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TECHNOLOGY AND TORRENS: HOW TO SUPPORT BANGLADESH LANDOWNERS' RIGHTS

Abul Hasanat[1] and Lucy Cradduck[2]

QUT Law, Queensland University of Technology

ABSTRACT

This paper examines current land titling and administration processes in a selected developing country, Bangladesh, in order to determine the reliability and effectiveness of those processes in supporting and protecting individual landowners, and in guaranteeing title. In doing so, it identifies several governance issues flowing from the current decentralised registry and record of rights systems, and limited use of technology; which adversely impacts upon individual landowners' title and rights, and users' confidence, in those processes. This research supports both the need for a single centralised land management system; and the need for greater access to easy-to-use technology by all landowners, and potential landowners, irrespective of their social class. The paper concludes by identifying how the adoption of a Torrens style system, combined with increased technology adoption and use, will both assist in protecting individuals' title and other rights, and result in a more efficient and rigorous Bangladesh land administration system. The research adds to the limited literature regarding Bangladesh.

Keywords: Bangladesh, Australia, technology, land titling, property rights, Torrens

INTRODUCTION

Land is the most essential natural resource and, as experts from the World Bank observed, *"securing land and property rights* [is necessary] *for improving food security, reducing forced displacement, protecting landscapes, reducing carbon emissions, and empowering women"* (Corsi and Pott, 2017). In developed countries many people gravitate towards cities for their livelihoods and rely less directly upon the land. This is seen, for example, in Europe where there is a close relationship between peoples' migration and changes in their land use (Bell *et al.*, 2010). Conversely, in developing countries, with greater rural populations, the connection of peoples with the land remains paramount. An example of this connection is seen in Bangladesh where, as a developing country, many people still live on the land they work, and where the country's burgeoning economy is still largely based on its land resources (Rabbani, 2015). However, despite this reliance on the land, landowners in Bangladesh do not have the guarantee of title available in other jurisdictions.

Effective land administration systems are recognised as important indicators for investment and economic growth (Subedi, 2016). The systems used to record land ownership and interests therefore should *"promote certainty and … be straightforward"* (Dixon, 2020). However, the current Bangladesh system, which is based on an outdated colonial approach; results in complex, time consuming and, at times, procedurally painful processes that do not adequately protect landowners' title to their land. This lack of protection arises as the land administration system operates through manually operated, paper-based land survey and record keeping processes, which are used both for creating land titles and the recording of land interests. Those processes are operated separately through regionally located land registries (Hossain, 2015). The lack of coordination of processes among those registries results in a bureaucratic tangle, which adversely impacts both the rights of individuals and national economic development in Bangladesh (Hossain, 2015). Separately, it makes land titles more susceptible to fraud and other inappropriate practices, thus depriving many landowners of their rights.

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[1] LLB (Hons), LLM, Master of Legal Science (International and Comparative Law), PhD; Joint Metropolitan Sessions Judge, Chattogram, Bangladesh; Fellow of Higher Education Academy, UK; and Adjunct Faculty Member, Department of Law, Southern University, Bangladesh.

[2] LLB, LLM (TechLaw), SJD; Associate Professor QUT Law, Queensland University of Technology, Brisbane; and Solicitor, Supreme Court of Queensland, Australia.

As Lang observed over three decades ago in the context of the Australian land titling systems: *"*[t]*here is a social demand and a community need for comprehensive, integrated, accurate and guaranteed title and land information systems."* (Lang, 1984, p. 196). The recognition of that demand supported various technological and other reforms that followed, which were implemented *"in order to restore or to substantially improve and maintain the integrity of the* [Australian] *register*[s]*"* (Lang, 1984, p. 196). The need currently facing the Bangladesh land administration system and its users is no less great. Satisfying that need will improve land administration, especially with regard to land titling and the recording and transfer of registered interests; and, in doing so, transform the reality of land ownership and use for individuals by empowering them (Pasquale and Cockfield, 2018). There are various technologies that can enable cost effective land transactions. First, however, title must be guaranteed, which makes adopting a Torrens style titling system now essential.

In other words, the exclusive use of technologies, ignoring the adoption of a developed land titling system such as the Torrens, is unlikely to result in the required land rights protection under an obsolete, complex, and colonial land governance system as exists in Bangladesh. Adoption of any technology will be costly (Yapicioglu and Leshinsky, 2020) and, in any event, likely to be superseded by newer technologies. As such the focus should be on a technology-neutral solution. This paper, therefore, while considering the application of both technologies and the Torrens system important towards developing an efficient land administration system in Bangladesh, will concentrate on *why* the current land administration system should be improved, and *how* a Torrens-style titling system can be used to achieve the goal of supporting landowner's rights.

The paper commences by engaging with relevant literature; and articulating the research methodology. It next identifies the provisions of the Bangladesh Constitution concerning land ownership and transfer, before considering the influence of previous colonial laws in the development of the current land administration system. It then identifies issues arising in the current system, with a specific focus on practices that adversely impact landowners' title, before proposing how these may be overcome. In doing so, the authors consider how a Torrens style titling system supported by easy-to-use technology can both guarantee land titles and enable users of that system. Where necessary, for comparative purposes, the Torrens system engaged with is that of Queensland. The paper concludes by identifying the relevant policy matters to which attention must be given in order to implement effective and efficient change.

