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The Prospect of Integrated Land Administration and Management System (ILAMS) for Improving Land Related Service Delivery in Bangladesh

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ABSTRACT

The Integrated Land Administration and Management System (ILAMS) is a unified administration of land records, land registration, and land management, which has the potential to align land-related service delivery in a synchronized manner. These three separate service delivery points are required to sync without any mismatching of documents or loss of data. This study has examined the prospect of ILAMS for improving the land administration system of Bangladesh and land-related service delivery. To achieve the objective, relevant secondary data from different sources were used. The land administration of Bangladesh is not efficient, reliable and corruption free, despite the number of initiatives of the government. In addition, records, registration, and management of land are operated through three detached and independent authorities under two different ministries. It creates possibilities of miscoordination and information errors. Registering Property which has been used in Doing Business Ranking is a crucial indicator of economic development and helpful for understanding the business environment of any country. Registering Property consists of six dimensions, which are mutually exclusive and collectively exhaustive. These six dimensions were used for this study to analyze the land administration system of Bangladesh and to explore and establish the prospect of ILAMS. This study however suggests that a single-digitized platform ILAMS can improve land-related delivery in Bangladesh.

Keywords: Land Administration; Land Management; Land Registration; Integrated Land Administration and Management System (ILAMS); Land Services

INTRODUCTION

The ILAMS is a combined platform capable of delivering land-related services from a single channel. In Bangladesh, land records, registration, and management are the three separate service delivery points which are manually and weakly inter-linked. For delivering quality and quick services, service delivery points are required to sync and act simultaneously. These service delivery points are needed the interconnection with

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each-other without any delay. Countries such as the United Kingdom, Netherlands, Germany, New Zealand, Australia, Turkey, and so on have already established modern land administration systems using the latest technology and digital cadastral maps (Williamson et al. 2008). For example, 'kadaster' is an integrated system developed by the Netherlands, which is widely used for delivering land-related services from a single platform (Government of Netherlands 2022). Turkey is using 'takbis' which is an inter-linked land-information system for the cadastral offices and the registry offices which consists of database for land ownership and maps linked together (Poyraz 2020). New Zealand has developed its land information system 'landonline' where property professionals and local councils can search for, lodge and update title dealings and survey data (Government of New Zealand 2022).

Land-related service delivery points are working independently and most of the land services are manual. For digitizing the manual services, several researchers made advancements in designing e-mutation, e-porcha, e-registration and so on. But these are silo systems and are not compatible with each other. Office staff still verifies the documents manually, which is much time consuming and results in delayed or error service delivery. There is a prospect for ILAMS to integrate service points to minimize incompatibilities of the systems and deliver quick and quality services.

