FIG Joint Land Administration Conference

UNIVERSIDADE FEDERAL DE SANTA CATARINA

TU Delft

Global Snapshot – Cadastre 2025

An overview of future land administration developments worldwide

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ITC UNIVERSITY OF TWENTE.

Introduction

What is a modern cadastre?

Role in Economic Resilience
Cadastres support economic resilience by ensuring secure land tenure and accurate property valuation.

Contribution to Social Stability
Land administration ensures social stability through effective planning and tenure security.

Support for Environmental Sustainability
Cadastres aid sustainable development by integrating climate resilience and environmental goals.

Strategic Importance for SDGs
Cadastres are key to achieving SDGs, especially via digital transformation and climate resilience.

What is FIG?

Mission

Peak international organization representing surveyors

Governance

Federation of Member Associations

Council

Roles

Network

Forum

Advocacy

Knowledge

Standards

Structure

10 Commissions = all aspects of surveying

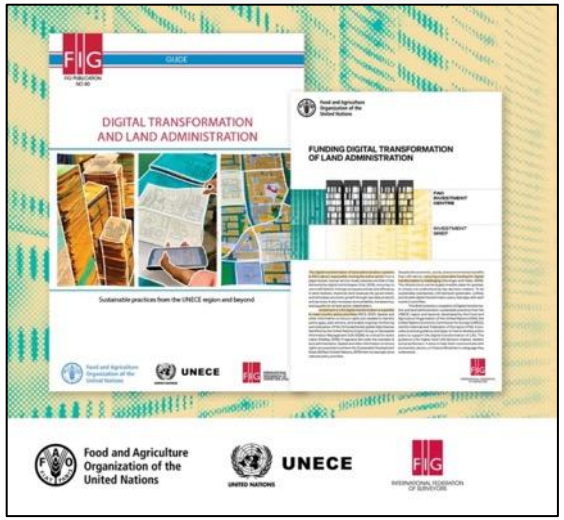
What is Commission 7?

Global Platform for Land Management
Commission 7 advocates and networks globally for cadastre and land management knowledge. It serves as a hub for expertise and collaboration worldwide.

International Conferences and Workshops
The commission hosts events like Brisbane Working Week and Arab Land Conference to promote dialogue and knowledge exchange.

Key Thematic Discussions
Discussions focus on Fit-for-Purpose Land Administration, effective frameworks, and gender equity in land governance.

Inclusive and Collaborative Approach
Commission 7 emphasizes inclusivity, technical rigor, and global collaboration in its work and publications.



What isn’t Commission 7?

Individual membership

Professional **accreditation**

Licensing and mandates

Enforceable **standards**

Education and training

Donor agency / projects

WÄLJKIIMEN
WILLKOMMEN
SWAGATAM
WAISENI
أهلا و سهلا
WELCOME
BIENVENUE
BIENVENIDO
BIENVENIUS
BENVNUWE
BIENVENIDOS

Deventer 2023
x
x Turkey 2026
x Orlando 2023
x Rabat 2025
x Accra 2024
x Kuching 2024
x Brazil 2025
x Cape Town 2026
x Brisbane 2025

