 square meter of land. On second day the average price of 1 square meter of land escalated to 5 USD (as a result of the meeting organized in Rustavi state theatre were Pipeline related issues were discussed). During our last meeting the average price reached 10 USD for 1 square meter of land (the price argumentum was based on the transactions occurred in Supsa region).

The expectations of 19th micro region landowners were too much deteriorated by the potential possibility of sale. Thus we have decided to consider as a substitute Rustavi 6th micro region.

The 6th micro region is considered as one of the most prestigious place in Rusatvi. It is located closer to the city center, the climate is better and the infrastructure as well as the real estate market is more developed. The argumentation of such analysis is based on the fact that 6th micro region by all qualities is better than 19th micro region, thus in normal conditions the average price of 1 square meter land in 19th region cannot be more than the average price of 1 square meter land in 6th micro region.

The table below summarizes the results.

Land allotment ID number	Location	Data source	Parcel size sqm.	Price GEL
2/4/1/018	6 th micro reg.	Registry record	600	2,000
2/4/1/012	6 th micro reg.	Registry record	600	2,000
2/4/1/063	6 th micro reg.	Registry record	600	200
2/2/1/052	6 th micro reg.	Registry record	600	600
-	6 th micro reg.	Expectation	600	1,700
-	6 th micro reg.	Expectation	600	1,200
-	6 th micro reg.	Expectation	600	1,500
-	6 th micro reg.	Expectation	600	1,300

Taking into account the received results we estimate average price range for 1 square meter land as from 2,20 to 2,50 Lari. Thus the average price ranges for 400 square meter house allotment and 900 square meter garden allotment based on sales comparison approach are estimated as follows:

Description	Average price range
400 square meter house allotment	880 GEL – 1,000 GEL
900 square meter garden allotment	1,980 GEL – 2,250 GEL

Income approach

The income approach simulates the reasoning of an investor who views the cash flows that would result from the anticipated revenue and expenses on a property throughout its lifetime. The net income figure developed in the analysis is the balance of potential income remaining after operating expenses and owner risk compensation for the crop culture. This net income is then capitalized at an appropriate rate to derive an estimate of market value. Thus, two key steps are involved: (1) estimating the net income applicable to the subject and (2) choosing appropriate capitalization rate.

Income from crop sales

Taking into consideration the present condition of the land quality and productivity figures for each region we tried to evaluate the revenues receivable from crop sales. We have considered that it is possible to sell total quantity of harvested crops. We have used average market prices for crops as most relevant compensation a farmer will receive. The average market prices for considered crops are specified as follows:

Crop	Ionja	Wheat	Potato	Hay	Corn	Cabbage	Apple
Unit	Bale	Kg	Kg	Bale	Kg	Kg	Kg
Price	3 Lari	0,4 Lari	0,4 Lari	2 Lari	0,5 Lari	0,15 lari	0,3 Lari

RESETTLEMENT ACTION PLAN
GEORGIA

Based on the information provided by farmers and Ministry of Agriculture we have evaluated the 1 Ha land productivity figures for each region per each crop. The table below summarizes the received results:

Region/Crop	Ionja	Wheat	Potato	Hay	Corn	Cabbage	Apple
Gardabani	14 ton	4 ton		4 ton			
Marneuli	15 ton	4 ton					
Tetritskharo		3 ton	15 ton				
Tsalka		3 ton	14 ton	4 ton			
Borjomi			18 ton		4 ton		
Adigeni			16 ton			40 ton	
Akhaltzikhe		3,5 ton	20 ton				15 ton

Therefore, total annual revenues that farmers are generating from 1 Ha land allotment equals to (all amounts are presented in GEL):

Region/Crop	Ionja	Wheat	Potato	Hay	Corn	Cabbage	Apple
Gardabani	2,100	1,600		400			
Marneuli	2,250	1,600					
Tetritskharo		1,200	6,000				
Tsalka		1,200	5,600	400			
Borjomi			7,200		2,000		
Adigeni			6,400			6,000	
Akhaltzikhe		1,400	8,000				4,500

Expenses

The annual operating expenses for 1 Ha land allotment are estimated in the following way (All amounts are presented in GEL):

Region/Crop	Ionja	Wheat	Potato	Hay	Corn	Cabbage	Apple
Gardabani	600	425		120			
Marneuli	593	387					
Tetritskharo		372	3,460				
Tsalka		365	3,380	130			
Borjomi			4,020		635		
Adigeni			3,480			2880	
Akhaltzikhe		300	3,530				1050

The estimations in the table represent total figures. The breakdown of the expenses is presented in the discounted cash flow analysis tables. As you can see the expense values for similar crops differ slightly caused by the various land peculiar properties.