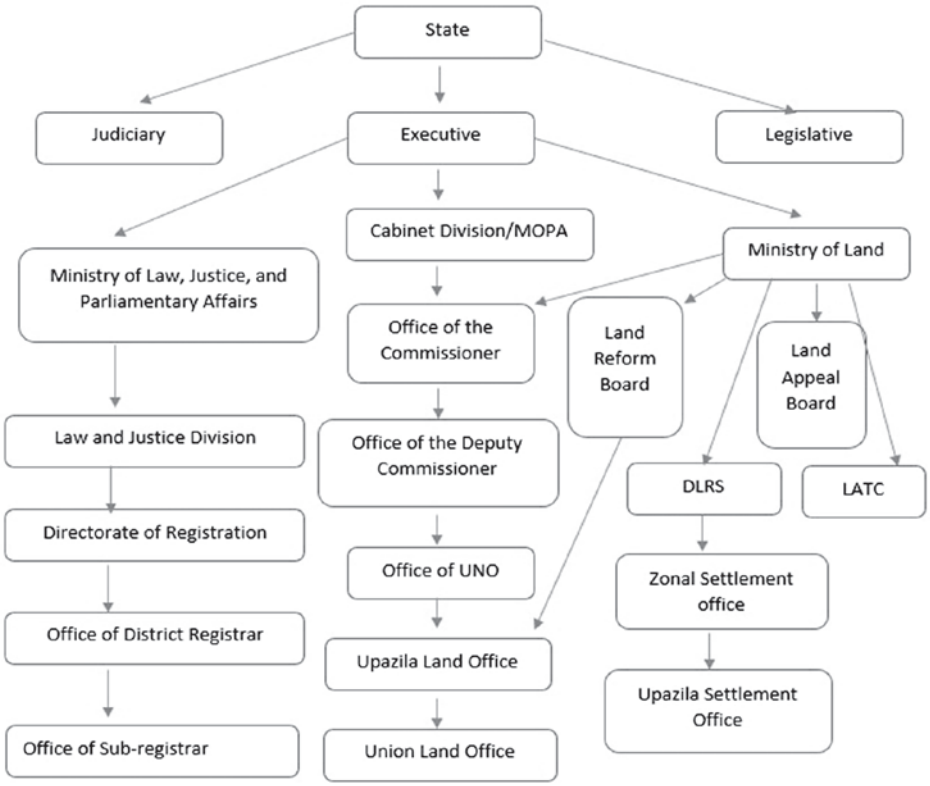
To develop the concept of ILAMS, the study is structured on reviewing secondary data sources such as books, reports, publications, journals, conference proceedings, and so on. In that reference Doing Business Report of the World Bank has been adopted for its wide range of acceptability among academia and professionals. The report's Registering Property describes the number of steps, time, and cost associated with the property registration process and includes five other indices for measuring the quality of land administration. The World Bank is using a set of questions and scores for each of these indices to quantify the quality of land administration. The questions and score are described in detail on Economy Profile Bangladesh: Doing Business 2020. These indices of Registering Property have been used to derive the six dimensions, namely Registration, Reliability of Infrastructure, Transparency of Information, Geographic Coverage, Land Dispute Resolutions, and Equal Access to Property. Which were used as an analytical framework to explain the existing limitations of the land administration. The land administration of Bangladesh has been analyzed through these six dimensions to find out whether ILMAS can address existing limitations of land administration.

REVIEW OF LITERATURE

Vision 2021 and Vision 2041 are guiding different ministries to achieve the targets of being middle-income as well as high-income country, where the Ministry of Land (MOL) is no exception (Alam 2019). In 2008, after the declaration of the first perspective plan of Bangladesh, MOL undertook some initiatives to improve the land

service delivery system such as E-mutation, Land Information System (LIS), Land Zoning, Digital Land Survey (DLS), Digital Land Record Management Systems (DLMS) and so on. Despite these measures, the land service delivery system is still inefficient, corrupt, and unreliable which leads to disputes among landowners (Islam & Lee 2016). Transparency International Bangladesh (TIB) claimed that since the land administration system of Bangladesh is still conventional and outdated, in every step of service delivery, service seekers are forced to pay bribes. These offices are often accused of poor service management, widespread bribery, and below standard service quality (TIB 2015). Longer service delivery time creates loopholes for bribery and third party brokers (Mohiuddin 2008). Bangladesh is taking steps to industrialize and improve the business arena, where land is one of the key factors. Due to poor and complex land service delivery system, it creates bottleneck and businesses are reluctant to invest capital in Bangladesh and thus slowing down the economic activity (Hossain et al. 2018).

The land administration of Bangladesh consists of three different components those are a. Land management b. Land record and survey and c. Land registration. Land management is responsible for preserving and updating records of rights (ROR) and Land registration is responsible for registering the deeds of title change and keeping records of land transactions. Land record and survey is responsible for conducting regular surveys, and preparing ROR and maps. The Directorate of Land Record and Survey (DLRS), Land Reform Board, Land Appeal Board and the Land Administration Training Center (LATC) are working under the direct supervision of MOL, where the Directorate of Land Registration is liable to the Ministry of Law, Justice and Parliamentary Affairs (MoLJPA) (Hasan 2017). The entire system has two-tiers, which are central land administration and field-level land administration. Field-level land administration consists of divisional, district, upazila (sub-district) and union level offices, where central land administration covers ministries and concerned directorates (Hasnat et al. 2018).



