


Comparative Study of Easement and Compensation Values Case Study on the Construction of Trans Adriatic Pipeline-TAP			Economics
			Keywords: replacement, easement, pipeline construction, economic impact, engineering.
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Abstract			
<p>A comparative study of the easements and compensation values of fruit trees in the cases of pipeline crossing has been undertaken for Albania, Greece, Turkey, Georgia, Azerbaijan and Armenia. The purpose of the study was to compare assessment methodologies for important land use elements during construction and operation phases of pipelines. Investors in the case of pipeline construction demand land for purchase, rent, right of way or easement for tree planting restriction in the range of 8 m. In this study, only two types of compensation are compared: (i) easement and (ii) fruit tree compensation values. Discussion of the methods and their calculation formulas show that there are differences in easement quotes. They were equal to 50% of the land value in Albania, Greece and Turkey and 60% of the land value in the other countries. In fruit tree compensation, the value differences were even greater due to the application of different methods. They were the lowest in Albania and Turkey compared to other countries. However, in all cases, the compensation and easement rates were in accordance with national legislation and met the basic principle of the property right use and the fair compensation of easements and fruit trees sacrificed by the works.</p>			

Introduction

Land or other private property use is inevitable for public purposes such as roads, railways, and pipelines construction. Based on needs, public or private investors, and governments establish regulatory frameworks that favor investments and even assist in land acquisition [1, 6, 9, 12]. With the involvement of such actors in promoting, facilitating or approving land acquisition, it becomes really challenging to protect the rights and means of living of land owners. The right to property is protected by fundamental documents such as The Universal Declaration of Human Rights; the European Convention on Human Rights and the constitutions of almost all countries. Article 17 of the Universal Declaration of Human Rights states that "everyone has the right to own property alone as well as in association with others" and that "no one shall be arbitrarily deprived of his property", whereas in the European Convention, the Article of the First Protocol states that: "Every natural and legal person has the right of peaceful enjoyment of his property. No one shall be deprived of his property except from the public interest and under the conditions predicted by law and the general principles of the international law. "The Albanian Constitution on property law states that" private property is guaranteed by the Constitution ".

Land use claims may cause "loss of land" or completely alter the destination of land or put it in limited use conditions. In the case of land loss, the government or the investor buys the land, generally with the market value. In the case of restriction of land use, the owner is granted compensation (private or public in the case of public property) through the application of the universal legal term called right of way and/or easement. In the Albanian legislation the term servitude is used. The easement is a right granted to a person or other entity to infringe or use the land owned by someone else [4, 8, 9, 14], specifically for gas pipelines, define that right of way and easement are terms often used one instead of another, meaning the same thing. According to

her, the right of way and easement for a pipeline is a written agreement that gives a company the right to establish a pipeline on the property of a landowner.

If the right of way is provided by the Government, the value of the easement is determined according to a predefined methodology and through compulsory acquisition or negotiation. According to FAO [2] and Valentine [3], the compulsory acquisition looks for a balance between public land needs on one hand and the protection of private property rights on the other⁷.

In the case of the construction of pipelines except the main rights, as for any construction, additional entitlements that consist on the purchase of land surfaces that become unusable after the construction which are considered as "Orphan land" and "transaction costs" have to be taken in consideration.

In summary, the main affected property rights, applied in almost all regions consist on: loss of land for permanent land acquisition, loss of land for establishment of easement right, unrestricted & not exclusive right, loss of structures, loss of crops, loss of trees and vineyards, missing profit.

In Albania, the experience of using the right of way and land easement is scarce while land acquisition by negotiation or expropriation, compensation for one and many years old crops and the restoration of the previous state of land and agricultural infrastructure are used since the early 2000s. Recently (2012), the construction of TAP required the application of servitude under the right of way as well as the compensation of horticulture trees. The values applied in Albania are in line with international standards, although the methodologies used are not the same as in the countries where TAP passes, depending on the specific conditions of Albania, especially on the level of land development and agricultural products market.

The purpose of this article is to find gaps in the replacement and easement values used in Albania through a comparative study with other TAP host countries such as Greece, Azerbaijan, Georgia and Armenia.

Methodology

The methodology used in this study consists on the analysis of the values used for the easement and compensation values of the horticulture trees sacrificed in the pipeline construction belt in case of TAP and their comparison of other countries in the region for the same project. In all cases the analysis is based on the Land and Easement Acquisition Livelihood Restoration Framework - TAP Albania [15], Livelihood Restoration Framework - TAP Greece [16], Resettlement Action Plan (RAP) for Above Ground Installations (TANAP) Turkey [13], Guide to Land Acquisition and Compensation SCP Azerbaijan [11], Guide to Land Acquisition and Compensation SCP Georgia [10], and Land Access and Livelihood Restoration Plan - AGI Armenia [7].

