

PROPERTY REGISTRATION CHALLENGES FOR THE FUTURE

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A coherent property system is of utmost importance to the free market mechanism. Hernando De Soto, the well-known Peruvian economist and thought leader in the field, states in his book “The mystery of capital”:

“Without an integrated formal property system, a modern market economy is inconceivable. Had the advanced nations of the west not integrated all representations into one standardized property system and made it accessible to all, they could not have specialized and divided labour to create the expanded market network and capital that have provided their present wealth.”

“People in developing countries own assets in defective forms: houses, but not clear titles; crops, but not deeds; businesses, but not statutes of incorporations. Without formal representations, assets are dead capital.”

In order to be in the market movable property often does not need a formal representation. Possession and in relation to that, ownership, is generally quite clear for contracting and third parties. For immovable properties this isn't all that clear and when one wishes to consider them as negotiable market objects, there has to be some form of unified representation. That is why already ages ago states felt the urge to organise this market, installing a set of well defined “Rights *in Rem*” and organizing a formal property system. A nation-wide organised property registration system is an important part of it. By describing it in contracts and organizing a registration system we set up a mirror to the asset itself, which should provide third parties equal guarantees as there generally are for movable property. By extension it provides evidence for the owner about the property. This is the first requirement banks set to accept immovable property as collateral for a loan.

Quite soon the instrument of mortgages, offering priority rights in case of seizure, became a representation for a pledge without possession and the documentation was generally conceived to work as one unity with property registration, being a caveat (warning) for an encumbrance on the property. Considered that loans are often the start, or in every case a support, of the economy we see the importance of a reliable property registration system. The need for marketable property, with a proper generally accepted value, is as much a fact for a European couple wanting to buy the family home, as it is for someone in a post-war situation who wants to set up again his business without cash, or as it is a family father living in a slum and just wanting security of tenure over the house he lives in or the piece of land where he wants to grow a crop, for which he

needs a micro- credit. So, reliable property registration is undoubtable one of the key issues to obtain sustainable real estate markets.

If that is not the fact real estate becomes a dead capital instead of being the basis of credit market; mortgages do not give enough security as a base for lending money; taxes based on property cannot be raised properly and fair; insecurity of tenure results in a lack of investments; there is a constant risks of land grabbing; investors are reluctant and want too big guarantees before being prepared to invest; foreigners are afraid to invest in real estate; and courts have to face numerous disputes concerning real estate. All of this of course is very detrimental to the economy.

But, just as everything else, property registration systems act in a constantly changing world. What seemed right a decade ago may not be suitable anymore in the next one. This is partly due to technical evolutions, but also partly due to a different way of thinking about and organizing of society. Before trying to analyze the effect these changes have for existing and new property registration systems from a practical point of view, we try to compare the existing systems in a more theoretical way. In general Western world uses 3 systems, the “Deed” system, the “Title” system and the “Public Faith” system, which situates itself between the two former ones. We see that practically no system used in whatever country fits 100% under one of the three mentioned categories and should be catalogued as fitting merely in one of these types.

The deed system

Fundamental for a deed system is the fact that it is not the title that is recorded, but only the deed. Deed system generally, but not necessarily, goes together with the causal legal system.

For immovable properties the intention of moving the ownership from one hand to another is taken up into the deed. It results in several obligations as well for the alienator as the acquirer.

A has to deliver the goods, hand over the possession and so on. B has to pay the price as principal duty.

If all these conditions are met, one can deduct that the “Title” of property has gone over.

The deed itself is never proof that the legal consequences intended by the parties, actually did take place. The same principle goes for the transition of rights as superficies, easements.....

On the contrary transition by inheritance often happens “*ab intestat*”, which means by the simple fact that somebody dies. All of this has important consequences for property registration which cannot give someone perfect surety about his “Title”, in the meaning of “Being entitled”.

It informs contracting parties about the existence of agreements in the past, expressing the will to handover property. Whether this has really taken place depends on the fact if the contract has been properly executed. Did all parties fulfil their obligations? The

deed, a document that describes one isolated transaction, is registered. It is evidence that a particular transaction took place. But it is itself no proof of the legal rights of the involved parties, and by consequence no evidence of its legality.

Thus, before conveyancing safely the alleged owner has to trace his ownership to a good root of title. Generally spoken this means that all obligations following out of the contracts written down in the deeds in fact have been executed over the period needed for obtaining prescription (generally between 10 and 30 years). Of course this needs all parties involved to be granted with the power of acquisition or alienation. So, for every deed one has to ask as well the question if the alienator is entitled to act as owner and as well does he have the legal authority to sell?

There fits in the role of a professional, mostly the notary, being a public officer, but also other legal practitioners with experience in the matter. The deeds the notary and the parties sign have the advantage to enjoy authenticity. This means that they reflect the truth, at least for as far the parties are honest, if not, bad faith is proved. This is very important for later investigation by parties wanting to contract.

