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# Land-estimation questions in improvement of the Trazzera's regional property in Sicily

The "demanio trazzerale" (herd way regional property) in Sicily constitutes a significant quota of the territorial social capital, due to its historical and cultural origin.
A recent law draft considers its new and diverse potentiality to be assumed in the re-planning of the territory at inter-municipal scale, but some criticalities concern the calculation of the legitimization corresponding sale price.
The contribution provides appraisal tools for: the legitimizations in urban areas, with a valuation model of the fair market value; b) the valuation of the territorial value of a "trazzera", in order to select the ones more suitable to be included within a recovery land plan for a new and different territorial policy, which the administration will have to undertake if the law draft is validated.

## Introduction

In Sicily the so called *trazzere* (*tratturi* in the other parts of Italy, *canadas reales* in Spain) are the grassy ways used for the transhumance of herds, one of the most ancient practices of the sheep-farming which can be traced back as long as to Neolithic times and common throughout Europe and other part of world (Wittaker, 1988).

The social value of this infrastructure was recognized in Sicily at the very beginning: the institution of the *Trazzeras*' Royal Property goes back to Federico II who, in 1231, joined the *trazzeras* with the *Regalia* (the state property par excellence) by the effect of the *Constitutiones regni utriusque Siciliae*. This part of the reign's property and the richness created by its means were defended by the central government from the pretended feudal excise duties; in the following ages, in order to protect the transhumance, the *Milizia armentizia*, a specific army, was created. In 1799 and 1811 the (current) width was ruled by the institution of specific regulations and the width of 37,68 metres (sufficient to the passage of two herds), was definitely ruled for Royal *Trazzeras* (Cinà and Massaro, 2001, p. 26).

So the trazzeras' track has been maintained until now as the footprint of part of the modern road network, whereas the part not yet transformed could be assumed as a potential green option of transportation in order to improve the land sustainability.

Nowadays the trazzeras in Sicily can be considered as an important quota of the land social capital (Dasgupta, 2000) as well because of their great extension, a

length of 11,000 kilometres and an original width of 37,68 metres. Therefore their original surface was about the1,6% of the whole regional area, while now it is significantly reduced.

The progressive transformation of this road network reflects the modification of the land economic organization: the functions and values of many of these areas changed, and the *trazzeras*' original function ended because of the rising of modern zootechnics. In fact, despite its original purpose and its importance as public goods, the *trazzeras'* state property has been subjected to a progressive process of appropriation by the neighbours, especially, but not only, in the most urbanized and appreciated areas. Here the capital gains due to the improvement of the context increase the distance between social concern and private interests, making, as a consequence, more and more hard to get back the parts of the *trazzeras* which have been illegally occupied.

Therefore nowadays the *trazzeras'* state property needs a unitary land policy aimed to: 1.Improve its social and landscape potential on one hand; 2. let the illegally occupied parts be legitimated by regular sales. The Trazzeras' Regional Property (TRP) has been instituted (as a State Property) by the D.o.L. n. 1540/1917, which established the Special Technical Office for Sicilian *Trazzeras,* and ruled by the R.D. n. 3244/1923 and the R.D. n. 2801/1927 and R.D. n. 1706/1936. After the approval of the Statute of the Sicilian Region (L.D. n. 455/1946), the whole Sicilian state property has been assigned to the Sicilian Region (Butera, 2005, pp. 162-3). Since then the current legitimation practice has been carried out basing on the same tools, and it is nowadays actualized by the *Regional Department for the Agricultural and Food Resources* and specifically by the *3rd Service for Trazzeras' Regional Property and Civic Uses* of the *Department for Infrastructural Interventions for Agriculture*, whose main concern is the general fairness and the legal consistency of the transactions.

The activity carried out by the Office submitted to the Ministry (before 1946) and (then) to the Regional Agriculture Department 690 Public Property Declarations (Cinà and Massaro, ib., p. 32), and about 25,000 transactions have been carried out until now.

As the transaction can involve both occupied and free soils, and due to some imperfections in the legislative text, many difficulties affect nowadays the Office's activity in the legitimation practice (Cinà and Massaro, ib.).

This practice involves the main estimation issue, the relationship between price and value in the (re)production and distribution of the land wealth: in fact, under the current regulations, the occupier is supposed to pay a very low amount not corresponding to the real market price and which, the same way, is hard to refer to the social value. Moreover, a recent decision of the Supreme Court (n. 181/2011) affirms the equivalence of prices in transactions between public and private in both directions. Therefore, a new bill about the "Trazzeras' state property appreciation" (Regional Committee Resolution n. 111, March, 15th, 2013) has been issued.

The bill anticipates a new course in the regional land policy involving some important estimation issues about both the knowledge system and the plan process. Therefore the bill implicitly indicates some of the most important criticalities of land policy in this specific range:

1. the lack of a modern, efficient and complete knowledge system;
2. the lack of an objective value pattern and of consistent assessment references and procedures;
3. the lack of a general plan of improvement of the TRP.

As a consequence of the bill, the management of the TRP is supposed to coordinate the two kinds of actions – selling the occupied parts and appreciating the other most important ones – by turning these two items from diverging into complementary ones.

The estimation issues of this double perspective involve the main estimation fundaments, the *solid core*, which is the market value, and its more *rarefied shell*, which is the social value.

## Materials

The knowledge system: a proposal of a general operational database

The current trazzeras' knowledge system is focused on the specific purpose of legitimating the occupations; it works as a GIS *avant la lettre* for connecting both spatial and numeric information completing each others. It comprises:

1. the set of the 90 *management plans* carried out up today; an asset plan consists of:
   a. a map (Figure 1 e Figure 2) representing the part of the *trazzera* involved by the plan, any portion turned into road, the boundaries of the crossed districts and of the neighbouring estates, its name, the occupied portions, all of them duly numbered;
   b. the set of the registers, one for each piece of the *trazzera*; a register is composed of several large boards arranged as a database whose each record is associated to a single piece of the *trazzera*, whether occupied or not, whereas the fields include the information about its characteristics, grouped in *location* (district, land use, boundaries, area),*ascertained occupation* (generalities, date, area for any legal or illegal status of occupation, any legitimation documents), *neighbouring owners*, *final status proposed* (destination – selling or legitimating – person to which allocate the area, reason for the allocation), *payable amount*, *final status approved* (to be hold, to be legitimate, to be reintegrated, to be sold) as shown in Tab. 1 and Tab. 2;
2. the archive containing the geographic and cadastral – historical and current – cartography by means of which the *trazzeras* are localized, observed more in detail, and mapped;
3. the archive containing the dossiers regarding the pieces of *trazzeras* not included in the management plans; it contains the decree of public ownership in which the *trazzera* is accurately described, the location map, the documents relating to the legitimacy carried out or still in progress.

The current knowledge system can be considered inefficient under several respects, such as the format, not yet digital, the incompleteness of the map (the path of some *trazzeras* is undefined), the inadequacy of data. Therefore a renova-

Figure 1. Management Plan general view.

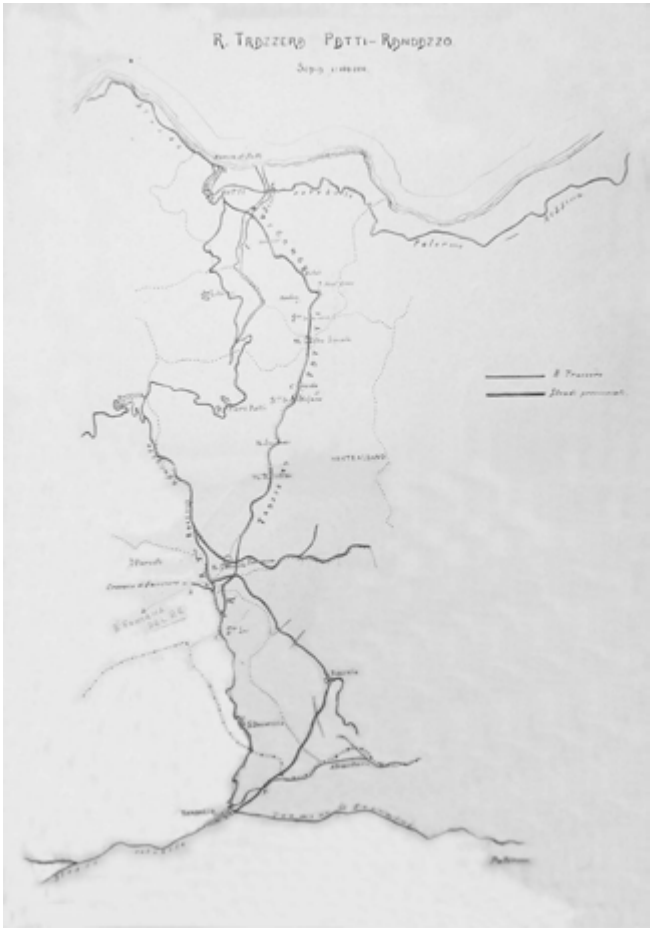



Figure 2. A part of a Management Plan.

