

## A Quarter of a Century Experience in the Eritrean Cadastral Office

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**Key words:** cadastral/land registration, Eritrean Cadastre, security of ownership/right, achievements of the Cadastral Office, FIG's inspiring impacts

### ABSTRACT

The Eritrean Cadastre was initially established with the sole objective of guaranteeing security of property ownership. It existed for more than a century without any change of purpose and procedures. The focus of registration remained urban property and some rural commercial agriculture. It was voluntary, lacking national or definite geographical coverage. However, in 1997, a Registration Law was proclaimed introducing mandatory registration. But, so far it has not been enforced due various constraints.

The Notary Public, with the main purpose of contracting agreements of transactions of immovable property accompanied the Cadastral Office along its entire existence. The Cadastre Office and the Notary Public coexisted and worked in close collaboration, both of them experiencing difficult periods and attempts at their elimination during the 1970s. However, thanks to the intervention of enlightened elderly Eritreans that approached the colonial administration's Minister of Housing Development elaborating their importance and benefits, they narrowly survived as institutions.

In the post-independence (since 1991) journey, although with plenty of critical challenges, the Cadastral Office made tireless attempt to reform and develop the cadastral system. And despite the many constraints, it has undeniably registered modest developments.

This paper attempts to show the gradual transformative achievements the Office has undergone during the past quarter of a century towards becoming a modern multi-purpose institution in the country. The vital roles which the Cadastre Office played in securing ownership and rights over property are briefly discussed. The ongoing introduction of new technology and adoption of new systems, the tenets of the Eritrean Registration Law of property, and the pilot study conducted to assess the scope of coverage of property registration so far are presented. The enlightening immense contributions made by the FIG platforms in impacting changes in the Eritrean Cadastre through sharing of experiences are duly acknowledged.

# **A Quarter of a Century Experience in the Eritrean Cadastral Office**

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## **1. BIRTH OF CADASTRE TO LEGALIZE EXPROPRIATED LAND BY ITALIANS**

The Cadastral Office in Eritrea was born during the Italian colonial administration, in the port city of Massawa before moving to Asmara in April 1902. Although the Italian Cadastre and land registry systems were influenced by the French, Napoleonic Cadastre that was adopted by many European countries for the purpose of taxation (Larson, 1996, p. 16), the objective of its cadastral system in Eritrea was to guarantee secure ownership of property for Italian settlers. The Eritrean cadastre and land registry system was integrated in one office.

The Eritrean Cadastre system was based on administrative division of land into parcels, having maps and records, indicating land plot, parcel, owner, area, boundaries and number of rooms built. To fulfill its mandate, it was organized autonomously under the High Court. The registration system was manually carried out and confined mainly to urban areas and some rural parts where land was allocated to Italian settlers' plantations.

The Eritrean Notary Public came into existence alongside with the cadastral system and at the beginning, colonial administration governors were responsible for appointing the Notary Public. In 1935, it was reinforced by Italian Proclamation NO. 1649 that continued to apply until 1956, when a revised law was introduced. According to this revised law, the power to determine the number of public notaries to be licensed, the criteria for competence, withdrawal of license etc. was accorded to the Judiciary. The Notary Public and the Cadastral Office worked hand in hand in the registration of property transactions. In the course of their history there was an unfortunate moment when, the Ethiopian colonial military administration in the 1970s attempted to eliminate them as institutions (Weldegiorgis, 2012, p. 2).

## **2. PRE AND POST INDEPENDENCE CADASTRE SYSTEM**

### **2.1 Pre-independence Cadastre System**

The Eritrean Notary Public and the Cadastral Office continued enunciated until the end of 1995. Since 1996 the Notary Public has been instituted only under one regional administration, Zoba Maekel, while it remains to be absent in the other five regions. The recently appointed Notary is a lay notary, without any prior education or experience in civil law. This means that Eritrea has deviated from its more than a century professional notary experience to a 'lay' notary, similar to that of the USA.

Documents must be authentic before they become legally effective. The Eritrean Notary Public plays the role of an agent for the authentication of contract agreement in the transfer of immovable

property, prepares the paper work of agreement, registers title- deeds and sends them to the Cadastral Office for title registration and issuance of a certificate of ownership. The deed is a record of contract of a particular transaction – purchase, inheritance, donation, partition, etc. - that serves as specific entitlement. It is similar to other countries’ ‘real estate agent’, but unlike in many other countries, the Eritrean Notary Public prepares all paper work related to contract of the transacting parties. The Cadastral Office registers buildings that had physical plan and habitation license for the main urban centers and properly surveyed land for commercial agriculture.

