DATA INTEGRATION AND INTEROPERABILITY FOR PUBLIC SERVICE PROVISION

**LAND ADMINISTRATION MODELS –
A CENTRAL REGISTER AND LAND INFORMATION SYSTEM CONTAINING AS MUCH
INFORMATION AS POSSIBLE ABOUT A PROPERTY**

E. JOY BAILEY
Her Majesty's Land Registry for England and Wales

Co-author Victoria Abbott
Her Majesty's Land Registry for England and Wales

Abstract

We review the benefits of centralised land information and registration systems, defined as an integrated land information system, where formal registration of legal information as well as technical information about land is supervised, controlled and operated by one authority, so that all matters affecting one parcel of land can be easily accessed.

Land registration and cadastral functions are more effective under a centralised system. Decentralisation of land administration may help to develop local democracy and skills, but in the longer run could hold back progress. Local conditions may mean that it is difficult to implement a centralised system and innovative decentralised solutions may help in the short term. However, improvement of a centralised system is likely to be more advantageous in the long term than developing a decentralised model where there is a risk of introducing or perpetuating a fragmented system of land registration and land information.

Key Words:

Centralised

Decentralised

Deconcentrated

Land information system

Land registration

Data integration and interoperability for public service provision

Land Administration Models - A central register and land information system containing as much information as possible about a property

This paper is based on the experience, expertise and knowledge of land administration gained by land registration lawyer, Joy Bailey, from working for HM Land Registry for England and Wales and from working in and advising other countries through its International Unit. The paper does not represent a formal HM Land Registry view and is a representation of the views of the author.

Introduction

This paper reviews the benefits of centralised land information and registration systems. A centralised system is defined as an integrated land information system, where formal registration of legal information as well as technical information about land is supervised, controlled and operated by one authority, so that all matters affecting one parcel of land can be easily accessed. By decentralised, we mean a system where control is held locally.

This paper considers how consistency, digitisation, security, decision making and delegation, staff morale and identification with values, fees, an indemnity (compensation) fund, developing the scope of the land information system, supporting and developing systems for land transactions, the legal framework and deconcentration support a trusted and transparent centralised system. (Deconcentration means there is a single authority with geographically dispersed offices). These elements could be applied in decentralised models to result in fit for purpose land administration systems. However, improvement of a centralised system is likely to be more advantageous in the long term than developing a decentralised model where there is a risk of introducing or perpetuating a fragmented system of land registration and land information.

Land registration and cadastral functions are more effective under a centralised system. Local conditions may mean that it is difficult to implement a centralised system and innovative decentralised solutions may help in the short term. Decentralisation of land administration may help to develop local democracy and skills, but in the longer term could hold back progress.

Decentralisation

Some excellent studies have been made about the decentralisation of land management systems, particularly in developing countries. The studies (*including de Satge, Kleinbooi and Tanner 2011; Jones-Casey, Hughes and Knox 2011; Hillhorst, 2010)* describe situations where decentralisation has improved previously malfunctioning systems of land management, including land registration and information systems. This paper does not seek to analyse those studies in detail as they speak for themselves.

In general, the studies found a number of reasons why decentralisation has improved on the pre-existing systems—

- Pre-existing centralised systems were cumbersome and over complex
- Inaccessibility of a centralised system
- Bottlenecks in a centralised system
- Vested interests resulted in favouring foreign and commercial exploitation over the needs of local people
- Centrally appointed officers may be unaccountable to local people
- Centrally appointed officers may not understand or empathise with local custom and practice

The studies mentioned above, and our own visits to countries developing their land administration systems, also highlight potential disadvantages of decentralisation—

- Depends on effective local democracy, participation and accountability
- Challenges around creating local capacity
- Lack of adequate funding
- May depend on donor funding which is temporary
- Potential for dominance by powerful local parties and customary practices
- Fragmented departments can lack co-ordination, including in digitisation
- Poor areas may not be funded fairly
- Politicisation of decisions
- Can mitigate against increasing women's access to land rights, if local customs prevail

This paper includes conclusions based on direct observations when working with other countries through our International Unit work.

Centralisation of Land Information Systems and registration

Land administration is clearly an extensive and complex topic. It can include—

- regulating land and property development

- controlling use and conservation of land

- preserving and controlling forests, water supplies, wetlands

- planning and providing infrastructure

- valuing land and gathering revenues from land taxes

- conflict resolution

- the legal and registration framework for land transfer and mortgaging

- surveying and mapping land and buildings

- keeping cadastral registers

All these functions require different skills and expertise to carry them out. The keeping of registers relating to land is a complex and specialist function, particularly if the register guarantees rights (which is the point of registration). The skills and knowledge involved are different from land use planning, building development control or forestry management, for example. While all functions will have some element of political priority, keeping land registers and cadastral information is about balancing and protecting the rights of all those with interests in land, within the law, and recording the rights. The registrar and staff must be fair, impartial and transparent. The chief registrar should control, in accordance with the law, the administrative means of how the registers are maintained. It is the function of the registrar and staff to consider all the evidence submitted with an application for registration and decide whether the legal requirements have been met. This is not simple - it is a quasi-legal task, requiring an unbiased, consistent and transparent process.