Results and discussion

In Albania, as in all the countries analyzed in this study, the law on expropriation is accompanied by the legal package for detailed procedures for the expropriations during the construction of

public works and strategic works such as power lines. In all countries Constitutions and laws protect property rights and state that compensation values for purchased, used, serviced, and rented properties, annual and perennial crops must be in line with the best international standards. In general, and in most cases of property purchase and/or compensation, the used way was the negotiation and only in some cases the compulsory expropriation of the property. The land acquisition value, the easement and compensation values for fruit trees were different due to the legislation on compensation, the character of the gas pipelines (especially their diameter), the land taken in use, the negotiations conducted between the representatives of the government and pipeline construction company, the regions where it is built and other social and economic factors.

In the table below are given cases of easement for right of way values (in percent of agricultural land value) and the compensation value for horticulture trees affected by the pipeline (TAP, TANAP and BP) in Albania, Greece, Azerbaijan, Armenia, Georgia and Turkey.

Entitlements	Albania (TAP)	Greece (TAP)	Azerbaijan (TAP & Others)	Armenia (SCP)	Georgia (extension of existing pipeline)(BP)	Turkey (TANAP)
Compensation for Restriction use (8 m along gas pipeline) Agricultural soil price (Methodology)	According the capitalization rate (5% for 2014)	Market mean value of land of the same category in proximity of the affected land (price of transactions realized the last year)	Market mean value of land of the same category in proximity of the affected land (price of transactions realized the last year)	Market mean value of land of the same category in proximity of the affected land (price of transactions realized the last year)	According to rent capitalization method. The method is based on calculation of the rent for surface unit for a year and the land value is based on this.	Market mean value of land of the same category in proximity of the affected land (price of transactions realized the last year)
Coefficients added to base price soil (case application of gas pipeline)	$K_{irg}\uparrow$ = coefficient of irrigation (increasing) $K_{d\downarrow}$ = Coefficient of distance, decreasing $K_{d\uparrow}$ =Coefficient of development (increasing) $K_{lu}\uparrow$ =Coefficient of land use (increasing)	$K_a\uparrow$ =coefficient of access (national road or ports) $K_{r\downarrow}$ =coefficient of facilities (presence or not of communities services) $K_{sr}\uparrow$ =coefficient of special factors	-20% bonus plus on basic price of agricultural soils -30% of rent for three years for biorestoreation -20% above soil price on the 30 m belt (15 m from each side)	-15% prim plus on based agricultural soils price	-20% of soils price on the belt 30 m (15 m from each side)	Soil price can be found in a province through the formula of capitalization rate inside the province ($K=R/f$) R=income from unit soil; f=capitalization rate (0.025-0.075)
Right of way Easement (in % of soil price)	50%	50%	60%	60%	60%	50%
Fruit trees	$V=(\text{Net profit} \times \text{years}) + \text{replanting cost} + \text{maintenance costs (3 years)} + \text{profit missing (3-5 years)}$	$\frac{V}{i} =$ Capitalization rate (5%); n = years number of production trees (economically).	$V=(\text{Income} \times \text{years}) + \text{replanting cost} + \text{maintenance costs (maturity age} + 2 \text{ years)} + \text{missing profit (3-7 years)}$	$V = (\text{income} \times \text{years}) + \text{replanting cost} + \text{maintenance (2-5 years)}$	$V=(\text{Income} \times \text{years}) + \text{replanting cost} + \text{maintenance costs (maturity age} + 2 \text{ years)} + \text{profit missing (3years)}$	$V=(\text{Net profit} \times \text{years}) + \text{replanting cost} + \text{maintenance costs (3 years)} + \text{profit missing (3-5 years)}$

Land price definition

Because the easement is based on the price of land, we need to compare the methods used to evaluate agricultural land. In Albania, in case of land purchase from TAP, the calculation of the agricultural land price is based on the capitalization rate method which in principle assumes that

the land is a lifelong asset giving a profit for eternity that is the difference between income and expenditure per unit area, under certain conditions (plants and technology). For that, the price to be paid by the buyer must be such that if deposited in a bank, it yields through the interest rate a value equal to the net profit of a cultivated land parcel. Almost the same methodology is used in Georgia with the change that as capitalization rate is used the annual rent and not the net profit. The agricultural land price methodology in Albania and Georgia is indirect, deformed and incorrect in the conditions of the market economy and that is due to the lack of agricultural land transactions. After 2013 (for Albania) and 2010 (for Georgia), direct methods for land valuation are used, as in all other countries in the study: the average value of land close to the land that will be assessed or of approximately the same fertility.