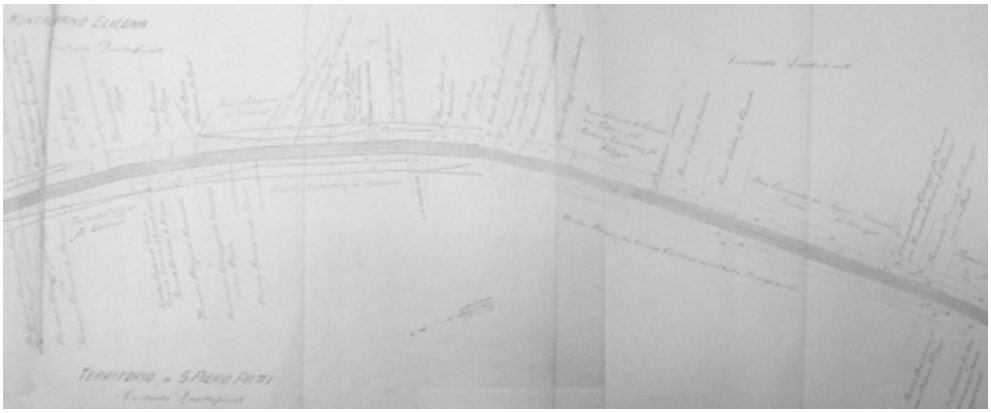


Table 1. The set of the registers of a management plan.

| Plan number | LOCATION | | | | ASCERTAINED OCCUPATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | District | Land use | Boundaries | surface (mq) | Generalities | Date | Employment is legitimate (mq) | fixed (mq) | malpractice (mq) | area for any legal or illegal status of occupation, any legitimation documents |
| 48 | 4183 | use public land to alienate | N. r. zona da alienare al 45; ad r. z. t.o. da Todaro Salvatore; a s. strada comunale; ad s.t.u.p. | 262 | | | | | | |
| 51 | 4201 | road | n.r. zona da alienare n. 48; ad r. con se stessa; s. zona da alienare n. 52; ad s.t.u.p. | 70 | comune di Montallano (Podestà) demanio stradale | Remote employment | | | 70 | |
| 52 | 4184 | use public land to alienate | n.r. strada comunale; ad r.z.t.o. da Muni Angela; a s. zona da alienare n. 55; ad s.t.u.p. | 460 | | | | | | |
| 53 | 4184 | agricultural cultivation (arable land) | n. e ad zona da alienarsi n. 52; ad r. terre dell'occupatrice Muni Angela; ad s.z.t.o. da Muni Nicola; | 205 | Muni Angelo fu Antonino M. Basile Salvatore fu Carmelo; Montalbano El. | | | | 205 | |
| 55 | 4185 | use public land to alienate | n. zona da alienarsi n. 52; ad s.z.t.o. da Muni Nicola; a s. zona da alienare al n. 58; ad s.t.u.p. | 230 | | | | | | |
| 56 | | agricultural cultivation (arable land) | n. z.t.o. da Muni Angela; ad r. terra dell'occupatrice; ad s.z.t.o. da Furnari Angelo; a s. zona da alienare al n. 55; | 96 | Muni Nicola fu Antonino; Montalbano Elicona | | | | 96 | |
| 57 | 4186 | agricultural cultivation (arable land) | n.r.t.e. da ..Nicola; ad E. terra dell'occupatore a S. r. t. o. da … Nicola; ad O. zona da alienare n. 58 | 104 | Muni Corrado fu Corrado Montalbano Eli…. | Remote employment | | | 104 | |
| 58 | 4186 | use public land to alienate | N. zona da alienare al 55; ad r. z. t.o. da Furnari Angelo; a s. z. da alienare N. 59; ad s.t.u.p. | 170 | | | | | | |
| 59 | 4187 | use public land to alienate | N. zona da alienare al 58; ad r. z. t.o. da Muni Nicola; a s. z. da alienare N. 62; ad s.t.u.p. | 160 | | | | | | |
| 60 | 4187 | agricultural cultivation (arable land) | N. z.t.o. da Furnari Angelo; ad r. terre dello stesso Muni; a s. z. t.o. da Faranda Tindaro; ad zona da alienare N. 59; | 79 | Muni Nicola fu Salvatore Montalbano Eli…. | | | | 79 | |
| 61 | 4188 | agricultural cultivation (arable land) | N. z.t.o. da Muni Nicola fu Salvatore; ad r. terre dell'occupatore; a s. z. t.o. da Marg…io ..tono; ad zona da | 82 | Faranda Tindaro fu Fortunato inteso Scuzzetta Montalbano Eli…. | | | | 82 | |
| 62 | 4188 | use public land to alienate | N. zona da alienare al n. 59; ad r.z.t.o da Faranda Tindaro; a s. da alienare N. 63; ad s.t.u.p. | 250 | | | | | | |
| 63 | 4189 | use public land to alienate | N. zona da alienare al n. 62; ad r.z.t.o da Marguccio Gaetano; a s. da alienare N. 65; ad s.t.u.p. | 200 | | | | | | |
| 64 | 4189 | agricultural cultivation (arable land) | a N.z.t.o da Faranda Tindaro; ad t. terre dell'occupatore; a s. z.t.o. da Pagano Giuseppe; ad zona alienare N. 63; | 47 | Marguccio Gaetano fu Salvatore Montalbano El. | Remote employment | | | 47 | |
| 65 | 4190 | use public land to alienate | N. zona da alienare al n. 63; ad r.z.t.o da Pagano Giuseppe; a s. da alienare N. 68; ad s.t.u.p. | 380 | | | | | | |
| 66 | 4190 | agricultural cultivation (arable land) | a N.z.t.o da Manguccio Gaetano; ad t. terre dello stesso Pagano; a s. z.t.o. da Codaro Vincenzo; ad zona alienare N. 65; | 45 | Pagano Giuseppe fu Salvatore Montalbano Eli. | Remote employment | | | 45 | |
| 67 | 4191 | agricultural cultivation (arable land) | a N.z.t.o da Pagano Giuseppe; ad t. terre dello stesso Todaro; a s. Strada comunale; ad zona alienare N. 68; | 99 | Todaro Vincenzo fu Filippo Montalbano Eli. | Remote employment | | | 99 | |
| 68 | 4191 | use public land to alienate | N. zona da alienare al n. 65; ad r.z.t.o da Todaro Vincenzo; a s. strada comunale; ad 0. s.t.u.p. | 1010 | | | | | | |
| 69 | | use public land to alienate | da quattro finaite a Portella Piano Campi | 33671 | | | | | | |
| 70 | 4201 | road to Braidi | N. zona da alienare al n. 68; ad r.z.t.o da Todaro Vincenzo; ad r. continua; a s. zona da alienare n. 71 e 2.1.0 da Muni Nicola; ad 0. s.t.u.p. | 60 | comune di Montallano (Podestà) Demanio stradale | Remote employment | | | 60 | |
| 71 | 4192 | use public land to alienate | N. r. zona strada comunale; ad s.r.z.t.o da Muni Nicola; a S-Q. zona da alienare n. 74; a N.O. s.t.u.p. | 280 | | | | | | |

Table 2. The set of the registers of a management plan.

| Plan number | Neighbouring Owners | Destination selling or legitimating | FINAL STATUS PROPOSED person to which allocate the area | reason for the allocation | PAYABLE AMOUNT Unit Price | rounded-off amount | FINAL STATUS APPROVED Detection of lists to be hold | to be legitimate | to be reintegrate | to be sell |
|---|---|---|---|---|---|---|---|---|---|---|
| 48 | T... S…. fu A…; Montalbano… | selling | the current frontista set out in column 12 | | 970 | 131-26=105 | | | | |
| 51 | c... ….. 6 | legitimating | the current owner set out in column 6 | free legitimate | 970 | 35-8= 28 | | | | |
| 52 | M... A…. fu A…. in B...e Montalbano Eli… | selling | …… | which neighbouring owners | 970 | 230 | | | | |
| 53 | c... ….. 6 | legitimating | the current owner set out in column 6 | admitted to the legitimacy | | 102-70=82 | | | | |
| 55 | M…. G…nti fu A... Montalbano Eli… | selling | the current frontista set out in column 12 | which neighbouring owners | 970 | 110-23=92 | | | | |
| 56 | c... ….. 6 | legitimating | the current owner set out in column 6 | admitted to the legitimacy | 970 | 48-9=38 | | | | |
| 57 | c... ….. 6 | legitimating | the current owner set out in column 6 | admitted to the legitimacy | 5000-1000=4000 | 52-10=42 | | | | |
| 58 | F…. A... fu N….. boc.zzaro Montalbano Eli | selling | the current frontista set out in column 12 | which neighbouring owners | 5000-1000 = 4000 | 85-17=68 | | | | |
| 59 | M….. N... fu S…ù Montalbano Eli | selling | the current frontista set out in column 12 | which neighbouring owners | 5000-1000 = 4000 | 80-16=64 | | | | |
| 60 | c... ….. 6 | selling | the current owner set out in column 6 | admitted to the legitimacy | 5000-1000 = 4000 | 40-8=32 | | | | |
| 61 | c... ….. 6 | selling | the current owner set out in column 6 | admitted to the legitimacy | 5000-1000 = 4000 | 41-8=33 | | | | |
| 62 | P... G…. is S... Moltalbano Eli.. | selling | the current frontista set out in column 12 | which neighbouring owners | 5000-1000 = 4000 | 125-25=110 | | | | |
| 63 | P... G…. is S... Moltalbano Eli.. | selling | the current frontista set out in column 12 | which neighbouring owners | 5000-1000 = 4000 | 100-20=80 | | | | |
| 64 | c... ….. 6 | legitimating | the current owner set out in column 6 | admitted to the legitimacy | 5000-1000 = 4000 | 29-10=19 | | | | |
| 65 | P... G…. is S... Moltalbano Eli.. | selling | the current frontista set out in column 12 | which neighbouring owners | 5000-1000 = 4000 | 190-38=152 | | | | |
| 66 | c... ….. 6 | legitimating | the current owner set out in column 6 | admitted to the legitimacy | 5000-1000 = 4000 | 22-4=18 | | | | |
| 67 | c... ….. 6 | legitimating | the current owner set out in column 6 | admitted to the legitimacy | 5000-1000 = 4000 | 49-9=40 | | | | |
| 68 | P... G…. is S... Moltalbano Eli.. | selling | the current frontista set out in column 12 | which neighbouring owners | 5000-1000 = 4000 | 505-107=404 | | | | |
| 69 | | to be hold | Comuni di Montalbano Eliona e S. Pietro Patti | which ordinary road | 4500 | 15152 | | | | |
| 70 | P... G…. is Salvatore Moltalbano Eli.. | legitimating | the current owner set out in column 6 | free legitimate | 5000-1000 = 4000 | 30-6=24 | | | | |
| 71 | M... N... is A... Moltalbano Eli.. | selling | the current frontista set out in column 12 | which neighbouring owners | 5000-1000 = 4000 | 140-28=112 | | | | |

tion of the database and many specific surveys are required to actualize the purposes of the bill.