Importantly, any technological solution brings with it its own concerns (Moses, 2017). Effective implementation will depend upon the technology capacity of the system; and the skills capacity of the providers' employees and of the system users. This will require the education and upskilling of individuals, and providing those individuals with ongoing support in order to maintain both the necessary technology and users' skills (Cradduck, 2015). The authors contribute to and develop the existing and limited literature directly regarding the land administration system in Bangladesh. The insights gained will be of interest to those seeking a better understanding of Bangladesh land law, as well as to policymakers in similar developing countries.

LITERATURE REVIEW

Land is a fundamental resource for human survival, being a necessity for food, shelter, the resources it provides, and the security it can enable. Concurrently, it is also essential for modern economic development (World Bank, 2007). Over the centuries the human relationship with land has developed from a less interventionalist relationship in the tribal periods, with their more nomadic populations, into the dynamic relationship we see today (Ting *et al.*, 1999). This dynamic relationship requires that there are efficient and effective land management systems, which include those that recognise various land interests, and those that create and transfer those interests. Correspondingly, there is a need for security of tenure for owners and rights' holders, and certainty and ease of use of those systems (Cradduck, 2020). Separately, there also is a need for *"a system for structuring and ordering information about land in the virtual environment to better deliver sustainable land management"* (Bennett *et al.* 2008, p. 126). Technology must be used; *and* that technology must be easy to use for all stakeholders.

Land ownership in particular is a central issue (Moroni, 2018). The protection of land rights is a manifestation of the rule of law that is essential for development activities (Hancock and Dyton, 2016). As observed in the context of developing countries, the *"incompleteness and instability"* of land titling causes high transaction costs that can hamper development *"and reduce the efficiency of resource allocation"* (Wang *et al.*, 2018, p. 281). As Mintah *et al.* (2020) observed regarding the land system in Ghana, a lack of *"security and certainty of title and property rights"* has a negative effect on development in affected areas (Mintah *et al.*, 2020, p. 150). A State can neither run its economy, nor ensure the minimum protection of the rights of its citizens,

without an organised land administration system (Enemark *et al.*, 2005); or without one in which certainty and security of title is assured. An effective land titling system therefore is a core component of an effective land administration system, and an enabler of landownership rights by aiding in the clear identification of landowners and interest holders.

The issue of protecting individual land rights is universal, and one that is now very much tied to technology use. In 1972 the United Nations set out its agenda for sustainable development (Agenda 21). This, *inter alia*, narrated the importance and means of use of science and technology in planning and decision-making for the better survival of human beings on the earth, noting in particular the *"role of the sciences should be to provide information to better enable formulation and selection of environment and development policies in the decision-making process"* (Agenda 21, 1972, Chap. 35.1). More recently, this importance was reinforced in the Sustainable Development Goals 2030 which, *inter alia*, provides that:

> By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance (United Nations, 2015, Goal 1.4).

Essential to an effective land titling system is the appropriate adoption and use of technology as seen, for example, in the *"sophisticated ICT models … in many developed countries"* (Williamson *et al.*, 2010, p. 1). Regrettably, however, many countries have not, or have not been able to, avail themselves of the benefits of technological innovations (World Bank, 2007), which then becomes an obstacle to their effective land use and management (Ekpodessi and Nakamura, 2018). Countries with effective land administration systems more commonly have adopted comprehensive policies and initiatives, and also use technological devices and facilities that make those systems transparent and effective (Zimmermann, 2008; Zakout *et al.*, 2006). That technology ensures that land survey data, and records and recordings of interests, are accurate and current. Conversely, many developing countries do not engage with effective technologies, such as Global Positioning System ('GPS') and Remote Sensing ('RS') systems, and only conduct cadastral surveying manually, which can lead to cadastral maps and records of rights that contain errors and mistakes (Ali *et al.*, 2012). Use of GPS and RS, however, can enable more accurate mapping and maintenance of geometrical land data (Enemark, 2005); and can enable, and more easily manage and share, information with stakeholders (Ali *et al.*, 2014). This also then can be linked to the land titling system, which can assist in ensuring accuracy of its records.

Importantly, land administration systems rely on a country's *"governance environment, the effectiveness of* [its] *state apparatus, and the distribution of* [its] *socio-economic power"* (Deininger and Feder, 2009, p. 39). Where these are lacking, the land administration system will be lacking. One of the most essential tasks in land administration is establishing a fair and efficient system that substantially increases the investment, productivity and protection of land ownership through the process of enhancement of security of tenure (Deininger and Feder, 2009). This requires a speedy and effective land dispute resolution mechanism in order to increase economic growth (URBECON, 2010), which can be enabled and supported by related technologies (Ting *et al.*, 1999). As different and appropriate technological devices and methodologies are applied in land related functions and transactions, *"the quality, cost effectiveness, performance and maintainability"* of the land administration system and land management thus can be better ensured (Aleksić and Lemmen, 2005). However, any choice of technology must be one that is most easily engaged with by the target users (Moses, 2017; Ting *et al.*, 2001), which highlights the need for appropriate planning and design in order to select a platform that can enable all users by its ease of use, as well as ensure *"that the platform is scalable, secure and sustainable"* (Jacobs, 2015, p.3).