It is recalled that during the Ethiopian military junta, all houses considered in excess of the needs of the owner were nationalized. In addition, as thousands of Eritreans joined the armed struggle for liberation or fled to other countries to escape arrest, torture or execution, their property changed ownership through either close relative to evade expropriation or through fraud by individuals by presenting falsified evidence to the Administration of the ‘kebelie’ and being approved by the Community Courts at that time. It was indeed unfortunate moment where legal owners lost protection of property. All these painful and illegal practices endangered the main mandate of the cadastre: guaranteeing security of property ownership. Because of nationalization, the construction industry had come almost to standstill, as all extra-houses, small and large, were subject to expropriation by the state rendering registration of private houses unnecessary.

The registration system was all the way repetitive. It registered an immovable property many times by giving different registration identification number for every transaction. The records were also bound in the form of books, firstly when the number of immovable properties registered reached 100, but later it was changed to 50 for convenience’s sake. This system of keeping records was unsystematic in tracing the history and status of property and owner, as immovable properties changed hands through transactions and were kept in different binds. In this way, the Cadastral Office continued for over a century, but without any qualitative change in its purpose and procedures.

## **2.1 Post-independence period**

Cadastre is an up-to-date land information system based on a division of land into parcels. It provides information of rights (ownership, usufruct, lease etc.), transactions of ownership and right, mortgages, pledges, etc. The lease period varies from country to country, in Eritrea, for instance, it is up to 60 years, whereas in many other countries it extends even up to 999 years. According to the Land Law, the Eritrean lease can be renewed upon the agreement of the two parties. All land in Eritrea is state owned.

The Eritrean Cadastre Office was organized under the Ministry of Justice until August 1999. At that time, it had only five staff members. By the end of that month, the Office was handed over to the Ministry of Land, Water and Environment, constituted firstly as a division and from 2003 as a department. This transfer was deemed necessary to ensure its autonomous function as a guardian of land related resources, rather than a judicial server. But still, the intended autonomous formation is not realized to the desired level.

Until 2006 the registration of property of the whole country was carried out in the Central Office, Asmara. But, remotely situated from the clients was not compatible with the declared compulsory registration. This necessitates the opening of regional registration offices closer to the clients. Hence, regional offices, with the status of unit were established beginning from 2006 in the seats of the five regional administrations of the country (the Southern Red Sea Region is still not functional). The zonal offices were later upgraded to divisions. Although these regional cadastral offices are overseen by the regional director general of the Department of Land and Agriculture, they receive technical work directives directly from the central Cadastral Office.

In the old archive system, it was found that an immovable property which was transferred 17 times was registered with 17 different registration Id numbers, exaggerating the number of registered immovable property. The old registration system began from 00001 and reached 64,235 providing property Id consecutively without making distinction between the provinces (now regions). There was also the use of a general number that includes the sum of the last registration Id of the property, mortgage, pledge and/or the release of property. For example, a registration number 64,235/105,314 on 10 May 2006, where the first is property Id number and the second is the general number. This old way of record system contradicts with the modern registering and archiving systems. This has now been reformed, based on modern system of property Id and the geographic Zip Code of the country.

The Cadastral Office revised and reformed the registration system, without negating old works similar to the practices of other countries that have developed cadastral systems, such as Sweden, Finland, etc. The legacy of traditional, manual and repetitive system of registration continued up to May 2006, until a registration system based on the country's division into Zip Codes for the six administrative regions was introduced. The registration system introduced a non-repetitive identification number representing each regional administration. And this is a lesson learnt from others best practices, what land professionals call "progressive cadastre" (Larson, 1996, p. 145, in Weldegiorgis 2012, p. 15) that does not negate old works, but continues developing the cadastre system further when the required human and technological capacities are met. All immovable property owners who had already registered their property were accordingly called to renew their registration and get a new title of certificate. Through this approach, it has been made possible to transform the repetitive registration system into a systematic one.