Furthermore the current knowledge system is ineffective regarding the increase in social value, because of the lack of qualitative data and a procedure concerning the appreciation of the natural and cultural values which could be assumed as the matter for their social use.

The first step for the renovation of the knowledge system is the formation of a digital database in GIS, so that the net dimensions and the characteristics of each *trazzera* or its parts are definitely established. Only by means of this tool a general plan can be drawn.

*Values system and valuation procedures*

The valuation pattern is based on a general approach aimed to integrate market prices into social values in order to better draw the options among which the transactions of parcels of *trazzera* may be chosen. In fact, the atomism of the legitimation process in which the single actions are disconnected from each other, so that the choices are reduced to binary option, yes/not, can be considered another criticality of the information/valuation system of the TRP. On the contrary the land, as social entity and perspective, requires a general appreciation plan which can be drafted in different ways (options) in which each legitimation is framed. The axiological perspective arises making the legitimation process meaningful, because each piece of land has a meaning and not only a dimension, as well as it has a value and not only a price.

In the legitimation process, prices can be considered the means (a piece of information about transactions and individual bargains), and values (to be increased) the purpose of the decision making in a land policy.

The transactions of parcels of trazzeras has been ruled since 1923 (R.D. n. 3244); relevant changes were made in 1927 (R.D. n., 2801), in1936 (R.D. 1706) and in 1999 (R.L. n. 10), until the current R. L. n. 4/2003 and L.R. n. 17/2004.

Since the end of 1998 the public property transfer, by legitimation or selling, is possible at request of the applicant for the benefit of the holders of the concession, of the owners or co-owners, and of the owner's neighbours. The sale price is calculated as shown in Tab. 3.

In addition, a compensation fee of 5/20 of the sale price should be paid for the illegal occupation.

Such sale price cannot be considered a market *price* and it has no relationship with the social *value* which should be assigned to public goods.

About this point the bill aims to renovate the calculation of the sale price by introducing the market value as the only reference.

Namely, the market value, as a private value, should be considered the minimum price to which a further amount, the one representing the social value, should be added.

Market prices, in fact, prevailing in the urban contexts, could be considered as significant indicators of the economic potentials of these particular assets, but

Table 3. Scheme of calculation of the sale price in the legitimation procedure.

| Transfer price pursuant to art. 13 R. L. R. n.4/2003 | | | | | | |
|---|---|---|---|---|---|---|
| Tipology | Land density (cu.m/sq.m) | Further information | Value | Decreasing value factor | 1. Value multipler | 2. Value multipler |
| Not building area | < or = 0,03 | | Present crop AAV | | | |
| Building ground and court | | | Max AAV | | | |
| Building ground and court | | Main appliant's dwell x 0,5 | Max AAV | 1/2 | | |
| Building ground and court | | Social house characteristics | Max AAV | 1/3 | | |
| Soils included in zone A B C D F | > 0,03; < 1 | | Max AAV | | 2 | |
| Not building area | > 1 | | Max AAV | | 2 | Building index |
| At the request of the applicant | | | Market Value | | | |

from the point of view of the social value, prevailing in the land agricultural contexts, they should be considered as just opportunity costs.

The social value of TRP stands as the point of view of a new land policy course, and the bill includes it for the purpose of the enhancement and recovery of the most significant pathways. The social value can be considered as a bundle of concrete values (historical, landscape, archaeological, architectural, anthropological, geological) 1. *coming before* and 2. *going over* the monetary (abstract and conventional) values; 1. they come before because they are the specific references of the choices; 2. they go over because they should be assumed as the perspective of the public investments.

*A plan pattern*

The bill includes the punctual survey of the *trazzeras'* network for the purpose of defining the real dimension of it. The TRP is considered a "precious resource for the improvement of the land if new regenerating and appreciating uses are identified"; furthermore, a new administrative pattern is announced, involving the municipalities for planning and managing; the Region coordinates the different land plans, guarantees the composure of public and private interests, rules the transactions of the parcels of the TRP".

The integration of prices and values cannot be achieved by actualizing a policy based on the trade off between selling and appreciating the TRP: the appreciation of TRP cannot be financed by selling wide parts of it, because both the unit costs of the appreciation and the social value of the TRP are very higher than the market prices.

The cost amount forecast is highly affected by the plan contents, the requested performances and the physical status of the land (acclivity, water and geological risk, discontinuity of the paths, etc.), whereas the market values are mostly influenced by the location, urbanization and the economic potentials; the social values are instead connected with the relationship between the individual cultural profile on the one hand, and the concrete values of the landscape, the cultural heritage, and the recognisable natural and environmental characteristics.

## Methods

### *Private and public values*

TRP can be considered a particular kind of public goods because of the difference between its former and current functions, so that nowadays the *potential use*, instead of the current *non-use* or *abuse*, can be taken into account.

The potential uses should be supposed and assessed by considering the land characteristics as organized in a valuation pattern aimed to the management. Some uses are consistent with the roads, some other ones are possible where the *trazzera*'s use didn't change. Valuation cannot be abstracted from functions and functions cannot be abstracted from values, so values and functions should be taken into account together; furthermore, valuation turns different evidence in a common scale of value in order to make choices. Therefore evidence, values and choices are strictly connected and not separable: where to start?

We skip the widely debated issue of the relationship between public and private goods assuming:

- the unity of public and private spheres, which cannot be distinguished, nor the public one can be considered complementary in the sense of serving the private property interests: "though readily applied to discredit mandatory social welfare programs, the rights of private property are less often invoked to protest the transfer of taxpayers' money to large corporate interests. This unequal treatment is explained in terms of public goods and free riders" (Byrne, 1995);
- public goods must be considered as a matter of social justice, identity and future for a group: "justice in a society is, then, about removing conflicts in a way that facilitates common goods, and hence the public goods needed for them" (Anton et al. 2000); this is extremely true, especially about the bundle of values stratified in time into the particular dynamic space of a road network, strongly connected to the life issues of large and ancient communities;
- social capital can be considered as "norms and networks that enhance trust, reciprocity and cooperation for the production of public goods; its conception addresses individuals' capacities to share a sense of social obligation and common identity. Choices thus depend not only on personal utility, but also on personal identity" (Cristoforou, 2013);

The above outlined issues are dealt regarding two case studies: the first, aimed at providing a definite market valuation pattern, involves mostly legal and estima-

tion issues; the second, aimed at defining some issues of the social value, involves land policy issues and the natural/cultural context characters. Both issues are more or less directly inherent in the formation of the Municipal *Trazzeras'* Plans, as announced into the bill.

*Market value*

The first case study concerns a group of urban lands located along one of the main roads in Palermo, Corso dei Mille (Fig. 3), a part of the important former *trazzera*, the n. 139 – Ministry Decree, 28/07/1948 – Palermo-Ventimiglia, nowadays crossing a dense and crowded urban context.

The current valuation pattern, as shown in the previous table, provides the amounts as shown in Tab. 4-5 and Fig. 4-5.

Figure 3. Some parts of the real estate market survey area.

Table 4. Market survey samples for Rent.

| | | | | Ad reference | 014 | 1431363 | 033 | 1430412 | 605ARG | 604ARG | EK-42356049 | EK-42819267 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | id | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | mounth rent | € 550 | € 620 | € 650 | € 500 | € 850 | € 500 | € 600 | € 420 |
| | | | | commercial surfaces (mq) | 90 | 100 | 138 | 90 | 160 | 130 | 100 | 75 |
| characteristichs | weights | | w | weights total | € 6,11 | € 6,20 | € 4,71 | € 5,56 | € 5,31 | € 3,85 | € 6,00 | € 5,60 |
| | | Infrastructure qualification | 15% | 5% | 2,0 | 3,5 | 3,0 | 2,5 | 3,0 | 2,0 | 3,0 | 3,0 |
| | | Accessibility Services Centre | 20% | 7% | 2,5 | 4,0 | 3,0 | 3,0 | 4,0 | 3,0 | 4,5 | 4,0 |
| location | 35% | Parking facilities | 10% | 4% | 4,0 | 5,0 | 2,0 | 3,0 | 2,0 | 2,0 | 2,5 | 2,0 |
| | | Environmental qualification | 25% | 9% | 3,0 | 3,0 | 2,0 | 2,0 | 2,5 | 2,0 | 2,5 | 2,5 |
| | | Air quality, noise and amenities | 30% | 11% | 4,0 | 3,0 | 2,0 | 3,0 | 2,0 | 2,0 | 2,5 | 2,0 |
| intrinsic | 5% | Floor level | 20% | 1% | 2,0 | 5,0 | 5,0 | 1,0 | 2,0 | 4,0 | 5,0 | 4,0 |
| | | Landscape; overlook and brightness | 80% | 4% | 3,0 | 5,0 | 4,5 | 2,0 | 3,0 | 4,0 | 4,5 | 3,5 |
| | 15% | Structure; supplied plants | 20% | 3% | 5,0 | 4,0 | 3,0 | 4,0 | 2,0 | 1,0 | 2,0 | 2,5 |
| | | Finishes; State of conservation | 80% | 12% | 5,0 | 5,0 | 2,5 | 4,0 | 2,5 | 1,0 | 2,0 | 2,0 |
| technologic | | State of maintenance | 70% | 25% | 5,0 | 5,0 | 2,5 | 3,5 | 3,0 | 2,5 | 5,0 | 3,5 |
| | 35% | Technological plants | 20% | 7% | 5,0 | 4,5 | 2,0 | 3,0 | 3,0 | 2,0 | 4,5 | 3,5 |
| | | Sound insulation | 10% | 4% | 5,0 | 4,0 | 1,5 | 2,0 | 2,0 | 1,0 | 3,0 | 1,5 |
| | | Dimensions (open, open spaces, ...) | 50% | 5% | 5,0 | 5,0 | 3,5 | 3,5 | 3,5 | 2,5 | 5,0 | 4,0 |
| architectural | 10% | Box or parking | 40% | 4% | 1,0 | 5,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 |
| | | Decoration of the prospectus | 10% | 1% | 2,5 | 2,0 | 1,0 | 2,0 | 3,0 | 3,5 | 3,5 | 2,0 |
| | | total | | score total | **4,1** | **4,3** | **2,5** | **3,0** | **2,7** | **2,1** | **3,5** | **2,8** |

Figure 4. Comparison between quality and unit price-samples for Rent.