DLRS: Directorate of Land Record and Survey; LATC: Land Administration Training Centre; UNO: Upazila Nirbahi Officer; MoPA| Ministry of Public Administration

To improve the efficiency and quality of land administration in Bangladesh, a few researchers have already proposed land administration models such as *Land Information System (LIS)* (Rahman et al. 2009), *Digital Land Management System (DLMS)* (Talukder et al. 2014), *Multi-channel Approach Towards Digitization* (Pereira et al. 2018), and so on. Since these systems are independent, there is a prospect of ILAMS in Bangladesh.

ANALYTICAL FRAMEWORK

The analytical framework for this study has been developed from the World Bank's *Doing Business Report,* which is a widely accepted index that can measure various aspects of business regulations. It considers ten topics of business regulation. Depending on the score of these ten topics it prepares *Ease of Doing Business* score and ranks 190 economies of the world every year (Trading Economics 2020). *The*

Doing Business Reports have been one of the most trusted and reliable sources of information for years for explaining the business-environment. Delivering clear and transparent information about the state of business regulation in the business environment, it helps attracting investment (World Bank 2019). *Registering Property* is one of the ten topics of the *Doing Business Report* of the World Bank. *Registering Property* can reflect the overall effectiveness and quality of land administration of a country and it also gives an idea of how efficient and good quality of land service delivery is. An efficient land administration system can assist in improving the business environment. In support, there are more than 2000 articles that have been published after the launch of the *Doing Business* report showing a positive relation between the *Doing Business* score and Foreign Direct Investment (FDI) and other important indicators (Hossain et al. 2018). In 2019, The World Bank published the *Economic Profile Bangladesh: Doing Business 2020* report (World Bank 2020a). The topic *Registering Property* from *Economy Profile Bangladesh: Doing Business 2020* report has been used to analyze as an analytical framework to evaluate the performance and quality of the system. The six dimensions of *Registering Property* are as follows:

Registration- Procedures, Time, and Cost: This dimension explains the efficiency of the land administration system of a country. Fewer procedures, less time, and cost required for the registration process determine the higher efficiency of land administration.

Reliability of Infrastructure: This dimension measures the infrastructural capacity of land administration of a country with a score of eight points. It includes six components.

Transparency of Information: Transparency of Information determines how much information regarding land records, land transfer, and land ownership is publicly available and accessible. This dimension is one of the criteria that can measure the quality of land administration with a score of six points.

Geographic Coverage: This dimension shows how much area of privately-owned land of a country is formally mapped and registered. This dimension includes eight points to consider.

Land Dispute Resolutions: Land Dispute Resolutions determine the strength to address land dispute issues. This dimension covers the legal structure of a country to solve land disputes. There is a score of eight points for this dimension.

Equal Access to Property: This dimension determines the rights to acquire the property. The maximum point for this dimension is zero and the minimum point is minus two.