### **3. THE ROLE OF REGISTRATION LAW IN PROPERTY REGISTRATION**

On Liberation (May 1991), Eritrea inherited critical constraints to development: the physical, social, and institutional infrastructures of the country were severely dismantled by the war and negligent policies of successive colonial regimes. In addition, human capital development was curtailed and the technological foundation of a modernizing economy devastated by natural and man-made disasters (GoE, 1994, pp. 2-8, in Weldegiorgis 2012, p. 11). In brief, the economy was left in utter destruction imposing immense challenges for survival and development. The evolution of the Cadastral Office was also negatively impacted.

However, the Cadastral Office continued functioning and despite the difficulties, it served as the main supporter and reliable source of evidence providing immovable property security in the

Housing Commission's process of verification of property ownership. The Housing Commission was established in early 1992 to verify and ascertain ownership and to return the nationalized houses and property to their rightful owners. The nationalized houses of the Italian settlers in Eritrea had already been compensated in early 1980s, by the Italian government according to agreement signed between the Ethiopian and Italian governments.

In 1994, the state of Eritrea declared its land policy to ensure equitable access on land allocation in its Macro- Policy document. The rationale behind this is to correct what experiences showed that failure to develop equitable land policies and practices had been and remain to be the primary cause of poverty, inequality and political instability (UCL. 1998, p. 36, in Weldegiorgis 2012, p. 14). The Eritrean land policy was followed by Proclamation Number 58/1994 - a Proclamation to reform the System of Land Tenure in Eritrea, to determine the Manner of Expropriating Land for Purposes of Development and National Reconstruction, and to determine the Powers and Duties of the Land Commission, later the Land Department of the Ministry of Land, Water and Environment. Land law, is a means for implementing land policies, providing definitions and rules regarding the nature of land tenure and connected property rights. The main features of the Eritrean Land Law are as follow:

All land is owned by the state; Eritrean citizens (>18 years) in principle have equal right to *tiesha* land (residence plot in village); farm land is allocated on usufruct basis for households whose livelihoods depend on farming; usufruct rights are given for life-time of the individual and offspring are given preference in the reallocation after the death of the usufruct holder parent; leaseholds are provided for housing, commercial, and other social services; and women have equal rights to land as men (Weldegiorgis, 2012, p. 7).

Eritrean women have assured their rights through long struggle for liberation. It has to be noted that during the 30 years' War of Liberation, 30% of the Eritrean Liberation Army were women.

### **3.1 The Need for Land Registration**

Land is a precious resource that needs proper management, treating land information as a shared resource. But, to ensure proper management of land and its resources, all land and other immovable property built on land need to be documented. Registration of land and other immovable property plays a vital role in ascertaining people's right to land. In 1997, the Registration Law NO. 95/1997 was issued declaring a mandatory registration. A law is "all the rules established by authority or custom for regulating the behaviour of members of a community or country (Crowther, 1995, p. 667, in Weldegiorgis, 2019, p. 5). In other words, it is a set of enforced rules that govern a society or institution and an essential social institution: necessary for society, institutions, governments and persons to create harmony, stability and sustainability. Modern cadastre needs not only laws, rules and regulations that guide its work to ensure the rule of law, but also integrated textual and spatial data, mapping and surveying tools, as well as systems which are coherent with land administration, flexible and more future oriented.

Authors differ on the merits and limitations of mandatory registration depending on objective conditions. Larson (1996, p. 80, in Weldegiorgis 2019, p. 6) advocates that registration of property

should be mandatory and systematic to provide the necessary cadastral benefits. However, Zevenberg et al (2013, p. 9, in Weldegiorgis 2019, p. 6) argues that despite its approach's weakness in management of land and its resources, sporadic registration is ideal when resources are limited. This could be useful when available resources don't permit to enforce mandatory registration. But, the development of modern cadastre and proper management of land and its resources should aspire for mandatory registration as a must that has to be done. Despite the proclaimed mandatory registration, in practice Eritrea's registration system largely remains sporadic.

Similar to many European and some other countries, the cadastre system is closely linked with the land registry; although it lacks close integration with the land administration system. It is unable to effectively support the 'basic land management paradigm' what Enemark (2003, p.6) refers the 'infrastructure for running the interrelated systems of land tenure, land value, land use and development'. This prescribes to the need for the modern cadastre and land administration system in Eritrea to be integrated to meet overall policy objectives.