Local planning and land use, on the other hand, seeks to pursue the political agenda of the government and local authorities. Creating master plans and local plans, designating land use, agreeing to development or change of use, and local taxation are rightly functions for local authorities. But once decisions have been made locally, the record of the decision does not have to be kept locally. If the decision affects future use, marketability or value for mortgaging purposes, the record should be kept where it will be most easily accessible – preferably in a centralised digital register.

There is no doubt that the development of local democracy, allowing for greater citizen participation and empowerment, skills training and transparent accountability, is desirable. It can enable decision making

that meets local needs and circumstances and gives opportunity for the personal development of local people. It can be used as a tool to give greater rights to women.

But there is a danger in using the land administration system to develop local democracy through decentralisation, if that risks introducing or perpetuating a fragmented system of land registration and land information. The development of local democracy is a separate objective, not something to be hung on the development of land administration mechanisms.

A single overarching agency for a land information/registration system is ideal, as it can provide the coherence needed for a successful implementation of the fundamental requirements – it provides secure and nationally recognised ownership of land and facilitates investment through loans secured on land. It can provide legal and technical information about a property from a single source. This benefits the government and all its citizens.

A land information/registration system should facilitate efficient land transfers and land markets, support management of assets, and provide basic information for planning, land development and environmental control. In this way it acts as a backbone for society. *(Enemark, 2006).*

Facilitation of efficient land transfer becomes harder where a land information/registration system is decentralised. If a centralised system is not working effectively it is not because a decentralised system is better. It is because the centralised system needs improving.

Because of the many different aspects of land administration, with different focusses in each country, there will be different modes of governance. There may be a completely centralised government ministry dealing with various areas of land administration, split into specialist departments. Alternatively, specialist functions like forestry, agriculture or mining may be dealt with by separate government ministries. This paper argues that all aspects of land information, cadastral functions, mapping and the keeping of registers are best kept together in one ministry.

An example for illustration is Rwanda. The Rwanda Natural Resources Authority (RNRA) was formed in 2010 as a merger of National Land Centre, the National Forestry Authority, and the Rwanda Geology and Mines Authority. The RNRA led the management and promotion of natural resources, namely land, water, forests, mines and geology. This included land registration. However, in 2017 this large remit was split into smaller agencies – the Rwanda Land Management and Use Authority, the Rwanda Water and Forestry Authority and the oil and gas authority *(The New Times, Rwanda, 2017)*

Cadastral surveys, mapping and land registration are the core components of land administration, and those are now the functions of the Rwanda Land Management and Use Authority. There is a centralised digital database and control of policy, while administration takes place at district and sector level.

The benefits of a centralised, integrated land information system have been advocated for many years *(for example UNECE 1996, Williamson, 2000).* Such visions can be seen as unachievable for countries where a decentralised and/or paper-based system exists. But as those papers and many others stress, building land administration and land information systems is a long and complex task. It is hugely challenging, and circumstances, needs and policies change over time. Even in countries where there are well developed systems there is always room for improvement and change to accommodate new needs and technologies.

Technology makes it increasingly possible to have a consistent centralised system. Digital tools are enablers, and more than that, they encourage innovation. In Rwanda a centralised digital register (LAIS) was built that can be updated from District Offices. That has allowed the development of a phone app, which applicants can use to track the progress of their application. Centralisation and digitisation have also allowed HM Land Registry to develop innovative new services, beyond our statutory services (see later under Digitisation).

Proposing transformation to a fully digitised, centralised process may seem unrealistic for some countries as financing can be problematic given the long-time frame for investments in land to yield returns, but in the long run there will be large cost-savings, both for governments and customers so it is worth working towards. Economic prosperity will be enhanced by an improved system for land transfer and mortgaging, which will enable sustained investment, stability and inclusive growth.

Consistency

A system for recording land ownership, land values, land use and other land data in a consistent and clearly understood way throughout a country is indispensable for an economy and for land management. A single land register of title provides secure ownership of land and facilitates investment through loans secured on land. The data it collects can be used to promote economic growth.

Once a single register of land title is established, it can have new types of information added as new political or commercial needs become apparent. For example, cadastral information such as land use, or tax valuation can be added, in a step by step approach. Different information can be kept in separate

registers, but maintained by the same authority. There will be scope to reference the entries spatially, so that all matters affecting one parcel of land can be easily accessed.