Out of this theory it may be clear that the guarantees a deed system delivers are limited. In fact it only gives insurance on requested to register but not registered facts and about the existence of a contract on a certain fixed date. That is why it is often also called a negative system with a passive role for the Registrar. Generally in this system there is little investigation by the Registrar before entering the deed in the registry. If the deed meets to some standards, prescribed by local law, he takes it up into his documentation. Again this theoretical thesis as we'll see further on how systems have been adapted and offer sufficiently certainty.

The main goal is to prevent third parties of the fact that parties have created a legal fact with the intention of having a legal consequence, and decided to register it. Often it is compulsory in order to affect third parties. People (*bona fide*) can rely on that.

Generally the register is public. In fact this is a primary need to fit with the goal. Sometimes registration is constitutive. Which means that it is one of the obligations that have to be fulfilled before there can be a transition of property. Often there is a personal folio, although this is not essential. In Europe it roots to the fact that countries that in time started using the system practically all have the French "Code civil" as their origin with great importance for civil society.

To be sufficiently performant these systems have to offer legally at least a guarantee against double sale and should be able to document priorities for mortgages and other burdens. Generally the date of registration creates priority. That is why in registers the date of deposit is a crucial identifier. In time the deeds were meticulously entirely copied and indexed. Nowadays this is a question of electronically kept databases, which deals with a lot of former shortcomings of the system.

Next to this civilian instrument there is generally a cadastre in which, on a parcel based index, the state gathered some information on immovable property mainly in order to collect taxes. If this is done meticulously enough it can serve as a base to describe properties in deeds. Nowadays, mostly due to technological evolutions, we see that cadastres and land registration services tend to grow to one another. This is a very

positive evolution, as far as the entities are able to save their own identity. This matter will be discussed later on.

The title system

The system is often called “Torrens system” relating to Sir Robert Torrens who as first implemented the system as a part of a land reform in South Australia in 1885. The legal consequence of the inscription, being a fact, covers the right. So the right itself, together with the name of the rightful claimant and the object of that right, with its restrictions and charges, are registered. The fact that a right is described in the register means you are “entitled” to it. It is the manifestation of constitutiveness of inscription.

The “Mirror principle” guarantees that the register is a mirror to the judicial state of the property. The “Curtain principle” means that an interested person does not have to investigate the underlying contract or former contracts in order to be sure about the transferable rights.

The register itself is an authority record kept in a public office. It is at all times final; which sometimes only leads to financial compensation after a wrongful inscription. It is generally composed by three sections, in an ABC structure; parcel/owner of the right/encumbrances. There is only one register including a map and property registry register. Research in it is parcel based. (Real folio) To that there is referred to topographical maps that tend to be (too) little detailed. Mostly registration is not compulsory. It often exists next to an older less performing system, offering fewer guarantees.

Before inscription there is severe investigation. Afterwards inscription guarantees the clear and unambiguous consent of the former owner. The registrar controls as well if the contract meets the standards to let the transfer take place and the existence of encumbrances of different kind. This investigation can be very time consuming. On the correctness of items and on forgotten inscriptions the state offers a guarantee. That is why the system is often called to be a positive one, in which the Registrar has a very active role in the acceptance to inscription. In order to provide contracting parties with some security in between, there can be a preliminary inscription offering security in relation with third parties, similar to that in a deed system. Nevertheless the guarantee is not total because there are practically always “Overruling interests”. These are exceptions to the rule that only registration covers a valid right and are blemish to the completeness of the register. They are likely to be kept to a minimum. In essence this system does not go along with prescription being a legal way to obtain or lose property. However due to practical reasons, we see that a lot of countries using the “Title” systems have legislation that in one way or another accepts it anyway.

The “Public Faith” system (*fides publica*) (Öffentlicher Glaube)

Even more than the two other definitions this term is often only known by professionals. It offers security in a degree somewhere in between the two others. Nevertheless it is interesting to catalogue it apart since most of European called “Title” systems in fact belong to that category.

When buying under this system, in good faith, from a registered alienator, who is not restricted (see Vormerkung), nor contradicted (see caveats- Widerspruch), one is protected so far that the state guarantees the authority to of the former known owner to alienate. This has to be controlled by the Registrar and gives him a rather active role. It is a protection against trespassing the limits of the authority to dispose of a registered owner. The lack of authority to dispose of the alienator is purged. Here as well in some cases there is possibility to ask for a provisional registration. It offers a similar protection as deed systems do. It is conceived as a constructive notice to third parties. Registration is in most cases constitutive for the transition of the right. This means that as long as the registrar did not agree to enter the transaction in the register, the contract is pending. There is also protection against any damage caused by not being informed about a fact that should have been registered but is not.

