



# XXVI FIG CONGRESS

6-11 May 2018, Istanbul



## CADASTRAL DATA INFRASTRUCTURE BUILDING STRATEGY IN DELTA STATE OF NIGERIA

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**Key words: Cadastral Data Infrastructure; Building Strategy and Cadastre.**

### 1. SUMMARY:

The Cadastral Data Infrastructure (CDI) in Delta State of Nigeria is rudimentary. A good CDI is a veritable linkage for Modern Land Administration; Good Governance and Sustainability. Objectives of this paper are:

1. To examine the present state of CDI.
2. To show the necessity for a Modern CDI.
3. To identify the challenges and how to overcome them.
4. To showcase the strategy for building CDI.
5. To link up CDI with Modern Land Administration; Good Governance and Sustainability for Poverty Eradication.

### 2. INTRODUCTION:

Cadastral Data Infrastructure in Delta State of Nigeria can be easily presented as follows:

- Positioning Infrastructure.
- General Land Data Coordination Infrastructure.
- Institutional Linkage Infrastructure.

Cadastral Data is a composite part of Geospatial Data, to ensure that the needed geospatial information is readily available in the form, scale and required standard and accuracy, there is need to have an infrastructure, which facilitates the acquisition, processing, presentation and sharing of geoinformation among different users. This Infrastructure is generally referred to as Geospatial Data Infrastructure (GDI). According to Igbokwe (2002) citing Groot (1998) and Igbokwe (2010) citing Harris Report on National Geospatial Data Infrastructure (NGDI) (2009), Geospatial Infrastructure is defined as the: "collection of technologies, policies and standards and institutional arrangements that facilitate the acquisition, processing, storage, distribution, sharing and improvement of the utilization of geospatial data from many different sources and for a wide group of potential users and providers within all levels of government, commercial sector, non – profit sector, academia and the citizens in general"

Nigeria as a country with Delta State as a FEDERATING UNIT has already commenced the implementation of a National Geospatial Data Infrastructure. The apex coordinating Agency is the National Space Research and Development Agency (NASDRA) , Abuja. To ensure successful implementation of the NGDI project in Nigeria, a draft National Geoinformation Policy (NGP) was developed. (Igbokwe 2011) in the "Contemporary Issues in Surveying and Geoinformatics" Edited by F. A. Fajemirokun (2011)

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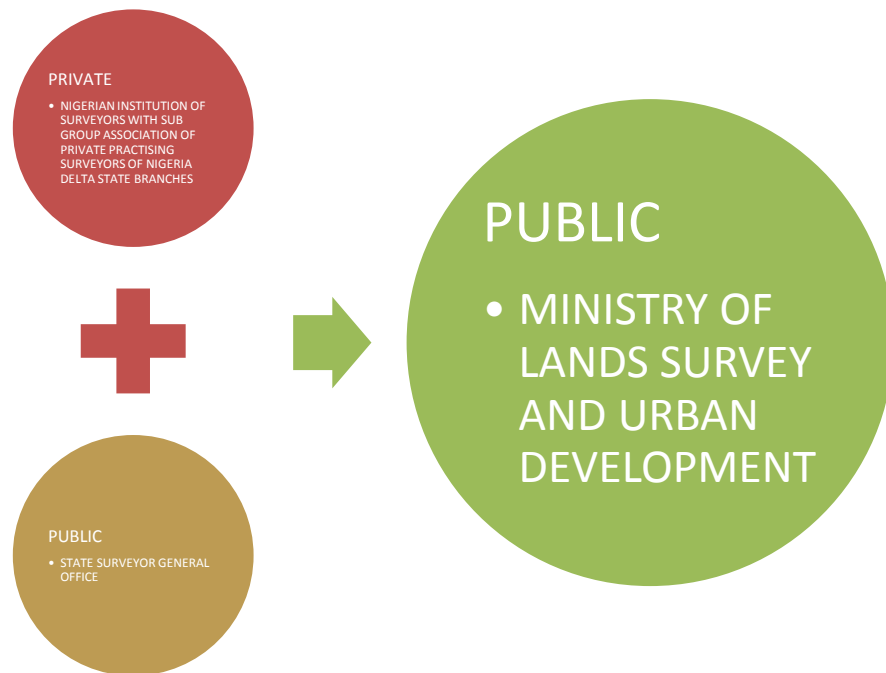




