



**UN GGIM LAUNCHES A GROUP OF EXPERTS ON LAND ADMINISTRATION AND  
MANAGEMENT**

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## **ABSTRACT**

Good land administration, considering both formal and informal rights of the use and ownership of land, is a basic requirement for social and economic development. Land administration is essentially concerned with people-to-land relationship and is thus place-based and people-centric. This people-to-land relationship has a fundamental role in achieving sustainable development.

In order to address the theme of land administration globally, the United Nations Group of Experts on Land Administration and Management was founded and endorsed by the Committee of Experts of UN-GGIM, at its Fifth Session at UN headquarters in New York in August 2015. The overall objective of this UN Group of Experts is to play a leading role at the policy level by raising political awareness and highlighting the importance to decision makers of the need for timely and fit for purpose land administration and management.

This paper gives insight in the context, proposed objectives, functions and activities of the UN Group of Experts and explains how the UN Group of Experts will stimulate and facilitate the cooperation between governmental organizations, NGO's, private sector parties and scientific bodies in order to achieve its objectives.

## **KEY WORDS**

United Nations, Global Geospatial Information Management, UN GGIM, Group of Experts, land administration, land governance, land management, sustainable development, UN-EG-LAM.

## **1. INTRODUCTION**

### **1.1. The need for land administration**

Land is the single greatest resource in almost all countries. The management of natural resources and administration of ownership and land-use are treated as national development tools, with their policy outcomes often being pivotal for a country's national circumstances. Land administration provides an important infrastructure for an efficient economy; it touches all aspects of people's lives, including their income generation activities and is fundamental for economic growth and poverty reduction. Clear and secure land tenure can improve livelihoods and sustainable management of natural resources, and promote sustainable development and responsible investment that eradicates poverty and food insecurity. Land tenure security guarantees the existence of land rights, ensures protection of rights through legal remedies, and creates land markets that unlocks its potential as an asset and encourages efficient allocation and transactions.

However, despite these benefits, the majority of the land area in most developing countries – up to 90 percent in some – is not covered by a formal land record and secure property rights. Approximately 75 percent of the world's population does not have access to formal systems to register and safeguard their land rights. The majority of these are the poor and the most vulnerable in society. Governments must be able to efficiently evaluate and assess situations, formulate strategies, implement and monitor land tenure and registration projects and facilitate the development of transparent and formal land markets that are affordable and sustainable. These functions can only be successfully executed with the use of geospatial information and the application of related information and communication technologies (UN GGIM, 2015).

Good land administration, considering both formal and informal rights of the use and ownership of land, is a basic requirement for social and economic development.

Land administration is essentially concerned with people-to-land relationship and is thus place-based and people-centric. This people-to-land relationship has a fundamental role in spatial enablement, where good land governance and management can facilitate government to respond to national and global agendas and achieve sustainable development. Place or location is a key facilitator in decision making, and land administration is identified as an important issue within the domain of the global geospatial information management. The geospatial context not only relates to data management and technological adaptation, but also to governance, capacity building and institutional building.

## **1.2. The link between geospatial information and land administration and management**

Geospatial information and its management are fundamental to successful land administration and the derived benefits to the economies and overall sustainable development of nations. Furthermore, it is critical to the successful implementation of the Sustainable Development Goals (SDG's) as it is able to provide reliable data on land, including its tenure and dimensions, at local scales. Despite the existence of an array of informed stakeholders working on the subject of land, the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) is positioned to provide policy direction and support for geospatial management more broadly, and land administration more specifically, to Member States. In order to address the theme of land administration globally, the United Nations Group of Experts on Land Administration and Management was founded and endorsed by the Committee of Experts of UN-GGIM, at its Fifth Session at UN headquarters in New York in August 2015.

## **1.3 Used definitions**

### **1.3.1. Land Governance**

Land governance has been defined as policies, processes and institutions by which land, property and natural resources are managed. Sound land governance requires a legal regulatory framework and operational processes to implement policies consistently within a jurisdiction or country, in sustainable ways (Enemark, Bell, Lemmen and McLaren, 2014).

### **1.3.2. Land administration**

Land administration is described as the process of determining, recording and disseminating information about the relationship between people and land. If ownership is understood as the mechanism through which rights to land are held, we can also speak about land tenure. A main characteristic of land tenure is that it reflects a social relationship regarding rights to land, which means that in a certain jurisdiction the relationship between people and land is recognised as a legally valid one. These recognised rights are in principle eligible for registration, with the purpose being to assign a certain legal meaning to the registered right (e.g. a title). Therefore, land administration systems are not just 'handling geographic information', as they represent a lawfully meaningful relationship amongst people, and between people and land (ISO 19152, 2012).