### **3.2 Mandate and Functions of the Cadastral Office**

The main principles of the Eritrean Registration Law and functions of the Cadastral Office can be summarized as follows, majorly quoted from Weldegiorgis (2012, p.7):

- Register all land, rights over land, duties that emanate from such rights, and the transfer of property through sale, donation, succession or other means.
- As necessary register all '*tiesha*' land (land allotted to villagers for residence), agricultural usufruct, leasehold, land utilized and unutilized by the state.
- Give reliable information on transfer of immovable property for any encumbrances, mortgage, pledge and their release by charging appropriate service fee.
- Register right holders of land together with immovable property erected over it.
- Transfer of legally encumbered or mortgaged property shall not be registered.
- Any transfer of immovable property not registered instantly may be presented for registration by the transferee within a time of two months from the execution of the legal instrument. Where the period of limitation expires without good reason, a penalty of 20% shall be charged monthly over the original service fee and the transferee shall be liable to punishment according to articles 428 and 758 of the penal code.
- Designate Eritrea as one registration district, or as many as may be necessary; establish registration districts, open and consolidate registries and issue directives pertaining to the administration and supervision of the registration districts. The Cadastral Office opted to establish regional registration offices in regional seats and other major cities and towns.

The Registration Law provides the Cadastral Office with the necessary legal authority or mandate of regulations and directives. It has been working according to the Law. However, due to inadequate human and institutional capacities compulsory registration has not been enforced. In addition, the Notary Public offices are not re-instated outside the Central Region (Maekel), and thus the transfer of immovable property not registered instantly are not being compelled to observe the two months limit to present transfers to the Cadastre Office for registration.

## **4. PRESENT STATE OF THE ERITREAN CADASTRE**

The present Eritrean Cadastre Office, in addition to securing property ownership and use right over land, registers immovable property (other than land) provides statistical data for management, facilitates access to credit from banks through mortgaging registered property, reduces land disputes and workload for the courts, simplifies conveyance of property transactions, improves property management, etc. (Weldegiorgis, 2009, p. 10). The Notary Public has the responsibilities of authentication of contract agreement and related documents in order to ensure secure transfer of immovable property.

The cadastral system is based on the division of land into plots and parcels, having surveyed maps and records of relativity rather than coordinates of geographic position. The Cadastral Office registers buildings that have physical plan and building license for the main urban centres and surveyed land parcels allotted for commercial agriculture in the rural areas. The registered immovable property has land records related to ownership/right, area, plot number and address.

The cadastral system has a unique parcel identifier that includes textual and geometric data and title registration of land use right and ownership of immovable property erected on land. The Eritrean cadastral concept is rooted in the Cadastral Office's mission, 'to protect and guarantee security of immovable property ownership and use-rights over land'. In fulfilling its mission, the Cadastral Office strives to inculcate a culture of team-working, equity, transparency, integrity, sovereignty of law, and professionalism as guiding work principles (Weldegiorgis, 2023, p.2). The nature of duty demands the adherence to such prestigious values in the discharge of its mission. Its aspiration is to develop modern cadastre with a vision of 'make registration of immovable property speedy and easier for all clients' where clients' satisfaction is fully realized.

The cadastral Office registers all land, rights over land and duties that emanate from such rights, other immovable property erected over land, provides information of rights - ownership, usufruct, lease and other related processes. Today, data contained in the cadastre include survey plan showing property identifier, address, location, land use, land and building area, building date and type, building purpose and license, boundaries, etc.; proprietorship data such as owners or right holders name, address, id number, spouse name, date of purchase, vendor's name, address, etc.; and encumbrances such as mortgage, pledge and their release, etc. (Weldegiorgis, 2012, p.8).

Registration of houses built without proper plan is also given some attention. This approach to land administration uses the Social Tenure Domain Model and is flexible, inclusive, affordable, and upgradeable whenever conditions are ripe (GIM International, 2015, pp.22-24). Through this approach, registering unplanned houses, land purchased illegally from right holders (land sale is illegal in Eritrea) and houses built on it without proper plan and permit was introduced at the beginning of 2016. A 'Temporary Certificate' of registration was provided with the intention of recognizing of its present existence and providing proper certificate when it is upgraded and given building license at later stages. The issuance of proper certificates to those who fulfilled the required formalities started since 2022.