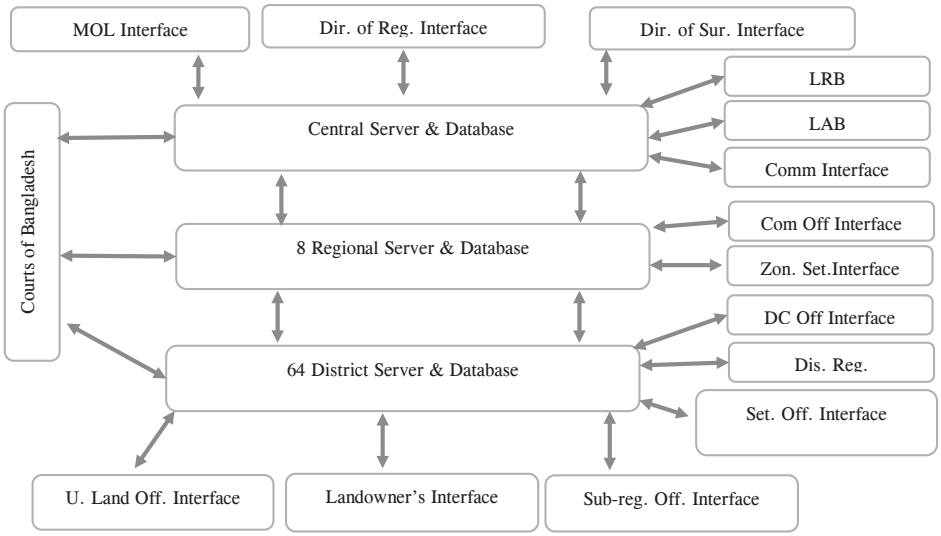
An analytical framework has been drawn to test whether ILAMS can fit for land administration of Bangladesh. Now the following section explains the conceptual development of ILAMS.

CONCEPTUAL DESIGN OF ILAMS

To modernize the land administration and management system and increase the efficacy, efficiency, and affordability of government services, ILAMS is a comprehensive system (Williamson et al. 2008). Here, the concept of ILAMS has developed on a web-based online integration of field-level land offices with their concerned headquarters. ILAMS requires a digitalized version of ROR, database, and software with necessary interfaces (Kralisch et al. 2011). The concept of ILAMS includes technologies such as an Automatic Digital Archive for Land Registration and Records (Toaha & Khan 2008); a Web-based Land Management System for Bangladesh (Choudhury et al. 2011); and a Land Information System (LIS) (Rahman et al. 2009) for developing digital ROR and preparing required database. Private companies can be involved in conducting the Cadastral Survey (CS) and mapping with modern technologies like Geographic Information System (GIS), Satellite Navigation System or Global Positioning System (GPS) as Japan does for mapping (GSI 2020).

ILAMS requires four components for successful completion of the conceptual design (World Bank 2020b). The first component consists of designing a diagram of the system as well as workflows of individual land office to simplify the service delivery process, to save associated costs and time and to enhance the quality of the services. The second component of ILAMS covers the digitization of existing ROR and Balaam Register compatible with ILAMS and to conduct new CS with high accuracy. This component is challenging as hundreds of thousands of records are kept in old and thick paper-based registers. Making these records into digital format can be time-consuming and prone to errors. The third component is to develop digital infrastructure for both central and field-level land offices. Establishing databases at every district, region, and capital with a necessary backup plan and making customized software for website interfaces is essential. It is also necessary to ensure sufficient security and privacy for the whole system. The fourth component is associated with project management, public awareness training, and staff training. This component can prepare a Project Implementation Unit responsible for financial functions and monitoring and evaluation. Arrangement of training and workshops for concerned office staff can improve the required knowledge about the system. Meetings, leaflet distribution, and advertisement broadcasting can be the way to improve public awareness. A successful combination of these four components can ensure the proper implementation of ILAMS.

ILAMS has two major parts: data server and web-based interfaces. Each land-office has its web-based interface and has access to the database according to job responsibilities. Server and database design are derived from the concept of the Multi-channel Approach Towards Digitizing the Land Management and are accepted for ILAMS with slight modifications. Workflow designs of the field-level land offices are mentioned in the following figures and these figures are designed following the job responsibility of the field-level land offices and the concept of Land Information system (LIS). The conceptual design of ILAMS is taken from the following designs and modified for the need of the overall architecture of ILAMS.