Net Income

Consequently the net income is estimated as (all amounts are presented in GEL):

Region/Crop	Ionja	Wheat	Potato	Hay	Corn	Cabbage	Apple
Gardabani	1,500	1,175		280			
Marneuli	1,657	1,213					
Tetritskharo		828	2,540				
Tsalka		835	2,220	270			
Borjomi			3,180		1,365		
Adigeni			2,920			3,120	
Akhaltzikhe		1,100	4,470				3,450

Taxes

As though we need to calculate Net Operational Income (NOI), we must consider the effect of taxes on the income to estimate the distributable amount as economic benefit to the owner

We have therefore estimated the applicable taxes at the Georgian level and deducted these amounts from income to reach net distributable project income. The formula for Georgian taxes is applied in the following way:

Income before taxes		\$1.00
Turnover taxes *	2%	- 0.02
Income tax base		
Income tax	20%	\$0.98
		- 0.196
NOI from project		\$0,784

- * We have considered all the taxes applicable to the subject except income tax; calculated their weighted average and defined it as a percent from turnover
The resulting Net Operating Income from the project that is distributable as the economic benefit of owners (after taxes are applicable to the owning structure) is capitalized to estimate market value.

Owners Risk

The property owner's entrepreneurial risk compensation is considered as a 10% of invested amount (total expenses).

Capitalization Rate

For our market value analysis, the appropriate rate is one acceptable to typical buyers (and sellers) in this market for land allotments with the characteristics similar to the subject.

The capitalization rate consists of six crop related risk factors:

- Investment premium
- Weather risk
- Crop decease risk
- Insect risk
- Crop price variation premium
- Watering option premium

We have analyzed the effect of above noted risks on different crops in subject regions. The results of this analysis are summarized in the table below:

RESETTLEMENT ACTION PLAN
GEORGIA

Crop	Region	Invest. Premium	Weather Risk	Crop D. R.	Insect Risk	Crop P. V. Prem.	Watering Premium	Total
Ionja	Gardabani	2%	2%	0%	0%	4%	3%	11%
	Marneuli	2%	2%	0%	0%	4%	3%	11%
Wheat	Gardabani	1%	2%	1%	0%	2%	3%	9%
	Marneuli	1%	2%	1%	0%	2%	3%	9%
	Tetritskaro	1%	2%	1%	0%	2%	5%	11%
	Tsalka	1%	2%	1%	0%	2%	5%	11%
	Akhaltstsi	1%	2%	1%	0%	2%	3%	9%
Hay	Gardabani	0%	2%	0%	0%	1%	0%	3%
	Tsalka	0%	2%	0%	0%	1%	0%	3%
Potato	Tetritskaro	5%	2%	5%	5%	3%	5%	25%
	Tsalka	5%	2%	5%	5%	3%	5%	25%
	Borjomi	5%	2%	5%	5%	3%	3%	23%
	Adigeni	5%	2%	5%	5%	3%	5%	25%
	Akhaltstsi	5%	2%	5%	5%	3%	3%	23%
Cabbage	Adigeni	5%	2%	6%	3%	4%	5%	26%
Corn	Borjomi	2%	2%	2%	1%	2%	3%	12%
Apple	Akhaltstsi	1%	2%	8%	8%	3%	3%	25%

The casual explanation of 1 % of the capitalization rate is - one additional cent of return on each invested dollar to carry out that risk bearing business. Results of this analysis are summarized in the following Discounted Cash Flow tables.