In these systems there are some possibilities to register forms of opposition if one does not agree with the indications in the register (widerspruch) . This system is not that final as we saw it is in title registration. On this point it is comparable with deed systems where a margin annotation can prevent third parties from the fact that there is a summon to obtain the termination of the contract and the verdict to it. There is no insurance for all other legal facts that are mentioned in the deed. Again here it is not the title itself that is registered similar to the “Deed” system. On the other hand many countries do indeed have legislation extending the guarantee. So it is on the balance of a positive or negative system.

The register is mostly kept in court and is parcel based. The documents that have to be presented to the register must be seen by legal private practitioners (notaries or lawyers). It generally is supported by detailed maps with great attention to boundaries.

Strengths and weaknesses of both deeds and title system

Since the “Public faith” system is a compilation of the two others, only the last ones will be taken into account.

First of all, we must be clear: there is no “best” system! In every specific circumstance the most appropriate system should be taken into account. We all know that the system should be effective and as cheap as possible. But these demands need totally different approaches in the City of London and in the Savana in Africa. The same goes for the need of clear boundaries. Before comparing we should make a survey of to what standards a system should meet to be effective, all of this from a rather theoretical point of view. Further on we will try to confront it with nowadays reality.

I would like to refer to the FIG (Fédération Internationale des Geomètres) statement on Cadastre, which goes as well for property registry.

a) **Security:** The system should be secure such that a land market can operate effectively and efficiently. Financial institutions should be willing to mortgage land quickly and there should be certainty of ownership and parcel identification. The system should also be physically secure with arrangements in place for duplicate storage of records in case of disaster and controls to ensure that unauthorised persons cannot damage or change information.

b) **Clarity and Simplicity:** To be effective the system should be clear and simple to understand and to use. Complex forms, procedures, and regulations will slow the system down and may discourage use of the system. Simplicity is also important in ensuring that costs are minimised, access is fair, and the system is maintained.

c) **Timeliness:** The system should provide up-to-date information in a timely fashion. The system should also be complete; that is all parcels should be included in the system.

d) **Fairness:** In development and in operation, the Cadastre should be both fair and be perceived as being fair. As much as possible, the Cadastre should be seen as an objective system separated from political processes, such as land reforms, even though it may be part of a land reform program. Fairness also includes providing equitable access to the system through, for example, decentralised offices, simple procedures, and reasonable fees.

e) **Accessibility:** Within the constraints of cultural sensitivities, legal and privacy issues, the system should be capable of providing efficient and effective access to all users.

f) **Cost:** The system should be low cost or operated in such a way that costs can be recovered fairly and without unduly burdening users. Development costs, such as the cost of the adjudication and initial survey, should not have to be absorbed entirely by initial users. Low cost does not preclude the use of new information technologies, as long as the technology and its use is appropriate.

g) **Sustainability:** There must be mechanisms in place to ensure that the system is maintained over time. This includes procedures for completing the Cadastre in a reasonable time frame and for keeping information up-to-date. Sustainability implies that the organisational and management arrangements, the procedures and technologies, and the required educational and professional levels are appropriate for the particular jurisdiction.

Taking these recommendations into account each community should choose how they arrange security of tenure and property registration. Sometimes it may be enough to be secured as a group. Examples exist to protect a community from forced evictions. Several solutions, not necessarily hi-tech, are very accessible and yet mean a big change. African examples show that even a simple document where the person is identified with a photograph and fingerprint and a satellite picture can make a world of difference between securities or none. Of course, World Bank and UN-Habitat have great experience in that field.

When trying to compare systems we will always end in the comparison of title and deed systems on one hand and person based or parcel based documentation on the other. Purely theoretically seen we cannot deny that a parcel based, title system seems to offer the most security. In most literature it is written with some sort of a religious belief. I used to think like that myself. Yet, after some years in practice, I had to admit that a lot of prejudices against the deed system were wrong. A system with a numbered geo-spatial known parcel as primary identifier certainly has its advantages. One can divide an existing parcel in 100 pieces, as well horizontally as vertically. Full ownership can

be shortened by encumbrances; there can be a joint ownership between 100 persons; there can be bare ownership and enphyteusis. But in the end when we count all rights together we still keep 100% property. A personal system cannot guarantee that, and overruling rights are more likely to occur. Also indexing on a name is very difficult since there may be different spellings. On the other hand IT solutions have solved a lot of the problem. The advantage of an easy way to put indexes by up going parcel numbers does no more exist since data bases are that performant that they can search on all data and filter them when necessary.

And finally, when it comes to countering that religious belief, shouldn't we fundamentally ask the question for whom do we register? In favour of the parcel or in favour of the person? So, since databases are so flexible right now, shouldn't the person be the first ID? Searching on a name and a date of birth might be the most natural way of acting but IT specialists do prefer a unique ID number. This reflection goes along with the question whether land registration is organized to serve the state or the citizen or both.

Indeed the curtain principle and the direct guarantee on the ownership of the title give certainty. It seems to offer security after little investigation before conveyancing. But on the other hand society gets that complicated that the kind of information that is kept in a title register is by far not sufficient to make an over-all assessment on the property. For instance an existing and registered easement to use a well might be much less important than environmental information or urbanistic regulations which don't appear in the register. Where a title system should make it possible to make simple private agreements we see that this is scarcely done without the help of professionals due to complication.