In England and Wales, there has been a single centralised land registry since 1862. HM Land Registry records the ownership, interests and transactions in registered land in England and Wales, but until now, each local authority has kept a separate local land charges register. These registers are for specific matters recorded by local authorities against properties in their district in certain circumstances. For example, the grant of planning permission, or a debt for the cost of emergency repairs undertaken by the local authority where a property was in dangerous disrepair and the owner failed to undertake them. HM Land Registry has been given powers to take over the local land charges registers of 326 local authorities and enter them into a new single digital register, which it will maintain centrally. It is beginning the transition process already and is planning the incremental take over of all 326 authorities in the future. Thus, once a central agency is established, it can be extended and improved.

A single source recording land ownership, land values, land use and other land data is able to provide vastly improved access to property information. It can support more efficient, streamlined processes and make registration and information gathering easier. Dealing with property, or just finding information about it, can be quicker, cheaper and simpler.

Anyone in England and Wales can have instant access online to a copy of a register of title (the register is open to public inspection). They need only a credit or debit card, or an account with HM Land Registry and an agreement to pay by direct debit. There are over 25 million registered titles, and in the last financial year we received over 24 million applications for information services – copies of individual registers or copies of documents held by the registrar relating to an individual register. 99% of those applications were received online *(HM Land Registry, 2018)*, and almost all are processed automatically, so the customer gets an instant online result.

The majority of our 5.5 million applications to register transactions are also received online through our portal, or machine to machine business gateway. In 2012 we introduced electronic lodgement for scanned copies of applications to change the register, and now over 70% are received online. Customers give us a 91% satisfaction rating. *(HM Land Registry, 2018)*

That is a hybrid system. It means that the transactions are still carried out using paper documents, signed using pen and ink. They then have to be scanned to send to HM Land Registry. As a single centralised registration authority, by working with lenders and lawyers, we have now been able to build a digital

mortgage service which has just gone into public use. It is a full service offered to lenders and conveyancers, where we create the digital mortgage template and the conveyancer can control the creation, completion and registration of the digital mortgage. Created online within our secure computer systems, the digital mortgage is signed digitally by the borrower, then completed and registered without ever having to be printed in paper.

Customers who need information about land get the same information and the same services wherever the land is situated and wherever the customer is. All customers follow the same procedures and receive the same service. They can have faith that their applications will be dealt with consistently and fairly.

There is no doubt that a system of land information/registration system, administered by a single authority and gathering as much information about land as possible, cannot be built quickly. It will be achieved by a marathon, not a sprint. Interests in land are too important to be the subject of quick and easy solutions. Systems must be tried and tested, and we can all learn from our own and each other's successes and mistakes.

In England and Wales, the first land registration system was introduced in 1862, but originally registration was voluntary, complex, costly and required defined ("determined") boundaries. This led to many boundary disputes. The law was rewritten over the years, and boundaries are now general unless a party makes an application to have a particular boundary determined. Registration became compulsory but only on a trigger event, such as a transfer of land or a first mortgage.

The result is that 85.4% of land in England and Wales is registered (*HM Land Registry 2018).* This may sound unimpressive to countries where systematic registration has taken place, resulting in most of the land being demarcated and registered. However, England and Wales have built up a fast, efficient, well-established system for on-going registration of land transactions. This contrasts to examples we have seen where systematic registration has taken place but cannot be maintained. Money has been wasted because the systematic registration was just a snapshot in time, that has been overtaken by subsequent, unregistered, transactions and events.

In Rwanda in 2015, after a programme of systematic registration, 10.3 million parcels of land had been demarcated, 8.4 million title certificates had been printed, but only 6.5 million certificates had been collected *(Sagashaya, 2014).* The certificates had been issued to the local sectors, but many had still not been collected. Some people apparently did not collect or update their title because of the cost, so they only collected if there was an imperative such as a dispute. It appears that many people have several

small land holdings and each attracts a fee for the certificate, so they could not afford to pay, or could not see the point, or had nowhere to store them. It appeared transactions were going unregistered, particularly on inheritance, sharing between families, and swapping land.

In the Occupied Palestinian Territories, in 2014, the government and funders were keen to see the rapid development of systematic registration. *(Office of the Quartet Representative, undated; World Bank 2017)* Others more directly involved in day to day registration were only too aware of the overall lack of capacity and management skills to maintain the ongoing registration process. Institutional strengthening was only a sub-component of the World Bank Second Land Administration Project. *(World Bank, 2012)*

The speedy completion of systematic registration is not the answer to a country's problems unless there is already a well-established, fair system to maintain ongoing registrations.

