

# The Italian Cadastral System

*Edition* **2020**

*data as at 31 December 2019*





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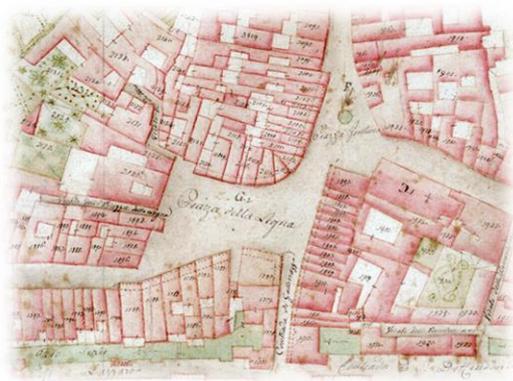
*The data contained in this brochure refer to 31<sup>st</sup> December 2019 and include the entire national territory, except the territories in which the Cadastre is managed, by delegation of the State, by the Autonomous Provinces of Trento and Bolzano*

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## 1. BACKGROUND INFORMATION

The Italian cadastre, an inventory of the real property present throughout the national territory, was implemented through the subsequent establishment of two distinct sub-systems: the first – called *Catasto Terreni* (Land Cadastre) – comprising the list of all rural properties and unbuilt land plots, the second – called *Catasto Edilizio Urbano* (Urban Building Cadastre) – including buildings for civil, industrial and commercial use.

The “establishment” of the Land Cadastre, provided by Law n. 3682 of 1 March 1886, was completed in 1956. The regulation for the “maintenance” of the Land Cadastre was approved with Royal Decree n. 2153 of 8 December 1938.



The Land Cadastre is geometrically configured in parcels, as it includes information on both the geometric nature (topography – shape and consistency) and on the technical and economic features (technical-physical characteristics and incomes) of the minimum inventory item represented on the map, the “cadastral parcel”.

The “establishment” of the Urban Building Cadastre, which followed the Land Cadastre, was provided by Law n. 1249 of 11 August 1939, approving the Royal Decree Law n. 652 of 13 April 1939, subsequently amended by Legislative Decree n. 514 of 8 April 1948. The relative implementing regulation was later approved with Presidential Decree n. 1142 of 1 December 1949. The Urban Building Cadastre went into the “maintenance” phase on the 1<sup>st</sup> of January 1962 with homogeneous regulations throughout the Italian State<sup>1</sup>.

The *Catasto dei Fabbricati* (Cadastre of Buildings), established by Decree-Law n. 557 of 30 December 1993, passed with amendments into Law n. 133 of 26 February 1994, is an evolution of the Urban Building Cadastre; it concerns all the buildings, both urban and rural. Nowadays, the Cadastre of Buildings doesn’t still replace the Urban Building Cadastre, but completes it and extends its scope.

The founding objectives of cadastre are to survey and register real properties, track their changes and prepare the ground for a fair taxation.

The management of cadastral databases and the provision of related services were entrusted to *Agenzia del Territorio*, established by Legislative Decree n. 300 of 30 July 1999, which reformed the Finance Administration, transferring to the new Agency the duties previously charged to *Dipartimento del Territorio* of the Ministry of Finance.

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<sup>1</sup> With the exception of the Province of Trieste, where the Urban Building Cadastre went into the “maintenance” phase on the 1<sup>st</sup> January 1966.



As from the 1<sup>st</sup> December 2012, *Agenzia del Territorio* was incorporated in *Agenzia delle Entrate* (the Agenzia delle Entrate) according to art. 23-*quater*, paragraph 1, of Decree Law n. 95 of 6 July 2012, passed, with amendments, into law by art. 1, paragraph 1, of Law n. 135 of 7 August 2012.

A decree of the Minister of Economy and Finance dated 8 November 2012 implemented the related transfer of functions, equipment, human and financial resources, with effect from the 1<sup>st</sup> December 2012.

## 2. THE CONTENTS OF THE CADASTRAL INFORMATION SYSTEM

The cadastral information system comprises four archives which are different in nature (alphanumerical or graphic), but closely inter-correlated:

- the cartographic archive;
- the Land Cadastre archive (alphanumerical);
- the Urban Building Cadastre archive (alphanumerical);
- the real estate urban units plans archive.

The system also includes the following new archives:

- the archive of buildings (currently being implemented);
- the national archive of urban streets and house numbers (ANNCSU)

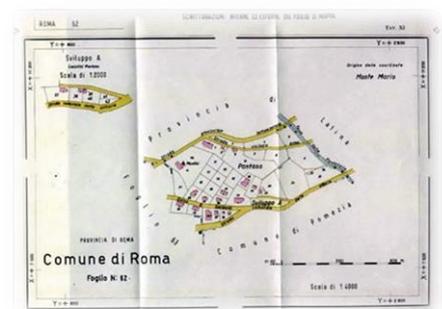
The basic inventory item of the Land Cadastre is the cadastral parcel, legally defined as a continuous piece of land located in a single Municipal area, owned by one or more natural or legal persons, planted with a homogeneous type of crop and having a uniform degree of productivity (class).

The basic inventory item of the Urban Building Cadastre is the *real estate urban unit*, legally defined as a portion of a building (for example, a dwelling, a shop, an office, etc.), a whole building (for example, a hospital, a hotel, etc.), or a set of buildings (for example, an industrial plant), or an urban area that is independent in terms of its functions and profit capacity.

### 2.1 *The cartographic archive*

The cartographic archive, through the cadastral maps, defines the shape, area and position on the territory of the cadastral parcels.

The specific objective of the cadastral cartography is, therefore, to represent real properties consistently with the different rights existing on them, an aspect that, among all the official cartographies held by the State, can only be found on cadastral maps.



Cadastral maps were normally drafted referring to municipal territories<sup>2</sup> and subdivided into sheets, identified through progressive cardinal numbers.

Cadastral cartography may be defined as a “large scale” representation, as it was originally created mostly in a scale of 1:2000<sup>3</sup>.

The Italian cartographic archive, which covers the whole national territory<sup>4</sup> (roughly 300,000 Km<sup>2</sup>), consists of about 300,000 cartographic files.

Cadastral cartography is one of the official maps of the Italian State<sup>5</sup>. *Agenzia delle Entrate*, as one of the Italian State Cartographic Bodies, takes part in national and international technical boards, such as the National Council for Territorial and Environmental Information, the United Nations Committee of Experts on Global Geospatial Information Management in Europe (UN-GGIM Europe), the Permanent Committee on Cadastre in the European Union (PCC) and EuroGeographics (International *non-profit* Organization, associating the main European National Mapping, Cadastre and Land Registry Authorities).

Today the Cadastral Cartography is available for the whole national territory in vector format and in the National Reference System<sup>6</sup>; this allows the full interoperability with other geographic data bases, becoming a fundamental element in the land information systems of the central and local Public Administrations.

Cartographic data are managed by *Agenzia delle Entrate* through a single GIS application, called WEGIS (Web Enable Gis), for the whole national territory, which operates in a web environment. This application software’s functions make it possible to query cartographic databases, provide users (technical professionals, citizens) with abstracts of cadastral vector maps upon request, update cadastral cartography in vector format either through its digitalization functions or by supplementing updating documents submitted by technical professionals.

Since 2016 the cadastral information system is integrated with new-generation high-resolution ortho-images (GSD 20 cm/pix), provided by *Agea* (Agency for disbursements in agriculture) every year for one third of the national territory.

In addition to the fiscal purposes (agricultural and real estate cadastral incomes are used for determining the taxable base of direct and indirect taxation), cartographic and cadastral

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<sup>2</sup> In some cases, municipal territories are subdivided into census sections and the cadastral map is formed on the basis thereof.

<sup>3</sup> Cadastral cartography also includes, to a lesser extent, maps in different scales (1:4000, 1:1000 and 1:500).

<sup>4</sup> With the exception of the territories in which the Cadastre is managed, by delegation of the State, by the Autonomous Provinces of Trento and Bolzano

<sup>5</sup> Law n. 68 of 2 February 1960 established the Administration of the Cadastre and of Technical Revenue Services (now, *Agenzia delle Entrate*) as one of the five cartographic bodies of the Italian State. The function is held by the Central Director for Cadastral, Cartographic and Land Registration Services (see Decision of the Director of *Agenzia delle Entrate* n. 36936 of 13 February 2018)

<sup>6</sup> Decree of the Prime Minister of 10 November 2011, art. 2: “... ETRF2000” – at the time 2008.0 – of the European geodetic reference system ETRS89, ...”.



information has progressively taken relevance also for civil and legal purposes (identification of real estate and legal value of the cadastral information), for the land management (civil protection, determination of municipal areas, fire cadastre, investigations of environmental crimes, etc.) and for historical aspects (reconstruction of natural and anthropic land evolution).

## 2.2 The Land Cadastre archive

The Land Cadastre archive registers technical-physical, juridical and economic data, linked to each cadastral parcel, including:

- **cadastral identification** (name of the Municipality, Section code, map sheet number, parcel number);
- **place** (address or name of the location area);
- **type of crop** for cultivated land parcels, or **permitted use** for parcels not used for agricultural production (the information is codified and refers to a General Table of the cadastral types of crop and permitted uses);
- **class of productivity** (codified information expressing different potential degrees of soil production levels);
- **consistency** (expressed in hectares, ares and centiares of surface area);
- **cadastral incomes** (subdivided into *landlord* income<sup>7</sup> and *agrarian* income);
- **cadastral holder** (tax code number and personal data of natural persons, or corporate name of legal persons, holding title to the land parcel, supplemented with information on the type of right held and on the share of interest in it).

Additionally, each parcel is provided with identification data of the deeds that determined a change in the status of the holders (for example, transfer of title), or in the technical-physical state of the property. By tracking these changes, data relative to cadastral parcels are time-linked for subsequent phases. This makes it possible to browse them also referring to a previous time period.