#### **4.1 Processing Registration**

In the primary registration, a building is verified in the Department of Infrastructure (Technical Office) for compliance with the approved plan and after being given habitation license, it is sent

to the Cadastral Office accompanied by other relevant documents for title registration. As in other countries, stamp duty and registration fees are set for primary registration, transactions, mortgages, pledges and other cadastral services (Weldegiorgis, 2009, p. 7). The stamp duty and registration fee vary from country to country; for example, compared to many African countries, the Eritrean fee was very nominal, despite the fact that revisions were made. But, in 2018, a revised and reformed, value-based system was introduced, ranging from 0.50 up to 30.00 USD for immovable property built on land, and 30-130 USD for an irrigated commercial agriculture, depending on size of land.

**4.2. Comparison with other Countries’ Experience**

Countries, such as U.A.E., Rwanda, Mauritius, Brazil, Morocco, Vietnam, Turkey, China, India, Botswana, etc. (World Bank Group, 2019) have made property registration easier by simplifying registration formalities, reducing time for processing and registration, reducing transaction tax payment and registration fee, and increasing transparency in land administration. As shown in Table 1, in countries with low transference costs, such as Singapore, Rwanda, Kazakhstan, Azerbaijan, U.A.E., Slovak Republic, etc., the time for registration process is less than 16.5 days, and their world registering property rank is high, having excellent performance.

In comparison, countries like Syria, Cameroon, South Sudan, Belgium, Namibia, Gabon, Nigeria and Cyprus have transfer costs of more than 10.3% of the property value and the days for property transfer is relatively high and their world ranking is low, having unsatisfactory performance. The transfer cost of transactions of immovable property in Eritrea is 9% of the property value which is relatively higher than many African and most of the world countries. This suggests that the Eritrean transfer costs as well as the overall registration process by complementary institutions need to be revised and reformed. The World Bank found that in an average African country and many others formal transfer costs are high and the time is long, and because of this many transactions go informally.

Examples of countries with low and high transfer costs, and relative world rankings of ease in registering property are presented below:

Low transfer cost less than 1% of property value				High transfer cost more than 9.7%			
Country	Transfer cost %	Time for registration (days)	Register property rank	Country	Transfer cost %	Time for registration (days)	Register property rank
Belarus	0.0	3	5	Syria	28	48	157
Singapore	0.0	16.5	9	Cameroon	18.7	81	176
Slovak Republic	0.0	16.5	9	South Sudan	14.6	48	179
Azerbaijan	0.1	5.5	17	Namibia	13.8	44	174

Rwanda	0.1	7	2	Malta	13.4	15	151
Kazakhstan	0.1	3.5	18	Belgium	12.7	56	143
UAE	0.2	1.5	7	Gabon	11.5	102	178
Poland	0.3	33	41	Nigeria	11.3	92	184
Mauritius	0.6	17	35	Cyprus	10.3	9	94
Vietnam	0.6	53.5	60	Sierra Leone	10.7	56	167

Table 1 Adapted from World Bank Group Doing Business (2019) and modified by the Author: It shows ranking according to fees levied against property value from lowest to highest order in the low transfer cost and the reverse order in the high transfer cost charging countries.

## 5. RECENT ACHIEVEMENTS OF THE ERITREAN CADASTRAL OFFICE

In August 1999, the number of staff members was 5. By 2023, the total number has increased 15-fold, reaching 75. Notwithstanding this big quantitative change in personnel, the qualitative change in proficiency is not commensurate. The increase in the size of staff alone does not respond to the professional needs. Only very few among the recruited addition workers are professionals in the information technology and record management units.

The Cadastral Office embarked upon the transformation of the old manual registration system to digital system (except for the spatial part). Database program, having relevant information of the parcel and owners/right holders has been developed. The procurement of scanners, computers and server has been accomplished. The scanning, digitizing and uploading on to the database of the old cadastral records, with utmost relevance was initiated at the beginning of 2024. So far more than 11,600 immovable properties (25,747 documents) have been scanned, digitized and integrated. In addition, 15,214 records of immovable properties have been identified for the purpose of scanning and digitizing.

The traditional record keeping system that kept repetitive registration records has been transformed into progressive record keeping system. The old records which were bound into books of 100 and 50 entries are now transformed to non-repetitive numbering systems based on the unique parcel-based identifier codes assigned for each regional administration. As noted earlier, a recent study showed that a house transferred 17 times was each time given a different new reference Id number. This process, which exaggerated the number of immovable properties registered, has been abandoned and a new permanent reference base number assigned for each property. This un-repetitive parcel Id policy is based on the provision of unique id number for a property.