In Vietnam, the investment needed to set up the local land information system must be made by the provincial and district Peoples' Committees. Officers are employed by the local Peoples' Committees rather than by the central organisation. However, if there is one unified registry/land information system, the Chief Registrar can control the investment (for instance in new digital equipment) to ensure it is fairly distributed. If it is necessary to invest in some areas before others due to limited funds, the Chief Registrar can decide on the priorities for investment, having regard to overall government policies.

If the system of land registration is used as an enforcement tool for other government departments (for instance tax payment or land use) this can act as a deterrent to land registration. We have seen where registration cannot take place until tax receipts were produced for all previous years. This was the case even where land had changed hands off-register (on inheritance), so the current owner(s) were not liable for all the previous years. A good system of land registration will provide information for other government departments and agencies, so that they can follow up with their own enforcement procedures against the appropriate people. It should not penalise the wrong people.

Digitisation

In today's world it is crucial that public services are available online. Customers increasingly expect to be able to access government information online, without delay or complication and for a reasonable fee. The need for digital services will be even greater in poorer countries, as digital services are cheaper and more convenient to access. Even if someone does not have a mobile phone or internet access, they may be able to use a communal facility, or that of a friend or relative.

In Rwanda, there has been an ambitious and successful programme to improve land administration, land registration and conveyancing laws and procedures in recent years. This resulted in the introduction of the Land Administration Information System (LAIS). It is part of a national online system to bring together the administrative, mapping and cadastral functions of land registration.

For those without IT, business development centres have been created in some districts, to help with IT access. Micro-finance institutions might also be able to help their customers by accessing relevant land information online. This would avoid the cost and time for poor people having to travel a long distance to registration offices to gather documents necessary to prove their title to land.

Rwanda has also built a system (originally Rwanda Online, now Irembo) whereby applications to transfer land and register the transfer can be made electronically. The seller and buyer can submit an application online for checks to be made before the contract is notarised. This reduces the number of visits that must be made to the local land office. Previously this could amount to four or more visits to a District Office –

1. come to book an appointment with the notary
2. attend the appointment with the notary to sign the document and have it notarised
3. return to the district office to submit the notarised contract with other evidence needed for registration if it was not all collected for the previous visit
4. return to collect the title certificate after registration.

The buyer and seller might also have had to visit the District Office in advance to check for any new entries in the register, to check land use against the zoning plan, and tax payment. Considering that a person may live in a sector that is remote and inaccessible, with no public transport, and a District Office may be up to six hours travelling distance, the process was seen as cumbersome, time consuming, but costly. The online lodgement service provided by Irembo can reduce visits to the land office to two, once to have the transfer document notarised, and once to collect the new land document.

Local authorities using a decentralised system will be less likely to have the resources to establish online services that are available nationally. If there is a single central land information/registration system it becomes easier to create a single, unified database for the registers that need to be kept about land. Once there is a single database, it can be incrementally and consistently digitised, so that customers can gain access to information online, wherever they are, without having to go to the provincial or district office where the land is situated.

In Vietnam, land registration activities happen at provincial and district levels, under the guidance of the Ministry of Natural Resources and Environment (MONRE). The land registration offices are set up by the Provincial and Municipal Peoples' Committees. Despite policy being made centrally, some localities have built different architectural models, resulting in there being several different technology platforms used in the land information systems in different provinces. MONRE are aiming for the deployment of a land information system consistent across all 63 municipalities and provinces in the country. It is intended that the technology must be transferred to land registration offices in all these localities. *(Vietnam News, 2018)*

With a single centralised land information system, the Chief Registrar can make a roadmap for incremental digitisation, based on national priorities. The Chief Registrar can devise a programme for the digitisation of all existing paper records based on principles such as population density, planned economic development, or major infrastructure projects. There can be a power to declare areas as subject to digitisation. Provincial and district authorities can then provide to the Registrar any existing records they hold for digitisation.

HM Land Registry for England and Wales has always been a single agency. The register of title to land is now fully electronic, but it took several years work by a dedicated team to transfer all the individual registers of title for of each plot of land from paper cards held at local offices into a single electronic database.

This digitisation allowed over 24 million (99%) of requests for information, and 5 million (70%) of applications to change the register, to be received and processed online last year.

In the Occupied Palestinian Territories in 2014 the Land Administration Project Part 2 was undertaking the systematic registration of parts of the Dura district. Once settlement of the registrations were completed the records were kept in paper, even though documents had been scanned, lists prepared in Excel, and maps in VRS. Individual registrations were digitised when someone requested a certificate in order to sell their property.

A digital register will be more durable than a large collection of paper records and should be easier and cheaper to issue as individual records when needed. Putting the records of a systematic registration directly into a digital database will save time and cost in the short and long term.