Theoretically a deed system demands every time an investigation to the root title. This may seem to be a hard job, but generally in a well-kept documentation it causes not many problems to rebuild the situation to the moment prescription is enough to prove ownership. The benefit of the mirror image a title system has again seems to be less in practice than in theory. For professionals it is not much cheaper to do the research but the organization of the system is certainly more expensive. On the other hand the curtain principle might make it for contracting parties and third parties more difficult to see the whole contract since it is not necessary to archive them. Furthermore certainly not all existing title registry systems offer compensation for damages caused by false information.

Above all, countries using the deed system often make the use of a professional compulsory. Notaries deeds have the power of authenticity, which gives some guarantees. They can be forced by law to gather information from all sorts of authorities and from the seller. If, later on, it becomes clear that he has lied, automatically it is an bad faith proven fact. Investigation of all sorts can be obliged about relevant items as urbanism, soil pollution, degree of thermal insulation, leases, and future expropriations and so on. The notary has to inform the parties on the result of it in his deed. And so it remains in the documentation.

In deed system the investigation of the title has to be performed up to the root. Generally it has to be done for a period sufficient enough to obtain ownership by

prescription. The notary offices often prove to be very well organised to do that investigation. Furthermore it can be forced by law to take up a history of property in the deed for the whole period. If this is reported in the deed, it can be consulted by everyone.

Deed systems are generally public and it's characteristic to guard the deeds themselves or certified copies. Surely in time keeping up such an archive was difficult Deeds had to be transcribed by hand or later copied. This was a work of monks with consequence that much information, not strictly necessary as evidence for the title transfer was copied also. On the other hand practice learns that a lot of this information is particularly interesting to get a good view on the property in its whole. There were huge amounts of paper in moist cellars. There was always a danger of loss and so on. Again the storage capacity of computers nowadays is that huge, so that the disadvantage is swept away. Title systems aim to produce a clear situation. Deed systems try to collect the necessary information in order to be able to clear up difficult situations. Hence daily practice learns that there is fundamentally very little discussion on ownership and that defective deed with sometimes very unclear clauses or very bad geographical references do not seem to produce problems. So, why put energy in solving problems that finally likely will not even occur! This is unfortunately what a title system tends to do!

The duty a registrar has, only to inscribe a title when there is no doubt on the legality, does imply that an in-depth research is necessary. This takes time. In title systems, where registration is constitutory, this means that there is a vacuum and the decision about property is pending. This produces insecurity. On the other hand, again with the help of IT, deed systems succeed in quicker and quicker registration, even simultaneously with the execution of the deed is often possible.

Generally title system seems to be the best way to start when one has a clear canvas; when there is a first inscription. Of course we might start to think on what will happen when we move to other planets but on earth there are no such places left. In time this option has been taken by colonial powers. But they overruled shamelessly existing systems, based on for instance customary law. As a result of the fact that much of last ones were unwritten and also were conceptually different, these rights were denied. This is a situation we cannot accept any more. Communities also often do not know the concept "Ownership" and put more emphasis on "Tenure". We have to take into account that it is not the law that should adapt to the property registry system but vice-versa.

Conclusion is that it is not the system itself that is relevant for the performance, but the way it is organized. It is all about security. So far the theoretical approach. If we want to see how far they practically still meet with actual requirements, we have to take into account the rapidly changing world we live in, as well technically as socially.

Technical solutions have changed dramatically over the last decades and have offered a great set of new opportunities. IT solutions have made it possible to work with all kinds of indexed databases and lately we see the number of interconnections growing dramatically. Governments create "Base registers", to allow datasets to be combined and provide "One stop shops". Techniques in surveying have also changed a lot. Measuring land traditionally resulted in fragmented maps, being the outcome of a

graphic transition. We now see the possibilities of satellite photography, global positioning and vectoring which results in a direct and integrated representation of reality. For a lot of purposes the actual results of it are sufficient or only need some rather small detailing. But the technical possibilities still change rapidly. It is possible to include a lot of relevant geo-spatial information in platforms all using the same basic map. This way of representing is very easy to consult. Last of all the possibilities of smartphones, connected to the internet, are very interesting, since the penetration of this network is worldwide and reaches the most remote places, with positioning capacity. All these technologies get more and more common and inexpensive.