Bennett at al., (2012) identified six stimulating drivers necessary to the development of a land administration system. These are *"adherence to international standards by national governments, better federal or central governance, improved shared governance, scale of economies for states, opportunities and savings for business, and social inclusion for citizens"* (Bennett al, 2012). Noting, however, that all drivers do not work smoothly for all counties and, therefore, each needs to specify and aggregate the relevant drivers to be used in developing their own cultural and context specific system. In developing countries, it is also necessary to overcome issues such as systemic corruption and fraudulent practices (Mohiuddin, 2008). While technology can assist by making such practices harder to undertake, (Karim *et al.*, 2011) it is necessary to remember that any technology can be mis-used to facilitate digital versions of real-world corrupt practices (Cradduck, 2020). Therefore, any land management or administration system must incorporate mechanisms to prevent and protect against such practices, in order to *"support establishment of multifunctional information systems incorporating diverse land rights, land use regulations and other useful data"* (Enemark *et al.*, 2005, p. 52).

Williamson *et al.* (2010) proposed ten matters requiring consideration that may help in developing an effective land administration system. These are: proper infrastructure; a land management paradigm; engagement of people within the social and institutional structure of the country; conceptualisation of rights, restrictions and responsibilities; correct identification of each parcel of land, including a correct record and map; continuing evolution of the relationship between land and human beings; the processes of managing changes in land; the use of technology; spatial data infrastructure that help in linking people to information; and the ability to measure the outcome of the land administration system. Categorization of land is key to this process (Bennet *et al.*, 2007).

However, while a 'public land inventory' may categorize different kinds of land and manage them effectively, and thus support the development of an effective land management and administration system in developing countries, (URBECON, 2010) more is required. This is where technology can help, especially with regards to designing, developing and managing the public land inventory. In this way technology designed for one purpose may serve a broader purpose as it enables stakeholders by providing accurate land information and further, as ownership is more clearly and easily identified, dissuades ill-motivated people from seeking to engaged in the illegal use of public or government land.

METHODOLOGY

The research engaged in a legal doctrinal analysis of relevant legal and academic materials. This involved a consideration of materials from Bangladesh and other jurisdictions, including relevant statutes, academic and related writings, and legal case decisions (Minkkinen, 2017; van Hoecke, 2011). Relevant non-legal research material was used to supplement legal materials in accomplishing the doctrinal analysis (Hutchinson, 2015; White, 2009). The research focus being on literature regarding the Bangladesh systems; and how modern technologies could be used to assist in empowering individuals in such a system.

Limitations

The research faced two limitations. The first arose due to the lack of relevant literature regarding the Bangladesh systems. The second arose due to the lack of relevant Bangladesh case decisions. This is caused in part because of the complexity of the current systems, and in part because of the cost and lengthiness of litigation; which means cases can take many years to finalise, if in fact the parties are able to afford to pursue the matters to completion. As required, the research was supplemented by engaging with literature from similarly developed jurisdictions, and or by engaging with non-legal academic papers, reports and studies, as well as newspaper items.

Despite these limitations, this research fills an important gap as it engages with issues that are significant to Bangladesh, as well to as to similar jurisdictions. It also reinforces the importance of modernising land systems and practices, and the need to adopt and use related technologies, to best support and protect all landowners.

LAND RIGHTS UNDER THE BANGLADESH CONSTITUTION

Despite ongoing migration to its big cities, Bangladesh is a village-oriented country, and most of its population, specifically those in rural areas and the poor, depend directly on land and agriculture for their livelihood (Rabbani, 2015). However, while land rights as fundamental rights have been protected and enforceable under the Constitution since independence in 1971 (Islam, 2012), the current land administration system in practice does not provide either the security of tenure, or the ease of use or access, needed to protect landowners.

The constitutionally protected rights include *inter alia*: base level land tenure – the right to acquire and own freehold land; transfer rights – the rights to sell, rent, devise or otherwise deal with that land; and security of tenure – the right to have that ownership assured by a government supported system that prevents land from being taken by another, and provides compensation for any acquisition or taking of that land by the State. Principles of land ownership are regulated by Article 13 of the Bangladesh Constitution, which enables land to be owned privately, or by cooperatives, and or by the State. This provides:

> The people shall own or control the instruments and means of production and distribution, and with this end in view ownership shall assume the following forms –
>
> (a) state ownership, that is ownership by the State on behalf of the people through the creation of an efficient and dynamic nationalised public sector embracing the key sectors of the economy;

(b) co-operative ownership, that is ownership by co-operatives on behalf of their members within such limits as may be prescribed by law; and

(c) private ownership, that is ownership by individuals within such limits as may be prescribed by law.