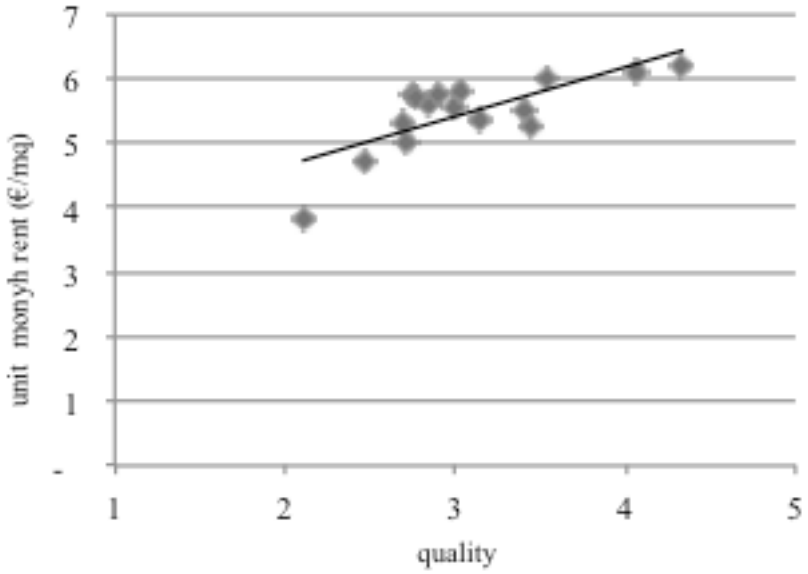



Table 5. Market survey samples for sale.

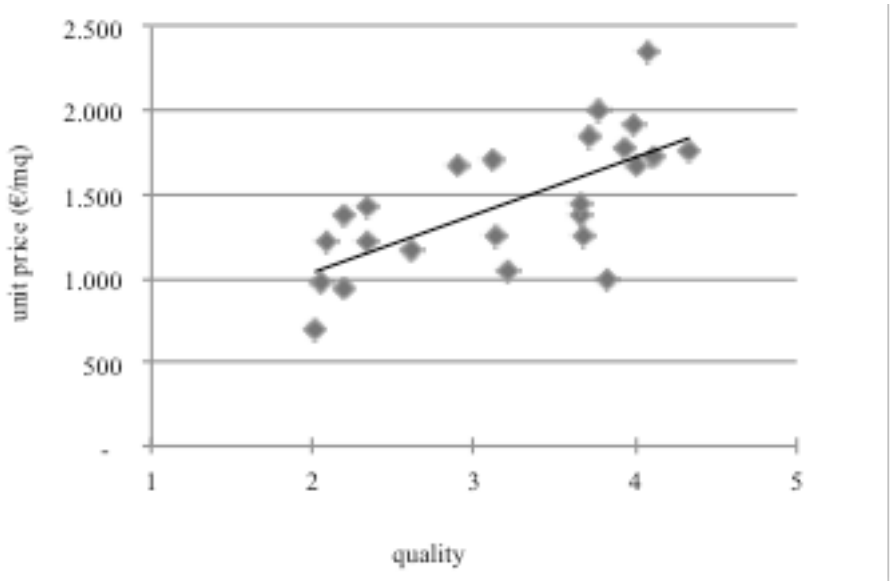
| characteristichs | weights | | W | weights total | Ad reference | 6913 | VR022 | 612 | 367 | EK-42300717 | 032 | 143897 | 1417950* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | id | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | price | € 85.000 | € 140.000 | € 195.000 | € 55.000 | € 175.000 | € 169.000 | € 115.000 | € 87.000 |
| | | | | | commercial surfaces (mq) | 90 | 140 | 110 | 80 | 100 | 135 | 110 | 90 |
| | | | | | | € 944 | € 1.000 | € 1.773 | € 688 | € 1.750 | € 1.252 | € 1.045 | € 967 |
| | | Infrastructure qualification | 20% | 6,0% | | 3,0 | 3,0 | 3,0 | 3,0 | 3,5 | 2,5 | 2,5 | 3,0 |
| | | Accessibility Services Centre | 15% | 4,5% | | 4,0 | 3,5 | 4,0 | 5,0 | 3,0 | 3,5 | 4,0 | 3,0 |
| location | 30% | Parking facilities | 10% | 3,0% | | 2,0 | 4,0 | 2,0 | 3,0 | 4,0 | 2,5 | 2,5 | 3,0 |
| | | Environmental qualification | 25% | 7,5% | | 2,5 | 3,0 | 3,0 | 2,5 | 3,5 | 2,5 | 2,5 | 3,0 |
| | | Air quality, noise and amenities | 30% | 9,0% | | 2,5 | 3,0 | 3,0 | 2,5 | 4,0 | 2,5 | 3,0 | 3,0 |
| | | Floor level | 20% | 2,0% | | 5,0 | 3,0 | 2,0 | 1,0 | 5,0 | 5,0 | 2,0 | 5,0 |
| intrinsic | 10% | Landscape; overlook and brightness | 80% | 8,0% | | 4,5 | 4,0 | 2,5 | 1,0 | 5,0 | 5,0 | 2,0 | 3,5 |
| | | Structure; supplied plants | 20% | 5,0% | | 1,0 | 4,0 | 5,0 | 1,5 | 4,5 | 4,0 | 3,5 | 1,5 |
| | 25% | Finishes; State of conservation | 80% | 20,0% | | 1,0 | 4,0 | 5,0 | 1,5 | 5,0 | 4,0 | 3,0 | 1,5 |
| technologic | | State of maintenance | 70% | 21,0% | | 2,0 | 4,5 | 5,0 | 2,0 | 4,5 | 4,5 | 4,5 | 1,0 |
| | 30% | Technological plants | 20% | 6,0% | | 2,0 | 4,0 | 4,5 | 2,0 | 4,5 | 4,0 | 4,0 | 1,0 |
| | | Sound insulation | 10% | 3,0% | | 1,0 | 2,5 | 3,0 | 1,0 | 3,0 | 3,0 | 3,0 | 1,0 |
| | | Dimensions (open, open spaces, ...) | 30% | 1,5% | | 3,5 | 4,5 | 5,0 | 2,0 | 3,5 | 4,5 | 3,5 | 2,5 |
| architectural | 5% | Box or parking | 60% | 3,0% | | 1,0 | 5,0 | 1,0 | 1,0 | 5,0 | 1,0 | 1,0 | 1,0 |
| | | Decoration of the prospectus | 10% | 0,5% | | 1,0 | 2,0 | 2,0 | 1,0 | 2,0 | 1,0 | 1,0 | 4,0 |
| | | | total | | score total | **2,2** | **3,8** | **3,9** | **2,0** | **4,3** | **3,7** | **3,2** | **2,0** |

*Extraction value*

According to the bill, a simplified valuation model, considering the different land uses (building areas, green spaces, public parks, parking lots, sporting destination areas, commercial areas) and their economic potentials, has been drawn.

*Building areas* represent the most critical asset regarding the difference between market price and sale price, and because of the lack of transactions data

Figure 5. Comparison between quality and unit price-samples for Sale.




their valuation has been modelled basing on the extraction method (Ciuna, 2010; Appraisal Standards Boards, 2006, Standards Rule 6-6; International Valuation Standards Committee, 2007):

$$V_t = V_f - k - \pi$$

in which $V_t$ is the value of the soil, $V_f$ is the building value, and $k$ is the building total cost.

As the profit can be regarded as a quota $r$ (profit rate) of the total investment, $\pi = r\left(V_t + k\right)$ and distinguishing the profit rate into two parts (as next explained), the general expression can be written as follows:

$$V_t = \frac{V_f - k\left(1 + r' + r''\right)^n}{\left(1 + r' + r''\right)^n}$$

for a $n$ economic cycle, which is the time needed for the equity and debt capital to turn into revenues; about $r$

- $r'$ is the *wacc* (for debt and equity) and varies into a positive range, whose minimum value is the lowest market cap rate, and the maximum value is the highest rate of interest;
- $r''$ is the unit cost of human/social capital and varies into a range whose:
  - o maximum (positive) is the profit rate in high risk conditions as measure of the credit of the entrepreneur, such as in the case of a competitive market,

in which no dominant position (previous occupation, complementarity, goodwill etc.) occurs;

- o minimum (negative) is the rate associated to the maximum advantage for the occupier who must compensate the public by paying an additional fee.

Therefore this additional rate $r''$ captures extra-market conditions which the market prices do not include, so:

$$r = f\left(r_a'', r_s'', r_l'', r_e'', r_i'', r_y'', r_c''\right)$$

where:

- $r_a''$ risk, credit of the entrepreneur, no dominant market position (+);
- $r_s''$ subjective characteristics such as the complementarity between the soils to be legitimated and the neighbour's ones (–);
- $r_l''$ legal and moral features, such as the long time of the occupation to the detriment of public interest (–);
- $r_e''$ extrinsic qualities, such as the improvement trend of the land context, because of urbanization (–);
- $r_i''$ intrinsic qualities, such as property rarity (–);
- $r_y''$ expected extra revenues (±);
- $r_c''$ expected capital gains (±).

These additional component soft he profit rate, as above outlined, involve both public and private extra-normal (dis-)values, such as the negative externalities and the general expectations which can be interpreted into a property market as pretended prices (demand prices)or improbable prices (betting prices): these prices sometimes (such as in a transition phase) can become more significant than the probable ones.

As the rate of profit has mostly to be referred to the category of rent, the generic $r''$ can be calculated by the analytic procedure by C. Forte (1968), as percentages of the difference between the maximum and the minimum rates.

The simulation carried out in the following paragraph aims at appreciating the difference between automatic and appraisable values, so that $V_f$ has been appraised on the basis of a sample representing the local property market in the study area; $V_f$ has been calculated by applying both analytic and synthetic procedures.

$V_t$ has been calculated by assuming a constant transformation $k$ some hypotheses about the profit rate.