As at 31 December 2019, the Land Cadastre archive comprised more than 85.7 million cadastral parcels; out of these, approximately 60 million producing a cadastral income<sup>8</sup>.

The Land Cadastre archive is now completely computerized and organized into an Oracle database.

<sup>7</sup> Which takes into account possible "deductions to the landlord income tariffs due to permanent works for protection, drainage and reclamation, and to irrigation costs".

<sup>8</sup> The remaining parcels concern areas containing buildings registered in the Urban Building Cadastre (more than 21.8 million) and other areas that are exempt from cadastral income valuation (about 3.8 million). Source: DWH Agenzia delle Entrate (as at 31 December 2019).

### 2.3 *The Urban Building Cadastre archive*

Analogously to the Land Cadastre, the Urban Building Cadastre archive registers technical-physical, juridical and economic data, linked to each real estate urban unit, including:

- ***cadastral identification*** (name of the Municipality, Section code, map sheet number, parcel number, sub-parcel number);
- ***address*** (usually referring to the official street guides provided by Municipal Authorities and included in the National Archive of urban streets and house numbers, managed by the Agency and Istat - the Italian National Institute of Statistics);
- ***typology*** (coded information, linked to the permitted use of the real estate urban unit, which refers to a general classification currently listing different typologies organized into 5 groups identified as letter A - residential use and offices, B - public use, C - commercial use and outbuildings, D - industrial and special commercial uses and E - uses of community interest. In the Urban Building Cadastre properties that do not have the capacity of producing a cadastral income because of their nature (real estate portions that are common utility of several real estate urban units) or state of construction (unbuilt urban areas, units under construction, units in a state of collapse, etc. - organized into “*fictitious*” categories of the group F) are also registered.
- ***class of productivity*** (this is expressed only for the real estate urban units registered under a typology of groups A, B and C and is coded information outlining different levels of possible income);
- ***consistency*** (this is expressed differently according to the typology under which the real estate urban unit is listed. For units listed under group A, it is expressed in number of main rooms. For units listed under group B, it is expressed in m<sup>3</sup>, while for units listed under group C it is expressed in m<sup>2</sup> of net area. Consistency is not expressed for units listed under groups D and E. In addition to the consistency data originally provided for in the founding law of the Urban Building Cadastre, with reference to the provisions of Presidential Decree n. 138 of 23 March 1998, for the real estate units listed under groups A, B and C consistency of the gross area in m<sup>2</sup> has also been determined);
- ***cadastral income*** (defined as the ordinary before-tax income that can be potentially produced from the real estate urban unit, after having detracted ordinary maintenance expenses and eventual losses).

The indication of the holders, of the type of right held and the share of interest in it, as well as the registration of changes in rights and in the state of real estate urban units, occur according to the very same procedures described above in relation to cadastral parcels registered in the Land Cadastre.



## 2.4 The urban real estate stock



billion euros).

The real estate stock registered in the Italian cadastral archives<sup>9</sup> as at 31 December 2019 consists of more than 74.4 million buildings or parts of them. Out of these, about 64 million are registered under “ordinary” and “special” cadastral typologies, bearing indication of cadastral income (total cadastral income amounting to about 36.7

More than 6.7 million properties are “common properties unsuitable for registration” (namely properties with a shared use by several real estate units, that do not independently produce an income).

More than 3.5 million properties are registered under cadastral typologies of group F, as real estate units that do not have the capacity of producing income (unbuilt urban areas, paved roofs, real estate urban units under construction or still lacking an assigned use, units in a state of collapse).

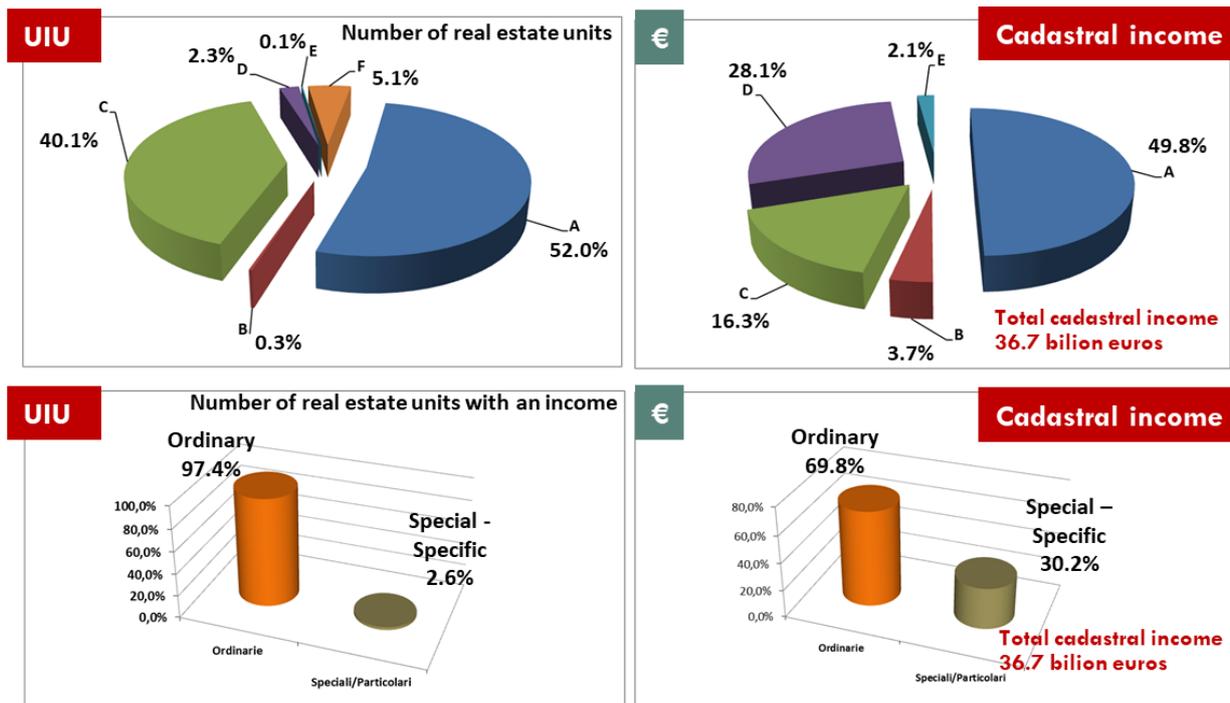
| Cadastral typologies   | Stock        |
|--|--------------|
| <b>Group A (dwellings, offices, professional studios)</b>        | <b>52.0%</b> |
| <b>Group C (commercial/artisan business, outbuildings)</b>       | <b>40.1%</b> |
| <b>Group D (special use)</b>                                     | <b>2.3%</b>  |
| <b>Group E (specific use)</b>                                    | <b>0.1%</b>  |
| <b>Group B (public use)</b>                                      | <b>0.3%</b>  |
| <b>Group F (particular units – <i>fictitious</i> typologies)</b> | <b>5.1%</b>  |

Most part of the Italian real estate stock is registered under group A (dwellings, offices, professional studios - more than 52%) and under group C (commercial/artisan business, outbuildings – about 40.1%).

69.8% of the total cadastral income (24.5 billion euros) refers to properties from groups A and C.

Properties of group D, though only 2.3% of the total real estate stock, produce a relevant part of real estate income, equal to 28.1% (about 10.3 billion euros). Properties under group E (specific use) account a share of the total cadastral income equal to 2.1% (about 0.8 billion euros).

<sup>9</sup> With the exception of the data concerning the territories in which the Cadastre is managed, by delegation of the State, by the Autonomous Provinces of Trento and Bolzano.



As in the case of the Land Cadastre, also the Urban Building Cadastre archive is now wholly computerized and organized into an Oracle database.

With regard to the inventory of **rural buildings**, the legislation has undergone substantial changes over the years in relation to tax and cadastral profiles and, according to the recent regulation, supervision about the existence of the requirements of rurality of buildings fall under the remit of the Revenue Agency. The art. 13, paragraph 14 and following, of Decree Law n. 201 of 6 December 2011, innovated the previous rules both with the provision of adding a specific "side note" concerning the existence of the rurality mark<sup>10</sup> on the cadastral records and, at the same time, with the obligation of declaring rural buildings to the Urban Building Cadastre.

As part of the activities aimed at the emersion of situations of tax avoidance and evasion in the real estate sector, after an extensive process of information, since 2016 a massive assessment campaign has been carried out with regard to rural buildings still listed only in the Land Cadastre with no cadastral income.

At the time of the entry into force of Law Decree n. 201/2011, the number of rural buildings, or portions of them, amounted to over 3.2 million real estate units. Since 2011, this number has progressively decreased, with an acceleration subsequent to the aforementioned activities of the

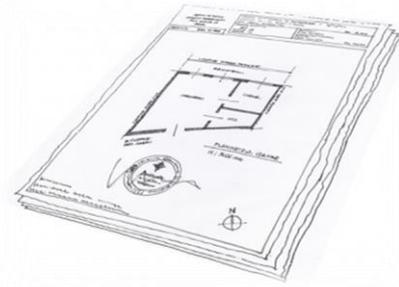
<sup>10</sup> At 31 December 2019, real estate units of the Urban Building Cadastre with the side-note of rurality amounted to a total of 438,99, of which 318,723 are related to the submission of the relating "applications". At the same date, real estate units recorded in category D/10 (Buildings for productive functions connected to agricultural activities) of the Urban Building Cadastre database were 411,135. Following the submission of applications, accompanied by the required self-declarations provided by applicants, pursuant to Presidential Decree n. 445 of 2000, the Provincial Offices-Territorio of the Agency verify, on a sample basis, the existence of the subjective and objective requirements of rurality. For the check of the related requests, the Agency has started exchanges of information with data held by other Administrations. In particular, the exchange of information with Local Authorities is carried out through the "Portal for Municipalities", an IT platform created to manage the exchange of data on the real estate assets related to every Municipality.