The traditional systems of property registration are based upon a western cultural background, either state or civilian driven with private property as fundament. In colonial period they were imported all over the world, overruling the existing systems that were rooted on oral tradition with often other concepts about ownership and property. The organisers hoped that the administrative organisation would gradually change the existing social relationship, which of course didn't work out. After this period a lot of states tried to maintain the system which gradually deteriorated due to a lack of social support. Nowadays we are aware that first of all the land laws and secondly the property registration systems should take into account other concepts as there are Islamic law and customary law in order to put up a sustainable system. Often these concepts are not easy adaptable in a parcel based information system and certainly not in a personal portfolio. We also see a huge urban drift all over the world. Already more than 70% of the population lives in cities. This puts a lot of stress on ownership and tenure situations in suburbs as well as in rural areas where the traditional relationships no longer exist. Both as well the traditional systems, offering security of tenure and ownership, and the known written systems face difficulties to find suitable solutions to include every right of every owner. In fact nowadays everybody sees the importance of a nationwide covering and centrally driven system, keeping into account local priorities.

On the other hand we see that a lot of states in the traditional western hemisphere feel that their system is too expensive and want to reduce costs and administrative burdens by combining services. They also are reluctant to offering state guarantee, especially when the system is in reality not fully secure. Offering this security indeed requires an impeccable organisation of public services. This is a very tempting situation to think about isolating or outsourcing the risk by means of privatisation.

Furthermore worldwide a lot of states fail in offering a strong structure where rule of law reigns. Nevertheless in these countries there often is a more or less flourishing economy and people want the same securities onwards immovable property.

Question is, does society want to be properly informed about transactions of immovable property and the burdens that weigh on the property or do they want to get security from the state about the ownership? Of course getting absolute security about something is nice and people feel comfortable with it. But in our very complicated world this very difficult to achieve. "Title" systems aim to give it. But we have to admit that even if the system covers the whole territory, only in a few countries every transition of property is caught by the system. Furthermore is the information that these systems provide too poor to deduct the economic value of the property, which is of course a very important

demand. It only speaks about the “*Rights in Rem*”, burdens, as seizures and mortgages and private easements.

We also see that the number of parameters that influence the value of a property has increased enormously. The directives of urban planning and land management, soil quality and eventually degree of pollution, degree of isolation, disaster risk, personal security of the area and reachability to schools, public transport and services are only a few of them. A lot of public easements also affect the value of a property. They generally are “*Erga omnis*” and are not documented.

To find a solution for these challenges one has to take in mind how most decisions for buying movable property are made in our actual demand and supply economy. When someone wanted to buy some shoes in a Far West town. There was only one shop and together with the limited choice. The shop keeper, through his expertise, offered sufficiently security on buying the right thing. But what about the E-commerce era? The Alibaba’s and Zalando’s of the world may have shiny advertisements but the decision whether we buy something suitable for ourselves remains also personal. How do we decide to buy or not, missing the expertise of the former shop keeper? Well, society provides us with, sometimes too much, information so that we can build up our own idea. Finally taking into account all relatively important parameters we can decide with sufficient security, be it often no 100%. By dividing the problem into pieces and finding the available information to solve them we find finally a solution for the whole problem. We compare the prices with the ones in a local shop, we evaluate the brand, we evaluate the web shop. Can we pay with a credit card? We look at internet forums and so on. But all together no one offers us full security, and yet we are pleased with that.

In this world a deed system fits much more. It is perfectly possible to oblige legal practitioners as notaries and lawyers to include a lot of additional information in their deeds and collect a lot of useful extra information. We have seen before that the disadvantages of this system for producing security over “*Rights in Rem*” and their beneficiaries have practically disappeared together with the emergence of a paperless society. The system allows also to achieve different and overlapping pieces of evidence. If communities where other rights exist, for example customary rights or rights of use, simply manage to present them in written, this system allows it easily to archive them and, supported by law, potentially make them opposable to third parties. Of course this practice of collecting information which might not always be 100% secure does not provide full legal security. But we also see that for a vast majority of properties once there is publicity, no problems occur. If at a certain time conflicting interests evolve they may be solved by administrative or civil courts or simply by priorities included in the law. If the main job for property registration is keeping up documentation there is no need for legally trained personal. If law is clear enough on what kind of evidences it allows to be registered, there is no need for expensive registration nor do have all documents to be produced by expensive legal practitioners. All this must go together with measures that provide registration of every transaction over the country. This can only be reached if both imposed and socially accepted. People have to be aware of the necessity.

Therefore a national system needs to be supported locally. This demand meets one of the most important issues for land registration. Local legislation and taking into account

practical possibilities are key issues. Benchmarking and using existing IT systems may be very wise, but first of all regularly updates and continuity have to be provided. We have seen too many brilliant IT solutions, gathering information in an expensive way, deteriorating very fast due to the lack of regular updates. So it is important from the moment of designing system to keep this in mind. Keeping it simple is also very important. It may be seductive to choose state of the art IT solutions. But what about the expensive or not existing possibilities of updating the system itself. We also may not forget that it should be designed for easy public use. Also for the public administration it is of utmost importance that these IT solutions are written as user-friendly as possible. Property registration offices, certainly in urban situations, have to deal with large amounts of files. One useless mouse click in the workflow can in fact produce a huge time loss on an annual base. So, where possible, open sources and standard writing procedures should be used. Antagonist of course will argue that these systems do not provide enough privacy. They partly are right but isn't publicity the main role of property registration? Of course data can be misused. But the offences following out of it should be fought elsewhere. A lot of countries, especially the ones working with "Title" do not allow public access, or only very limited. The reasons the ones defending it have may not always be so unambiguous! Besides even in this domain we see a sociological evolution. The "Facebook" generation does not seem to make fuzz of privacy as former generations did!