*Other urban or extra urban areas* can be assessed in the same way. In these cases a specific survey about the economic potential (parking areas, sport green areas, used car sale areas etc.) has to be carried out in order to assess the income, the final value and the costs for the conversion.

*Social value*

The second case study concerns the *trazzeras* n. 610 and n. 14, located in the district of Enna, and crossing the Municipality of Piazza Armerina. They form an

about 12 km long path from an altitude of 362 m up to 533 m above sea level. The estimation case doesn't involve the market value as the main issue. The range of the latter could be from 0,50 up to 1,50 €/mq, so that the revenue for public could result negligible compared to the lost social value.

Some current experiences and practices can be cited about the importance of the trazzeras in the community cultural heritage. The most important, the *Tratturo Magno* (Giordano 2012), a 244 km long herd way, connects L'Aquila with Foggia getting through Chieti and Vasto. The transhumance lasts about a week. It involves many voluntary associations, hundreds people and important institutions such as the Region, the Chamber of Commerce, The Archaeological Superintendence.

In Sicily the transhumance of Geraci Siculo, a tradition which has been celebrated by the local Council to promote the bundle of values that can be referred to it, still survives.

As the valuation method aims at informing the planning practice, the assessment criteria exceed the dimension of the single parcel of *trazzera*, so that legitimacy should not be decided in the absence of information about the improvement potentials of a larger area: in fact, on the inside, may need to get back an area that had already been legitimized or sold, so the legitimation process should be frozen until a comprehensive plan for the recovery of the historical trazzeras is enacted.

The calculation of the social-land value is based on a system of scores attributed from the viewpoint of five different criteria. The score allows to compare the different *trazzeras* to be recovered. The total score $s_i^j$ each segment *i*, from the point of view of the single generic criterion *j*, is calculated as the weighed average score of the partial scores $p_i^j$ five segments: $t_{i-2}$ $t_{i-1}$ $t_i$ $t_{i+1}$ $t_{i+2}$ in order to take into account the influences of the context on the single segment:

$$s_i^j = \sum_{k=1}^{5} p_{i,k}^j \lambda_{i,k}^j$$

where $\lambda_{i,k}^j$ the weights of each *k* pieces. The maximum weight is attributed to segment *i*; the weigh decreases for more distant segments.

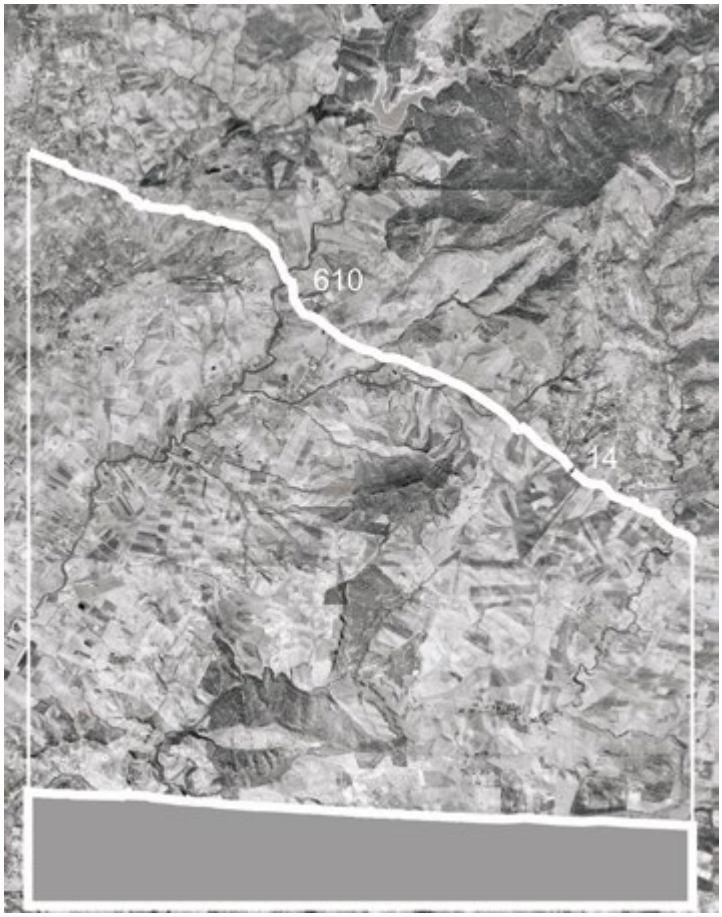
As a consequence, the global value of each $g_i$ (the value from the point of view of all the criteria), is the weighed average score of the scores that the segment $t_i$ under the respect of each of the *m* criterion:

$$g_i = \sum_{j=1}^{m} s_{i,j} \lambda_{i,j}$$

*Social value as land value*

The case study concerns two *trazzeras*, n. 610 (6524 m) and n. 14 (6225 m), crossing the municipalities of Piazza Armerina in the province of Enna (Fig. 6).

Figure 6. Localization trazzeras n. 610 and n. 14.




The *trazzera* has been divided in segments 127 metres long and a score (from 1 to 5 – 0 indicates a disvalue) has been associated to each segment from the point of view of the different characteristics (criteria) of the land crossed by the *trazzera*, basing on of the data of the Territorial Landscape Plan of the Province of Enna (Superintendence of Cultural and Environmental Heritage of Province of Enna, 2008) (Fig. 7-8-9).

The criteria and the scores corresponding to each specific level or condition of the characteristics are listed as follows (Tab. 6):

Figure 7. Territorial Landscape Plan of the Province of Enna- Land Use.

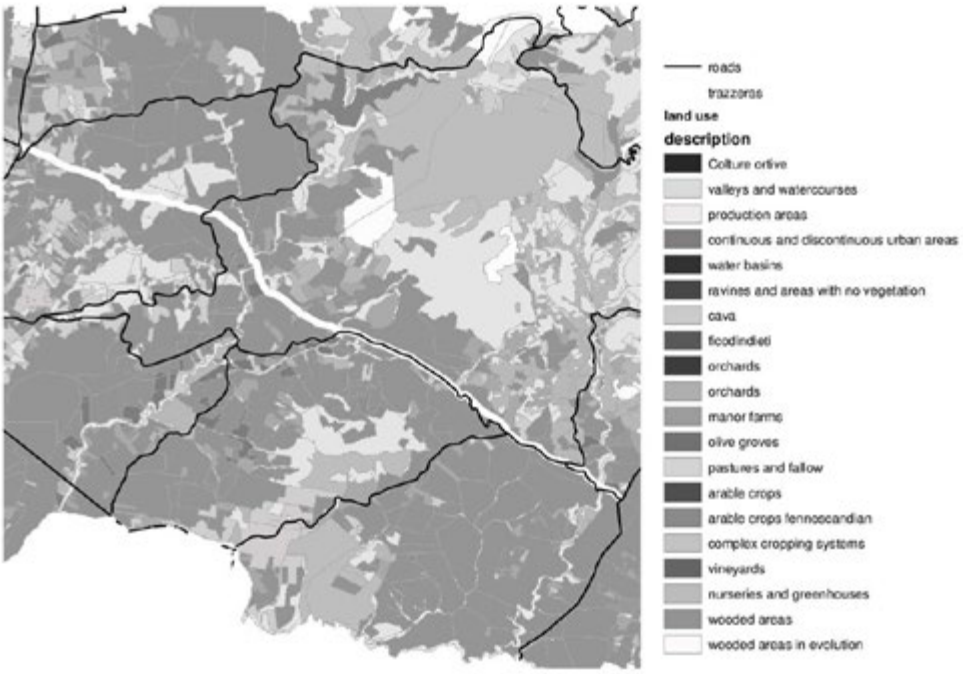



Figure 8. Territorial Landscape Plan of the Province of Enna - Geology.

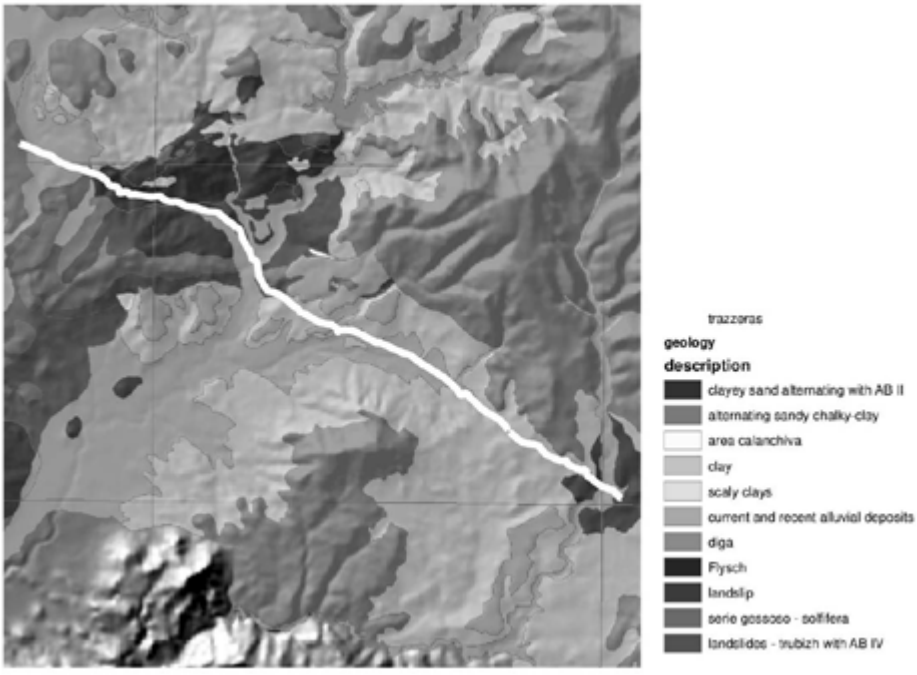
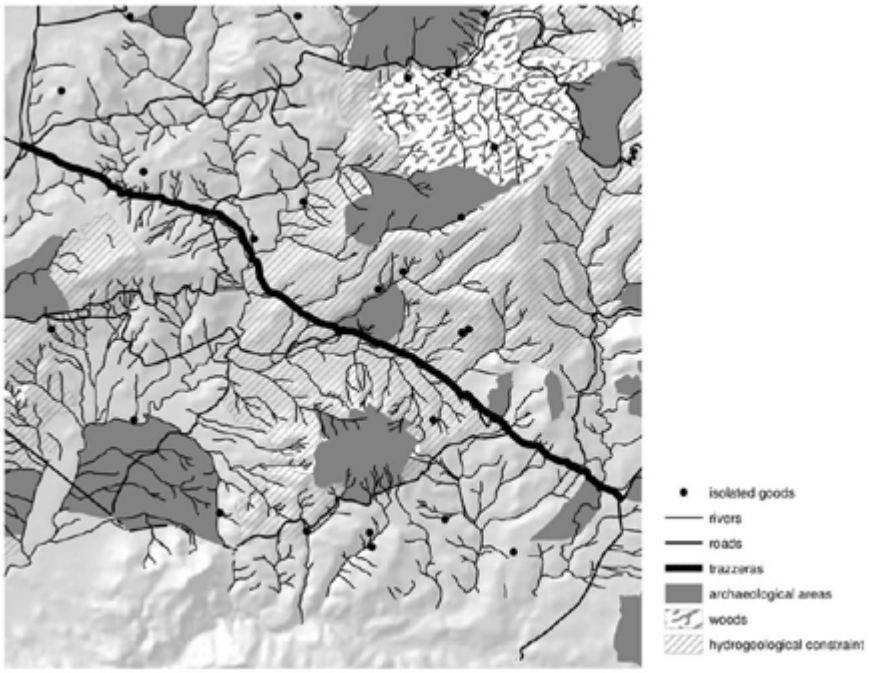