MOL	The Ministry of Land	Dir. of Reg.	The Directorate of Registration
LRB	The Land Reform Board	Dir. of Sur.	The Directorate of Survey and Settlement
LAB	The Land Appeal Board	Com. Off.	The Office of Commissioner
Zon. Set.	Office of the Zonal Settlement Officer	DC off	The Office of Deputy Commissioner
Dis.Reg.	Office of the District Registrar	U. Land off	Upazila Land office
Sub-reg. off	Office of Sub-registrar	Set. Off.	Upazila Settlement Office

Figure 1: Conceptual Workflow Diagram of ILAMS

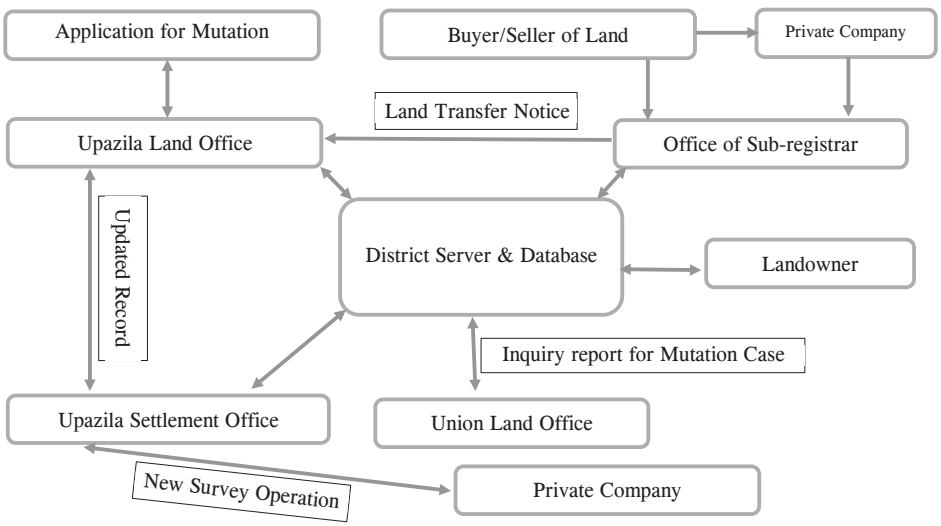


Figure 2: Conceptual Workflow of District Server

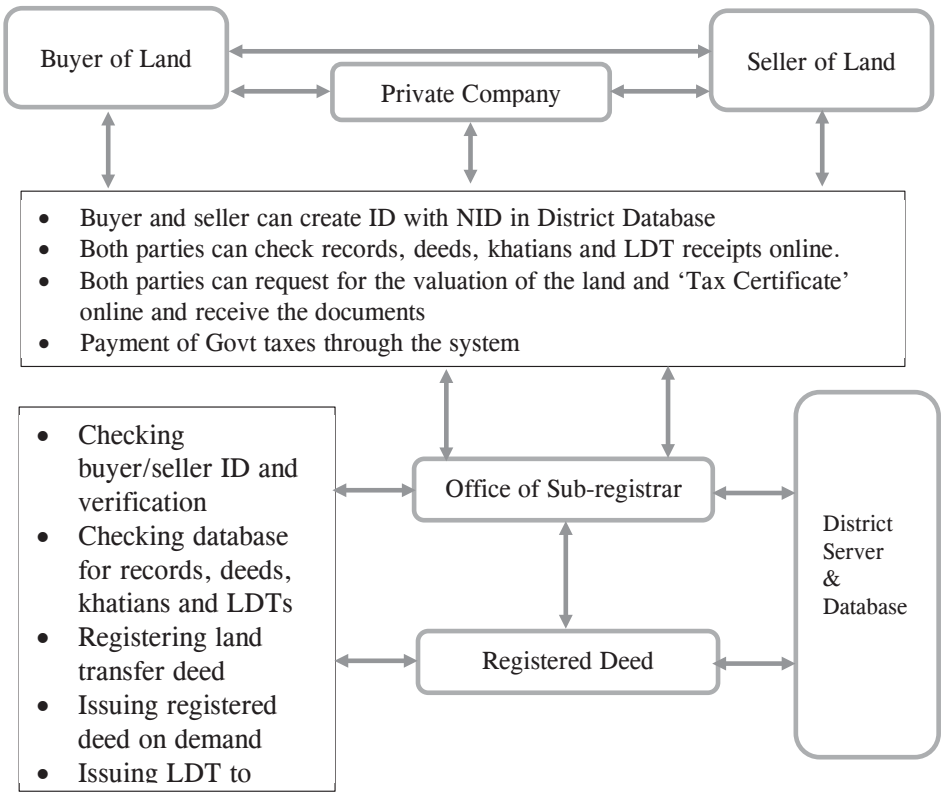


Figure 3: Conceptual Workflow of Office of Sub-registrar

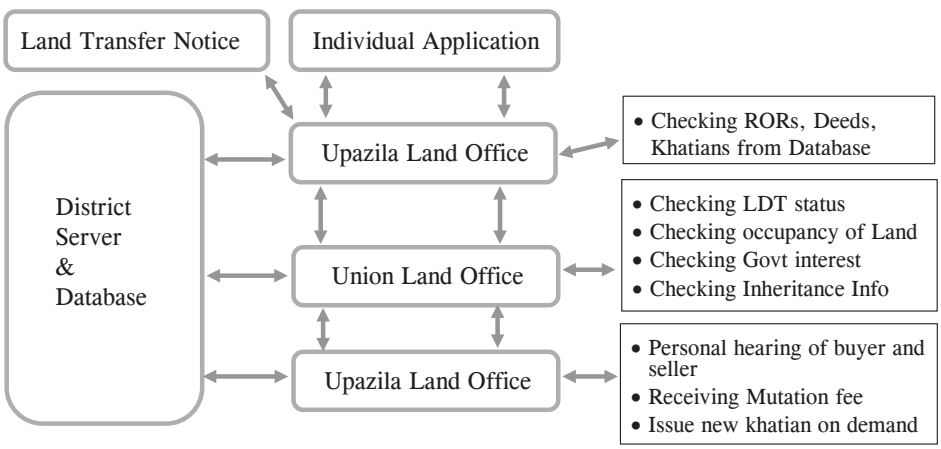


Figure 4: Workflow of Upazila & Union Land Office