Agency, until reaching, at the end of 2019, approximately 725 thousand units still undeclared to the Urban Building Cadastre. Of such buildings, at present, approximately 315 thousand are still under verification.

## 2.5 *The real estate urban units plans archive*

In addition to the information described above, the Urban Building Cadastre information system also includes graphic information. More specifically, each real estate urban unit comes complete with a planimetric representation that is normally projected in a scale of 1:200.



Units that do not require a cadastral income assessment are only represented in a special graphics datasheet (named “*elaborato planimetrico*”) that defines their shape and position inside the building in which they are located.

The real estate urban units plans archive, linked to the alphanumeric information archive through the cadastral identification data of the units, is now wholly computerized. In details, while plans already existing in paper format were entered into the information system through the acquisition of their raster images, starting from the end of the ‘90s, thanks to the automation of updating procedures the new real estate urban units (new buildings or changes to the units already registered) are compulsorily<sup>11</sup> entered into the information system having in attachment their planimetric representation in electronic format, directly provided by the technical professionals concerned.

## 2.6 *The archive of buildings*

While implementing the Integrated Real Estate Register<sup>12</sup>, the Agency is establishing a new unified cadastral archive named “Integrated Land System” (SIT).

The new Integrated Land System, supplementing what is provided in the current national cadastre system, based on



<sup>11</sup> The Directorial Decree ref. n. U.D.A./2425 of 7 November 2001, pursuant to art. 5 of the Decree of Minister of Finance n. 701 of 1994, provides for the obligation to submit the updating documents regarding new buildings or variations in the state or consistency of registered real estate units having attached the plans and other graphic representations, as well as the related metric data, in digital format.

<sup>12</sup> The Integrated Real Estate Register is provided for in art. 19 of Decree Law n. 78 of 31 May 2010. It is a computerized archive of real properties, created and managed by the Agency, that certifies, for tax purposes, the integration state of its administrative, cartographic, planimetric and land registry archives.

parcels and urban real estate units, includes information referring to the object “building”, that until now has never been given an autonomous relevance in the cadastral records.

The new object “building” makes it possible, in the input phase of information coming from applications for changes in cadastral registration (e.g. address, cadastral typology), to overcome differences often existing in data concerning real estate units located in the same building and to have a proper alignment.

The first procedures to manage the “building” in the databases started in 2011, following several tests for the implementation of a new cadastral valuation system.

## **2.7      *The national archive of urban streets and house numbers (ANNCSU)***

In recent years, the national archive of urban streets and house numbers (ANNCSU) has been added, as provided for in art. 3 of Decree Law n. 179 of 18 October 2012, approved with amendments by Law n. 221 of 17 December 2012, and in the implementing of the Decree of Prime Minister of 12 May 2016. This archive, created by *ISTAT* (Italian National Institute of Statistics) and *Agenzia delle Entrate*, already includes the official street guides and house numbers of all Italian Municipalities, certified by the Municipalities themselves and, as provided for the implementing decree, “*from its activation date the ANNCSU is the national reference for municipal streets and addresses*”.

Currently, pending the necessary opinion by the Italian Data Protection Authority, required for the release of such services to all Public Administrations, citizens and companies, these data can be interrogated only by Municipalities, as data owners, and by *ISTAT* and *Agenzia delle Entrate* as managing bodies. In particular, the Agency has already been using these data for several years in order to check and correct the addresses associated to the real estate urban units registered in cadastre in order to standardize them with those certified by Municipalities.

## **2.8      *The evolution of the technological infrastructure***

A process of implementation and improvement of the cartographic, cadastral and land registry archives is under way with the aim of pursuing the fight against tax evasion and avoidance in the real estate taxation and for civil purposes, with a view of assuring knowledge and interoperability of territorial information to support land and environmental policies. This innovation focuses on the issues of the unified management of the technological infrastructure, of data and processes integration and of quality control.

The main purpose of the activation of the Integrated Real Estate Register is the full integration of the databases available to the Agency, made and historically managed as different systems. The implementation is aimed at creating a complete and uniform inventory of Italian real estate assets,



to support real estate taxation, which integrates the correct identification of the object (the land parcels and the real estate urban units) with the subject (the person holding title to a property).

The Integrated Real Estate Register consists of two components (in progress):

- The Integrated Land System (SIT). It constitutes the new national inventory of properties and is an evolution of the current cadastral cartographic system towards a geo-referred model, based on the cartographic system and specialized for the management of technical and economic property information such as the classification, the description, the tax value, and the geolocation, as well as the average market values required for the check and the update of the fiscal values;
- The Register of Holders (AdT). It allows to define the correct identification of the subjects holding title to a property for tax purposes, improving data quality through the qualified representation of their relationships and the full integration of cadastral and land registry archives.

### 3. THE UPDATING PROCEDURES

Whereas it was the State that established the cadastre, its updating is essentially delegated to real estate or land owners, through technical professionals qualified to draft cadastral updating documents (mainly surveyors, engineers, architects, agronomists and forestry experts, building and agro-technical experts).

The State, in addition to managing the archives, has full competence over the following activities:

- creating new cartography;
- performing topographic surveys of public interest;
- checking and validating updates proposed by the party;
- performing ordinary (five-yearly) and extraordinary revisions.

Thanks to the computerization of cadastral records, the Agency has progressively adopted procedures aimed at enabling users to present applications for cadastral registration changes in digital format and to submit them online, so that the results of the proposed updates can be registered in databanks in real time<sup>13</sup>.

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<sup>13</sup> In compliance with the Decision of the Agency Director dated 11 March 2015, from the 1<sup>st</sup> of June 2015 chartered professionals qualified to draft and submit cadastral updating documents can submit them only through the online channel. The mandatory service concerns the documents drafted using computerized procedures provided by the Decision of the Director of [former] Agenzia del Territorio dated 22 March 2005 and, specifically, declarations for registration of newly built urban real estate units, declarations for variation in the state, consistency and permitted use of registered units, declarations concerning properties not producing an urban income, including common properties, and their changes, building representations on the map, land parcelling out, assessments of the correct area of existing parcels.

The application software developed by the Agency, downloadable directly from the website [www.agenziaentrate.gov.it](http://www.agenziaentrate.gov.it), are unique and mandatory on the whole national territory and are made available to users free of charge.

From May 2016 the filing of cadastral updating documents is carried out in a fully digital mode, within the Digital Documents Retention System - SCD.

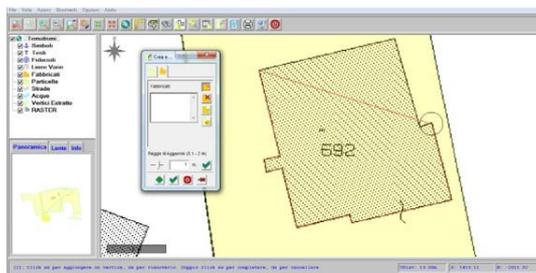
This System implements the provisions of the Digital Administration Code, with significant benefits for both the Agency, the professional categories and the citizens, with a view to transparency, efficiency and spending review.

Referring to the Land Cadastre, the digital keeping includes the updating documents drafted through the Pregeo procedure (see par. 3.1), together with any supplementary documentation, as well as related declarations of approval or cancellation, digitally signed by the Office director or his delegate.

As for the building cadastre, the digital retention of documents drafted through the Docfa procedure (see par. 3.2) is made directly by the software applications, that manage the digitally signed documents. The Offices make the subsequent checks within the time limits laid down under provisions in force.

### **3.1 The PREGEO procedure for Land Cadastre**

Regarding Land Cadastre, variations in the state of cadastral parcels (consistency, shape or permitted use) are registered through the submission by the interested private parties of the following updating documents:



- land parcelling out, aimed at the subdivision of one or more existing parcels to create geometrically different new parcels;
- building representation on the map, required when a new building or other permanent construction is built on a parcel, or an existing one is expanded.

These documents are drafted through the computerized procedure PREGEO which allows, through the management of administrative, technical and spatial data related to the survey, to update the Land Cadastre cartographic and alphanumeric archives.

The PREGEO software, created by the Agency and made available to the technical professionals free of charge, makes possible the automatic processing of cadastral documents and its updates



with fast, simplified, automatic and transparent procedures, without requiring any intervention by the operator.

The technical and organizational model for the updating of Land Cadastre is based on the:

- access of the technical professionals to the cadastral archives via web, to request map extracts;
- Active participation of technical professionals in the process of drafting cartographic updating document proposals and online submission of documents;
- Execution, through the PREGEO procedure, of the necessary checks, according to the current legislation, of the automatic cadastral cartography updates and corresponding census archive.

The technical professionals, delegated by the citizens, directly and daily operate from their office and without going at the Agency's desks by using these procedures for updating the Land Cadastre databases, on the basis of the rules agreed with the professional Chambers.

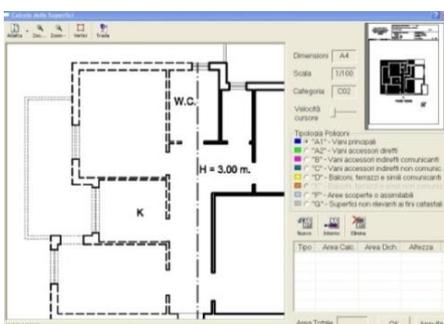
The checks of the Agency, following the automatic data registration in the archives, carried out also through inspections on the ground, assure transparency and simplification of the cadastral updating process and make possible to maximize the use of resources. This model is a *best-practice* in the context of the technical-administrative procedures, as it constitutes a kind of public service that is increasingly close to citizens and which can also be used in other fields of the Public Administration.

In the year 2019 the number of approved documents amounted to more than 288.000. The average number of land cadastre technical documents processed through this procedure in the period 2017-2019 is about 367,000.