Figure 9. Territorial Landscape Plan of the Province of Enna - Archaeological areas and hydrogeological constraint.




## Results and discussions

*Market value: appraisal of the lost public value*

The survey about the legitimations carried out in the urban context of Corso dei Mille in Palermo, is shown in Tabb. 7-8.

The extraction method has been applied regarding some detailed components that can be easily implemented to take into account the specific characters of the area such as location, and its potential increase in value. The results of the proposed valuation methods are exposed in Tab. 9.

The appraisals provides evidence about the wide difference between market price and sale prices as shown in Fig. 10. This difference is first and foremost a categorical one coming from the inadequacy of the AAV to related to production, to represent land economic phenomena that can be traced to the speculation practices.

The difference between market value, as attributed by the analytic procedure, and the and sale price, calculated as an automatism on the basis of the Average Agricultural Value (AAV), reflects the difference between agricultural and urban rent, or between production and speculation, due to the (more and more) wide range of opportunities supplied by the city. Market is the social place in which

Table 6. ID and scores of the Trazzeras.

| Land Use | score |
|---|---|
| production areas | 1 |
| continuous and discontinuous urban areas | 1 |
| water basins | 4 |
| ravines and areas with no vegetation | 3 |
| cava | 3 |
| horticultural crops | 3 |
| ficodindieti | 3 |
| orchards | 3 |
| almond groves | 3,5 |
| Manor farms | 5 |
| olive groves | 4 |
| pastures and fallow | 1,5 |
| arable crops | 2 |
| arable crops fennoscandian | 2 |
| complex cropping systems | 4 |
| valleys and watercourses | 3 |
| vineyards | 3,5 |
| nurseries and greenhouses | 3 |
| wooded areas | 5 |
| wooded areas in evolution | 4 |

| Isolated Goods | score |
|---|---|
| watering hole | 2 |
| church-convent | 3 |
| Manor farm | 5 |
| mine | 2 |
| mill-palazzo | 4 |
| none | 1 |

| Hydrography | score |
|---|---|
| crossing the river | 0 |
| none | 1 |
| near the river | 4 |
| river visibility | 3 |
| tangency river | 5 |
| far-away visibility river | 2 |

| Hydrogeological Constraint | score |
|---|---|
| landscape constraint | 5 |
| proximity landscape constraint | 3 |
| none | 1 |

| Archaeological Areas | score |
|---|---|
| home Bonifacio - home Bartoli contrada Freddani | 5 |
| contrada Malcristiano - contrada Scarante | 5 |
| contrada Torre di Pietro - Cozzi delle Rocche - Grott | 5 |
| Cozzo Rametta- Contrada Vallegrande - Rabottano - | 5 |
| Monte Mangone - Vallone Sottoserra | 5 |
| none | 1 |
| proximity to archaeological area | 3,5 |
| archaeological site visibility | 2 |

| Geology | score |
|---|---|
| clayey sand alternating with AB II | 2 |
| alternating sandy chalky-clay | 3 |
| scaly clays | 2 |
| current and recent alluvial deposits and flooding Riv | 3 |
| landslides - trubizh with AB IV | 0 |
| nothing | 1 |

| Streets | score |
|---|---|
| crossing the street | 0 |
| near the street | 2 |
| none | 5 |
| tangency street | 1 |
| street visibility | 3 |
| faraway visibility street | 4 |

| Slope | score |
|---|---|
| slope of 1% | 5 |
| slope of 3% | 4 |
| slope of 5% | 3 |
| slope of 10% | 2 |
| slope of 15% | 1 |

the density of the economic communication valorises properties overcoming their productive potential. Oppositely, in a rural context, a rarefied communication reduces opportunities and prices.

In these cases social values arise as a result of policies aimed to boost traditional activities and immaterial values that cannot be turned in quantitative money dimension.

The difference above calculated is remarkable mostly in that soils where a building was built before they were classified "A/2-historic areas", so that, in absence of a building index the sale price is calculated by the most profitable crop AAV.

Although the analytical procedure may seem affected by subjective factors, it reflects the trend and the characteristics of the local market. The capitalization rate range, 1,9-4,5%, as calculated by combining rent and sales real estate market surveys, can be considered a reference consistent with the current state of the economic system and reflects its the uncertainty.

The proposed method can be generalised as market approach, but it needs specific market surveys that hardly can be replaced by the Land Agency Real Es-

Table 7. Data of the legitimations carried out in the area of Corso dei Mille in Palermo.

| The Territory of Palermo R.T. n° 139 "Palermo Ventimiglia" | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | The owner of the asset | Consistency | | | Urban Destination | | Cadastral crop | Current crop | Current Destination |
| | | particella | foglio | surface mq | Zone | index mc/mq | | | |
| 1 | [Grazia La Ferla] | [5..9] | [81] | 32 | A/2 historic area | | urban building | urban building | |
| | | [5..7] | [90] | 36 | A/2 historic area | | urban building | urban building | |
| 2 | [Giuseppe Amato] | [1..3] | [90] | 25 | A/2 historic area | | orchard | orchard | |
| | | [17..87] | [90] | 10 | A/2 historic area | | orchard | orchard | |
| 3 | [Federica Ricupero] | [65..8] | [90] | 24 | A/2 | | orchard | orchard | |
| | | [65..9] | [90] | 28 | A/2 | | citrus grove | orchard | |
| 4 | [Salvatore Roccasalvo] | [83..7] | [10] | 510 | B/3 | 5 | | | site area |
| 5 | [Filippo Maugeri] | [83..8] | [90] | 20 | A/2 historic area | | | | orchard |
| 6 | [Mario Rapisardi] | [83..9] | [22] | 530 | B2 | 4 | | | |
| | | [1..66] | [13] | 78 | A/2 historic area | 1 | | | |
| 7 | [Papaleo Antonino] | [1..65] | [15] | 48 | A/2 historic area | 1 | | | |
| 8 | [Pirrone Graziana] | [1..86] | [90] | 250 | | | | | orchard |
| 9 | [Barone Paolo] | [1..20] | 78 | 160 | B/3 | 5 | | citrus grove | |
| 10 | [Agosta Marco] | [1..64] | [22] | 65 | A/2 historic area | 4 | urban building | | estate |
| 11 | [Denaro Pasquale] | [1..456] | [22] | 40 | B/2 | | citrus grove | vacant lot | vacant lot |
| 12 | [Failla Giuseppina] | [8..46] | [81] | 120 | A/2 historic area | | urban building | | estate |
| 13 | [Altamore Francesca] | [22..6] | [10] | 510 | B/3 | 5 | building yard | site area | building yard |
| 14 | [Bellomia Luigi] | [1..78] | [90] | 20 | A/2 historic area | | urban building | | estate |
| 15 | [Bruno Concetta] | [1..888] | [10] | 42 | B0b | 0,75 | rural building | | |
| | | 5..6] | [10] | 30 | B0b | 0,75 | vacant lot | none | |
| | | [5..8] | [10] | 80 | B0b | 0,75 | vacant lot | none | |
| 16 | [Calogero Falanga] | [21..45] | [81] | 90 | B/2 | 4 | citrus grove | none | |
| | | [21..47] | [22] | 60 | | 4 | grove of reeds | vacant lot | vacant lot |
| 17 | [Micieli Fortunato] | [22..45] | [22] | 48 | B/2 | 4 | grove of reeds | vacant lot | vacant lot |
| 18 | [Gallo Vincenzo] | [4566] | [10] | 88 | A/2 historic area | | urban building | building | building |
| 19 | [Costa Massimiliano] | [1..348] | [90] | 145 | A/2 historic area | | portion of building | building | building |
| 20 | [Errante Guido] | [6..58] | [22] | 40 | B/2 | 5 | urban building | building | building |
| 21 | [Furna Eugenio] | [7..88] | [90] | 80 | A/2 historic area | | urban building | building | building |
| 22 | [ Grillo Rosario] | [7..11] | [90] | 10 | A/2 historic area | | urban building | building | building |
| | | [63..2] | | 10 | A/2 historic area | | urban building | building | building |
| | | | | 20 | | | | | |
| 23 | [Vinci Carmela] | [11..11] | [24] | 60 | A/2 historic area | | | | |

[…] *The personal data have been modified for privacy

Table 8. Calculation of the sale prices of the legitimations.