Digitising existing records may seem a long and unproductive project particularly to donors and governments who like to see quick, tangible results. But paper-based registry offices are not efficient. Entering existing paper records into a digital system may seem like a huge and onerous task, but it is not difficult, it just takes time. It was done over a few years with 13 million titles in England & Wales. Staff with a range of skills can be trained to copy type the relevant sections of paper records into a digital format A small number of more senior staff can check the entries. The work is methodical but can give employment to unskilled people who will gain transferable IT skills and knowledge for future employment.

If the offices are networked, small teams of data inputters can work in each local office inputting into the same register. This ensures that deconcentrated district offices are not deprived of their register files while the work is going on. It also spreads employment opportunities. Jobs may be targeted at women, with opportunities to work part time if they have caring responsibilities. Once they have gained the IT skills there may be further job opportunities for them as more land is registered, resulting in more registrations to complete.

Digital transformation is an enabler. It has enabled HM Land Registry to deliver other products and services through channels that meet customer's changing needs. HM Land Registry constantly carries out user research to find out how to improve and innovate its services. A successful product available to all customers is Property Alert, which sends the customer an email if there is any significant activity on their title. This helps to avoid property fraud and is a free service. Another free service, MapSearch, allows business customers to find the title number for any plot of land by searching an online map, which covers the whole country. They can check the extent of the title online or use the title number to request a copy of the register of title for the polygon.

HM Land Registry has also developed several online commercial services, to help businesses manage their own business processes more efficiently. Examples are Data Sync for mortgage lenders, Property Portfolio Consolidator, and flood risk reports.

When there is easy access to official copies of land titles, there is no need to issue certificates of title to owners. Certificates can be lost, stolen, forged, destroyed by accident, or just out of date. Proof of title lies in the register itself, so an up-to-date official copy from the land registry is needed to investigate title. Although many people like the comfort of having a certificate of ownership in their hands, money can be

saved by not issuing certificates. Copies of the entries in the register can be issued on request for a small fee.

Security

Having one single unified database allows for greater security, as the best-qualified IT staff and security experts can be employed by a larger national organisation. Top level security is ever more important in the digital world. The assets being protected are the most valuable assets in the country – its land – so only the best IT systems and security are good enough.

A single database need not be situated in one place. This could make it vulnerable to attack or accident. The system can be based in geographically dispersed data centres with redundancy and protections to help avoid threats and outages. Some argue that a digital land information system might be attacked or hacked by hostile forces. However, a paper storage facility seems to be far more vulnerable, both to attack and accident (for example, fire, flood or insect infestation). In future there may be the possibility of using distributed ledger technology (blockchain) to help avoid the compromise of digital systems.

It is important for those responsible for land registration to try to stay ahead of fraudsters, not wait for fraud to happen then realise that something needs to be done. Wherever there are assets of value, including land, there will be criminals trying to defraud people. It is easier to protect a strong centralised system than several smaller weaker ones that are perhaps underfunded.

As services are increasingly digitised, it will become vital to adopt an online system of identity assurance, so the registrar can be satisfied that the person dealing with a plot of land is entitled to do so. It becomes necessary to store personal information about the person who is registered, such as their date of birth and their identity number if they have one, so that this data can be matched when an application is made to change the register. This will help to avoid fraud through identity theft.

If one party has to give the other their ID credentials for registration purposes, it opens up opportunities for fraud. Having a centralised system allows more easily for the development of a strong identity assurance system for the purposes of registering land transactions. This will help protect the integrity of the register, particularly once digital transactions can be carried out online. The registrar must ensure that there is a universal, secure ID system of a high enough standard to guard the valuable assets protected by the registers.

If notaries are responsible for registering transactions, the parties can give their ID credentials to the notary without disclosing them to each other. The notary could then send them to the land registration agency securely, so that the ID information would remain private. Even if the parties act in person, it should be possible to have a system where each party provides their identity credentials direct to the registry, without revealing them to the other party. The system must, of course, store such personal data securely, and not reveal it on the register.

An identification system will be different for each country, depending on national circumstances. Some countries have identity numbers or cards for all citizens, which may be utilised for identification purposes.

In England and Wales, we do not have national identity cards or numbers, but our Land Registration Act 2002 has recently been reviewed by the Law Commission. They are recommending that the Chief Land Registrar is given the power to make directions about what identity assurance checks must be made on the parties to a land transaction. This, the Commission argues, would allow the registrar to require the appropriate level of security for digital transactions, but also allow for new checks to be introduced as conditions change.

Training, development and practice guidance

A centralised system can be deconcentrated in numerous offices, to geographically spread employment and training opportunities, but remain a single agency. A single agency can develop an expert workforce, with the same training and guidance material for all staff. It may be stating the obvious to say that training at all levels needs to be thorough and consistent with the level of responsibility and job function.