While the Constitution permits the property rights of individuals to be confined by law (Article 13(c)), these are not absolute. In this regard, Article 42 provides:

> (1) Subject to any restrictions imposed by law, every citizen shall have the right to acquire, hold, transfer or otherwise dispose of property, and no property shall be compulsorily acquired, nationalised or requisitioned save by authority of law.
>
> (2) A law made under clause (1) of this article shall provide for the acquisition, nationalisation or requisition with compensation and shall fix the amount of compensation or specify the principles on which, and the manner in which, the compensation is to be assessed and paid; but no such law shall be called in question in any court on the ground that any provision of the law in respect of such compensation is not adequate. [Emphasis added]

However, while an individual's land rights may be confined by another law, and while the State has the constitutional ability to compulsorily acquire land, constitutional rights still have precedence. In this regard Article 31 provides:

> To enjoy the protection of the law, and to be treated in accordance with law, and only in accordance with law, is the inalienable right of every citizen, wherever he may be, and of every other person for the time being within Bangladesh, and in particular no action detrimental to the life, liberty, body, reputation or property of any person shall be taken except in accordance with law. [Emphasis added]

As other authors note, Article 31 imposes limitations on the power of the Legislature by providing it cannot impose unreasonable restrictions on the exercise of an individual's fundamental property rights (Islam, 2012). For example, the acquisition, nationalization, or requisition of an individual's land is *not* reasonable unless done for a public purpose (Islam, 2012). As seen in the 1963 decision of the Indian Supreme Court in the matter of *Smt. Somawabtu v State of Punjab*, to be a 'public purpose' the purpose must be one that directly and vitally concerns *"the general interest of the community as opposed to the particular interest of individuals"* (p.777). Further, acquisition, nationalization, or requisition of property cannot occur unless carried out with the payment of compensation, although the adequacy (or not) of the compensation to be paid cannot be challenged by the landowner (Article 42(2) Constitution).

However, protecting land rights requires more than merely having an appropriate process established for compulsory acquisition by the State. It necessitates an efficient and effective system of land titling and land management; that these are easily accessed by, and accessible to, its citizenry; and that laws and processes are applied equally and justly to all citizens, not merely those with financial advantages. In the 21st Century, it is essential therefore that land administration systems engage with appropriate and accessible technologies.

Although the Bangladesh Constitution does not include any right of access to technology *per se*, nor specifically enable the use of technology in land management or the protection of land ownership or rights, there are several constitutional provisions which indirectly promote the use of technology. Article 16, for example, which is badged as being for 'rural development and agricultural revolution', provides:

> The State shall adopt effective measures to bring about a radical transformation in the rural areas through the promotion of an agricultural revolution, the provision of rural electrification, the development of cottage and other industries, and the improvement of education, communications and public health, in those areas, so as progressively to remove the disparity in the standards of living between the urban and the rural areas.

Noting the Constitution's Preamble provides *inter alia* that *"it is our sacred duty to safeguard, protect and defend this Constitution and to maintain its supremacy as the embodiment of the will of the people of Bangladesh so that we may prosper in freedom …"*, the adoption and application of technology in protecting and promoting land rights would appear to be essential. Such technology, in the authors' submission, is both constitutionally supported, and necessary for the design of a scientific, developed and rights-based society. However, despite having attained considerable success generally in protecting the land rights of its citizens, Bangladesh has often failed to effectively protect citizens' rights and interests relating to land titling and

transfer. As Hare (2018) identified, the principal causes for this situation arise due to the fact that existing complex land administration systems and titling processes are still dependent upon an approach and procedures developed during its colonial past, and how these can be manipulated. The secondary cause is the lack of Bangladeshi's engagement with available and easily accessible technologies.

THE 'LEGACY' OF COLONIALISM

Prior to independence, Bangladesh was part of what was known as British India, an area comprising what is now Bangladesh, India and Pakistan (Roy and Swamy, 2016; Alim, 2009). At the end of British oversight, Bangladesh then came under the control of Pakistan, which ended after much bloodshed in 1971 (Kundo, 2018). Arguably, however, it was the British influence that had the most detrimental effects.

The British developed a land administration system in the Indian region through two different mechanisms, both designed mainly for the purpose of achieving *"revenue maximization"*; however, neither mechanism *"was decisively better matched to* [the] *Indian social structure"* than the other (Wilson, 2011, p. 1437). These two mechanisms were for 1) setting their own occupation on the land; and 2) for covering the local norms and practices in land administration (World Bank, 2007). A constraining factor to the current promotion and protection of land rights is that, despite having now achieved independence, the Bangladesh land administration system remains based on the British common law legal system that was transplanted to British India during the seventeenth to nineteenth centuries (URBECON, 2010). That system, as does the current Bangladeshi system, relied on a manual method of record keeping, instead of engaging as other countries now do with *"modern concepts, equipment and technology"* (Talukder *et al.*, 2014).