The persons name may be the most natural way to make a research through a database but we often see that there is no unique way of writing it down or no exact date of birth or no exact date of establishment of a company. In that case IT systems also fail to link the holder of a specific right with the parcel. Specialists ensure that every private or legal person should be provided with a unique identification number that also can be used in a lot of other situations, for instance social security, contacts with the authorities, criminal records and so on. A location also has to be identified by a unique identifier, being for instance a cadastral number.

Nevertheless the information a deed or any other registered document offers remains static; only actual on the date of transaction. A lot of important parameters may change and not be up to date anymore at the time someone wants to consult the documentation. In order to make information dynamic it is very interesting to work in a geo-spatial way. This is the way Google Maps works in a commercial world. Since cadastres work geo-spatial from their start; why not take these maps as a basis to official information. The unique identifier for a property being the cadastral number that has been attributed, which refers to the image and the juridical representation of the immovable property. If an address can be added as identifier, all the better. Indeed this is, next to a name, often a well-known and accepted concept by the public.

Here again IT can help a lot. By linking updated information out of different geo-spatial organized databases, the cadastral map can be the platform for a lot of information. I want to refer to the Dutch system of "Public documentation on map" (www.pdok.nl) and to a lesser degree, the Belgian initiative "Geopunt" (www.Geopunt.be)

It allows one allocate the urbanistic zone, pre-emption rights, geological quality, height, distance to public transport, schools and so on, visibly, very adaptable to the way we

have learnt to use our brain by using G.P.S systems and Google Maps. The only difference is that here the digitalised cadastral map is to be used as platform and that the information comes from public administrations or is controlled by them. This offers a degree of security that Google Maps based commercial information does not offer. Also are digitalised cadastral maps updated in a continuous way and not after a periodical entire update. Although the layers, out of which the map might exist, not always seem to be relevant (see PDOK), it allows one to do research on the property in the same way decisions are made for buying on the internet. Is it safe enough to convey? What should be the price? In Belgium a former and pioneering equal system failed to be useful a few years ago. An outdated IT solution was used. But the main reason was the use of a non-digital and non-updated copy of the cadastral map as a platform. Also there was no clear difference between state-guaranteed and non-guaranteed information, followed by summons in court where the state was convicted for providing outdated information which caused financial loss. This led to a lot of very interesting information simply being taken out of the system.

The IT possibilities and satellite photography for geo-spatial organized information of course are very interesting for existing cadastres. Also in a lot of countries we see that cadastres and property registration services seem to merge or at least tend to work more together. This is a very positive evolution since both services basically work with the same data. However they have a different approach and have a different role to play. Even if they work under a same structure, they absolutely have to keep their own identity, at least in an initial phase. Since their organisational cultures differ too much to simply merge. If one of the two absorbs the other, one risks losing quality.

Cadastres have a long tradition in countries with a Civil Code system. Their base was merely technical with the surveyor having a key role. The cadastre always has been a land information system that works basically geo- spatial. The aim was to measure up the whole territory in parcels and draw up maps of it. Every parcel being numbered and linked to written information on the owner, describing briefly the rights on this parcel. The main goal was to raise taxes but later on it became an instrument for land management, urban planning, land readjustment, land reforms and other administrative tools. In fact they mainly were organised to deliver a service to the authorities. Subsidiary principles go along with the reason why it was conceived. So generally there was not much interest for legal boundaries as their differences with geographically observable ones was not important enough to bother. This did not affect the possibility of raising taxes. The ownership interested the administration just as far it was possible to raise taxes from a supposed owner. It was rather sloppy when searching for the rightful owners especially in cases of joint ownership, usufruct and so on. Since the main goal was to raise taxes, related to immovable property, there always is some kind of valuation.

Although there always was a system of updating following the juridical and physical changes it remains difficult to update the value of assets constantly since there are several parameters to take into account. First there is the general evolution of prices and inflation. Secondly there is the local evolution in comparison with other areas. Thirdly the changes in the physical condition and minor construction works are difficult to follow. Since market value is strictly time based, for fiscal purposes it might thus be interesting to set up a simplified rating. When on the other hand one wants to dispose of

an actual though sustainable value, experts have to come into the field. Their expertise, together with a platform where as much as possible information is available, as well in written as geo-spatial, has to make it possible to make reliable valuations. A good expertise depends on the parameters there's used to compare with other market objects. Innumerable attempts to determine the value of real estate on a mathematical basis have at least partly failed. They usually create an algorithm, using objective data for a number of criteria. I've never seen a solution which was fully reliable simply due to the fact that not all relevant parameters were evaluated. As IT systems get more powerful it might be in reach for the future. All parameters have to be taken into account as well as their relation and importance. Nevertheless at the actual stage it should be possible to determine that way valuations that do need less accuracy, as f.i a base for taxation or subsidies.