This will be harder to achieve if those who administer the land information/registration system are not employed by it. For example, where local land registration staff are employed by local authorities, rather than a single central agency. This could result in a lack of accountability, and problems with prioritising where duties are split between local and central administrative tasks.

This highlights a problem for countries with limited resources. If the land information/registration service is national rather than local, larger teams can be mobilised from around the country for outreach work and such initiatives would not have to be limited.

Furthermore, it is important to ensure that there is the capacity and political will to resource and manage a system effectively.

Pending digitisation, practice guidance for staff may be contained in paper files that are updated regularly. New sections can be sent out from the head office to local offices to replace out-dated ones. But once all land registry offices are joined up to the same databases, the guidance can be online, and can be updated quickly and efficiently when necessary.

Staff can travel to central offices for training, or trainers can be sent out to local offices, to ensure standards are equal throughout the country. Good training and practice guidance allows for delegation of decision making, which means faster, more efficient but consistent services throughout the country.

It is important to have manuals and guidelines in place rather than relying on staff to know the procedures and to keep up to date with any changes that are made to them. A lack of good management, guidance and training can lead to uncertainty among staff as to their role and to bottlenecks and delays in registration processes.

All employees of the land information/registration system can have access to its databases as appropriate, to input data or to provide information. The data input may be subject to approval by someone else with a higher level of experience, but that too can be done online. With digitisation, applications can be sent electronically throughout the offices of a centralised land registry, as happens in England and Wales.

Good training also provides greater opportunities for staff to develop their skills and improve their career prospects. In particular, it can open development opportunities for women if a centralised organisation has local offices. Training can give them mobility both within and beyond the organisation.

In HM Land Registry over 60% of our employees are female, with ever increasing numbers of women in management positions. 6% of the workforce are apprentices, of which more than half are female *(HM Land Registry 2018)*.

Decision making and delegation

Having national standards of practice and training as part of a national agency makes it easier to delegate decision-making to staff who have achieved the appropriate level of technical ability. More widespread, standardised levels of decision-making allows for greater efficiency and speed of service and reduces opportunities for corruption.

At HM Land Registry staff are awarded technical authorities, according to their level of training and experience. Most employees are registration officers, undertaking registration of transactions at some level. Lawyers and Land Registrars do not have to approve all applications. Each type of application for registration is allocated to the appropriate level of technical authority, according to how simple or complex it is. Employees can refer technical points to someone with a higher technical authority if they are unable to deal with them. Offices are open plan, to make references easier, or cases can be referred online through our casework management systems.

This level of delegation allows us to deal with over 5 million applications to change the register per year. In addition, we deal with 25 million applications for information services, though most of those are processed automatically, without caseworker involvement. When decision making is diffused in this way, bottlenecks can be avoided, and there are more checks and balances mitigating against corruption.

Levels of technical authority can be set out so it is clear as to what type of work can be done by each officer, commensurate with their training and experience, and when work must be referred upwards. In that way, registration officers can approve the most straightforward applications, leaving only more complex matters, difficult legal questions and disputes to the lawyers and Land Registrars.

As volumes increase, it is vital to establish clear rules and guidance for delegation as it is not possible for a small number of Land Registrars to sign off every land registration in a country.

Staff morale and identification with values

Belonging to a single agency makes it easier for staff to identify with their duties and obligations to be fair, unbiased, and consistent. The organisation can set objectives, values and conditions that help to develop staff loyalty and behaviour. A clear focus on customer service can be developed. Staff can be clear on strategies and what is expected of them.

It is also easier to publicise the functions of the agency, and the need to register land transactions and changes to the status of the land. People will be able to identify more easily how to register land and land transactions.

Fees

High land registration fees are a common cause of failure to register. We have seen and heard this in many of the countries our International Unit has worked with. It is vital for the ongoing success of a land

information and registration system that fees are sufficiently low to be affordable to those who most need the protection of land registration and the ability to make secured borrowing.

This applies to both first registration and ongoing registration. In countries trying to improve registration, the fees must be set at a level that everyone can afford so as to ensure inclusive access to services.

Where people cannot afford the fees, it can result in previous systematic registrations being already out of date as subsequent transactions are not registered.

A national centralised service allows for economies of scale, and better procurement deals. Consistently well-trained staff will work more efficiently. Resources can be shared.

With a centralised system, uniform fees can be charged, which should aim to cover the cost of running the land information/registration agency after initial set up costs have been met. The fees can be controlled by the agency, not the provincial and district authorities or another central government department. They should be available not only to maintain the services of the land information/registration agency, but to improve them and invest in new services including digital infrastructure. This improves the efficiency and effectiveness of the management of the operations.

A single funding pot means that building the digital infrastructure can be done fairly and strategically. It will not depend on the financial and policy priorities of a provincial or district authority. While being an agency of the government, the agency needs a degree of independence, to carry out its quasi-judicial functions fairly, openly and without bias.