Value Indication

From the forgoing analysis the value range is indicated as follows:

Gardabani

Crop	Value of 1 Ha land	Percent distribution	Final Value GEL
Ionja	10,360	35%	3,626
Wheat	9,970	10%	998
Hay	7,600	55%	4180

Value range GEL (7,600 – 10,360)

Average market value GEL 8,800

Marneuli

Crop	Value of 1 Ha land	Percent distribution	Final Value GEL
Ionja	11,500	50%	5,750
Wheat	10,300	50%	5,150

Value range GEL (10,300 – 11,500)

Average market value GEL 10,900

Tetritskaro

Crop	Value of 1 Ha land	Percent distribution	Final Value GEL
Wheat	5,700	60%	3,420
Potato	6,750	40%	2,700

Value range GEL (5,700 – 6,750)

Average market value 6,120

Tsalka

Crop	Value of 1 Ha land	Percent distribution	Final Value GEL
Wheat	5,740	20%	1,150
Hay	6,700	60%	4,060
Potato	5,752	20%	1,150

Value range GEL (5,740 – 6,700)

Average market value GEL 6,360

Borjomi

Crop	Value of 1 Ha land	Percent distribution	Final Value GEL
Potato	9,300	75%	6,984
Corn	10,000	25%	2,502

Value range GEL (9,300 – 10,000)

Average market value GEL 9,490

Adigeni

Crop	Value of 1 Ha land	Percent distribution	Final Value GEL
Potato	7,950	90%	7,150
Cabbage	8,800	10%	880

Value range GEL (9,300 – 10,000)

Average market value GEL 8,040

Akhaltzikhe

Crop	Value of 1 Ha land	Percent distribution	Final Value GEL
Wheat	9,450	35%	3,305
Potato	14,000	45%	6,305
Apple	10,600	20%	2,120

Value range GEL (9,300 – 10,000)

Average market value GEL 8,040

Reconciliation and Final Valuation Estimates

Reconciliation involves the consideration of all factors related to the property type involved, and the requirements of the appraisal assignment. This process allows for subjective evaluation of the conditions affecting the property, both current and reasonably expected in the future. From this consideration, the value indicated by the capitalization rates applied can be narrowed to reflect the relative risk of the property as compared to others in the same market. Risk elements include characteristics of the subject itself, the condition of the market influencing the subject, and the subject's relationship to the competitive properties.

Accordingly, the quality and viability of the data obtained during the appraisal process can effect reconciliation as it will bear on the precision of the indications of value and influence the width of the value range indicated. The fact that the Georgian land market, in general, is still only a few years old, creates two characteristics making precise value estimates impossible. First demand from users and investors is still unsettled and has not a chance to reach a balance. Second, free competitive exchanges of properties similar to the subject are still limited enough to make observations of exchange value very rare.

The values derived from income approach measures the potential of the land in conditions of limited financial and technological resources. Nevertheless the outcome is less affected by the

rough social conditions. On the other hand the value derived through market approach is directly influenced by the social conditions. As a rule, closeness to regional centers and developed infrastructures increases the value of the property as though social conditions are superior. Thus, we consider income approach as the most appropriate for valuation of market value, but if the outcome derived by market approach is above the income approach derived figure, than market approach should be considered. The methodology of final value range estimation considers following actions:

1. The lower edge of the market value range is always considered as weighted average market value derived through income approach analysis.
2. The higher edge of the market value range is considered as the maximal value derived through income approach analysis.
3. If the average market value derived through sales comparison approach is more than the maximal value derived through income approach, then sales comparison approach figure is considered as the highest edge of the market value range.

For example, the weighted average value derived though income approach for Gardabani region equals to 8,800 GEL. The maximal value derived through income approach analysis equals to 10,360. But the average value derived through market approach equals to 14,000 GEL. Thus, the market value range equals to:
(9,000 – 14,000 GEL)

On the other hand the weighted average value derived though income approach for Adigeni region equals to 8,000 GEL. The maximal value derived through income approach analysis equals to 8,800. But the average value derived through market approach equals to 2,650 GEL. Thus, the market value range equals to:
(8,000 – 9,000).

The State Land Replacement Fees in the relevant districts are consistently higher.