| The Territory of Palermo R.T. n° 139 "Palermo Ventimiglia" | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Most profitable crop ortoirriguo(€) | | Settlement amount agricultural soils (0,03 mc/mq) € | | Settlement amount (0,03 - 1,00) V.A. +1/4 | | Settlement amount (> 1,00 ) V.A. x __ € | | Minimum amount € 5000,00 | | Total € | legitimation | | | | | | | | |
| | | | | | | | | | | | | type | amount | | sum | | damages | | damages tot | | sale price |
| 1 | € | 6,25 | € | 200,06 | | | | | | | € 500,00 | a corpo | € 500,00 | | | € | 100,00 | € | 500,00 | € | 1.000,00 |
| 2 | € | 5,95 | € | 422,75 | | | | | € | 500,00 | € 500,00 | a corpo | | | | € | 100,00 | € | 500,00 | € | 1.000,00 |
| 3 | € | 6,25 | € | 150,05 | € | 325,11 | | | € | 500,00 | € 500,00 | a corpo | | | | € | 100,00 | € | 500,00 | € | 1.000,00 |
| | € | 6,25 | € | 175,06 | | | | | | | | | | | | | | | | | |
| 4 | € | 6,44 | | | | | | | | | | a corpo | € 16.422,00 | | | | | € | 4.105,50 | € | 20.527,50 |
| 5 | € | 6,44 | | | | | | | | | | a corpo | € 500,00 | | | | | € | 500,00 | € | 1.000,00 |
| 6 | € | 6,44 | | | | | | | | | | a corpo | € 13.652,80 | | | | | | | | |
| | € | 6,44 | | | | | | | | | | a corpo | € 502,32 | | | | | | | | |
| 7 | € | 6,44 | | | | | | | | | | a corpo | € 309,12 | | € 14.464,24 | | | € | 3.616,06 | € | 18.080,30 |
| 8 | € | 6,90 | | | | | | | | | | a corpo | € 1.725,00 | | | | | € | 500,00 | € | 2.225,00 |
| 9 | € | 6,25 | | | € | 5.001,60 | | | € | 500,00 | € 5.001,60 | a corpo | | | | | 250,08 | € | 1.250,40 | € | 6.252,00 |
| 10 | € | 6,25 | € | 406,38 | | | | | | | € 406,38 | a corpo | € 406,38 | | | | | | | | |
| 11 | € | 6,25 | | | | | € | 1.000,32 | | | € 1.000,32 | a corpo | € 1.000,32 | | | € | 100,00 | € | 500,00 | € | 1.906,70 |
| 12 | € | 6,44 | | | | | € | 772,80 | | | € 772,80 | a corpo | | | | € | 100,00 | € | 500,00 | € | 1.272,80 |
| 13 | € | 6,44 | | | € | 16.422,00 | | | | | | a corpo | € 16.422,00 | | | | | € | 4.105,50 | € | 20.527,50 |
| 14 | € | 6,44 | | | | | € | 500,00 | € | 500,00 | € 500,00 | a corpo | € 500,00 | | | € | 100,00 | € | 500,00 | € | 1.000,00 |
| 15 | € | 6,90 | € | 289,80 | | | | | | | | | | | | | | | | | |
| | € | 6,90 | € | 207,00 | | | | | | | | a corpo | | | | | | | | | |
| | € | 6,90 | € | 552,00 | | | | | | | | | | | | | | | | | |
| | | | € | 1.048,80 | € | 1.048,80 | | | | | € 1.048,80 | | | | | € | 100,00 | € | 500,00 | € | 1.548,80 |
| 16 | € | 6,90 | | | | | € | 2.484,00 | | | | a corpo | | | € 621,00 | | | € | 621,00 | € | 3.105,00 |
| | € | 6,90 | | | | | € | 1.656,00 | | | | | | | | | | | | | |
| 17 | € | 6,90 | | | | | € | 1.324,80 | | | | a corpo | | | | | | | | | |
| | | | | | | | € | 2.980,80 | | | | | | | € 745,20 | | | € | 745,20 | € | 3.726,00 |
| 18 | € | 6,90 | € | 607,20 | | | | | | | | a corpo | | | | € | 100,00 | € | 500,00 | € | 1.107,20 |
| 19 | € | 7,13 | € | 1.033,85 | | | | | | | | a corpo | | | | | | € | 258,46 | € | 1.292,31 |
| 20 | € | 7,13 | | | | | € | 1.426,00 | | | | a corpo | | | | € | 100,00 | € | 500,00 | € | 1.926,00 |
| 21 | € | 7,13 | € | 570,40 | | | | | | | | a corpo | | | | € | 100,00 | € | 500,00 | € | 1.070,40 |
| 22 | | | | | | | | | € | 500,00 | | a corpo | | | | | | € | 500,00 | € | 1.000,00 |
| 23 | € | 7,13 | | | | | | | € | 500,00 | | a corpo | | | | | | € | 500,00 | € | 1.000,00 |

[…] *The personal data have been modified for privacy

tate Market Observatory because of the wide range of the prices it shows, and the lack of specific information.

Social value: appraisal of the potential public value

Social value arises as complementary feature of a low market price in the rural context in which the environmental and landscape characters prevail because of the lack of urbanization and the extensive exploitation.

The social value, as previously exposed, can be represented taking into account of the different characteristics (criteria) of the soils crossed by the trazzera (Fig.11).

Table 9. Market appraisal of the legitimated soils.

Evalutation the Territory of Palermo R.T. n° 139 "Palermo Ventimiglia"

| | unit value | Extraction Value | Final market Value | Cost Value | profit rate | profit | rc | rd | r1 | r2 | r3 | r4 | r5 | r6 | r7 | Difference market price - sale praise |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | € 131 | € 8.379 | € 111.008 | € 86.400 | 5,4% | € 16.229 | 4% | 7% | 0,21% | 0,00% | 0,11% | 0,21% | 0,00% | 0,00% | -0,11% | € 7.379,39 |
| | € 138 | € 9.911 | € 124.884 | € 97.200 | 5,3% | € 17.773 | 4% | 7% | 0,00% | -0,11% | 0,00% | 0,00% | 0,00% | 0,21% | 0,00% | |
| 2 | € 37 | € 926 | € 4.000 | € 2.500 | 5,3% | € 574 | 4% | 7% | 0,00% | 0,21% | 0,00% | 0,21% | 0,00% | -0,21% | 0,00% | € 10.194,68 |
| | € 36 | € 358 | € 1.600 | € 1.000 | 5,6% | € 242 | 4% | 7% | 0,21% | 0,00% | 0,21% | 0,21% | 0,00% | 0,00% | 0,21% | |
| 3 | € 26 | € 618 | € 2.400 | € 1.440 | 5,3% | € 342 | 4% | 7% | -0,21% | 0,00% | 0,21% | 0,00% | 0,00% | 0,11% | 0,00% | € 347,23 |
| | € 26 | € 729 | € 2.800 | € 1.680 | 5,1% | € 391 | 3% | 7% | 0,00% | -0,11% | 0,00% | 0,00% | 0,21% | -0,21% | 0,00% | |
| 4 | € 206 | € 169.378 | € 1.494.487 | € 1.110.484 | 5,3% | € 214.626 | 4% | 7% | 0,00% | 0,00% | 0,00% | 0,21% | 0,00% | 0,00% | 0,00% | € 148.850,04 |
| 5 | € 51 | € 1.022 | € 3.300 | € 1.800 | 5,4% | € 478 | 4% | 7% | 0,21% | 0,00% | 0,11% | 0,00% | 0,00% | 0,00% | 0,00% | € 21,81 |
| 6 | € 1.250 | € 855.051 | € 1.242.476 | € 210.600 | 5,3% | € 176.824 | 4% | 7% | 0,00% | 0,21% | 0,00% | 0,21% | -0,21% | 0,00% | -0,11% | |
| | € 138 | € 21.474 | € 270.583 | € 210.600 | 5,3% | € 38.508 | 4% | 7% | 0,00% | 0,11% | 0,00% | 0,00% | 0,00% | -0,21% | 0,21% | € 872.093,40 |
| 7 | € 142 | € 13.648 | € 166.512 | € 129.600 | 5,1% | € 23.265 | 3% | 7% | 0,00% | -0,21% | 0,00% | 0,21% | -0,11% | 0,00% | 0,00% | |
| 8 | € 37 | € 9.204 | € 40.000 | € 25.000 | 5,4% | € 5.796 | 4% | 7% | 0,00% | 0,00% | 0,21% | 0,11% | 0,00% | 0,00% | 0,00% | € 6.978,81 |
| 9 | € 206 | € 53.138 | € 468.859 | € 348.387 | 5,3% | € 67.334 | 4% | 7% | -0,21% | 0,00% | 0,00% | 0,00% | 0,21% | 0,21% | 0,00% | € 46.886,05 |
| 10 | € 140 | € 11.734 | € 145.475 | € 113.226 | 5,2% | € 20.515 | 3% | 7% | 0,00% | 0,21% | -0,11% | -0,21% | 0,00% | 0,00% | 0,11% | € 10.965,87 |
| 11 | € 28 | € 1.138 | € 6.000 | € 4.000 | 5,3% | € 862 | 4% | 7% | 0,00% | -0,21% | 0,00% | 0,21% | 0,00% | 0,00% | 0,21% | |
| 12 | € 135 | € 32.498 | € 416.281 | € 324.000 | 5,3% | € 59.783 | 4% | 7% | 0,00% | 0,21% | 0,00% | 0,11% | 0,00% | 0,00% | -0,11% | € 31.225,37 |
| 13 | € 206 | € 169.378 | € 1.494.487 | € 1.110.484 | 5,3% | € 214.626 | 4% | 7% | 0,00% | 0,00% | 0,21% | 0,00% | 0,00% | 0,00% | 0,00% | € 148.850,04 |
| 14 | € 133 | € 5.327 | € 69.380 | € 54.000 | 5,4% | € 10.054 | 4% | 7% | -0,11% | 0,00% | 0,00% | 0,21% | 0,21% | 0,00% | 0,00% | € 4.326,65 |
| 15 | € 376 | € 3.818 | € 20.323 | € 13.718 | 5,0% | € 2.786 | 3% | 7% | 0,00% | 0,00% | -0,21% | 0,00% | -0,21% | 0,00% | 0,11% | |
| | € 28 | € 842 | € 4.500 | € 3.000 | 5,4% | € 658 | 4% | 7% | 0,21% | 0,00% | 0,21% | 0,00% | 0,00% | 0,00% | 0,00% | € 5.403,99 |
| | € 29 | € 2.292 | € 12.000 | € 8.000 | 5,3% | € 1.708 | 4% | 7% | 0,00% | 0,00% | 0,21% | 0,00% | -0,11% | 0,00% | 0,00% | |
| | | € 6.953 | € 36.823 | € 24.718 | | € 5.152 | | | | | | | | | | |
| 16 | € 211 | € 24.459 | € 210.986 | € 156.774 | 5,2% | € 29.783 | 3% | 7% | -0,21% | 0,00% | 0,00% | 0,21% | 0,00% | 0,00% | 0,00% | € 21.354,41 |
| | € 213 | € 16.489 | € 140.658 | € 104.516 | 5,1% | € 19.652 | 3% | 7% | 0,00% | -0,21% | 0,00% | 0,00% | 0,11% | 0,00% | 0,00% | |
| 17 | € 213 | € 13.191 | € 112.526 | € 83.613 | 5,1% | € 15.722 | 3% | 7% | 0,00% | 0,21% | 0,00% | -0,11% | 0,00% | 0,00% | -0,21% | € 25.954,67 |
| | | € 29.681 | € 253.184 | € 188.129 | | € 35.374 | | | | | | | | | | |
| 18 | € 131 | € 23.043 | € 305.273 | € 237.600 | 5,4% | € 44.629 | 4% | 7% | 0,00% | 0,00% | 0,21% | 0,00% | 0,00% | 0,21% | 0,00% | € 21.936,11 |
| 19 | € 142 | € 41.228 | € 503.006 | € 391.500 | 5,1% | € 70.278 | 3% | 7% | -0,11% | 0,00% | 0,00% | 0,21% | 0,00% | -0,21% | 0,00% | € 39.935,45 |
| 20 | € 204 | € 13.133 | € 117.215 | € 87.097 | 5,4% | € 16.985 | 4% | 7% | 0,00% | 0,00% | 0,21% | 0,00% | 0,00% | 0,11% | 0,00% | € 11.206,95 |
| 21 | € 133 | € 21.397 | € 277.521 | € 216.000 | 5,4% | € 40.214 | 4% | 7% | 0,00% | 0,21% | 0,00% | -0,11% | 0,00% | 0,21% | 0,00% | € 20.236,20 |
| 22 | € 148 | € 5.933 | € 69.380 | € 54.000 | 5,0% | € 9.447 | 4% | 7% | 0,00% | 0,00% | -0,21% | 0,00% | 0,11% | 0,00% | 0,21% | € 4.933,20 |
| 23 | € 37 | € 2.221 | € 9.600 | € 6.000 | 5,3% | € 1.379 | 4% | 7% | 0,00% | 0,21% | 0,00% | -0,21% | 0,21% | 0,00% | 0,00% | € 1.221,33 |