The reality was that *"only revenue-payers*[' tenure] *were consistently recorded;* [and that the] *colonial land laws provided neither clear title nor definitive tenant rights, failings that prompted vast litigation"* (Robins, 2017). The ongoing dependence on outdated and outmoded systems gives rise to confusion and leads to uncertainty and misunderstanding of land ownership and rights (Karim *et al.*, 2011). It also disadvantages the already disadvantaged. The transplanted British system was not then (nor is it now) well equipped for Bangladesh, or for protecting the rights of the least advantaged. This directly affects women, and tribal landowners and occupiers, particularly those who rent rather than own land (Tirthankar and Swamy, 2016).

A further complication of that system was that land ownership management was (and still is) conducted through a complex and lengthy procedure leading to errors and delays, and facilitating corrupt practices, (Kundo, 2018; Alim, 2009). This is a problem also existing in other former colonies where staff at different stages at the land administration department are prone to a number of malpractices, and some landowners are treated unfairly (Chinsinga and Wren-Lewis, 2014). As Burns *et al.* (2007) observed in the context of the similar Indonesian system:

> [The] registers separate rights for ownership, cultivation, building, use, and management. When added to an already complex regulatory system, this creates a concentration of power in numerous points of the process, which increases the potential for "informal fees," discourages participation, and leads to distrust of the formal tenure system (p. 22).

Regrettably, similar issues have prevailed in Bangladesh land administration since the times of British India (Hasan, 2017). That is the practice of illegal gratification or bribes – the 'informal fees' Burns refers to – continues despite the fact that such practices are punishable under Bangladesh law *"with imprisonment ... for a term which may extend to one year, or with fine, or with both"* (s.171E, Penal Code 1860). Such conduct, undertaken as it is by a representative of the State (although very clearly <u>not</u> sanctioned by the State) is a clear infringement of the property rights of the affected landowners (as represented by the owner's loss of money), and reflects the lack of protection of the rights of its citizens.

Bangladesh agencies also often lack internal coordination, which exacerbates issues with the current processes and systems. As other authors have noted, there is much benefit in a clear system of allocation of duties and responsibilities supported by the use of appropriate technology (Zahir *et al.*, 2014). Such a system would enable the delivery of efficient, accurate and timely land related services. Being able to obtain accurate data more quickly would then facilitate the taking of speedier action in land related affairs and litigation, which in turn would strengthen the protection regime of land rights. It also would be consistent with international best practices and obligations. While noting that in 2011 Bangladesh introduced the *Digital Land Management System*, (Thakur *et al*., 2014), it is the authors' submission that the operation of the current systems in practice still does not adequately address nor protect the rights of individuals.

CURRENT ISSUES

Bangladesh land can broadly be categorised into two 'types' — land owned by private individuals and legal entities ('private land'); and land owned and or controlled by the government ('government land'). The authors note as well the customary land practices that can operate, as seen for example in the Chittagong Hill Tracts, and the conflicts this can cause (Salam and Aktar, 2014). A specific consideration of those conflicts, however, is outside the scope of the current discussion.

Issues can arise in the process of allocation of lands to private persons; and then in the dealings with those allocated lands. The courts in Bangladesh decide the title of disputed land on the basis of the Record of Rights, deeds, mutation papers and relevant documents (Mia, 1996). However, the preparation and collection of each document can involve inefficiency, harassment, delay and corruption (Hossain, 2015; Hussain, 1995). This process is also expensive, and the process of litigation to resolve disputes and enforce rights is protracted. The Courts generally are overburdened with more than three million pending cases, a large number of which arise from issues related to land (Karim *et al.*, 2011). A consequence of the current court processes, and the limited number of judges, means that deciding a property suit generally takes many years as the matter progresses through the various Courts, proceeding from trial, through appeal to revision (Haque, 2015). The process of title determination, separately from the court process, also can lead to local conflicts and quarrelling among people (Hossain, 2015).

Government land includes land which has never been used (i.e., fallow land); as well as land that is no longer 'worked' by its 'owner'; land of a person who has died intestate; and land which has been abandoned (Alim, 2009). Under the existing legal and policy regime, the landless and poor people have a level of legal entitlement to use government land, and as such the executive body is duty bound to allocate some land for use by those people (Hasanat, 2015). Further, as declared by the High Court in the *Slum dwellers case* (1992) the provision of housing or shelter is within the meaning of 'right to life' and enforceable under the Constitution. This decision established the principle that landless people or slum dwellers cannot be evicted from government land without being given proper notice, and having alternative arrangements made for their rehabilitation. However, regrettably, many executive allocations of government land are not undertaken in a manner that is consistent with the fundamental aims of the Constitution of a just society having social justice (Constitution, Paragraph 3). Instead, much government land, which could otherwise be made available and utilised by the landless and poor for housing and income, is adversely possessed and enjoyed by those with means.