[Figure 1]

### **1.3.3. Land Management**

Land Management is the art or science of making informed decisions about the allocation, use and development of the earth's natural and built resources. It includes resource management, land administration arrangements, land policy and land information management (Williamson, Enemark, Wallace and Rajabifard, 2010).

## **2. TRENDS AND DEVELOPMENTS**

A new era in land administration emerges (Lemmen, Bennett, McLaren and Enemark, 2015). One underpinned by a wave of innovative thinking and coupled with quickly maturing, scalable approaches that can be applied globally.

[Figure 2]

Looking at the trends in the arena of governmental organisations, academia and private sector it becomes clear that professional worlds converge: Statistics, Geo-sciences, Remote Sensing and Land Administration experts come to together more and more in order to achieve challenging goals like the United Nations Sustainable Development Goals (SDG's).

[Figure 3]

The World Bank and the International Federation of Surveyors (FIG) jointly promote the fit-for-purpose land administration approach that enables appropriate land administration systems to be built within a relatively short time, at affordable costs, and with the opportunity to upgrade when required. The fit-for-purpose approach recommends the use of 'visual boundaries' to identify the delineation of land rights. There are alternative data acquisition approaches that can be adopted within the context of purpose, budgets and availability of human resources. These range from accurate measurements supported by Continuously Operating Reference Stations (CORS), through total stations and handheld GPS, to the use of a plane table, tape, chain and rope. UAVs are emerging as a promising alternative in cases where only

highly accurate data is accepted. Imagery data sources such as Google Maps or Microsoft Virtual Earth can be used, and the inclusion of high-resolution data at those sites may be agreed. Administrative data collection can be paper-based or digital. All these data acquisition options can include methods to describe and label data quality elements.

Automatic feature extraction from orthoimagery to support topographic mapping is now mature and can be used to assist spatial data collection for land administration purposes.

Geographical Information Systems (GIS) functionality is available to support all the data acquisition and data handling processes. An example of functionality for data collection in land administration is the Social Tenure Domain Model (STDM) provided as open source software by GLTN, or FLOSS SOLA with support from FAO. STDM-compliant software is also available from industrial software providers. A number of initiatives are emerging that are based on the concept of democratising land rights through citizen empowerment and crowdsourcing, including Open Tenure in SOLA from UN-FAO, MapMyRights™ Foundation, the Rights and Resource Initiative, the Missing Maps Project and MappingforRights. resolved.

Within the profession there is a serious debate on the key elements of this approach. That debate is about quality of spatial data; in essence it is about the positional accuracy of boundaries of spatial units. However, it is often not mentioned that data quality concerns completeness (coverage), logical consistency, topological consistency, positional accuracy, temporal accuracy and thematic accuracy. In many countries those issues are not considered in an integrated way, primarily because responsibilities are distributed across different stakeholder groups. This must be solved by means of data integration and data harmonisation and also by integrating crowdsourced data.

This fits very well with the needs of land administration, which is in principle not about accuracy based on highly technical nationwide standards. Total coverage is urgently needed to secure land rights and manage the use of land, and also to avoid land grabbing and forced evictions and to ensure social justice. These fit-for-purpose approaches are fast, affordable and ideal for meeting this requirement. As a second stage, positional accuracy can be improved over time using sporadic approaches. All activities require good management of quality-related metadata. Continuous maintenance is needed and should be aligned with quality upgrading through the well-known processes of cadastral renovation, homogenisation, reconciliation and revision (Lemmen *et al.*, 2015).

Satellite imagery and new sensor techniques allow for fast basic inventory of general boundaries, using feature extracting technologies. This is where we need the private sector. The possibility of crowd sourced

data, open source software and national open data policies are an opportunity, not a threat: community involvement can be organised now.

Looking at these trends we should be aware we have reached a unique momentum at which the objective of land rights for the world can be reached. Based on the current level of technology and knowledge, steps can be taken that wouldn't have been possible a decade ago. Also the basic requirement of standards like LADM and STDM has been accomplished, which makes it possible to develop guidelines and methods like the VGGT and Fit for Purpose Land Administration. With the right tools and infrastructures we are now challenged to prepare cases and best practices in the world for the true implementation and setting up of land administration systems. Partnership, leadership and finance are perhaps still the most challenging aspects in order to make our ambitions come true.