### 3. OBJECTIVES

In Delta State of Nigeria of 2018; CDI as expected to be modern, institutional and efficient for good Land Administration to enhance good governance sustainability and public accountability. Presently CDI has no institutional framework for standards and policies. The expected data sharing, integration and compatibility are lacking with negative impact on good governance. At the backdrop of this backwardness; On the 31st of March 2016, Delta State Government came up with a policy of FASTTRACK 90 guaranteed Certificate of Occupancy processing in 90days. The policy was more political than institutional for any positive gains for good Land Administration. The necessity for a working Modern CDI became glaring and the need for the stakeholders in Cadastral Survey Industry to work out a strategy for building CDI.

The challenges for building CDI in Delta State was purely bureaucratic corruption and lack of political transparency. Land Administration in the state is domicile in the Ministry of Lands, Survey and Urban Development (MLSUD) with contending bureaucratic problems. Management of Data without any working Database; purely Manual Paperworks with no defined plans and policies for capacity building and open land administration. According to Williamson et al, (2010), The usual barriers include the need for fundamental institutional change, the huge capital cost and lack of understanding by the political powers that be. To overcome these barriers; we have to take building CDI out of the Public Domain into Private Sector and in form of SUPPORTS AND AIDS brought back to Public Sector in a symbiotic ways.



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**Figure 1: The Symbiotic Building Strategy for the Delta State CDI Building.**

To link up CDI with Modern Land Administration; Good Governance and Sustainability for Poverty Eradication is lucidly captured as edited by Steudler, (2014) in FIG Publication Number 61: that, Land Administration Systems – whether highly advanced or very basic – required a large scale spatial framework to operate. This framework, or large scale mapping, should identify the spatial units such as land parcels as a basis for dealing with the land administration functions such as recordation of legal and social tenure; assessment of land value and taxation; identification of current land use; planning for future land use and development; delivery of utility services; and administration and protection of natural resources.

## 4. CADASTRAL DATA INFRASTRUCTURES

4.1 **Positioning:** Survey Beacons and Positions in xyz framework is not readily available due to cost and poor political will to invest in Infrastructures. Cadastral Survey and Data are presently based on scattered and not collated Survey Beacons. The beacons where available are usually not IN SITU due to general poor public awareness on the importance and cost of placing Survey Control Beacons. Cadastral Survey Data Acquisition are popularly done using handheld GPS with little or no reference to the existing controls. See Figure 2 below.