The offending practices include taking advantage of the benefits of ambiguous land records and creating false deeds for annexing those government lands for private use and benefit (Talukder *et al.*, 2014). To evict an adverse possessor ('squatter') requires a Court order to that effect, however, if in the meantime the squatter has enjoyed the land peacefully for more than 60 years, he acquires its title (*Bangladesh and Others v Md. Abdul Haque*, 2015). A result of the overburdened Judiciary is that significant time can in fact pass before an adjudication of these matters is able to be finalised (TIB, 2015). In the meantime, the squatter, having become established on the land, cannot be removed. In this way a vicious legal complexity continues to the detriment of the general citizenry and the Bangladesh economy (Barakat and Roy, 2004). The reality being that, irrespective of their constitutional rights, landless peoples have limited, if any, access to land or land rights in practice (Herrera, 2016).

Separately, due to the complexities (and defects) of the current survey and recording processes, many people do not get fair access to land ownership and or land service (Sarwar and Jalil, 2017; Hossain, 2015). As the preparation of the Record of Rights and the process of record keeping are carried out conventionally (i.e., on 'hard' or 'paper' copies), this can lead to many title documents being inaccurate and legally defective (Hossain, 2015). As issues of land ownership are determined by the Courts on the basis of the information contained in the Record of Rights, land transfer deeds, mutation documents and the tax receipts, any errors can cause acute problems affecting land ownership and rights (Mia, 1996). The government also does not have an accurate account of all registered government land and private land (Hossain, 2015). A further complication arises from the fact that land titling and management functions are decentralised. These functions are carried out by very different and separate public bodies, which has led to some observers noting the lack of a successful land administration system in part arises due to *"an uncoordinated/disaggregated executive"* (Hossain, 2015).

The maintenance of the Record of Rights is a vital task which has legal, administrative and social implications. The Directorate of Land Records and Survey conducts surveys for the creation of the Record of Rights. This involves: the measurement of the land, and then the drawing of the land-map. In the measurement of land, the *Amin* (measurer), from the Directorate of Land Records and Survey uses a tape or Gunter Chain, which is laid

down along the boundary of the land, in order to calculate the length of that particular land (Karim *et al.*, 2011). This cadastral survey process itself can be affected by human error in the positioning the tape or Gunter Chain, or the in recording of the measurements, as well as by other process issues. While there are legal provisions enabling the checking the calculated data by the landowners – for example the third stage of the making of a *khatian* (administrative document of title) involves providing a draft *khatian* to the landowner and explaining the entries on it to the landowner (Talukder *et al.*, 2014) – many people do not engage in these processes. Their lack of engagement then enables third parties without rights but with means, and desire, to take advantage of errors to gain land or its use for their benefit (Hossain, 2015). A digital land management system, however, could ensure accuracy of data, as surveys undertaken by GPS or RS would enable land maps to be drawn with more precision (Ali *et al.*, 2012).

The other tasks undertaken by the various governmental land administration agencies include: the maintenance of land survey data and updating of the Record of Rights and map (Directorate of Land Records and Survey); the maintenance of the registered deeds and the sending of land transfer notices from the registration office to the office of the Assistant Commissioner (Land) for the purpose of informing the revenue authority (sub-registry deeds offices); and the mutation of land and the collection of different land related tax, revenue and fees (Assistant Commissioner (Land) of the respective sub-district). As these functions are paper-based and carried out manually, this adds to the complexity of land administration and increases the potential for errors and confusion (Nahrin and Rahman, 2009). An administrative system that streamlined these functions and made them more open and accessible, for example for audit purposes, would assist in minimizing issues and the prospect of fraud, and maximizing efficiencies and rights.

Another common occurrence that is enabled by the current system's structure is that it is relatively easy for a person to sell a block of land to more than one buyer at the same time and for all sale deeds to be registered. This practice is possible because it is difficult for a buyer to easily, or quickly, obtain a clear check from the registration office (TIB, 2015). As a result, many purchasers are being deprived of their land ownership (and money); and the number of legal disputes before the country's courts continues to increase (Islam *et al.*, 2015). Other occurrences, such as the making of forged deeds, also cause people to be deprived of their property and rights (Karim, 2011), and separately many rural women continue to be deprived of their rights and title to their inherited lands (Jinnah 2013; Sarwar 2007). In a country where most people are directly dependent on the land for their livelihood and their home, it is essential that the land administration system supports those peoples and upholds their constitutional rights. Effective protection of land rights therefore is essential to the protection of other human rights, such as the right to food and housing. A lack of effective protection of land rights adversely impacts those other rights, and the broader governance system of Bangladesh now and in the future.