Fig. 12 shows the function of the global value along the whole length of the *trazzera* and the comparison between it and the single values.

The global value gives a more synthetic and connotative information; the single values give a more denotative information, so both of them should be taken into account and eventually a different weight system could be used.

During further investigation logical functions could be applied in order to overcome the additive approach and make the valuations more specific and appropriate to the context. In this stage we propose the most simple and objective valuation pattern in order to raise awareness of the Trazzeras' Office about the need to make decisions on the basis of a bundle of values.

Figure 10. Difference between market value and sale price.

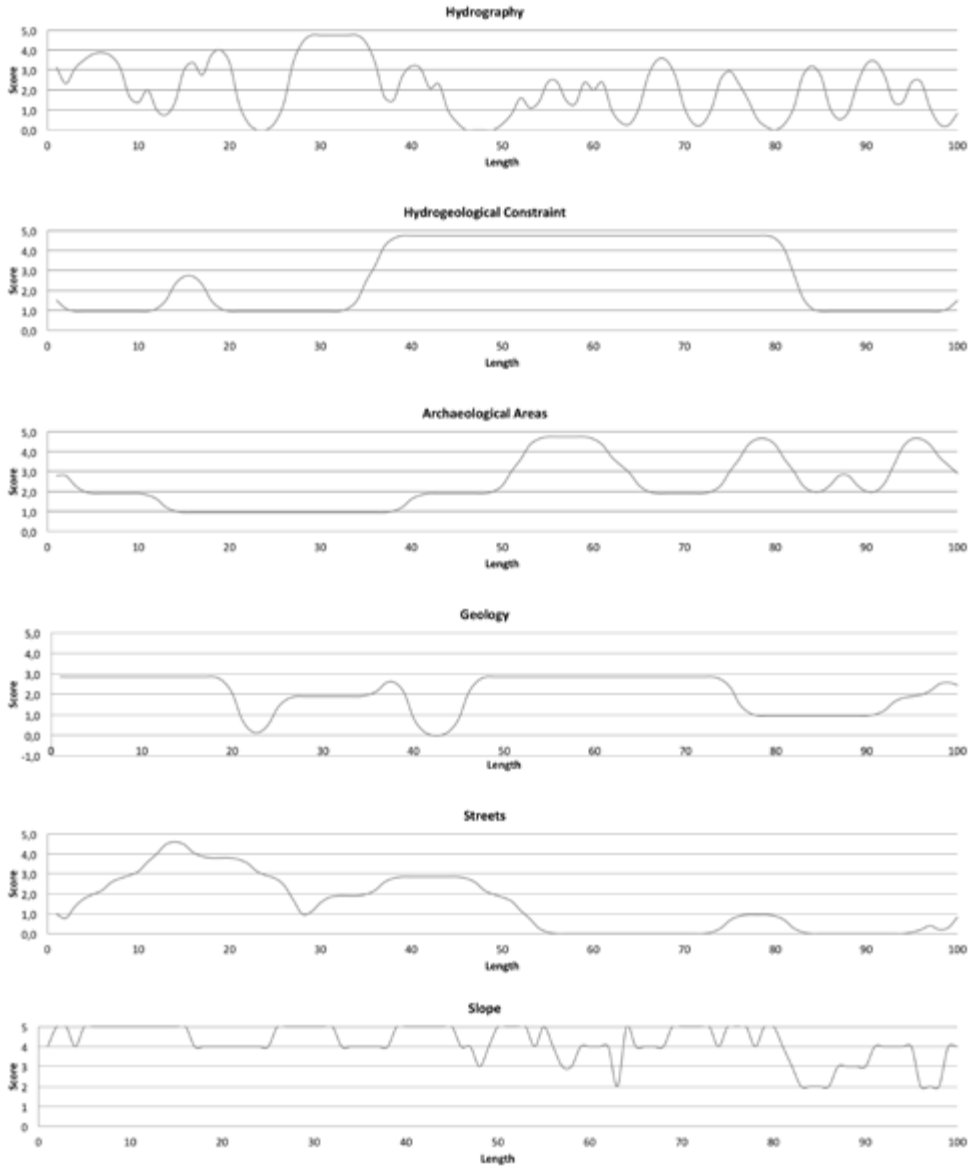

Moreover, a cost function can be added to the decisional process to distinguish the recovery costs (needed for the restoration of the ancient boundaries, the continuity of the path, road marking etc.) from the market value of the soil, which can be considered as the opportunity cost of legitimation failure, in case of public uses of the trazzera. By overlaying the total cost function and the global value it is possible to get localized information about the convenience of the trazzera's development plan. By extending and automatizing in GIS the proposed procedure, many trazzeras (plans) can be compared in order to get general information about the value potentials of the whole TRP and to choose the ones to be enhanced.

## Conclusions

The recent bill about the TRP, indeed introduce the new and revolutionary idea about it, framing this important land facility into a whole land policy perspective.

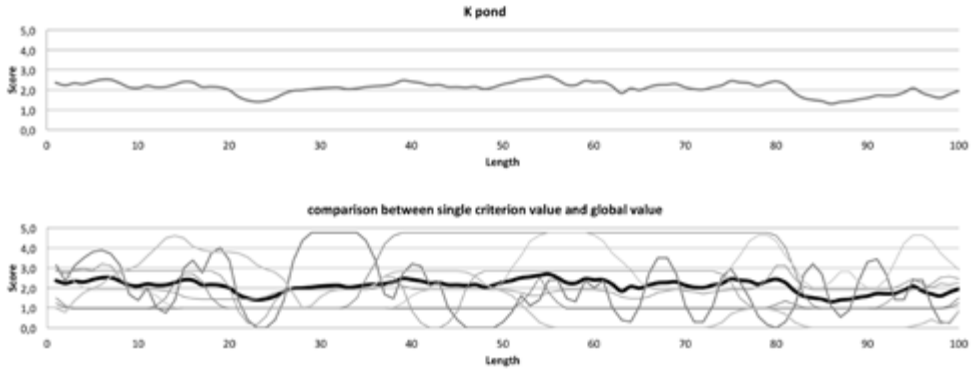
Both the need of a general plan for the enhancement of the rural ancient herds-roads, and the recognition of the inadequacy of the sale price for the legitimations, and the supposed recourse to the market value, point out many questions of land appraisal (as a practices) and some capital issues of assessment theory, as well as the relationships between valuations and decision, object and subjective values, measurements and estimations. Particularly, it rises the question of complementarity/opposition between public values and private interests, and market prices and social values.

Figure 11. Assessment of the different component of the land social value along the length of the trazzera.




The wide range of conditions and situation that characterizes the TRP because of its capillary extension and the specific capability of a soil to be transformed, its complementarity with others in a complex context, etc., rise several classical appraisal issues involving a wide range of questions and procedures. The bill over-

Figure 12. The function of the global value along the length of the trazzera and comparison between it and the single values.




comes the atomism and the automatisms of the current vision and procedures that the TRP Office carries out since the beginning of the last century.

The valuation we've carried out show the remarkable difference between the sale price and the market value, and the social value as the new dimension in which the market valuations (transformation cost and real estate appraisal) should be framed according the more general question of the public interest of this so important facility.

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