### 3.2 The DOCFA procedure for Urban Building Cadastre

Referring to Urban Building Cadastre, the technical updating documents concern:

- new buildings, in case of new construction of a building or other permanent structure. The updating document includes, for each urban real estate unit present in the new building, both administrative data (consistency, typology, class and cadastral income) and plans;
- variations in the state or consistency of registered real estate units, following restructuring works.



To draft these updating documents the qualified professional uses the procedure named DOCFA that makes possible to create files containing graphic (plans of the single units and datasheets representing the whole building) and alphanumeric (technical-physical and income data)

information on the real estate units that have to be registered or changed in the cadastre. The procedure's innovative breakthrough is dramatic as it features functions enabling the technical professional who makes the declaration to propose consistency, typology and class (and, consequently, the related cadastral income) to be assigned to the real estate units, that can be defined on the basis of a specific algorithm referenced on the declared characteristics of the real estate unit affecting income. Said cadastral income is registered in the cadastral database as "proposed income" until the Office carries out its suitability controls (and possible amendment activities, with notification of the assessment notice to the concerned person) through computerized or conventional assessment tools, that can also be sample-based, in any case within 12 months after submission of the updating documents (the term is regulative and not peremptory).

In the year 2019 the number of units registered in the databank amounted to about 1,372,000. The average number of urban real estate units processed through this procedure in the period 2017-2019 is about 1,427,000.

### **3.3      *The VOLTURA procedure***

Changes related to subjects mainly concern the variation requests to modify the cadastral holders, submitted by those who are committed to register civil or judicial acts transferring rights registered in the cadastre (notaries, public officers, courts clerks, etc.). Similarly, persons obliged to submit the declaration of succession have to submit the related variation requests as a consequence of transfer of rights following the death of the previous holder.

For this duty the software procedure named VOLTURA is also available, making possible to draft digital applications for changes in cadastral registrations normally consequent to real estate rights transfers due to the death of the title-holder (successions, consolidation of usufruct, etc.), so as to facilitate the immediate registration of the change in ownership and thus achieve the direct and immediate updating of the cadastral databank.

This procedure completes the overview of the automatic procedures whereby to submit and enter cadastral registration changes. It supplements the other procedures aimed at updating the names of holders registered in the cadastre through the automatic collection of data relative to the transfers of rights, after their registration at the Land Registry Offices (automatic cadastral registration change from transcription notation – *Nota* procedure – and from the single electronic form – *Unidoc* procedure) and the most recently activated (January 2017) online procedure "*SuccessioniOnLine*" for the declarations of succession via the web, that updates automatically also the data related to the cadastral holders.

In the year 2019 more than 477,000 variation requests were submitted to Cadastre. The average number in the period 2017-2019 is about 691,000.



### 3.4 *The DOCTE procedure*

Persons who change the kind of crop planted on a land parcel, as it is registered in the Land Cadastre database, are obliged to declare such variations, using the *DOCTE Software 2.0* or a specific form for Declaration of crop changes, to be submitted to the competent Provincial Office – *Territorio*.

As from the 1<sup>st</sup> of January 2007 this duty is not necessary anymore if a person correctly declares the use of soil in each cadastral parcel to a paying Body, recognized as supplier of agricultural subsidies.

On the basis of these declarations *Agea* (the Italian paying agency for agricultural subsidies) yearly proposes to the *Agenzia delle Entrate* the updating of Land Cadastre database.

Following this update, the *Agenzia delle Entrate* publishes in the Official Journal a public statement including the list of Municipalities involved by crop variations.

For sixty days following this publication the Agency makes available the lists of parcels involved by the updating.

The list of parcels subject to crop variations can be accessed:

- at the Provincial Offices – *Territorio*;
- at the involved Municipalities;
- *online*, through the website of the Agency.

Users can point out any discrepancy between the information they declared and those found in the Land Cadastre database, though a request for rectification.

## 4. THE PROVIDED SERVICES

The continuous improvement in quality of services provided to users is one of the main objectives for the Agency, that promotes transparency, simplification of processes and easy access to its services, as well as interchange of data on the real estate stock with other Public Administrations.



In this perspective, considering the different needs of users interested in cadastral data (individual users, companies, private professionals, Public Administrations, etc.), the Agency has developed specific services and established special channels, giving a preference to the online channel.

### 4.1 *Services for the GENERAL PUBLIC*

#### A. *ONLINE SERVICES.*

- ***Online cadastral data queries:*** there are different online search/download options available to obtain information on the properties listed in the cadastral databank:

- *search/download of the cadastral incomes (on the basis of the cadastral identification codes of the properties)* - allows users to obtain free of charge information on the cadastral income. They only have to specify the tax code number, the cadastral identification code and the Province in which the property concerned is located;
  - *cadastral outcomes (cadastral data search by tax code number)* - differently from the one based on cadastral identification codes, this kind of search requires a previous accreditation, but it allows to obtain, in addition to the cadastral incomes and identification codes, also descriptive information and data concerning the ownership and the share of interest in it, free of charge too (this service is accessible through the portal *Fisconline*);
  - *Certitel – cadastral documents* - is a service provided in collaboration with *Poste Italiane S.p.A.*, which allows to receive, upon payment, via email or ordinary mail, the requested cadastral documents.
- **Personal queries:** it allows all taxpayers, previously enabled to services “*Fisconline*” and “*Entratel*” of the Agency, holding title (even a shared one) to a property, to access free of charge the cadastral and land registry data bases, to check plans, cadastral incomes, typology and class, cadastral area assessed according to criteria provided by Presidential Decree n. 138/1998 (for properties under groups A, B and C registered with a plan) and, only for dwellings, also the area<sup>14</sup> that can be used by Municipalities for checks concerning the urban waste tax (TARI), the map with the land parcel. This procedure is operational for properties located in all the national territory (except the territories managed by the Autonomous Provinces of Trento and Bolzano);

From August 2016 this kind of query has been extended to legal persons, companies and institutions, holding title to a real property, if registered to “*Entratel*” and “*Fisconline*” services. This service makes possible to search for all information concerning the personal real estate stock, free of charge and without going to a counter. Accessing the cadastral and land registry data bases it is possible to have information linked to the person or to a specific real estate; to get the map with the land parcel, the plan of the building, the mortgage status. It is also possible to search cadastral plans related to expired real estate urban units or to its passed stages. The plans referring to expired real estate urban units can be issued only to persons that held title to a property on the real estate unit at the time of expiration

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<sup>14</sup> *Excluding balconies, terraces and uncovered annex areas, whether adjoining or not (Decision of the Director of Agenzia delle Entrate dated 29 March 2013).*



and, in general, to those who have legitimate interest, or can demonstrate to act on behalf of these persons, as well as to subjects referable to real estate units that are derived from the expired ones.

The personal query service is operational throughout the national territory, except the territories managed by the Autonomous Provinces of Trento and Bolzano.

- **General queries (not personal):** since July 2017 it is also available the access to an online data query service to search and download cadastral data upon payment. For the access to this new search service it is necessary to be registered to the online services of the Agency and to the online financial services of *Poste Italiane S.p.A.*, through which it is possible to pay, also cumulatively, the fees due for the data requested. Cadastral data search and download are free of charges only for the person holding title (even a shared one) to a property. The service is available throughout the national territory, except for the territories managed by the Autonomous Provinces of Trento and Bolzano.
- **Contact center:** this service targets users who find inconsistencies in their property's cadastral status and allows them to submit an online request to correct cadastral data.

## B. FRONT-OFFICE SERVICES.

- **Cadastral data queries.** The data and documents search is generally followed by the issue, in the form of an unstamped paper copy, of the databank output. Its contents are the same as in a certificate, but it does not have the legal validity thereof;

- **Cadastral certificates.** The expression "cadastral certificate" refers to the certified representation of the contents of cadastral records and of the additional documentation stored in the archives. Cadastral certificates may concern what is represented on the cadastral map, or registered in the Land Cadastre, in the Urban Building Cadastre and in the real estate urban units plans archive. More specifically, a certificate is the official way of acquiring identification and income data relative to real estate properties (land and buildings) and of verifying if a given person (natural or legal) holds a title thereto;



Since December 2017 it is possible to use a special "service stamp" to make front-office payments of mortgage fees and special land registry fees related to queries for mortgage status, cadastral data and maps or other certifications, which can be purchased at the retailers of monopoly items and revenue stamps. According to art. 7-*quater*, paragraph 36, of the Decree-Law n. 193 of 22 October 2016, with Decision of 28 June 2017 the Agency has

provided for the introduction of new payment systems for mortgage fees and special cadastral fees. The "service stamp" is equal to the usual revenue stamp and can be used for duties relating to cadastral data requests, mortgage status queries, issuing of copies and certificates, as well as for variation cadastral holders. The service stamp has to be affixed to the application forms submitted or to the cadastral holders variation requests, the facsimiles of which are available on the Agency's website.