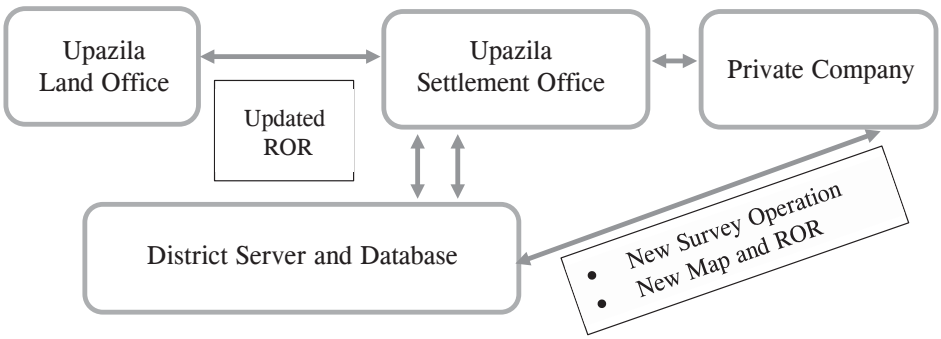


Figure 5: Conceptual Workflow of Upazila Settlement Office

The concept of ILAMS has been explained by the above workflow design. ILAMS is also required to fit in with the questionnaire which is set for Registering Property. In the following section, ILAMS is scored through the dimensions of Registering Property to test whether the system is feasible for Bangladesh land administration.

FINDINGS

This study has focused on the comparative analysis of ILAMS and the existing land administration through the dimensions of Registering Property to find whether ILAMS can bring any positive changes. Following tables are derived from the Registering Property of Doing Business Report. Questions and set points are arranged sequentially.