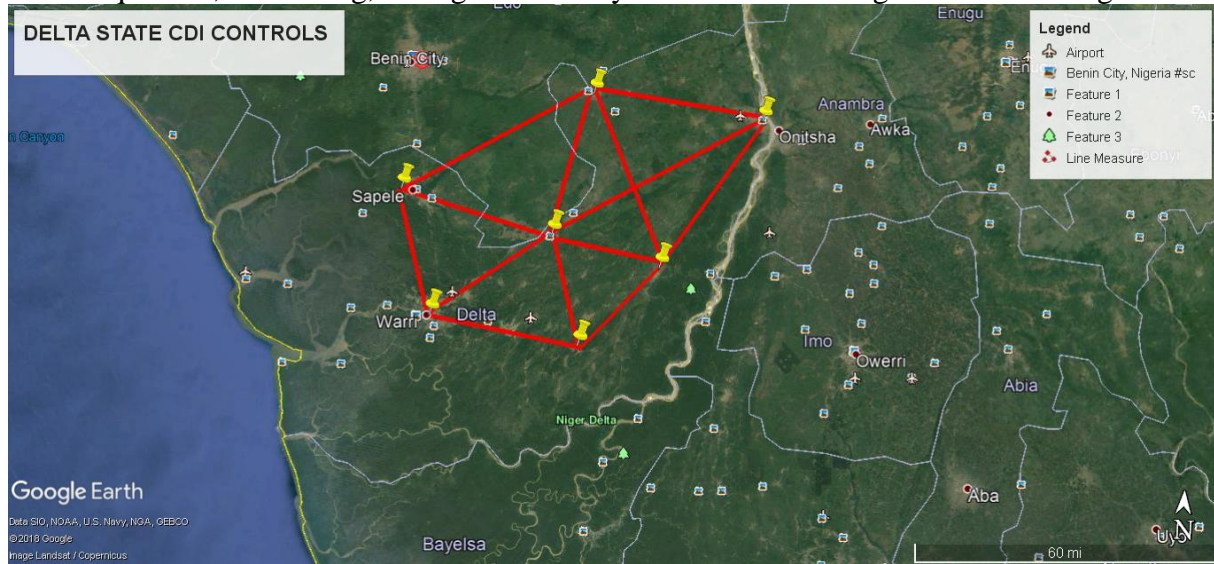


**Figure 2: A Hand held GPS on a Cadastral Survey Beacon.**

To build POSITIONING INFRASTRUCTURE is to get Primary Controls for the state as shown in Figure 3 hereunder. COR Stations will be of future investment, but practically we



have planned to use DGPS RTK using the primary controls as unified reference for Cadastral Data Acquisitions, Processing, Storage and Utility for further Planning and Land Management.



**Figure 3: Showing CDI for Controls, Positioning and Cadastral Survey Unified Coordination in Delta State of Nigeria.**

**4.2 Cadastral Data Coordination Infrastructure:** Coordination of Cadastral Data relies on digitizing and database using computer – aided design (CAD) Systems to assist surveying. The arrival of GIS gave data coordination a high lift up for good silo institutions bulding in form of infrastructure. We are far from SILO INSTITUTIONAL DATA INFRASTRUCTURE; data are still file based and manual. However, we need to build infrastructure that can facilitate sharing and integrate data while guaaranteeing the delivery of both information and services. Williamson et al, (2010).

S/N	COORDINATION INFRASTRUCTURES	PAST (1990s)	PRESENT (2000s)	FUTURE (2025)
1.	MANUAL	HIGH	RELATIVELY HIGH	E-CADASTRE
2.	COMPUTER	LOWEST	LOW	HIGHER
3.	GIS	NON	NON	HIGHER
4.	WEB BASED	NON	NON	HIGHER
5.	CADASTRE LINKS	MANUAL BUT HIGH	LOW	E-CADASTRE
6.	GOOD LAND ADMIN	MANUAL BUT HIGH	LOW	E-GOVERNMENT
7.	CAPACITY BUILDING	HIGH	LOW	HIGHER

**Table 1: Showing the outlay our past, present and futures.**



We need to have a database that will warehouse all cadastral data as produced and presented on Parcels Cadastral Survey Plans and Maps. Using GIS and available technology like what is obtainable in Rivers State of Nigeria presently using [www.mysurveyplan.com](http://www.mysurveyplan.com).

**4.3 Institutional Linkage:** In the past when Cadastral Data Infrastructure was basically manual and file system; linkage was effective and existing. It was slow but efficient and strong. Now, the linkage is weak and kleptocratic. As Williamson et al (2010) presented: The arrival of the Internet required each land administration agency or department or ministry to enable at least some web access to its data, and eventually to convert the processes to digital, interactive systems, known globally as e-land. These changes also contributed to e-government, with its philosophy of greater accountability of agencies and more involvement of the public in government processes. The integration of land administration with the institutional arrangements creating and sharing it are now crucial to the delivery of sustainable developments. The need for institutional linkage is glaring because all processes of governance happen on land.