Due to their origin cadastres always have always been very interested in using the most advanced techniques. They always have tried to produce better maps, in which they succeeded quite often. On the other hand field workers generally were more interested in how they survey than in what they survey. The civil side of property did not attire their attention too much. Furthermore the use of high end technical solutions may in a lot of situations be too expensive or not fit for purpose to cover the whole country.

Land registration is merely focused on giving a service to the citizen and the market. Taking into account different laws that affect the civilian situation of immovable property, it mainly wants to inform third parties about the juridical situation of the owner of a right in regard to a certain object. Depending on the system it also tries to provide evidence for the owner on rights in rem, easements, burdens on the plot and so on. In contrast with cadastres it always tries to provide legal security for the owner and the ones contracting with him.

In order to index the registered properties and provide some details there generally is some sort of mapping as well. But often without too much attention for the physical appearance of the property. The relation between the exact juridical right and the registered description is often (too) poor, as well for the description itself of the property as for the clauses of the contract.

Through registration a property gets a proper place in market economy. This causes the fact that in countries with very fragmented registration there is a huge gap between the value of registered and non-registered property, and by consequence the rental prices. Registration often is not obligatory and also tends to be too expensive in al lot of countries. This causes inequality between citizen and may be the cause of evictions.

Property registration offices are often related to Justice and try to offer security from a juridical point of view. They also take the fourth dimension, being time, meticulously into account. The date of registration is regarded as very definitive and changes to existing registration are only possible in very restricted cases. This attitude often causes conflict with IT specialists and surveyors who don't always see the importance of it. Nor are they sometimes sufficiently aware of the responsibility that goes along with providing information out of the land registers. Registrars on the contrary tend to be less interested in using geo- spatial information and prefer spoken language, which is not

always the best way to explain something. Perhaps too often they act as a judge instead of being part of an administration, gathering and indexing information.

Although the documentation of both entities is up to now generally separated, it is quite clear that working together creates added value. Both they build it up around an object, a subject and the relation between the two of them. It also is better for public service when there is one single point of access for the citizen. Also the man in the street often does not see the difference between a cadastre and a property registration service.

Nevertheless if a successful partnership is to be set up it has to happen, keeping in mind the entire picture in order to be ready for the future. The traditional geo-spatial presentation cadastres use, allow to give information about the asset in a lot more condensed way than written language does. Along with photographic material a map allows you to describe boundaries, surface, configuration, orientation, situation, neighbouring properties and so on, very easily. For the description of the subject (the owner) registrars have a juridical tradition in persons law as well and seem to be better placed. They know about the various public and private legal persons. Although to get input for a global documentation it might be even more interesting to work with a third partner, being the office responsible for registration of persons in a country. When it comes to describe the relationship between object and subject property registration offices seem to have a better tradition. They know about business law, seizure law, mortgage laws, the consequences for property of matrimonial laws and so on. Although until now generally states organised property registration and cadastres themselves, it may be clear that a lot of the work may be outsourced. It can be to an independent and by preference self-supporting public agency. Even an entire privatisation might be possible as recently was discussed in the UK. A lot of possibilities are open, provided they are backed by a strong legal framework and the boundaries for responsibility are clearly set.

An attempt to design an administrative model that in a final stadium, eventually by gradually upgrading, creates a consumer friendly and reliable system for documentation on immovable patrimony, clearly should combine geo-spatial and indexed information out of linked databases, available partly at the cadastre and partly at the registrar's office. Here we can give a number of framework conditions.

First of all, before even thinking of gathering information, as well on map as in written there should be taken care about regularly updating. It should be technically possible to update the system easily along with a presented transaction. But also there should be pressure so that every transaction gets registered.

Property registration is merely an administrative act, even if due to legislation it asks an active input from the registrar that may look like a judgment. It is only possible if it can rely on unambiguous property laws, land laws, apartment laws, matrimonial laws, mortgage laws a.s.o. Definitely there should exist a glossary of all registrable rights, taking into account as much as possible as well property as tenure related rights in it. This is necessary in order to set up a relatively simple public administration where capacity building does not need the input of highly skilled personal. Out of this set the registrar should make a choice. In the majority of cases a title as " Full ownership" will

be sufficient enough so that no doubt at all remains. But in the case that is not sufficient enough there is always the archived deed.

Also the system should be organised on a national base, with sufficiently local roots so that it is socially accepted in every part of the country. It should provide in an easy access for everybody, as well technically as financially. Making legally the existence of a transition depending on the prior registration of the contract is also a very good tool to get a full coverage of all transactions being registered. Judicially it can avoid a lot of trouble in the future. Naturally this effect must be widely known by all citizen, otherwise it becomes an instrument of discrimination. This is one more reason of the necessity of local involvement. Raising taxes on the transaction itself is not a good idea. People will try to avoid them and at the same time fail to see the implications of not registering for the future. Personally I am convinced consultation should also be entirely public. In order to avoid pure curiosity it should not be free of charge.