The service charge payments for property registration and other services were previously near zero. In 2000, it was revised and upgraded arbitrarily, without any justifiable basis to about 75.00 ERN (15.00 ERN is equivalent to USD 1.00). In 2007, it was again revised and scaled upward, ranging from USD 1.00 for services of providing information on status of property, to about USD 6.00 for mortgage and USD 10.00 for title registration, etc. But, thanks to the inspiring experiences gained from participating in FIG's forums, this arbitrary service charge fee began in 2018 to be based on type and size of building, and varies from about USD 16.00-33.00. In commercial agriculture, without going into further details of fertility, distance from roads, cities, town, etc., size of plot was

taken into account with upper limit of USD 133.00. This value-based service charge system is expected to enable the Cadastral Office to become financially self-reliant and sustainably to grow.

In order to build institutional capacity, job descriptions were prepared for every staff and task. Standardized registration templates and work guidelines have been introduced nation-wide. Cadastral literatures have also been translated from books, research papers on cadastre and notary systems into Tigrigna, one of the working Eritrean local languages, to enhance staff development. For the sake of our international readers, Cadastral Template 2.0 for Eritrea has been produced in collaboration with the Department of Land; although it is incomplete and needs revision and updating (Weldegiorgis, 2023, p. 3).

Urban land is one of the most valuable economic and social resources for which relevant information is sought. A survey study on the number of buildings built in urban and semi-urban cities and towns, since the independence of Eritrea was initiated in 2019 in collaboration with the six regional administrations and other government institutions. The study was completed in 2020, although with some short-comings. As the number of urban houses built in pre-independence times has been known through the report of houses verified by the Housing Commission, the study indicated the total number of houses awaiting registration. The number of houses built with proper plan in cities and towns during the 34 years post-independence period is reported to be 69,541.

A pilot study to assess the status of registration of immovable property was conducted in the capital city of Asmara, from mid-July until mid-August 2022. The main purpose of the study was to know buildings with and without plan, registered and unregistered and thus to plan for registering the unregistered ones. In the study, buildings with proper plan and legal basis were identified. The identification of unregistered buildings and exact owners and addresses helped the Cadastral Office to contact and motivate owners to register their immovable property, reminding them of the consequences of failing to do so.

The pilot study initiative has relieved people from worrying about penalty of not registering property, benefitted from information provided to them in person during the study. The Cadastral Office has also gained useful information on the caseload of unregistered buildings in Asmara. A similar study may be needed for other cities, towns and semi urban areas of the country. The initiative taken by the Cadastral Office to conduct the pilot study has been innovative and rewarding.

The study involved the deployment of 230 college graduates. The service which they rendered is considered as part of fulfillment of their college community service requirement. Proper orientation was provided to them, as well as to the cadastral and sub-regions' administrative staffs. The college graduates were assigned to the 13 sub-regions of the city. They were deployed in their respective districts of residence and thus no transportation requirement or costs were involved. In each sub-region, a staff from the Cadastral Office was assigned to closely monitor and a division director for every four sub-regions to coordinate the study. The director general of the Cadastre Office was also involved in closely supervising and actively leading the overall study. There were six working days in a week, each sub-region was reviewing its work on a daily basis, and evaluating the overall study on a weekly basis in the presence of the directors and Director General. In the study, the collaboration of the regional and sub-regional administrations was commendable.

The limitations of the study include: closed houses whose owners were missed because they travelled or live abroad and their documents could not be accessed, study teams not leaving call messages, etc. Because of these limitations, the time for reporting to the Central Cadastral Office was extended, firstly to 30<sup>th</sup> September and finally to the end of December 2022. By the end of December, the status of registration of 35,494 units of houses was reported by owners, delegates or associates and 3,644 remained un-reported. In the study, 887 houses were found built unplanned and illegally.

The construction of illegal and unplanned houses continued unabated. Informal settlements develop when people are poor or unable to save money or don't have access to credit to purchase a house or are ineligible to get government support through low-cost housing programs (Ebra et al, 2012, in Weldegiorgis 2019, p. 9). This could be also true when government does not allocate from the state-owned land parcels for residence, or scarcity of construction materials.