Third Arab Land Conference

mapPNG.com

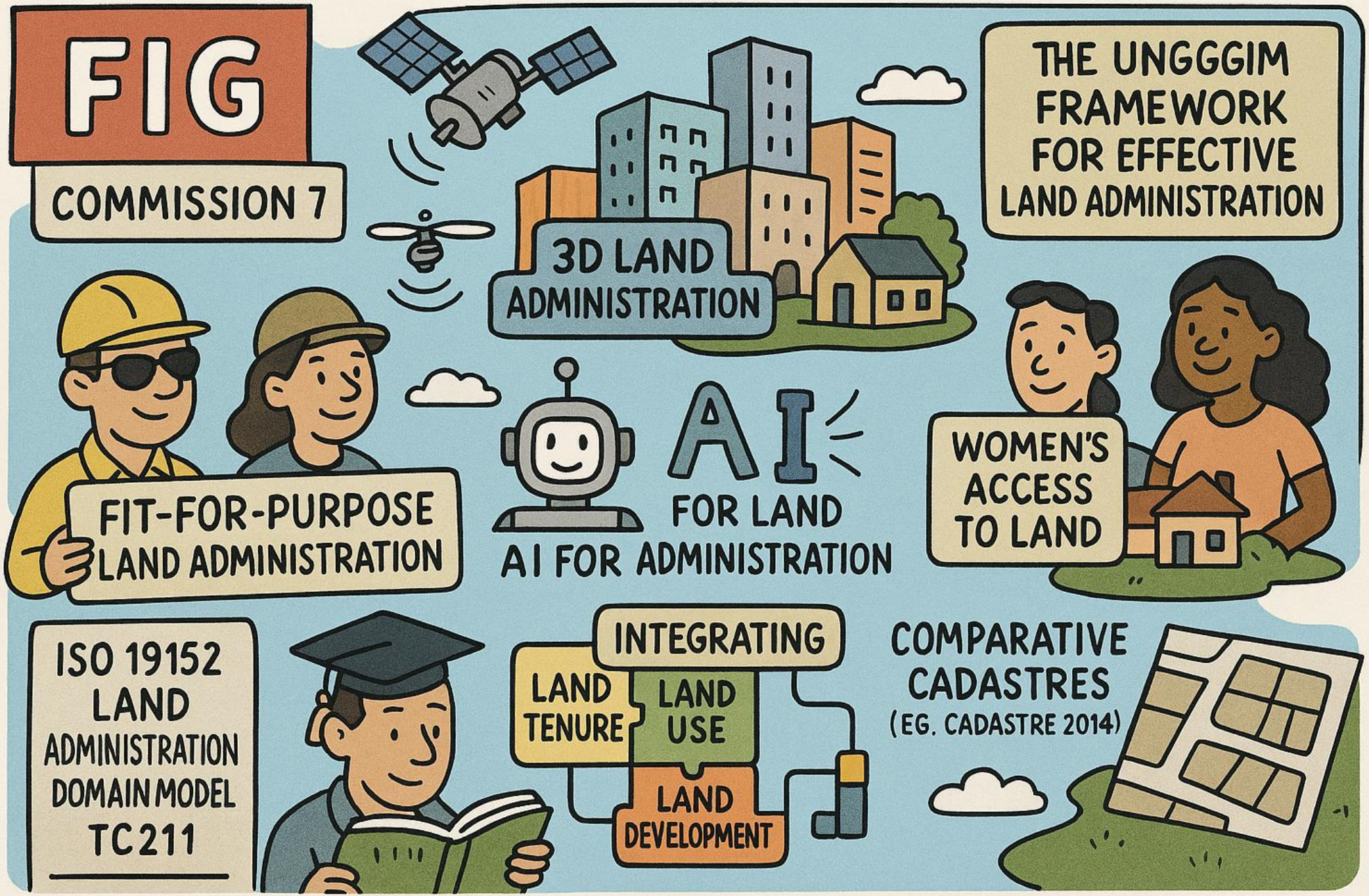


FIG
COMMISSION 7
THE UNGGGIM FRAMEWORK FOR EFFECTIVE LAND ADMINISTRATION
3D LAND ADMINISTRATION
FIT-FOR-PURPOSE LAND ADMINISTRATION
AI
AI FOR LAND
AI FOR ADMINISTRATION
WOMEN'S ACCESS TO LAND
ISO 19152 LAND ADMINISTRATION DOMAIN MODEL TC211
INTEGRATING
LAND TENURE
LAND USE
LAND DEVELOPMENT
COMPARATIVE CADASTRES
(EG. CADASTRE 2014)

What are the 2023-26 Work Groups?