Dimension-a: *Registration-procedure, time, and cost*

Step	Steps	Time (Day)	Cost	Visit
1	Verifying the existing Khatian (ROR) from the central database	01	No charge	No visit
2	Meeting with 'Agent' for documentation or documentation by himself (paying taxes, collect previous records, deeds, non-encumbrance and prepare new deeds)	01	7-11% of property cost + agent fee (if necessary)	1
3	Apply for registration at the relevant Office of Sub-registrar	01	Paid in step 3	1
4	Conduct mutation to alter the title at the AC (Land) & Tahsil office	10	1170 BDT	1

Source: World Bank (2020a) & modified by author

Dimension-b: *Reliability of Infrastructure*

Answer for ILAMS	Set Score	ILMAS Score
1. ILAMS stores a digitalized version of ROR in server and database rather than paper format.	2	2
2. The system has a complete database of land records, it is possible to check for encumbrances like liens, mortgages, restrictions, and so on.	1	1
3. ILAMS conducts a new Cadastral Survey to store the digital maps and it can transform all the previous maps from paper format to digital format.	2	2
4. The system incorporates Geographic Information System (GIS) in its system	1	1
5. It is designed to store recorded information in a single but linked database.	1	0.5
6. Since ILAMS is a single platform for delivering all land services, it will use the same identification number.	1	1
Total six questions	8	7.5

Source: World Bank (2020a) & modified by author

Dimension-c: *Transparency of Information*

Answer for ILAMS	Set Score	ILAMS Score
1. ILAMS provides all information on land ownership from its database to any citizen.	1.0	1.0
2. Concern land offices can publish the list of documents online through ILAMS and offline on the office notice board.	0.5	0.5
3. Applicable fee required to property registration is publicly available.	0.5	0.5
4. A particular timeframe can be set according to the existing law of Bangladesh.	0.5	0.5
5. It is possible to file a complaint against the decision of a responsible officer to his/her appellate authority.	1	1
6. ILAMS itself can track the number of transactions of land transfers and it can be synchronized with official statistics.	0.5	0.5
7. Anyone with an Internet connection can have access to maps of land.	0.5	0.5
8. Digital maps are publicly available online.	0.5	0.5

9. It is possible to set a timeframe to provide a revised cadastral plan.	0.5	0.5
10. Any plaintiff can file complaints to the appellate authority of the cadastral or mapping agency against any service delivered.	0.5	0.5
Total ten questions	6	6

Source: World Bank (2020a) & modified by author

Dimension-d: *Geographic Coverage*

Answer for ILAMS	Set Score	ILMAS Score
1. After the successful completion of ILAMS, it is possible to formally register all private-land plots in digital format.	2	2
2. Successful completion of ILAMS can ensure the registration of all private-land plots in the economy.	2	2
3. All private-land plots in the cities can be digitally mapped and stored in the server.	2	2
4. All private-land plots in the economy will be digitally mapped and stored in the server.	2	2
Four questions	8	8

Source: World Bank (2020a) & modified by author

Dimension-e: *Land Dispute Resolution*

Answer for ILAMS	Set Score	ILMAS Score
1. According to "*The Registration Act, 1908"* it is required that all the land transactions will be registered at the Office of Sub-registrar.	1.5	1.5
2. Registration of land property gives guarantee of land ownership whether it is the state or privately owned. ILAMS can check the transaction of state- and privately-owned land transactions.	0.5	0.5
3. The system stores all digital information, but in case of erroneous information provided to the parties, ILAMS can recommend MOL for the out-of-court reimbursement mechanism to minimize losses experienced by both parties.	0.5	0
4. The judicial system requires control of the legality of the documents necessary for a land transaction.	0.5	0.5

5. The judicial system needs confirmation of the identity of both parties to a land transaction and ILAMS requires NID and other identification for land transfer.	0.5	0.5
6. ILAMS can recommend MOL to sync its database with the database of the Bangladesh Bureau of Statistics.	1	0
7. Supreme Court as well as the lower Court at the district level can have access to the server hence drastically reduce the time to get a judgment from the first-instance court for a case.	>3yr=0 >2yr=1 >1yr=2 <1yr=3	3
8. The system can show statistics of land disputes at first instance court since ILAMS can track information on appeals and complaints to any appellate authority or court.	0.5	0.5
Eight questions	8	6.5