[Figure 4]

### **3. GLOBAL INITIATIVES**

Securing land rights for the world is a challenging but feasible objective. Methods and land tools do exist and develop rapidly, supported by excellent private companies, modern technology and new information and communication possibilities. Land administration is a process of continuous upgrading to higher levels of detail, quality and usability. By adding capacity building to the game, implementation and true action can be generated (De Zeeuw and Lemmen, 2015).

The UN Post-2015 Development Agenda includes consideration of the land issue across a wide range of objectives. The UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) guides the development of technology infrastructure to support land applications. UN FAO has initiated and developed the 'Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security' (VGGTs). The World Bank has started assessment of good practices in the land sector through the Land Governance Assessment Framework (LGAF). UN-Habitat's Continuum of Land Rights is now a widely accepted philosophy. This breakthrough in the perspective of land rights is implemented in current land tools, as well as in those under development by the Global Land Tool Network (GLTN).

Awareness, leadership and financing are crucial to implementing and maintaining land management systems. Coordination, collaboration and partnerships ask for a professional approach. The United Nations can play a vital role in this process.

Entities such as the African Union, World Bank, Food and Agriculture Organisation (FAO) and United Nations Human Settlement Programme (UN-Habitat), UNECE, UNECA and UNESCAP have been assiduously working towards ameliorating land tenure, land administration and management challenges. However the issues remain a global concern particularly in developing countries (UN GGIM, 2015).

[Figure 5]

#### **4. UN GGIM**

The United Nations Economic and Social Council (ECOSOC) established the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) in July 2011 (ECOSOC resolution 2011/24) as the official UN consultative mechanism on GGIM.

UN-GGIM aims to play a leading role in setting the agenda for the development of global geospatial information and to promote its use to address key global challenges. It provides a forum to liaise and coordinate among Member States, and between Member States and international organizations.

The priorities and work programs of the Committee of Experts are driven by Member States. The Committee of Experts is mandated, among other tasks, to provide a platform for the development of effective strategies on how to build and strengthen national capacity on geospatial information, as well as disseminating best practices and experiences of national, regional and international bodies on geospatial information related to legal instruments, management models and technical standards.

##### **4.1. UN-GGIM Operational Framework**

The work of the UN-GGIM is coordinated by the Secretariat at its headquarters in New York and the substantive work done through a network of regional committees and their working groups.

[Figure 6]



Each UN-GGIM regional entity plays a vital role liaising with the UN-GGIM Secretariat on topics of interest and major developments in intervening periods between meetings of the Committee of Experts, facilitating regional development and discussion, and formally feeding into the Committee of Experts. UN-mandated regional bodies are established in the Asia-Pacific, the Americas, the Arab States, Europe and Africa.

#### **4.2. UN-GGIM Expert Groups and Working Groups**

The working agenda for the UN-GGIM is further underpinned by the several Working Groups and two Expert Groups. These groups focus on progressing the work items and following up on decisions adopted at the annual session.

Expert Groups:

1. United Nations Expert Group on the Integration of Statistical and Geospatial Information
2. The United Nations Expert Group on Land Administration and Management (UN-EG-LAM)

Working Groups:

1. Working Group on Global Geodetic Reference Frame
2. Working Group on Development of a Statement of Shared Principles for the Management of Geospatial Information
3. Working Group on Trends in National Institutional Arrangements in Geospatial Information Management
4. Working Group on Geospatial Information and Services for Disasters (WG-Disasters)

#### **4.3. The United Nations Expert Group on Land Administration and Management (UN-EG-LAM)**

During the fifth Expert Meeting in New York from August 5 – 7, 2015 the committee of experts endorsed the establishment of an Expert Group on Land Administration and Management (UN-EG-LAM) by decision 5/105. Based on this decision objectives, functions and activities have been defined for this Expert Group.

The major objectives of the Group of Experts are to:

- Play a leading role at the policy level by raising political awareness and highlighting the importance to decision makers of the need for timely and fit for purpose land administration and management and;
- Encourage the use of geospatial information tools and systems to improve the legal certainty of all citizens in the world with respect to the registration of the relation between people and land.