7.1 FELA

7.2 FFPLA

7.3 LADM&3D

7.4 AI+RS4LA

7.5 Women's Land Access

7.6 LA&LUP Integration

7.7 LA Education

7.8 Comparative Cadastres

SLA

Trimble

ISO

ITC
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LA_Party
LA_RRR
LA_SpatialUnit
LA_BAUnit

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esri

Land Equity International

STAND FOR HER LAND

Landesa

TUM

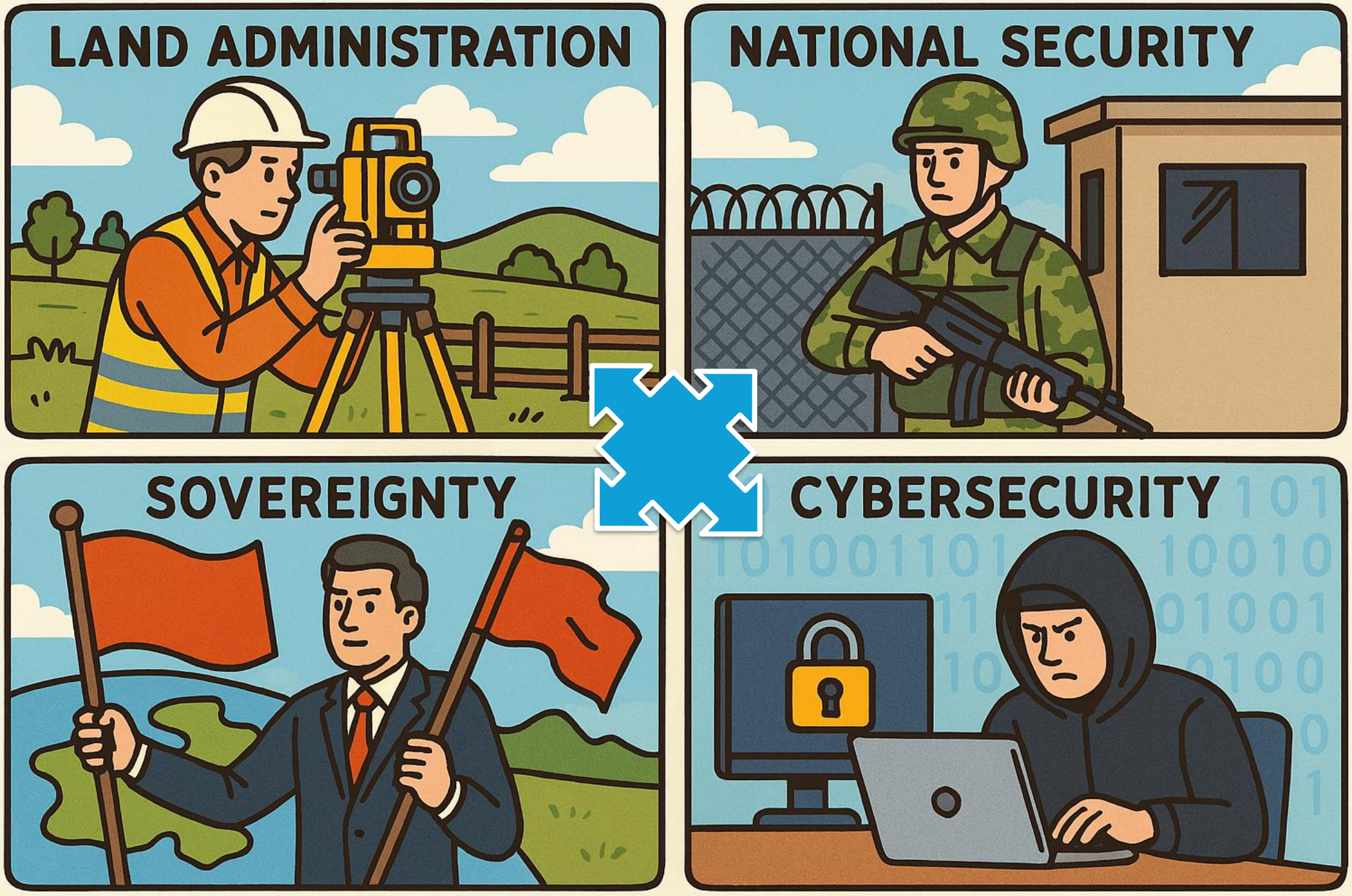
CADASTA

land portal

Open Geospatial Consortium.

UNIVERSITY OF CAPE TOWN

Security and Governance in Land Administration


LAND ADMINISTRATION
NATIONAL SECURITY
SOVEREIGNTY
CYBERSECURITY

Cybersecurity, Sovereignty & National Security

Cybersecurity Risks
Digitization introduces risks like data breaches and unauthorized access in land systems.