Because of the different methods used, the value differences of agricultural lands in Albania compared to Greece and Turkey are higher; they are twice as high in the plains and up to four times higher in the hilly and mountainous areas compared to the two countries mentioned above. Estimated land prices in Georgia are considerably higher than in other countries, excluding Albania. Nowadays, where the used method is based on the average land value of executed transactions, the price of agricultural land in Albania is almost the same as in the countries quoted in this study.

Easements

Also called right of way, it is about the restraints that a gas pipeline placed in a minimum depth of 1 meter under the ground surface presents. Thus, the investor buys the right of way not only for the potential risks of passing a pressure pipe under a private property but also because at a distance of 8 m (or 4 m on each side of the tube) it is not allowed to plant fruit trees or forest trees because of the damages that may cause to the pipeline. Generally, in gas pipes with a diameter between 800 and 1.500 mm, 8m width limitations are applied, as is the case in Albania and the countries taken for comparison in this study. Easement is calculated as a percentage of land value. In Albania, Greece and Turkey, the easement value is the same, equal to 50% of the price of land. In absolute value, the easement is different because of the different values of the price of the land; in Albania it is higher because of the high price resulting from the different valuation methodology from that used in Greece and Turkey. In other countries, the value of easement is as much as 60% of the agricultural land price. This is due to the proximity of the country to the gas sources, pipe diameters and the dense pipeline network. On the other hand, in Azerbaijan and Armenia, besides the investor's easement, the investor pays a premium or bonus equal to 20% and 15%, in addition the calculated price of agricultural land, respectively. In Azerbaijan and Georgia an additional 30 m (15 m from each side of the pipe) width belt is compensated with 20% of the land value.

Compensation of fruit trees

Fruit trees, unlike annual plants, have specifics that should be considered when calculating the compensation value. They are many years old and in some cases have produced for hundreds of years, far more than a few human generations (olive, nuts). When a fruit tree is sacrificed, for example, in the belt area of a pipeline construction that ranges from 30 to 40 m in width, the

replacement value includes new planting costs, maintenance costs, and support structure costs. It should be also compensated the missed profit which is calculated for the period the trees need to start to produce. The missing profit is expressed as the difference between the income earned by the retail sales of the production and the expenditures. The time from planting to the age of production is dependent on fruit tree biology. In Albania, this period is determined in the Guidelines of the Ministry of Agriculture (Technical criteria for the introduction of fruit trees, guide, 2000 [5]).

In all countries discussed here, a ministerial guide (Turkey, Greece) or another legal reference such as DCM or a University reference (Azerbaijan) for the timing of production and maturity of fruit trees, has been used. Compared to the application of substitution values in Albania, in the other countries we have the following changes:

With exception of Greece, in all other countries, the calculation formula is based on loss net profit, replanting costs, support infrastructure, and maintenance costs. In Greece, the calculation is based on the principle that the production of fruit trees is for eternity and the capitalization rate is 5%. The application of the principle of production "for eternity" increases the value of the compensation of fruit trees.

The use of net profit for the compensation of the missing profit expressed as "net profit loss" is applied only in Albania and Turkey, while in other countries the profit is "wrongly" equaled to income. As an economic term, "net profit" is defined as the difference between income and expense for a type of fruit culture on a certain property. However, in the absence of trees (as a result of their sacrifice in the 30 m belt, where land is rented only during construction), expenditures are not done. So, in accordance with the term definition, the difference between income and expenditure is, in the legal context, "compliant".

When calculating the years of profit-missing in Albania (TAP), time period from planting to production is considered, while in other countries two years are added to this period, which pertains to the time of gas pipeline construction.

Conclusions

It results from the analysis of the easement value and perennial crops compensation value that for the same type of pipeline, the compensation values of the owners are different. The value of the easement for the restrictive 8 m width range varies from 50% (for Albania, Greece and Turkey) to 60% (for Azerbaijan, Georgia and Armenia) of agricultural land value. This difference is as a result of the tradition of applying such compensatory values during other gas pipelines constructions, the geographic region, the history of land owner relationships, land physiogeography, and various social statuses. Compensation values of fruit trees are also, different. They are most favorable in Greece, Armenia, Azerbaijan, Georgia and the lowest in Albania and Turkey. In Albania, the low compensation values for fruit trees come from the disadvantageous negotiations of the Albanian authorities with the Investor, which is mostly due to the limited experience in these types of investments and the thirst for foreign investments.

However, a fair compensation has been applied in both cases of compensation in Albania, according to Albanian legislation and best international practices. During TAP construction there has been no violation of the right of property in Albania, and a fair compensation in case of purchase and easement has been done.

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