The functions of the United Nations Group of Experts will be to:

- Provide a forum for coordination and dialogue among global experts from the land administration and geospatial communities with a view to advance the activities related to the administration and management, and strengthening the use of geospatial information for good land governance;
- Propose work plans, informed by broad global consultation, to address the main areas of focus identified by Member states while ensuring that there are no overlaps or duplication with other initiatives;
- Address governance, data management, institutional and technology adoption and sustainability issues related to the implementation and management of efficient land administration and management systems, and transparent, functioning land markets and;
- Undertake work that is able to contribute to the Sustainable Development Goals of the UN indicator process and other areas as appropriate including, access to land, property rights, ownership, land degradation, rapid urbanization, and climate change, in coordination with other expert entities.

To achieve these objectives, the United Nations Expert Group programme of work will focus on the following:

- Increase advocacy and raise political awareness for policy makers of pertinent land governance and management issues;
- Undertake activities that foster collaboration within the land management/governance and geospatial communities within the United Nations, and at national and international levels, including identification and addressing common issues of land management and governance in support of sustainable development;
- Take the leadership role in solving land administration issues with the focus on education, training and awareness, in addition to developing institutional capacity to implement the appropriate methodologies;
- Demonstrate the ‘fit for purpose’ approach by defining methodologies for different scenarios;

- Document, share and promote a variety of experiences/case studies showing the application of geospatial information to land administration;
- Examine existing land management tools and models and encourage use and access to facilitate the sharing of knowledge and experiences in their application;
- Explore the use of crowd sourcing and neighbourhood mapping to assist in assessments and;
- Emphasize the use and importance of a national cadastral map and geodetic framework as key contributors to land administration and a national spatial data infrastructure which supports other sectors – health, planning, infrastructure management, security and disaster management etc.

Actual and more detailed information on the Group of Experts can be found at the UN GGIM website: [http://ggim.un.org/UN\\_EG\\_LAM.html](http://ggim.un.org/UN_EG_LAM.html).

## **5. FACILITATING COOPERATION AMONG LAND STAKEHOLDERS**

It is foreseen that in order to address and change the man to land challenge collaboration, partnership and cooperation among the many stakeholders will be pivotal to the work of the UN-GGIM Group of Experts on Land Administration and Management. Partnership is “a collaborative relationship between entities to work toward shared objectives through a mutually agreed division of labour” (World Bank, 1998). Partnerships are inherently complex vehicles for the delivery of practical solutions on the ground and at the strategic level.

While partnerships and collaborative initiatives can be challenging, it is important to create and sustain the benefits to be derived clearly. In this instance the UN-GE-LAM intends to pursue its role through such arrangements as it is believed that collaborative ventures inure to:

- Stronger, advocacy and awareness raising, a key goal of the group of experts. It also Catalyses behaviour and policy change in addition to enhancing corporate social responsibility;
- Multiply the transformative potential, in this case increase the use of new innovative methods and approaches to land titling and registration;
- Greater efficiency and effectiveness;
- Strengthened and expanded knowledge base on land administration management, policies, legislation, practices, methodologies, technologies, systems, training and educational offerings etc.;
- New thoughts and innovation which are made more readily accessible.

UN-GE-LAM will adopt a double pronged strategic approach, one that is driven by global land administration issues, but is also Member State focused. UN-GGIM through DESA and UNSD will leverage its convening power to bring stakeholders together at the global, regional and local level. It will provide platforms for the articulation of land management issues, exchange of opinions and ideas and channel them into the policy process. It is believed that UN-GGIM has the means to foster greater alignment between global initiatives and national development strategies and to act as a conduit between local and national actors and in global policymaking processes.

## **6. CONCLUSIONS**

In order to achieve the Sustainable Development Goals and to have legal certainty for all citizens in the world, good geospatial information management and sound land administration are considered important prerequisites. It is believed that the momentum is right for the challenging but feasible ambition to have land rights for the world.

During the fifth Expert Meeting of UN-GGIM in 2015, the Committee of Experts endorsed the establishment of an Expert Group on Land Administration and Management (UN-EG-LAM). This Expert Group fits within the global setting, global agenda and global initiatives, and can play an important role in facilitating the needed leadership. UN-GGIM can do this by coordinating the cooperation between the United Nations Member States, and to link to other global initiatives and organisations, including academia, NGO's and the private sector.

The objective UN-EG-LAM is to play a leading role at the policy level by raising awareness and to encourage the use of geospatial information management for land administration purposes.