Source: World Bank (2020a) & modified by author

Dimension-f: *Equal Access to Property Right*

Answer for ILAMS	Set Point	ILMAS Score
1. The Constitution of Bangladesh permits every citizen to have equal titleship to the land property. ILAMS will incorporate the existing laws of Bangladesh	-1	0
2. Every citizen of Bangladesh enjoys equal ownership rights to the land property.	-1	0
Two questions	-2	0

Source: World Bank (2020a) & modified by author

Every citizen of Bangladesh enjoys equal ownership rights to hold property. This table indicates that Bangladesh is in a good position in this index.

ILAMS and Existing System of Land Administration

Proposed ILAMS has complete advantages over the existing system of Bangladesh. ILAMS can improve the six dimensions of Registering Property perfectly. Table 6 shows the comparative advantages of ILAMS over the existing system.

Dimensions	**Set Score**	**Existing System**	**ILAMS** (Change)
Dimension-a		Time: 264 days Cost: 2490 BDT + Lawyers fee+ 7.1% of property Cost, Steps: 8	Time: 14 days Cost: 1170 BDT+agent fee (if necessary) 7.1% of property Cost, Steps: 4
Dimension-b	8	0	7.5 (+7.5)
Dimension-c	6	3.5	6 (+2.5)
Dimension-d	8	0	8 (+8)
Dimension-e	8	3	6.5 (+3.5)
Dimension-f	-2	0	0 (0)
Total		**6.5**	**28 (+21.5)**

From the above discussion, it has been undeniably found that, to improve the land administration system of Bangladesh, ILAMS has more advantages over the existing land administration system.

CONCLUSION

The existing land administration system of Bangladesh has several limitations and loopholes which lead to delays in land service delivery and open-up up corruption and malfeasance. Poor management of infrastructural, legal, organizational, and financial capacity and lack of trained and skilled human resources have made the overall land administration system of Bangladesh as one of the weak land administration systems in the world (Khan 2022). This study identified several reasons behind the existing problems of land administration while discussing six dimensions of Registering Property. From these dimensions, it becomes obvious that the system is not efficient since the number of procedures, time and cost required for land registration are high in comparison to its neighboring countries as well as the developing countries. Bangladesh is still delivering land services using a manual or semi-digitized system, whereas it is necessary to establish a combined database for land records, maps, and land transaction records to smooth the land service delivery process. Accessibility to land information and land dispute resolution mechanisms are still under-developed. Bangladesh is moving forward to be a middle-income country, if the land administration system is not improved, it will create a bottleneck for the development process.

The efficient and excellent quality land administration systems of a few countries such as Turkey, the Netherlands, Japan, and the United Kingdom are using integrated land administration systems for delivering land services. These excellent features of these systems have been considered to propose ILAMS for Bangladesh. The concept and characteristics of ILAMS have been analyzed with the six dimensions of Registering Property to test whether ILAMS can overcome the existing limitations, where ILAMS can not only integrate the land service delivery processes to minimize

the number of procedures, cost and time but also can digitize all land records to bring transparency and accountability. The study favors the designing and development of ILAMS for land administration in Bangladesh to improve the land service delivery process. The government of Bangladesh and MOL should take the necessary steps to implement ILAMS to improve the land management system and enable a quick and quality land service delivery.

LIMITATIONS

The study has described only the concept of ILAMS for Bangladesh where very little literature has been found to work on. The lack of any empirical data is another weak point of this study and additional investigation can be done. Some researchers argue on the credibility of the 'Doing Business' and the latest report is two years old. But still it is a good source to quantify the quality of any land administration of the world. Other models could have been used to quantify. The concept of ILAMS is comparatively new in Bangladesh and there is wide scope for further studies.

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