The final study result showed that 76.3% of the reported planned houses are registered. The details of the un-reported units of houses have been submitted to the Regional Administration so that the property owners would be invited to their respective sub-regional offices to report the status of their property by presenting relevant documents. The Cadastral Office will continue to complete the study in collaboration with the sub-regional administrations of the city.

## **6. FIG'S INSPIRING IMPACT ON THE ERITREAN CADASTRE**

In 1998, the writer was appointed director and in 2003 promoted to director general of the Eritrean Cadastral Office. The Cadastral Office was under the Ministry of Justice until the end of August 1999. At that time, the writer had no idea or prior exposure to the concept of cadastre. To manage and develop such a conventional cadastre to modern one without any prior knowledge of the field was a formidable task to undertake. But luckily, he got an opportunity to participate a short course on Cadastral Information System (1998) in Gavle, Sweden. It was an eye opener which provided him with a glimpse to the vast subject.

To upgrade his knowledge, he was persistently searching on websites about cadastral systems and printed out materials that seemed to him relevant. It was through this exercise that he was able to contact and apply to participate at the FIG Working Week 2009 in Eilat, Israel. He prepared a peer-reviewed paper entitled, 'The Cadastral System in Eritrea: Practice, Constraints and Prospects'. This event proved to be a fantastic opportunity that changed his career in the field of cadastre. The contacts made at the Working Weeks opened him new doors. In the same year he was able to participate at the Cambridge Conference: The Exchange Conference Ordnance Survey, Winchester, U.K. At these conferences, he was not only equipped with valuable contacts but also with a range of information, knowledge and learning experiences.

Ever since he became fortunate to be able to participate in several FIG Working Weeks, he has taken advantage of every single opportunity to advance his personal competence and to build a cadastral institution in Eritrea. He brought home books and other literature from senior heads of cadastral organizations world-wide on important concepts and techniques that were discussed and shared. He benefitted from these global cadastral communities and became acquainted, broadened and deepened his knowledge with new cadastral approaches and concepts. He was really exposed to a

world class of experts, learned first-hand insights from these seasoned professionals, learnt from other countries experiences and best practices on cadastral systems, and developed personal networks and friendships on the field.

He realized the importance of LIS that has nation-wide coverage for sustainable management of land and its resources. Accurate and comprehensive data enables management at various levels to undertake well-informed decisions. Taking these lessons, the Cadastre Office is trying its best to register land and other immovable property and digitizing available data. The cadastral system that worked manually has been developed to a computerized database, although the spatial data is yet to be integrated with the textual data. The cadastral system shall, in the meantime gradually develop to full digital cadastre. We are developing our cadastral system while embracing the old works, learning from others' best practice of 'progressive cadastre'.

This 'progressive cadastre' can be rapidly applied, upgraded and improved to conventional standards as resources and political support allow. Through fair registration fee and relatively fast and transparent registration process, we are endeavoring to ensure client satisfaction. The necessity of integrating cadastre and land administration systems is well-understood; however, its implementation to a great extent depends on time, policy and capacity development of other government institutions that have a stake in the field.

In addition, the importance of geo-spatial data and geo-spatial planning for management at various levels is well-conceptualized from learning through FIG and communicating directly with renowned professionals in the world. The writer found the concepts of Cadastre 2014 and 2034 impressive at conceptual levels, but these are not current Eritrea's priorities. Cadastre 2014, for example, advocates survey accuracy and is modeled for the developed world ignoring the needs of the developing world where cadastral coverage is only about 30%. In such circumstances, where conventional cadastres become obsolete, the 'Fit-for- purpose Cadastre' where general boundaries are used becomes more appropriate.

The 'fit-for-purpose' approach to land administration that uses the Social Tenure Domain Model (STDM), for example, is applicable to unplanned houses, land purchased informally from right holders (land sale is illegal in Eritrea). The registration of houses built or dwelling houses without proper plan and permit was introduced at the beginning of 2016.

Moreover, addressing the issue of sustainable cadastre is of paramount importance. The Eritrean service charge fee was arbitrary. Since 2000 onwards attempts have been made to improve service charge fee arbitrarily. In 2018, for the first time, a service charge regime based on the value system that could contribute towards institutional sustainability was introduced. The writer's participation in FIG's Working Week 2009 was an eye opening; the contact made at this Conference enabled him to participate in the Cambridge Conference: The Exchange (2009). In this Conference valuable experience on the value system was gained from the tour made to the Land Registry at Portsmouth.