The agency will need initial investment by the government to build the databases and infrastructure needed for a national system. Later, any money surplus made through fees, when not needed for re-investment, can be paid back to the government by the agency.

HM Land Registry is designated as a Trading Fund by the government. This means that the operations of the registry must be financed by means of the fund controlled by the Chief Land Registrar, made up principally of fees for the services provided by the registry. If fees exceed liabilities, part of the excess is paid to the government as dividend. Excess fees can also allow for further investment in infrastructure, and for fees to be reduced. We are constantly looking for ways to increase efficiency, reduce costs, but improve customer service.

The funding pot controlled by the land information/registration agency can also be used to create an indemnity fund, as referred to below.

Having its own funding pot does not give the registrar too much power. The agency will still be answerable to the government, and having the fund helps the agency to drive efficiencies.

A centralised registration agency could also provide a national, easy reference valuation service that can be used by lending institutions to reduce the cost and delays of property valuations. For example, in Rwanda there was understood to be a major challenge for micro-finance customers. To get a loan, they were obliged to have a valuation from a private valuer. The cost of the valuation could be 30% of the loan, hindering investment and profitability.

In England and Wales, the register of title includes the amount of the price paid or value stated on the last change of ownership. Using that figure, banks can make an adjustment to the value, based on market trends for the area. To estimate this, they can use HM Land Registry's House Price Index, which is published monthly. It gives lenders a sufficiently accurate valuation to make small or additional loans. An electronic valuation tool could even update automatically, based on market comparison data.

Indemnity (compensation) fund

A major benefit of the register of title is the certainty that comes from a State-backed guarantee of title. Clarity of ownership through secure and reliable property rights has a direct influence on the property market, domestic and commercial.

Mistakes are bound to be made in registration, that is inevitable and is a risk that should be provided for. The mistakes can be due to no fault of the registrar. A mistake in the register can be the result of fraud, but under a system of title registration the State acts as the guarantor of title. Thus, compensation payments may not be confined to mistakes made through the fault of the Registry.

For fairness and transparency in the justice system, the rules for compensation claims and payments must be clear and consistent throughout the country. The rules should say what type of mistakes will incur a compensation payment, and whether the payments can be reduced due to any fault of the claimant. There will need to be provision for rights of recourse against people responsible for a mistake outside the registration agency, and for reductions in payments if the claimant bears any responsibility for the mistake.

There can be savings made as a result of a compensation fund controlled by the registrar. Payments can be made from it without the claimant having to go to Court. If it is clear that there has been a mistake in the register, an offer of compensation can be made by the registrar. This can reduce the amount of costs incurred and awarded against the registrar by a Court, and the amount of interest that may be incurred by delays in payment.

HM Land Registry also compensates customers for maladministration. This is a voluntary scheme, not a statutory one, for customers who claim they suffered as a result of poor service from the registry, for example, unreasonable delay, discourtesy, bias, discrimination, failure to follow proper procedures, or poor communication.

Both indemnity and maladministration schemes need a centralised system to ensure consistency and equality of treatment throughout the country, and adequate funding.

Developing the scope of the land information system

There is no end game for a land information and registration system. Developments and improvements can always be made.

The Chief Land Registrar in England & Wales has recently been given the statutory powers to take over another set of registers, the Local Land Charges Registers. This involves combining the registers of 326 local authorities into a new single register. To enable this, the Chief Land Registrar has been given the power to incrementally call for the records of each local authority to be transferred to HM Land Registry. This will provide a better service, with a standardised national fee and turnaround time, in contrast with previous local variations in speed and cost.

It supports the centralised model, where formal registration of legal information as well as technical information about land is supervised, controlled and operated by one authority.

A single agency can process data about land more easily, and share it, in ways that promote economic growth. HM Land Registry is focused on making HM Land Registry data more accessible to all in order to increase both the transparency and efficiency of the property market. We are enabling innovation in the market by supporting PropTech start-ups through our Geovation programme, in partnership with Ordnance Survey (the national mapping agency that supplies our maps and surveying services).

Supporting and developing systems for land transactions

As well as protecting land rights, a registration and land information system should support the process in the country for the transfer and mortgage of land (called "conveyancing" in England and Wales).

Perhaps the most important service is the quick and inexpensive supply of official copies of registers for individual plots of land, so that a buyer or lender can be clear as to what interests affect the land before undertaking a transaction. If the agency can supply as much information about the land as possible, buyers and lenders will not have to go to several different agencies, which is a clear advantage. This is not just essential in a country with a vibrant property market. It can be used to allow for micro-loans to small landowners.