## 4.2 Services for PROFESSIONALS

Considering the role played by private professionals in the updating process of the cadastral data banks, the Agency gave a main importance to the development of services aimed at simplifying the related duties, and especially to the use of online channel. In this perspective, it created a specific web portal, named "Sister", through which it is possible to access the following services:

- **cadastral data query:** it comprises advanced searching functions (diversified query keys, present-day and time-linked consultations, etc.) for data contained in the Land Cadastre and in the Urban Building Cadastre (with subsequent data printout). This real-time consultation result is identical, in its contents, to the information that can be obtained at the front-office desk;
- **cadastral data query in a suitable format for computer processing:** it makes possible to get cadastral data queries results (usually issued in non-editable format pdf), also in a suitable format for computer processing "xml", to carry out several activities. In this way private professionals (and institutions) can complete their own archives with information stored in the Land and Urban Building Cadastre records;
- **request/issue of digital map abstract** (for the drafting of updating documents);
- **documents submission:** it enables to online submitting of documents drafted through the application softwares provided by the Agency (PREGEO, DOCFA, etc.) for the purpose of updating cadastral databases, monitor their processing status and receive the answers from the Office, through the online submission to the competent Offices (Land Registry, Fiscal Registry, Cadastre)<sup>15</sup>;
- **online cadastral maps:** this service enables users subscribed to the "Sister" web platform to request maps related to all the Italian Provinces, except for the territories managed by the Autonomous Provinces of Trento and Bolzano. The

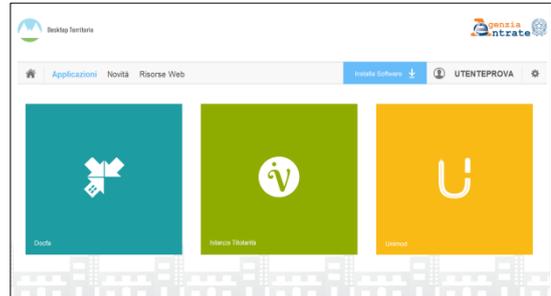
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<sup>15</sup> As completion of the innovative changes laid down by the Directorial Decision of 28 June 2017, starting from February 2019 the amounts previously paid to the single national checking account by digital means (known as "castelletti" in the Italian sector terminology) are now also available for payment of services rendered at the counter of the Provincial Offices - Territory of the Revenue Agency, for the technical professionals who are authorised, upon agreement, to the telematic services for submission of cadastral documents or land registry consultation.



online purchase has the same costs required for the digital copies of the maps provided at the Provincial Offices - *Territorio* (*Decision of Agenzia del Territorio dated 19 March 2003, published in the Official Journal n. 74 of 29 March 2003*);

From December 2016 the website of the Agency includes the ***Territorio desk***, a front-end cadastral system that simplifies the work of professionals when drafting and checking documents for updating the cadastral and land registry data banks. This service is part of the proposals of *Agenzia delle Entrate* to fulfil the Simplification Agenda and is one of the



operational innovations provided by the new “Integrated Land System” (SIT). The “*Territorio desk*” is a work environment that will increasingly make available a set of services to interchange information with the central data banks, aimed at simplifying the activities of professionals and encourage their compliance with obligations. By means of this platform it is possible, through a single interface, to access a new generation of applications intended for professionals qualified for updating the Agency cadastral and land registry data banks, supporting the drafting of related documents, in line with the developments of the new cadastral web platform of the “Integrated Land System” (SIT). The new services are progressively going to make possible the online installation and updating of software packages useful to draft and submit documents, without having to access the Agency institutional site for any single activity.

#### **4.3 Services for MUNICIPAL AUTHORITIES and INSTITUTIONS**

With a view to develop collaboration and cooperation aiming at improving data quality, streamlining administrative processes and supporting local taxation and land management policies, *Agenzia del Territorio* created the “**Portal for Municipal Authorities**”, accessible to Municipalities on the basis of an agreement, for online supplying of cadastral data in two different ways:

- "*upon request*": supplies upon request of an Administration, concerning – both for the Land and the Urban Building Cadastre and for the vector cartography – all cadastral data updated at the date specified by the user and/or the updates registered during a given time interval;
- "*specific*": periodic supplies concerning data related to registration of new real estate units or changes in already registered units, the results of changes in cadastral incomes related to single real estate units, the metric data from the Urban Building Cadastre and data related to changes in the cadastral holders.

Moreover, within the framework of the **Operational Cooperation** and Digital Administration, the Agency has outlined technical and economic rules that apply to the use made of its data by other Public Administrations. Data are provided through the “*Sistema di Interscambio*” (**Automated Data Exchange System**) of the Agency, in compliance with provisions ruling the Public Connectivity System (SPC). The Data Exchange System meets the needs of those Local Authorities that, equipped with advanced information systems, are interested in an automated data exchange process<sup>16</sup>.

As from May 2015 Municipalities were also given a new option to access free of charge the **cadastral plans of urban real estate units**.

This service, available through the online platform “*Sister*”, allows

to display the plan of a real estate unit, directly accessing the data banks managed by the Agency, enabling the Local Authority to improve its control levels and urban planning activities, as well as the management of the local real estate taxation.

#### **4.4 Services to view cadastral cartography**

A web dynamic view services of the cadastral cartography, that allows the online surfing of the various contents of the cadastral cartography, is available for all the users.

These services are developed in execution of the European Directive INSPIRE - INfrastructure for SPatial InfoRmation in Europe - (2007/2/CE), that has been transposed in Italy by Legislative Decree n. 32 of 27 January 2010, aimed at supporting environmental policies through measures that guarantee knowledge, availability and interoperability of geographical data.

The available information covers the whole national territory<sup>17</sup> and is aligned with the cadastral cartographic database, which is automatically daily updated with the technical documents drawn up by the technical professionals. Two search services for cadastral cartography are available:

- **WMS Cadastral Cartography Search Service:** it is based on the international standard Web Map Service 1.3.0, running through a GIS (Geographic Information System) software or other specific software available to the user. This service allows the search of cartographic

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<sup>16</sup> For land management policies purposes, several partnerships with Public Institution are in place for the provision of cadastral cartography. Among these the main ones are: Regions and Municipalities, for urban planning and land management; Agea - Agency for disbursements in agriculture; Istat - National Institute of Statistics, for census procedures and the definition of administrative borders; IGM - Military Geographic Institute, for Italy's map updates; Ispra - Institute for Environmental Protection and Research, for land use researches; Ministry of the Interior, for investigations of environmental crimes; Ministry of Infrastructures and Transport, for the Maritime State Property Information System; Ministry for Cultural heritage and activities, for cultural heritage localization; Department of Civil Protection, for emergency management and prevention of critical events; National Body of Fire Brigades, for management of disastrous events.

<sup>17</sup> With the exception of the territories in which the Cadastre is managed, by delegation of the State, by the Autonomous Provinces of Trento and Bolzano.

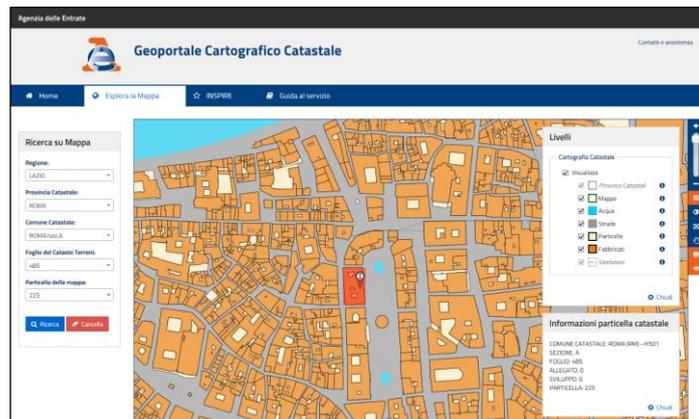
contents also in an integrated way with other geospatial data (e.g. aerial images, urban master plans, hazard analysis, infrastructures), supporting public bodies and private users who use cadastral cartographic information in various fields (urban planning, local taxation, civil protection and emergency services, management of the environment and of cultural heritage).

- **National Cadastral Cartographic Geoportal:** it is a free access web platform that makes possible to search and view the cadastral parcels included in the cadastral map easily and without needing to download any software (web link to the service: <https://geoportale.cartografia.agenziaentrate.gov.it>).

*WMS Cadastral Cartography Search Service  
(left) result of a search and (right) the service used with aerial images*



*National Cartographic Cadastral Geoportal*



The cadastral cartographic search services are also usable through mobile devices.

Users are provided with constantly updated support tools (manuals, guidebooks of the services, FAQ) and an e-mail assistance system for questions or reports is also available. Additionally, in a perspective of full transparency, it is possible to consult the daily updated graphs reporting the use of the cartographic search services in the "Data and statistics" web section of the Cadastral Cartographic Geoportal.

Free access search web services do not offer all contents of the cadastral cartography, for which the ordinary services are always available, also by on-line channel, including the personal cadastral data query.

## 5. THE MAIN CADASTRAL AND CARTOGRAPHIC PROJECT ACTIVITIES

In the last years the exact knowledge of the cadastral information stock managed by the Agency proved to be increasingly important for its supporting function to the national and local fiscal policy decision-making in the real estate field.



The continuous and effective updating of this information stock, also considering its fiscal and civil value, makes also possible the availability of more updated archives for a more effective land management by the competent Bodies.

The Agency was often required by law to carry out different activities that resulted in the updating of the cadastral data bank, improving the level of representation of the real situation and, thus, assuring an increasing reliability of data.

### 5.1 *The identification of “hidden buildings”*

The identification and regularization of buildings unregistered in the cadastre (so called “hidden buildings”) is ruled by art. 2, paragraph 36, of Decree Law n. 262 of 3 October 2006 (approved with amendments through Law n. 286 of 24 November 2006), by art. 19 of Decree Law n. 78 of 31 May 2010 (approved with amendments through Law n. 122 of 30 July 2010) and by Decree Law n. 225 of 29 December 2010.

Hidden buildings were identified through a well-structured and complex process operated in all the national territory, except for the Autonomous Provinces of Trento and Bolzano, where similar activities were carried out as well.

The territorial inspection was conducted together with *Agea* and *Sogei* and carried out matching the cadastral cartography in vector format with the Digital Terrain Model (DTM), the Digital Surfaces Model (DSM), infrared images and high-definition colour aerial images.

This procedure makes possible to identify parcels for which the existing buildings are not represented in the cadastral cartography.

Then, additional checks in the cadastral administrative archives were made to identify Land Cadastre parcels where buildings undeclared to cadastre had been discovered.

The complex control activity over these buildings led to identify more than 1.2 million urban units unregistered in the cadastral database, in more than 2.2 million Land Cadastre parcels.



Out of these units, about 769 thousands, submitted by the interested party afterwards, have a final cadastral income, while for 492 thousands the income was provisionally assessed.