Furthermore, capacity development of the staff is of high priority and at the core of a cadastral system. For this purpose, various printed materials of FIG served as bases for training the cadastre staff. The documents have been translated to local language and serves as reference and text handouts. This includes cadastre and its importance, development of cadastral systems, what global cadastres at work look like, 'Cadastre, a Land Information System', records management, notary

public and its importance, etc. Cadastral Template 2.0 for Eritrea was prepared, but needs to be revised and upgraded. In short, we have developed a clear vision of where we are, what gaps we have, and where and how to go forward, irrespective of the challenges facing.

Finally, the peer-review papers the writer prepared to FIG Congresses were learning grounds that broadened his knowledge and research skills on the field. This experience has enabled him to orient and lead a cadastral system that has shown modest progress. Although there is a long way to develop modern cadastre, a basis for environmentally sustainable resource development, the writer believes that Eritrea's cadastre system is moving on the right track.

In short, FIG's purposeful intent to take everyone on board and leave no one behind has been amply shown in what it enabled the writer to participate in Conferences, covering registration fees and many times travel and accommodation costs. It would otherwise, not have been possible for the Eritrean cadastre to make such modest progress. This is why the writer has been thrilled to stay on course with FIG and its efforts.

## **7. CONCLUDING REMARKS**

The development of modern cadastre is not a choice, but a must for countries whose desire is to ensure sustainable development of their land and the built environment. Success heavily depends on human and institutional capacity development, utilization of cadastral technology, protection of land and other immovable property rights, enhancing fast and efficient transfer of rights and ownership (Weldegiorgis, 2023, p. 5).

Successful development of modern cadastre heavily depends on sound, pragmatic policy directives, on human and institutional capacity development, utilization of modern cadastral technology. Modern cadastre rewards in the long-term through its contribution to proper management of land and the built environment and through this approach to environmentally sustainable development. Hence, to overcome its present challenges, as noted in Weldegiorgis (2023, p. 6), the Cadastral Office deserves serious commitment from higher government entities.

## **8. THE WAY FORWARD**

There is inadequate human resource, in terms of size and professional expertise, cadastral technology and institutional capacity. As a result, modern cadastre system has not developed and tens of thousands of properties remain un-registered nation-wide. We at the Cadastre Office in Eritrea have realized that human and institutional capacity development is basic to the development of sustainable modern cadastre. This is not a choice but a must that should be done.

Absence of notary public outside Maekel Region is a factor constraining the process of property transfer in secure way. Government due revenues are not collected on time. The transfer of immovable property not registered instantly that has to be presented for registration by the transferee within the specified time of two months has not also been enforced. This critical issue needs serious

considerations for its resolution and thus re-instating public notary offices in the five remaining regional administrations is today of high priority more than ever before.

There are also inadequate funds for training and procurement of equipment that needs serious consideration at higher authority levels. Well-designed computer technology and know-how provides good opportunities for automation of cadastres with better access to information, quality, security and more cost-effective.

In addition, the development of cadastral institution has been constrained by the absence of local learning institutions that provide relevant integrated cadastral education. The Cadastre Office has prepared and forwarded a course outline proposal to the Board of National Institution of Higher Education and Research and has received a positive response. However, its implementation has been delayed. Raising public awareness on cadastral benefits also remains of paramount importance.

Moreover, cadastral surveying work is vital in the development of cadastral/land registry system. It needs an agency or institution for control, coordination and standardization. Standardization is a requirement in the development of surveying and cadastral works, computer networking and data exchange. Furthermore, government surveying institutions lack the capacity to survey the built houses, in approving if they are built according to plan. To ease the burden of surveying and planning works, re-instating private surveying institutions deems necessary. Through this approach, and an agency or institution with a mandate of control, coordination and standardization, the cadastral surveying and planning work could be facilitated in carrying out registration of property.

Finally, cadastre as a parcel-based and up-to-date land information system consists of the textual and spatial data. The integration of these two is essential for modern cadastre. Hence, close cooperation and networking - like those of other countries' best practices cadastral systems, between the cadastral and surveying technical offices becomes a necessity for the development of modern cadastre.

## **9. ACKNOWLEDGEMENT**

This paper, edited by long-time scholastic friend, Mr. Teklemicael Weldegiorgis, deserves my thanks.

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## **BIOGRAPHICAL NOTES**

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