Even with deconcentrated offices, people might have to travel a long way to reach sector or district offices to get the documents needed for security for a micro-finance loan. Normally a member of the micro-finance institution would also go to the district office to check that the land was registered in the borrower's name, and that the plot matches the land valued. It would save time and money for all if this could be done online from anywhere in a country.

Another example of supporting the land transfer and mortgaging system is a priority protection period, adopted by some countries. A procedure for priority protection is an invaluable tool that can be used in the land transfer and mortgaging process, to protect the interests of buyers and lenders. It is a mechanism to stop adverse entries being made on the register between the time the lender and buyer become committed to payment of monies, and the time that the transaction is completed by registration. Such adverse entries, like a court judgment order charging the property of the seller in respect of a debt, or a bankruptcy application against the seller, may be unusual but can be disastrous for the buyer and lender. The priority protection period can also prevent the registration of a prior sale to a different buyer, or a new mortgage on the property by the seller without the knowledge of the buyer.

Such a scheme would have to be introduced nationally, through legislation. It may not work effectively in a decentralised land administration system.

It might be thought that this kind of priority protection is too sophisticated and unnecessary for countries where volumes of land transfer and mortgage are not as high as in other countries. But it can help to protect against fraud, for instance by multiple sales of the same plot, or by mortgaging the plot shortly before a sale, so that the mortgage is not registered until after the sale has been committed. One problem

regularly encountered is where someone has sold the same plot multiple times which is clearly a big problem for the people who have paid their money but been tricked. A knowledge of the requirement to register, and a priority protection scheme, could prevent these losses and the misery they cause.

Legal framework

The law can enable the land information/registration system to be flexible and responsive. The use of mobile phones is ubiquitous and ever growing even in poor countries. Digital services will become the norm, so laws and processes should be designed with transition in mind.

In England and Wales, we have recently amended our legislation to allow for the flexible introduction of new electronic land transactions and registration services. HM Land Registry has built a new digital mortgage service where you can remortgage by signing your mortgage deed online and will build other digital services in the future. The new rules specify that all transactions of registered land that have to be registered can be carried out using electronic documents with electronic signatures, once the registrar is satisfied that adequate arrangements are in place and publishes a notice to that effect. This allows for the incremental introduction of new digital conveyancing and registration services, without rule changes for each new service.

The requirements for a mortgage, transfer or lease of registered land will not change. What will change is the way of preparing those documents. The content of the documents, and the law behind them, will be fundamentally the same. HM Land Registry will be offering alternative ways of carrying out standard conveyancing transactions.

Deconcentration

A national agency can operate through local offices provided the staff have been centrally trained and follow centrally set standards and practices. As more digital services are developed, the need for many local offices will reduce.

In the past in England and Wales, applications for registration had to be sent to the land registry office that dealt with a particular geographic area. That was because records were still in paper, kept in one deconcentrated office of the registry. Now that we have a single digitised database and online registration systems, registration can be dealt with by any office. Work can be distributed online throughout the country, to wherever there is the capacity to deal with it.

In conclusion, deconcentration of a centralised system of land information and registration is inevitable while records remain in paper. But a single agency controlling the geographically spread offices will be more efficient, consistent and effective, and allow more easily for digitisation in the longer term.

References

Enemark, S. (2006) *Land Management and Means of Planning Control*. Available online.

Her Majesty's Land Registry, (2018) *Annual Report and Accounts 2017-2018.* Available online.

Hilhorst, (2010) *Decentralisation, land tenure reforms and local institutional actors.* Land Tenure Journal No 1. Available online.

Jones-Casey, K, Kaiser Hughes, A and Knox, A (2011) *Challenges of Local Land Governance in Mali. Brief.* Available online.

Kwibuka, E. (30.1.17) *Natural resources authority to be split into three bodies.* The New Times, Rwanda. Available online.

Office of the Quartet Representative (undated) *Initiative for the Palestinian Economy, Construction – Land Registration.* Available online

Sagashya, D. G. (2014) *Rwanda Country Report – RCMRD Technical Committee*. Available online.

de Stage, R. and Kleinbooi, K. with Tanner, C. (2011) *Decentralised Land Governance: Case Studies and Local Voices from Botswana, Madacascar and Mozambique*. Available online.

United Nations Economic Commission for Europe (1996) *Land Administration Guidelines with Special Reference to Countries in Transition*. Available online.

Vietnam News (12.3.18) *National land database to be completed in 2020.* (Available online)

Williamson, I. P. (2000) *Best Practices for Land Administration Systems in Developing Countries*. Available online.

World Bank (2017) *Implementation Completion and Results Report, Second Land Administration Project (LAP II) in West Bank and Gaza.* Available online.

World Bank (2012) *Project Appraisal Document, Second Land Administration Project (LAP II) in West Bank and Gaza.* Available online.