In fact, the Decree Law n. 78 of 31 May 2010 provided that, pending the final registration in the cadastre, the office had to give to the undeclared buildings still to be regularized an estimated provisional income. To estimate the cadastral incomes and link them to the buildings, the Agency based on accurate parameters, picked up through external surveys to the irregular buildings, too.

The total value of the cadastral incomes that during these activities were referred to buildings identified and registered in the databases is over 825 million euros. More specifically, 537 million euros correspond to the final incomes, i.e. the ones given after the interested persons spontaneously submitted the needed updating documents to Cadastre, while a value of 288 million euros is related to the estimated ones, i.e. the incomes given by the office, because the buildings had not been voluntarily registered by the taxpayers by the 30 November 2012, when the verification activity on undeclared buildings was closed up.

The whole “hidden buildings” program is able to produce, if the estimated incomes are confirmed, a total increase in tax return assumed by the Department of Finance in about 589 million euros.

## **5.2 *Partial revision of the typologies and the class (categorization) of the existing real estate urban units***

The partial revision of categorization is ruled by the “2005 Budget law” (Law n. 311 of 30 December 2004), whose art. 1, paragraph 335, stated that Municipalities could ask to *Agenzia del Territorio* (now incorporated in *Agenzia delle Entrate*) a partial revision of real estate categorization.

The Agency, after verifying the necessary conditions (existence of at least three cadastral micro-zones in the Municipality and a difference between the average market value and the cadastral average value higher or lower than 35%, compared to the same ratio referred to the whole set of municipal micro-zones), begins the activity of assigning the new classes and reviewing the cadastral incomes.

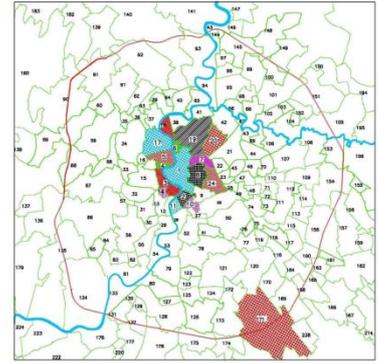
The revision, that may amend the typology and the class of the real estate unit, also involves the change of cadastral income, that is successively notified to cadastral holders through verification notices.

The Municipalities that asked to the Agency the partial revision of categorization are 17 (including Roma, Milano, Ferrara, Perugia, Bari, Lecce).

In these 17 cities 38 micro-zones have been inspected, for a total of 418,118 real estate units. The modified real estate urban units have been 327,649 (about 78% of the units located in the “abnormal” micro-zones), from which an increase in the cadastral income of over 183 million euros have resulted.

The most recent and complex operation was the investigation in Rome, held by the Agency upon request of the City council (resolution n. 5 of 11 October 2010), which involved 175,354 real estate units out of a total of 224,285, located in 17 cadastral micro-zones of the city, proved to be “abnormal”.

The micro-zones involved by revision of categorization were the City centre, *Aventino*, *Trastevere*, *Borgo*, *Prati*, *Flaminio 1*, *XX Settembre*, *Monti*, *San Saba*, *Testaccio*, *Gianicolo*, *Delle Vittorie-Trionfale*, *Flaminio 2*, *Parioli*, *Salario Trieste*, *Esquilino* and *Appia villas*.



Among the most evident effects of this activity it is noticeable the substantial disappearance in reviewed cadastral micro-zones of some no more topical cadastral typologies, such as the ultra-cheap (A/5), and the significant reduction of cheap (A/4) and economic (A/3) dwelling-houses, still present in several central zones.

The involved cadastral holders were notified the cadastral verification notices, including justification of the revision of categorization and information about the updating of data concerning typology, class and income of their properties.

The activity included an appropriate assistance to involved citizens. In addition to the online consultation service, present in the home page of the Agency’s website, various channels of assistance and information to taxpayers have been made available through:

- a specific call center (which could be reached through a toll-free number) where it was possible to directly book an appointment at the Provincial Office - *Territorio* of Rome;
- the Provincial Office - *Territorio* of Rome, at the counters reserved to users ex paragraph 335;
- e-mailing to a specific address.

### **5.3 Evolving projects of the cadastral cartographic system**

The cadastral cartographic system is involved in project activities aimed at overcoming some critical issues arising from the process of creating the original (historical) maps and the paper cartography computerisation phase, as well as at completing the geo-referencing of information included in it. The carrying out of these activities makes completely usable and interoperable the cartographic information required for achieving the fiscal policy objectives and for the land management policies. Out of the main undertaken projects, the following can be noted:



### **Recovery of maps accuracy and topological consistency between adjoining maps**

Following the computerisation of cadastral cartography<sup>18</sup> and the use of GIS (*Geographic Information System*) platforms, also by different bodies for other than fiscal purposes, there is a need to achieve and maintain a “topological consistency” inside and outside the map sheet.

As from 2017, thanks to the availability in digital images of the *original establishment* maps and to the software procedures developed by the technological partner Sogei, a recovery project activity<sup>19</sup> has been started, aimed at improving quality of vector cartography, still characterised by distortions inside the sheet and gaps on the edges of adjoining sheets, resulting both from the cadastral establishment phase and from the paper maps digitalisation process. These problems affect the effectiveness of some *topology* based functionalities typical of GIS systems, in several Agency’s strategical projects, such as the evolution of the Integrated Land System (SIT).

This project has a strategic value also for the Committee of Experts UN-GGIM Europe, which identified cadastral cartography as one of the fundamental datasets for the analysis, achievement and monitoring of the 17 Sustainable Development Goals (see <http://www.un.org/sustainabledevelopment>), goals defined to achieve, by 2030, a sustainable economic, social and environmental development through the world.

This Committee identified *topological consistency* as one of the 8 main characteristics that cadastral cartography must have, to be efficiently used in the various land management processes.

### **Inclusion of the lacking buildings in the map and evolving scenario for complete geographical surveys**

Some imperfections arising from the maps computerisation process and geometrical mistaken data caused by the missing declarations of new constructions to the Land Cadastre, in a situation of legislative urgency due to planning amnesties, are at the origin of a missing or inconsistent representation on computerised maps of the geometries of some buildings as they are really on the ground.

Quality of cadastral and cartographic services provided (both true and perceived by all interested stakeholders) and, more generally, quality of the entire cadastral system is directly proportional to the quality and completeness of the information and data managed by the system itself.

Actually, constant and improving quality of the system together with its credibility are of strategic importance in this historical moment when, through the WMS services and the Cadastral Cartographic Geoportal developed in compliance with the INSPIRE European Directive, cadastral cartographic data are available to anyone and used by an increasing number of private subjects and Public Administrations, for their own personal or institutional purposes.

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<sup>18</sup> The transposing of the cadastral cartography from paper to a digital format, carried out through the acquisition of the cadastral maps raster images, then digitalised to get related files in vector format, caused a deterioration of the map precision, making necessary to recover the distortions of vector maps.

<sup>19</sup> The project activity was started up in 50 Provincial Offices in 2017 and in all the remaining ones during 2018.

In such context, it was necessary to start a direct rescue of the lacking buildings on the maps or differently represented from the real situation on the ground, made possible thanks to current availability of digital ortho-images with a high resolution GSD 20 cm/pix with which the outcomes of vector map sheets are compared.

The direct rescue activities, begun on an experimental basis in 2019 in some geographical areas, will make possible to improve the geometric consistency of the cadastral maps with the real situation on the ground, represented in the aerial photos, and to implement the contents of the buildings cadastre, usable through the Integrated Land System (SIT) or, more in general, through the geographic information systems (GIS).

These activities will also provide useful elements for the formulation of evolving hypothesis for innovating the legal institution known as “periodic cadastral verifications on field”, that is ordinary five-yearly revisions aimed at the updating of Land Cadastre by the managing Administration itself and, in general, for a possible definition of a comprehensive model of complete geographical survey.

### **Remaking of the cartography in the Lombardy Region**

The project refers to about 15,000 cadastral maps coming from the cadastres existing before the unification of Italy, included in some Provinces of Lombardy (Bergamo, Brescia, Como, Lecco and Varese), made using the *open perimeter* system, not referred to any reference points network and surveyed through the plane table, oriented to the North through a compass.

These maps have some breaks in the geometric continuity at the edge of the sheets, so as the same parcel may be represented partly on a sheet and partly on another one, causing problems in managing information.

Despite the updating attempts started up by the Cadastral administration over the past decades<sup>20</sup>, this kind of cartography doesn't guarantee the precision and accuracy levels needed for the current and future uses by the Agency or for interoperability with external bodies. To meet the need to create a new cadastral cartography in the mentioned territories, the Agency has started up two different project activities:

- the maintenance of cadastral maps surveyed on the ground in the 70's, and through aero photogrammetry in the 80's-90's;
- the creation of a new cadastral cartography to be derived from the topographic data bases.

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<sup>20</sup> In the 70's a new cadastral cartography was created through on the ground surveying, in some Municipalities of the Provinces of Brescia and Bergamo. Later, in the years 80's-90's, the Cadastral administration made an aero photogrammetric survey aimed at creating cadastral maps, involving parts of the territory of 7 Italian Provinces, including Bergamo, Como, Lecco and Varese. Maps surveyed in this period, amounting to about 5,000, are going to be used as a basic framework for the new cartography.



With regard to the first project, aimed at the enhancement of the already surveyed maps, actions for the publication and maintenance of over 4,300 map sheets were undertaken, concerning 232 Municipalities (of the Provinces of Bergamo, Como, Lecco and Varese), and the working activities have started up for the five Lombardy Provinces involved in the project: Bergamo, Brescia, Como, Lecco and Varese. The working activities concerned the following aspects:

- planning and coordination of the resources used for the cartographic activities on the concerned Provinces and monitoring of the progress of work;
- analyses of appropriate and effective technical and administrative ways for the maintenance of the new cadastral cartography;
- check of the effectiveness and possible implementation of the available computing platforms and IT tools.