## LIST OF FIGURES



**Figure 1.** Definition of land administration, based on the Land Administration Domain model (ISO 19152, 2012).



**Figure 2.** A global tendency is the new thinking in developing approaches and systems to secure land rights for all. This is expressed by a large variety of publications on this issue.



**Figure 3.** Professional worlds converge.

- Partnership, leadership & finance
- Cases and best practices
- Infrastructure (Governments, communities)
- Tools (UN, Open Source, commercial)
- Methods & guidelines: Fit for Purpose LA, VGGT
- Standards (LADM/STDM)
- Knowledge & experience



**Figure 4.** Aspects to be covered in order to achieve the ambition to have land rights for the world.

| Area of Work in Land Administration                    | FAO | FIG | UN Habitat | World Bank | UNECE |
|--|-----|-----|------------|------------|-------|
| Land policy development                                | X   | X   | X          | X          | X     |
| Conflict resolution                                    |     |     | X          |            |       |
| Strengthening land governance arrangements             |     |     | X          |            |       |
| Capacity Development                                   | X   | X   | X          | X          | X     |
| Institutional Strengthening                            | X   |     | X          | X          |       |
| Building and Implementation of LAS                     |     |     |            | X          |       |
| Assessment and monitoring of land governance           |     | X   |            | X          |       |
| Monitoring land issues and trends                      |     | X   |            | X          |       |
| Drafting of land laws and policies                     |     |     |            |            |       |
| Preparation and maintenance of cadastral maps          |     |     |            | X          |       |
| Land registration projects                             |     |     |            | X          |       |
| Advocating & Implementing the Fit for Purpose Approach | X   | X   | X          |            |       |

Figure 5. Area of work in Land Administration (UN GGIM, 2015)

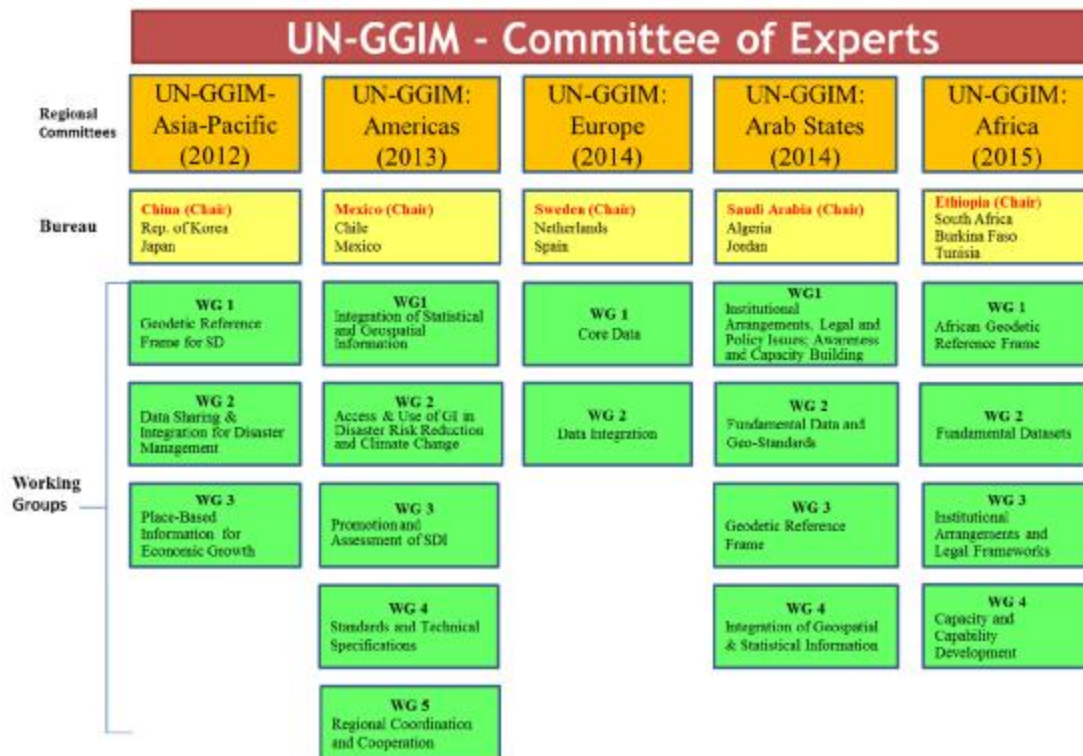


Figure 6. The structure of the Regional Committees of UN GGIM.

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