TIME FOR CHANGE: FINDING A WAY FORWARD FOR BANGLADESH

What is clear from the literature and current practices is that the Bangladesh land administration system cannot stay as it is – change is necessary. However, as other authors have observed, the path to implementation of any regulatory response to socio-technological changed is not an easy one and as such requires careful management (Moses, 2017). To modernise Bangladesh's land administration system, two matters must be addressed: the first is implementing an appropriate titling system and registry; and the second is the mechanism by which the information in the registry is maintained. Noting that issues with land titling, and government land occupation and use stem from the lack of ability to easily identify landowners and legal occupiers (Shafi and Payne, 2007), the digitalisation of the total land system (Talukder *et al.*, 2014) may help with accurate land surveying, titling, and transferring; and the allocating of land for occupation and use by otherwise landless people. It also may ensure the better protection of the land rights of landowners and the government; and promote and protect human rights. For example, and similar to the experience in India, developing a land management system using block-chain technology may help in better manage the land titling process by preventing fraud (Vinay *et al.*, 2019), as well as provide certainty and security for land titling, and promote increased investment, productivity and better economic outcomes (Deininger and Feder, 2009).

Concurrently, if a complementary Torrens-style system of land titling was adopted, most, if not all, of the maladies identified above would cease to exist, or at the very least would be difficult to engage in; as there would be a(n electronic) trail that could be followed in any court action, and a mechanism for those deprived of their interests to be compensated. While each jurisdiction that has adopted Torrens has done so in a slightly different form, each Torrens system has the same core elements. That is: legal title and legal rights are only gained by registration; the State guarantees title, and the accuracy of the register; and the State provides a mechanism for compensation to interest holders whose registered interests are lost (Cradduck, 2020).

For example, while Australia does not have one land registry, a result of its colonial past, it has achieved a level of consistency of operation as each State and Territory has adopted the Torren's titling system (Edgeworth, 2017), and the fundamentals of each system are the same: the register is absolute (Farah Constructions, 2007; Fraser v Walker, 1967; Breskvar v Wall, 1971). Only a single entry, being that recorded in the register, is required to be searched to evidence land ownership and identify any interests registered against that land, significantly simplifying processes and reducing costs to users (Cradduck, 2020). While the requirement of registration also exists in other systems, in those other systems what is registered is the deed of title, not the legal title itself (Enemark *et al.*, 2005). Importantly, a Torrens titling system is a system of *title by registration* (Cradduck, 2020), and not, as Konashevych (2020) notes regarding civil law systems, a *"system of registration of title"* (Konashevych, 2020, p.120). A Torrens titling system, therefore, is more than merely a mechanism for *"keeping title records"* (Konashevych, 2020, p.125). The effect being that, while a notation in the registers in those other systems may not be conclusive proof of ownership or the other interests recorded, in Torrens a registered interest (in most instances) is absolute (Cradduck, 2020). In this way Torrens removes the need to engage in complex and costly legal assessments of any previous deeds, and other documents to determine ownership or interests affecting the land (Edgeworth, 2017; Lang, 1984).

Another key aspect of Torrens is the redress available to interests holders who are deprived of their interest in the land, whether as an owner or under a lease or a mortgage, which is subject only to certain exceptions (ss.11A, 184 & 185 Land Title Act), a party who has been 'cheated' of their right/interest in land may access compensation from the statutory compensation fund. (s.188 Land Title Act; Hilton v Gray, 2007; Clark, 2011) Commonly, a party is only excluded from the right to claim compensation due to fraud (Gummow, 2020); or, when a lender fails to follow established processes to identify a borrower (Cradduck, 2020). Australian land dealings have moved one step further into the digital realm as the various State land registries are moving to a purely online system of lodgment of dealings and conveyancing (Cradduck, 2020). The underlying premise of Torrens, however, remains the same, and this adoption of technology merely acts to better inform and empower the users of the system and those with interests in land, and to streamline the system (Christensen, 2021).

In 2015 Hossain undertook a detailed study of land in Bangladesh. That study made recommendations for the adoption of an IT based land administration system, digitalization of record keeping, development of a Land Information System (LIS), and implementation of an Alternative Dispute Resolution (ADR) system for speedy disposal of land disputes and land zoning for economic growth and sustainable development (Hossain, 2015). To date, however, most of those recommendations have not been considered in policy and practice. Landowners in Bangladesh continue to suffer from defects and errors made during land surveys, and or in the preparation of the land records and maps, and or from the willful acts of others.

In order to be effective, the implementation of any new technology will require support and input from various stakeholders. These stakeholders will include legal professionals, policy makers, courts and the entities who currently operate the system (Croucher, 2009; Pike, 1961). Additionally, consideration must be given to ensuring effective integration and respect for other laws. For example, inheritance laws in Bangladesh are religious based and very complex (Cultural Atlas, 2019) and therefore will need to be integrated in a sensitive and respectful manner. Concurrently, other issues, such as the need to ensure efficient, accurate, and timely surveying of land will require appropriately trained personnel employed in appropriate numbers. Importantly, such processes also can be supported and enabled by the proper use of technology, which may reduce the complexities and problems of land management and, consequently, the number of disputes.