With regard to the second project, the new cadastral cartography, revised and derived from the topographical data bases, was produced and published at the Provincial Office – *Territorio* of Brescia, in cooperation with the Community of the Mountain Municipalities of Valle Sabbia and with the Community of the Mountain Municipalities of Valle Camonica in the Province of Brescia.

## 6. THE VALUATION SYSTEM OF THE URBAN BUILDING CADASTRE

In respect of the mass valuation of the cadastral incomes of real estate urban units registered in the Urban Building Cadastre, cadastral rules provide different approaches to be taken according to the functional use of the units (cadastral typology).



More specifically, for units registered under the ordinary typologies of groups A, B and C (see Annex 1), the application of a comparative method (by classes and tariffs) is provided, while for real estate urban units registered under the typologies of groups D and E, in consideration of the peculiar and unique features of these assets, the direct valuation thereof, on a unit-by-unit basis, is applied.

Therefore, for real estate urban units registered under the typologies of groups A, B and C, it is necessary to preliminarily identify the list of typologies existing in each Municipality<sup>21</sup> – this activity is named qualification procedure – referring to a pre-established comprehensive list of typologies (see Annex). The following activity is the identification, for each cadastral typology listed, of one or more income classes (classification procedure) on the basis of factors linked to the location of the units within the Municipal territory (centre, suburbs, with the relative provision of

<sup>21</sup> *The territorial area of some Municipalities may be subdivided into several portions (defined as census zones) that are homogeneous from the point of view of their environmental and construction characteristics, each of which corresponding to a different qualification and classification table.*

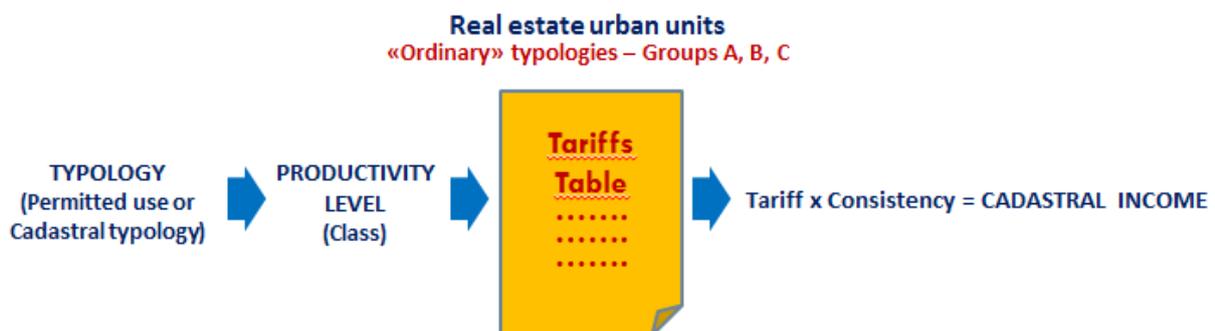
public services and utilities). The income variation between one class and the following one is usually not less than 15%.

Once this operation is finished, a qualification and classification table containing the list of cadastral typologies and classes existing in its territory will be available for each Municipality.

The following step is the determination of the cadastral tariffs (cadastral income per consistency unit) to be referred to each typology and class listed in the table. This procedure consists in determining, through specific economic analyses performed on sample real estate units called “reference units”, the gross average ordinary income that might be (potentially) produced by each unit of consistency, after the deduction of maintenance costs and of any other expense and eventual loss, excluding taxes.

Finally, the method used to determine the cadastral income for each real estate urban unit registered in the Urban Building Cadastre comes complete with the determination of its “categorization”, which consists in linking to each unit the most pertinent typology and class present in the qualification and classification table of the Municipality in which it is located, considering its positional and construction characteristics, in determining its consistency (in terms of rooms, m<sup>2</sup> or m<sup>3</sup>, according to the typology under which it is registered) and, subsequently, in multiplying the assessed cadastral tariff for the consistency of the real estate urban unit.

### Procedure for determining the cadastral income



The Urban Building Cadastre tariffs in force since 1 January 1992 were determined with reference to the fiscal period 1988/1989.

It is understood that, while categorization is a frequent operation in the maintenance activities of the Urban Building Cadastre (declarations of new urban units or changes in existing ones), the other operations leading to the definition (or updating) of the classification framework and of the related cadastral tariffs only occur as a consequence of provisions given by law and pertinent ministerial decrees.



The cadastral income of real estate urban units registered under the typologies of group D and E is determined on a case-by-case basis, through conventional urban valuation techniques.

## **7. THE VALUATION SYSTEM OF THE LAND CADASTRE**

The current valuation system of the Land Cadastre provides, for each cadastral parcel, the determination of a double economic value: the landlord income and the agrarian income.

These incomes represent respectively the capital income referable to the owner of the parcel (landlord income) and the income referable to the farmer (agrarian income).

The mass activity of determining the landlord and agrarian incomes for all the rural parcels was carried out using a comparative method, by classes and tariffs.

This methodology involves performing the following activities:

- qualification;
- classification;
- determination of the cadastral tariffs;
- categorization;
- evaluation of the landlord and agrarian incomes.

The qualification activity consists in defining, for each Municipality, the list of kind of crops existing in its territory, with reference to a predefined crop variety grid (see Annex 2).

The following activity, classification, is the subdivision of each kind of crop into one or more classes, corresponding to different levels of soil production, in relation to agronomic, topographical and economic factors. The income variation between one class and the following one is usually equal to about 20%.

Once these operations are finished, a qualification and classification table containing the list of crop typologies and classes existing in its territory will be available for each Municipality.

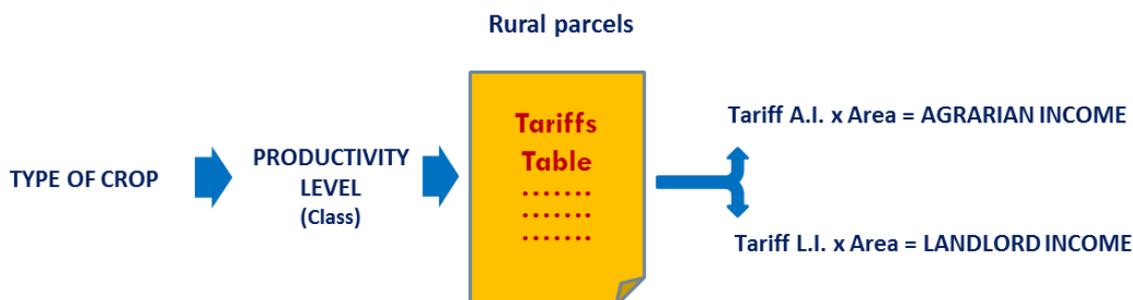
The following step is the determination of the cadastral tariffs. This procedure consists in determining, through specific economic analyses performed on sample farms called “reference farms”, the landlord tariffs (income per unit area referable to the owner) and the agrarian tariffs (income per unit area referable to the farmer) for each typology and class listed in the qualification and classification table.

In some cases “deductions to the landlord income tariffs due to permanent works for protection, drainage and reclamation, and to irrigation costs” have been determined, too (extra tariff deductions).

The determination of the landlord and the agrarian incomes of each rural parcel registered in the Land Cadastre comes complete with the categorization activities, which consist in linking to each

parcel, using synthetic-comparative criteria, the most pertinent typology and class present in the qualification and classification table of the Municipality (or census zone) in which it is located, and subsequently in multiplying the related cadastral tariffs (landlord<sup>22</sup> and agrarian incomes) for the area of the parcel.

### Procedure for determining the landlord and agrarian incomes



It is understood that, while categorization is a frequent operation in the maintenance activities of the Land Cadastre (updating of a crop, creation of a new parcel resulting from the subdivision of an existing parcel, etc.), the other operations leading to the definition (or updating) of the classification table and of the related cadastral tariffs only occur as a consequence of provisions given by law and pertinent ministerial decrees.

The Land Cadastre tariffs in force since 1 January 1988 were determined with reference to the fiscal period 1978/1979<sup>23</sup>.

<sup>22</sup> Takes into account possible "deductions to the landlord income tariffs due to permanent works for protection, drainage and reclamation, and to irrigation costs".

<sup>23</sup> The landlord and agrarian incomes determined referring to the period 1978/1979 have been subject to various revaluations in relation to the different taxes using them as economic reference data to define their tax bases. More specifically, as a result of the provisions of Law n. 662 of 23 December 1996, as from 1997 the landlord and agrarian incomes had respectively a revaluation of 80% and 70% for the personal income tax, while for all the other taxes (municipal real estate tax, registration tax, etc.) the landlord income had a revaluation of 25%.