In an ideal situation there should be a unique identification in the documentation for every actual object, and every actual owner of every specific right on it. In combining the three one gets a unique set of information.

In general we know cadastral maps having unique parcel numbers. But to face the future it is absolutely necessary to think three dimensional, above and underground. If you want to use a unique cadastral number to cover a lot of information in the description of an asset in a deed, working two dimensional is not enough. Depicting for instance a construction erected with a building right on the upper floor of a building is impossible otherwise. As we said before a fourth dimension is necessary as well, since we should be able to trace the history of a parcel in time preferably on a minute to minute base. This certainly goes for property systems where acquiring through prescription is possible and where proof of ownership only can be provided by getting back to the root of title.

If one wants the cadastral parcel and number to be the unique identifier for an asset for the future at the time of a transaction, it has to be available at the time of conveyancing. So legally there should be elaborated a system that allows cadastres to provide contracting parties using the future number as description in the deed. So that by using it, there is no possible confusion. This is very important for later consultation of the documentation.

To every asset there should be linked a set of rights, attributed to one or more persons covering all together the full ownership, which should preferably also include all kinds of tenure. The system should allow every owner of a right to be identified personally in a unique way, as well for private persons as legal persons. This is a basic need to provide gender equality as well. Furthermore a system conceived like this is open to new sorts of partnerships that might arise in the future. When a person is known by a unique identifier, this number also makes it possible to get links to other databases and in this way get a view on the entire personal and patrimonial situation.

Of course this is very interesting for taxation matters but it may possibly conflict with the concept of privacy.

In a lot of situations all of this is impossible right now. But since getting full coverage of the area is far more important than extreme detailing, by law there might be foreseen possibilities for group rights and registration, possibly gradually evolving to personal rights. IT systems also should be designed to easily produce the history of ownership till the root of title is found. Of course this criterion might only gradually be reached over time after starting up a system.

The link between object and person should be made at an exact moment. For security and informational reasons the period between conveying and registration should be as short as possible. A quick registration is an excellent tool to fight fraud, as well from people trying to sell a property twice as to the effect of mortgages, which generally take execution after registration. Actually it does seem to be possible in a lot of situations to do this almost at the same time. When deeds are prepared by legal practitioners it is perfectly possible to force them in fact to prepare the registration on line at the same date as they sign the deed. In order to avoid costs it is interesting, at all stages of the process, to ask administrative contribution from the citizen. Internet and mobile telephone apps can be very useful. Both they are challenge for a less cumbersome administration. In this context we certainly must pay attention to the use of the Block Chain technology, which is also used for the Bitcoin money system. In property registration it might allow people, by the use of apps, to register for them in a secure and very cheap way, with practically no interference of an administration. Just as the use of the bitcoin expresses the lesser belief in a strong state, offering monetary stability, the use in property registration matters may express the feeling that society itself is in a better position to organise security regarding immovable property than states are.

We see that different organisations have done some efforts in order to put up registration systems in developing countries. Generally these efforts start from the knowledge that the usual systems are not fit for the purpose in these countries. They all try to generate very down-to-earth systems, often using common technological solutions. Unfortunately they are often vulnerable because they fail in taking into account one or more of the basic demands as described before. Nevertheless since countries with a tradition of registration struggle with the actual execution, it might be very interesting to take these efforts also into account in order to re-organise systems and make them future proof.

Finally, without having proper solutions, I want to ask some attention for situations evolving in the last decade. The number of wars and territorial conflicts between states is greatly reduced. But the number of civil crises has increased dramatically. Where wars mostly had a clear beginning and a clear end, they often don't. In war periods the legal security of rights on immovable property is generally very poor and many irregularities occur. Restoring the property registration system afterwards is generally known as a post-crisis management tool. If not dealt with, it might be the reason of evolving secondary conflicts. International community has some experience in the field dealing with situations in former Yugoslavia, East Timor a.s.o., where at least the crises came to an end. But lately we see situations as in Iraq, Syria, Afghanistan, Somalia, Libya where no rule of law seems to exist anymore for over many years. Nevertheless people go on living in the country and try to build up an economy as much as possible. But due to the uncertainties immovable property is out of the market, which means a

huge loss of general wealth. On the other hand, due to these crises there have never been more refugees in the world. Most of them are not in a position to defend their legal rights on their properties because of their absence.

International community should find one way or another to take up a role in preserving the rights of the people living under this circumstances. First of all by backing up the existing legally valuable information, as there is available in the property registration offices and the cadasters. But also by making attempts to put up a continuously working security system outside the war zone. Perhaps the Block Chain technology might offer an affordable solution to deal with this problem.

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