**Figure 4: Land Reclamation in the Swampy Settlements of Niger Delta.**

## 5. CADASTRAL DATA INFRASTRUCTURES: COST AND BENEFITS

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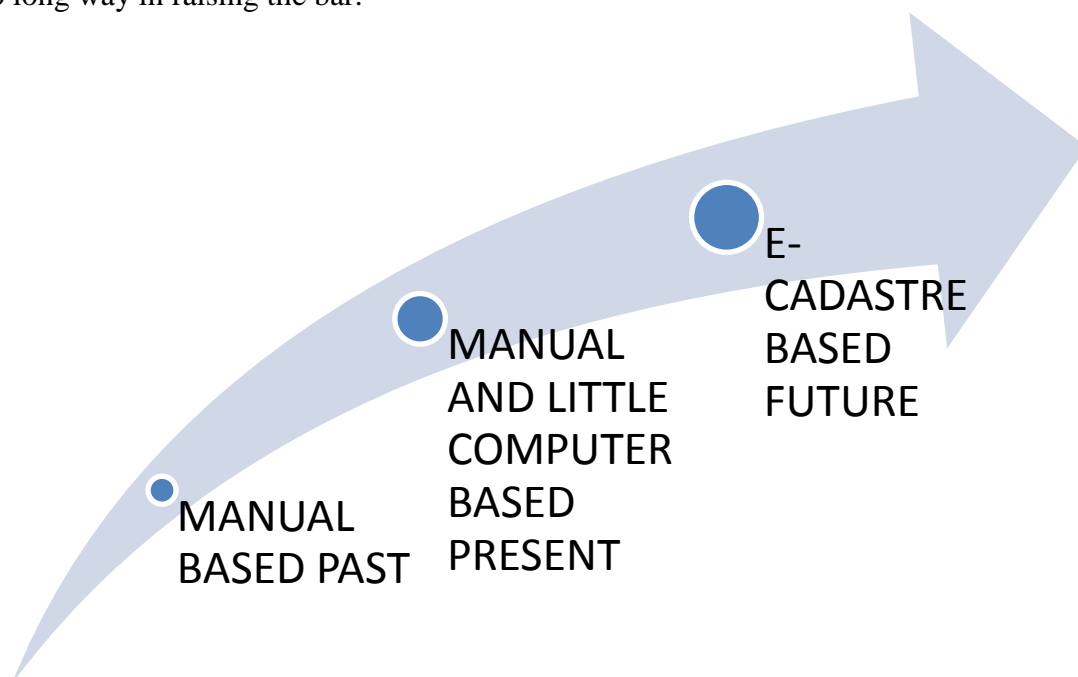
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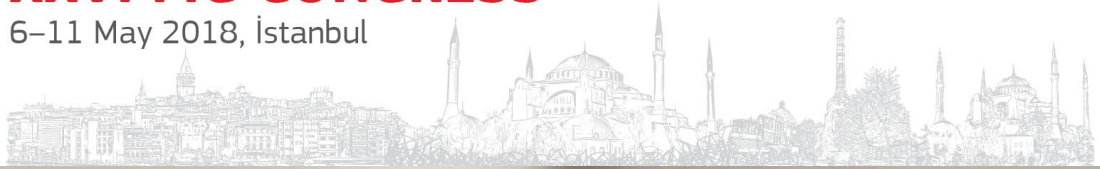




Building Cadastral Data Infrastructure is with great cost in cash and in kind and benefits too are in cash and in kind. The cost in cash are the infrastructures in terms of softwares and hardwares starting from DGPS technology to website and database e-cadastre; cost in kind will involve high professionalism ethics and good practise. Benefits are obvious in terms of good governance and more revenue for government with the multiplier effects for povert reduction. Enemark, (2014) opined that, the best way to experience land management in practice is to ask for a window seat in the aeroplane. What you see of the land –use pattern on the ground is a picture of the land management process of the area/country you are flying over. He went further to say: Good or bad, the land management of a country is a "cause and effect" in terms of the level of investments, which is not only financial, but legal and political. While governing the people-to-land relationships, land governance and the operational component of land administration systems need a spatial framework of large scale mapping to operate. There is an urgent need to build simple and basic systems using a flexible and low-cost approach to identify the way land is occupied and used. Enemark, (2014).