## **ANNEX 1**

### **COMPREHENSIVE LIST OF TYPOLOGIES**

#### **I) - REAL ESTATE UNITS FOR ORDINARY USE**

##### **GROUP A**

- A/1 - Luxury dwelling-houses
- A/2 - Well-finished dwelling-houses
- A/3 - Economic dwelling-houses
- A/4 - Cheap dwelling-houses
- A/5 - Ultra-cheap dwelling-houses
- A/6 - Rural dwelling-houses
- A/7 - Detached houses
- A/8 - Villas
- A/9 - Castles, palaces of great artistic and historical value
- A/10 - Private offices and practices
- A/11 - Traditional local dwelling-houses and accommodations

##### **GROUP B**

- B/1 - Schools and boarding schools; girls' boarding schools, shelters, orphanages, hospices, convents, seminaries and barracks
- B/2 - Nursing homes and hospitals (when, due to their characteristics, they are comparable with the reference units)
- B/3 - Prisons and reformatories
- B/4 - Public offices
- B/5 - Schools, scientific laboratories
- B/6 - Libraries, picture galleries, museums, art galleries, academies, not located in buildings included in group A/9
- B/7 - Chapels and oratories not used as public places of cult
- B/8 - Underground food storage

##### **GROUP C**

- C/1 - Shops and workshops
- C/2 - Warehouses and storage facilities
- C/3 - Crafts and trades workshops
- C/4 - Sports facilities
- C/5 - Beach facilities and spas
- C/6 - Stables, sheds, storehouses and garages
- C/7 - Closed and open canopies

#### **II) - REAL ESTATE UNITS FOR SPECIAL USE**

##### **GROUP D**

- D/1 - Factories
- D/2 - Hotels and pensions
- D/3 - Theatres, cinema theatres, concert and performance halls
- D/4 - Nursing homes and hospitals (when, due to their characteristics, they are not comparable with the reference units)

D/5 - Credit, exchange and insurance institutions (when, due to their characteristics, they are not comparable with the reference)

D/6 - Sports facilities (when, due to their characteristics, they are not comparable with the reference units)

D/7 - Buildings constructed for or adjusted to meet special industrial needs and not liable to be destined for a different use without radical transformations

D/8 - Buildings constructed for or adjusted to meet special commercial needs and not liable to be destined for a different use without radical transformations

D/9 - Floating or pile buildings, tethered to fixed points on the ground, private toll bridges

D/10 - Buildings for productive functions connected to agricultural activities

### **III) - REAL ESTATE UNITS FOR SPECIFIC USE**

#### **GROUP E**

E/1 - Land, sea and air transport service stations

E/2 - Municipal and provincial toll bridges

E/3 - Constructions and buildings for special public use

E/4 - Fenced enclosures for special public use

E/5 - Buildings enclosed within fortifications and outhouses

E/6 - Lighthouses, traffic lights, municipal clock towers

E/7 - Buildings used as public places of cult

E/8 - Buildings and constructions in cemeteries, excluding burial niches, tombs and family graves

E/9 - Special-use buildings not included in the foregoing Group E typologies

### **FICTITIOUS TYPOLOGIES**

#### **GROUP F**

F/1 - Unbuilt urban areas

F/2 - Units in a state of collapse

F/3 - Units under construction

F/4 - Units transitorily without a well-defined use

F/5 - Paved roof

F/6 - Buildings still to be declared for cadastral registration

F/7 - Infrastructure of public communication networks



## ANNEX 2

For the land “General Table of the cadastral types of crop and permitted uses” reference can be made to the original list included in the “Annex A” to the Statement XV (revised) dated 14 September 1931 of the General Directorate of the Cadastre and of the Technical Services and to subsequent integrations of crop varieties, classes or use related to the parcels registered in the Land Cadastre, that are used for the completion of the cadastral updating forms.

### Original “General Table of the cadastral types of crop and permitted uses”

- Annex "A" of Statement XV -

ALLEGATO A.

#### QUADRO DI QUALIFICAZIONE DEI TERRENI

|                                       |   |                                      |   |
|---------------------------------------|---|--------------------------------------|---|
| 1. <b>Seminativo</b> .....            | Terreno lavorato coll'aratro, o colla vangia, o colla zappa, senza distinzione di posizione, la cui coltivazione è avvicendata, o suscettibile di esserlo, a cereali o anche a legumi, a tuberi, a piante fibrose, a piante erbacee da foraggio od a piante industriali temporanee. | 8. <b>Prato irriguo arborato</b>     | Terreno come sopra al n. 7, in cui si applichi l'irrigazione come al n. 2.  |
| 2. <b>Seminativo irriguo</b> .....    | Terreno come sopra, irrigato con acqua propria o di affitto, sia che nell'avvicendamento ricorrano coltivazioni ricche edenti necessariamente l'irrigazione, come per es.: il riso; sia che a talune l'irrigazione non sia indispensabile.  | 9. <b>Prato a marcita</b> .....      | Terreno a prato perenne irrigato con acqua propria o d'affitto, non solo nella stagione estiva, ma anche nella invernale, in modo da fornire un taglio almeno di erbe o nell'autunno avanzato, o alla fine dell'inverno.  |
| 3. <b>Seminativo arborato</b> .....   | Seminativo come al n. 1, in cui esistono viti o alberi allineati o sparsi, il cui prodotto costituisca un fattore notevole del reddito del fondo.   | 10. <b>Risaja stabile</b> .....      | Terreno fornito di acqua d'irrigazione, o propria, o di affitto, coltivato a riso esclusivamente.   |
| 4. <b>Seminativo arborato irriguo</b> | Seminativo come sopra, cui si applichi l'irrigazione come al n. 2.  | 11. <b>Pascolo</b> .....             | Terreno produttore di erbaggi utilizzabili come foraggio, i quali, non si possono economicamente falciare, e si fanno pascolare dal bestiame.   |
| 5. <b>Prato</b> .....                 | Terreno comunque situato, produttore di foraggio erbaceo, falciabile almeno una volta all'anno per essere conservato in fieno.  | 12. <b>Pascolo arborato</b> .....    | Terreno come sopra al n. 11, in cui esistono alberi, come ai nn. 3 e 7.   |
| 6. <b>Prato irriguo</b> .....         | Terreno a prato perenne come sopra, che goda del beneficio di una regolare irrigazione o con acqua propria o con acqua d'affitto.   | 13. <b>Pascolo cespugliato</b> ..... | Terreno pascolativo, sparso di cespugli, che con l'ombra e l'estesa occupazione dello spazio riducono a limiti ristretti la produzione delle erbe.  |
| 7. <b>Prato arborato</b> .....        | Terreno come sopra al n. 5, in cui esistono alberi come al n. 3.  | 14. <b>Giardini</b> .....            | Terreni destinati a scopo di delizia, a colture che richiedono speciale apparecchio di riparo o riscaldamento, o in generale sottratti, per qualsivoglia uso, alla ordinaria coltivazione, in quanto non siano a considerarsi come accessori dei fabbricati rurali. |
|                                       |   | 15. <b>Orto</b> .....                | Terreno coltivato ad ortaggi per scopo commerciale.   |
|                                       |   | 16. <b>Orto irriguo</b> .....        | Terreno come sopra al n. 15, che gode di una regolare irrigazione.  |
|                                       |   | 17. <b>Agrumeto</b> .....            | Terreni coltivati ad agrumi, di ogni specie.  |

|   |   |
|---|---|
| 18. Vigneto.....                              | Terreno coltivato a viti allo scopo di ottenere, o esclusivamente o principalmente, dal suolo il massimo raccolto di uva, attribuendosi agli altri prodotti un'importanza secondaria. |
| 19. Frutteto.....                             | Terreno coltivato a piante da frutta esclusivamente o principalmente, attribuendosi agli altri prodotti un'importanza secondaria.   |
| 20. Uliveto.....                              | Terreno coltivato ad olivi esclusivamente o principalmente, attribuendosi agli altri prodotti un'importanza secondaria.   |
| 21. Gelsato.....                              | Terreno coltivato a gelsi esclusivamente o principalmente, attribuendosi agli altri prodotti un'importanza secondaria.  |
| 22. Coltive speciali ad alcune parti d'Italia | Escluse quelle colture che entrano nelle rotazioni agrarie e quelle che possono essere assegnate ad altre qualità del presente quadro.  |
| 23. Castagneto da frutto..                    | Terreno occupato esclusivamente o principalmente a castagni da frutto, attribuendosi un'importanza secondaria agli altri prodotti.  |
| 24. Canneto.....                              | Terreno produttore di canne destinate al servizio delle vigne ed al commercio.  |
| 25. Bosco di alto fusto...                    | Terreno occupato da alberi di alto fusto di ogni genere.  |
| 26. Bosco ceduo.....                          | Terreno occupato da alberi di ogni genere che si tagliano ad intervalli generalmente non maggiori di 15 anni, sia di ceppaia che di piante a capitozza.                               |
| 27. Bosco misto.....                          | Bosco composto promiscuamente di alto-fusto e di ceduo.   |

|  |  |
|--|--|
| 28. Incolto produttivo....   | Qualunque terreno, non compreso nei precedenti titoli, che senza l'intervento della mano dell'uomo dia un prodotto valutabile, anche minimo. |
| 29. Ferrovia e tramvia con sede propria  |  |
| 30. Incolto sterile (*):....   | Terreni assolutamente improduttivi.  |
| <b>Avvertenza.</b>   |  |
| Nel caso che esistano colture comprensive di due o più qualità, si potranno introdurre nei prospetti di qualificazione qualità complesse, intitolandole coi nomi uniti insieme. Il qualificatore non applicherà questi nomi multipli, che nel caso in cui le varie qualità, unite insieme, lo siano in proporzioni presso a poco uguali; altrimenti applicherà il nome della qualità predominante. |  |
| <b>(* Altre particelle catastali esenti da stima.</b>  |  |
| Fabbricato da accertare all'urbano   | Fabbricato allibrato all'urbano.   |
| Fabbricato urbano.....   |  |
| Fabbricato rurale.....   | Costruzioni rurali contemplate nell'articolo 13 della legge 1° marzo 1886, n. 3682.  |
| Fabbricati per il culto.....   | Fabbricati destinati all'esercizio dei culti ammessi nello Stato.  |
| Fortificazioni.....  | Fabbricati e terreni demaniali dello Stato costituiti le fortificazioni militari e le loro dipendenze.                                       |
| Cimitero.....  | Luogo recinto destinato alla sepoltura dei morti.  |
| Miniere, cave, torbiera, saline, tor-nare, laghi e stagni da pesca...  | Vedasi l'articolo 17, legge 1° marzo 1886, n. 3682, ed art. 1 legge 11 luglio 1925, n. 1260.   |
| Stagno.....  | Ricettacolo d'acqua, affatto improduttivo e di proprietà privata.  |
| Parchi e viali della Rimembranza   | Vedasi legge 21 marzo 1926, n. 550.  |
| Campi di aviazione o di fortuna ed aeroporti   | Vedasi normale 36 - Anno 1928 - pubblicata a pag. 214 del B. U. della Direzione generale del catasto - Anno 1928.                            |