A digital land management and information system would enable landowners to perform their land related tasks online anywhere at any time as well as enabling the government land offices to provide their required services in a timely and (hopefully) error-free manner. Such a system would improve the security of land data by preventing the tampering with land information and thereby better protect the land rights of the people (Hossain, 2015). Adopting such a system would enable all related work to be undertaken quickly, efficiently, and without any inappropriate interference by third party interests; and would promote and enable the better enjoyment by owners and interest holders of their respective rights. Primary land activities that would be directly benefitted by the adoption of a digital system include those related to the abilities for landowners to sell, lease, exchange, mortgage, and gift their land pursuant to the *Transfer of Property Act 1882;* or under personal laws such as the Mohamedan law. Importantly, while each method has its own procedures that must be followed in order to affect the transfer of ownership, or to grant an interest at law – for example, s.17 of the *Registration Act 1908* specifies a range of documents, which include transfers and certain leases, which must be registered to be legally valid and enforceable – problems can (and do) still arise.

The use of technology can support the development of a strong land administration system; and can further strengthen that system in the *"collection, storage, management and dissemination of land information"*, with the LIS and ICT working together in the better regulating of the land functions (Williamson *et al.*, 2010, p. 8). Similar to the Total Quality Management method proposed by Ali *et al.* (2014), such a system would take into account the operational processes and institutions of, as well as the other factors relevant to, land administration; and quality would be ensured through the processes of inspection of processes and services. Recently, the Bangladesh Land Ministry introduced a digital service system for easily collecting Revisional Survey records, which will assist in determining the possession and ownership of the land and in assessing development tax (Senior Correspondent, 2019). This online service also provides opportunities for submitting online applications for mutation documents, which should assist in the settlement of mutation cases; and allows applicants to pay fees through an online payment system. However, while it is a stated goal that *"the use of this technology should 'reduce the land-related complexities and make the services more transparent"*, regrettably not all lands are incorporated into this system as many records have yet to be uploaded. (Senior Correspondent, 2019). This delay in incorporating records merely serves to exacerbate the existing problems.

Therefore, while the leading policymakers, including the premier, have expressed their commitment to dynamize digitalization processes across all service sectors in Bangladesh, without strengthening the accountability of the country's governance system generally (Aminuzzaman and Khair, 2017; Khan, 2015), and specifically those of land titling, the land sector will continue to suffer from integrity issues (Knox, 2009). It may be that the ultimate land registration system best suited to Bangladesh, as has been seen in other jurisdictions, is a model unique to Bangladesh (Dixon, 2020). Technology too will play an important role in the future in all country's land administration systems. However, while other authors have noted blockchain's potential to assist with land transactions, as, for example, a tool for conveyancing (Garcia-Teruel, 2020) and enabling transparency (Yapicioglu and Leshinsky, 2020), blockchain *per se* cannot solve the underlying issues of the current Bangladesh land administration system. This is because of the current division of responsibilities, and the separation of the registers; and, most importantly, because blockchain lacks fundamental 'Torrens' qualities. That is: blockchain by itself cannot provide a State guarantee of title, nor can it provide a State sponsored statutory assurance fund. It requires 'Torrens' legislation to achieve these results.

It is the authors' position that Torrens provides an appropriate and effective model for the Bangladesh land administration system. Once this system is established, only then should blockchain, and other technologies, be investigated for the processes they can enable. Whatever technology is then used, policymakers will need to ensure robust processes are implemented in order to secure and protect individuals' land rights and interests. In this way that Torrens and technology can best support landowners' rights.

CONCLUSION

Land is a central economic and social resource for any country and regulating and managing land use therefore is a core role of government land policy. At the heart of effective land use and management is the certainty of the individual's rights: to their land, to prevent others from using their land, and to access the legal mechanisms to identify and protect their land rights. Certainty comes from an effective land titling system, which guarantees title and supports an effective land administration system. This certainty currently is not found in Bangladesh.

Land administration systems in developing countries are less effective than those in developed countries due to a wide range of causes related to legal, economic, social, political, and cultural factors. Regrettably, this is seen in the inadequate protections of individual property rights, lack of guaranteed land titles, and the inappropriate practices currently engaged in Bangladesh where the continued reliance on practices implemented during colonial times makes those systems *"inadequate and ineffective"* (Hossain, 2015, p. 22).

The use of modern technologies in all sectors of land administration can improve the condition of individuals as it make the process of identifying and recording land ownership easier and relatively immune from abuse. The underpinning requirement is that all land titles must be guaranteed, so that all landowners are equally and properly protected. This guarantee is provided by a Torrens titling system. Other countries in their land administration have profitably utilised digital technologies to support this purpose, which in turn has positively shaped their social processes and activities. Technology can remove the technical problems arising during the preparation and preservation of various land records and data; can assist in guaranteeing title, by providing security mechanisms as against inappropriate practices; and can enable government agencies in the effective internal coordination of processes and resources, and the courts in the speedy resolution of land disputes.

Bangladesh therefore needs to adopt a comprehensive policy for an effective land administration system considering its specific legal, political, economic, social, cultural, and ecological factors. Core to that policy will be implementing a Torrens style titling system which guarantees all land titles; and adopting appropriate technologies and systems to facilitate land processes at all stages: from title survey and creation, to operation and maintenance of the registers and records. In this manner the Constitutional obligation of protection of property rights for all will be realised.

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Email contact: l.cradduck@qut.edu.au