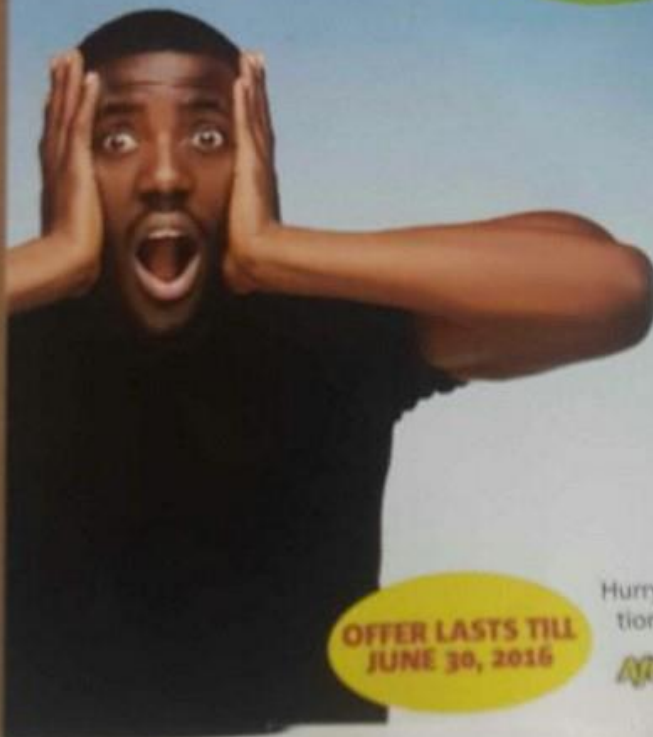
In Delta State of Nigeria the cost for building Cadastral Data Infrastructures (CDI) has been an impediment for any positive development for Land Administartion and Management. This major hinderance made the Association of Private Practising Surveyors of Nigeria, Delta State Branch a SUB – GROUP to Nigerian Institution of Surveyors decided to come with Cadastral Survey Guidelines that increased cost of survey of parcels of land from which a percentage shall be used as an investment to build a viable CDI. The guidelines with the backing of the Surveyor General of the state is expected to be a good foundation for the building of CDI. The practising Surveyors in Delta State are presently (JANUARY 2018) are 100 in numbers. With capital base of 600,000USDOLLARS and annual turnover of half of a million uSDollars the subtle Private Public Partnership shall go long way in raising the bar.





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## 6. CONCLUSION

Land Administration systems provide a country with an infrastructure for implementation of land policies and land management strategies in support of sustainable development. Sound land administration systems deliver a range of benefits to the society in terms of: support to governance and the rule of law; alleviation of poverty; security of tenure; support for formal land markets; security for credit; support for land and property taxation; protection of state lands; management of land disputes; and improvement of land use planning and implementation. Enermark, (2014)

## REFERENCES

1. Cadastre 2014 and Beyond – FIG PUBLICATION Number 61. Editor – Daniel Steudler.
2. Contemporary Issues in Surveying and Geoinformatics, (2011). Editor F. A. Fajemirokun.
3. Spatially Enabled Society – FIG PUBLICATION Number 58. Editors – Daniel Steudler and Abbas Rajabifard.
4. Geospatial World, April 2014 – Volume 04 – Issue 09 – ISSN 2277 – 3134  
[www.geospatialworld.net](http://www.geospatialworld.net).
5. Land Administration for Sustainable Development, (2010). Ian Williamson, Stig Enemark, Jude Wallace, Abbas Rajabifard.

## BIOGRAPHICAL NOTES

DABIRI, Oluseye Thomas obtained Bachelor of Science in Geography from the Nigerian Premier University of Ibadan in 1987. He served in Geography Arts Department of University of Lagos as a Graduate Assistant on the Desertification Monitoring Project of Canadian Waterloo University support/exchange project from 1987 to 1988. He obtained Post Graduate Diploma in Land Surveying and Applied Sciences from Federal School of Surveying in Oyo Town of Nigeria in 1990. He became Registered Surveyor under Decree 44 of 1989 in 1992. Before then he has served as Projects Surveyor for major oil servicing companies in Niger Delta and beyond for Right of Ways and Oil Facilities Engineering Survey Support Services.

In 1993/1994 he started Private Practice as Principal Partner for Geocore Surveys: a major survey personnel supply contracting company to Chevron Nigeria Limited and Shell Petroleum Development Company of Nigeria.

In 2001, he formed Hydroark International Limited (HAIL). He is the Chairman and Managing Director of the company since then till date. HAIL is one of the leading Survey companies with wide diversity into hydrographic survey, property, cadastre management and

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investment monitoring; he is a viable member of FIG Commission 7; a Paul Harris Fellow of Rotary Club International; Fellow of Nigerian Institution of Surveyors (FNIS) and National Vice Chairman of Association of Private Practicing Surveyors of Nigeria (APPSN) since 2017 till date. Delta State APPSN Branch Chairman since 2016 till date.

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