Sovereignty Concerns
Using foreign cloud services raises sovereignty issues over national land data control.

National Security Issues
Protecting indigenous sites and regulating drones are critical for land governance security.

Managing Foreign Investment
Transparent legal frameworks ensure foreign land investments protect national interests.

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International Association for Landscape Ecology (IALE)
Landscape Institute (LI)
Urban Land Institute (ULI)

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Frameworks and Approaches

Framework for Effective Land Administration (FELA)

Strategic Blueprint for Land Systems

FELA offers a global strategy to modernize and improve land administration systems worldwide.

Regional Promotion by FIG Commission 7

FIG Commission 7 promotes FELA across Americas, Asia-Pacific, and Ibero-America through regional initiatives.

Multilingual Document Publication

FELA document republished in multiple languages to enhance accessibility and national strategy integration.

Bridging Vision and Reform

Commission 7 bridges strategic vision and operational reform, encouraging collaboration and innovation.

Fit-for-Purpose Land Administration (FFPLA)

Pragmatic Inclusive Approach

FFPLA is designed to secure land rights through practical and inclusive methods at large scale.

FIG Commission 7 Development

Commission 7 develops FFPLA through workshops, webinars, and field experience synthesis.

Field Implementation Insights

Lessons learned from Indonesia, Benin, and Ghana guide the scaling of FFPLA practices.

Flexibility and Community Focus

FFPLA stresses flexibility, affordability, and community engagement in limited formal systems.

Technological Innovations

3D Cadastres & LADM

LADM Innovations

The Land Administration Domain Model advances cadastral modeling with 3D spatial support and modular design.

ISO Standard Enhancements

ISO 19152 revisions improve modularity and add support for marine and 3D cadastres.

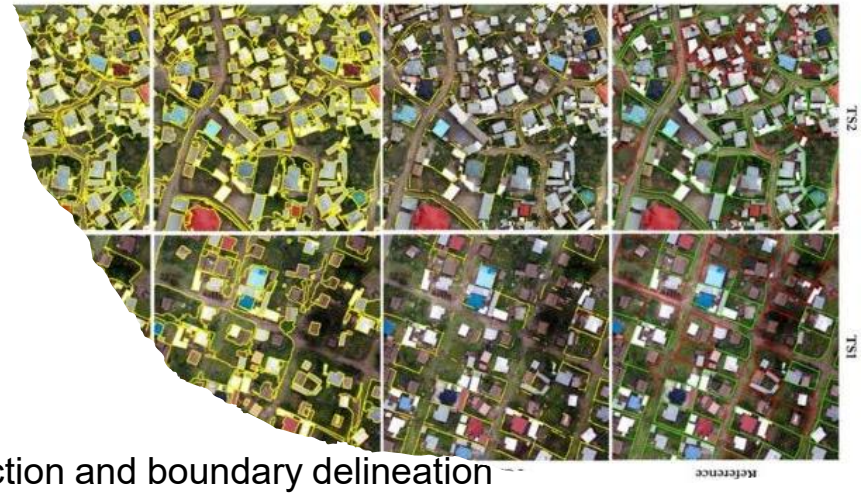
Academic Contributions

Notable research includes a Cum Laude dissertation on 3D Land Administration by Eftychia Kalogianni.

Digital Twins Integration

Digital twins support urban planning and infrastructure, enhancing spatially rich governance systems.

AI & Remote Sensing



AI in Land Administration

AI enables automated feature extraction and boundary delineation in land administration processes.

Global Research and Pilots

FIG Commission 7 showcases AI research and pilots in Nepal and the Netherlands at major events.

Collaborations and Models

Partnerships with ISPRS and academia foster development of deep learning models and datasets.

Improved Cadastral Data

AI and remote sensing enhance accuracy and accessibility of cadastral and land data services.

Social Inclusion and Education

Inclusive Land Governance

Women's access to land is essential for fair and inclusive land governance.

Strategic Partnerships

Collaboration with global organizations supports advocacy and knowledge development on women's land rights.

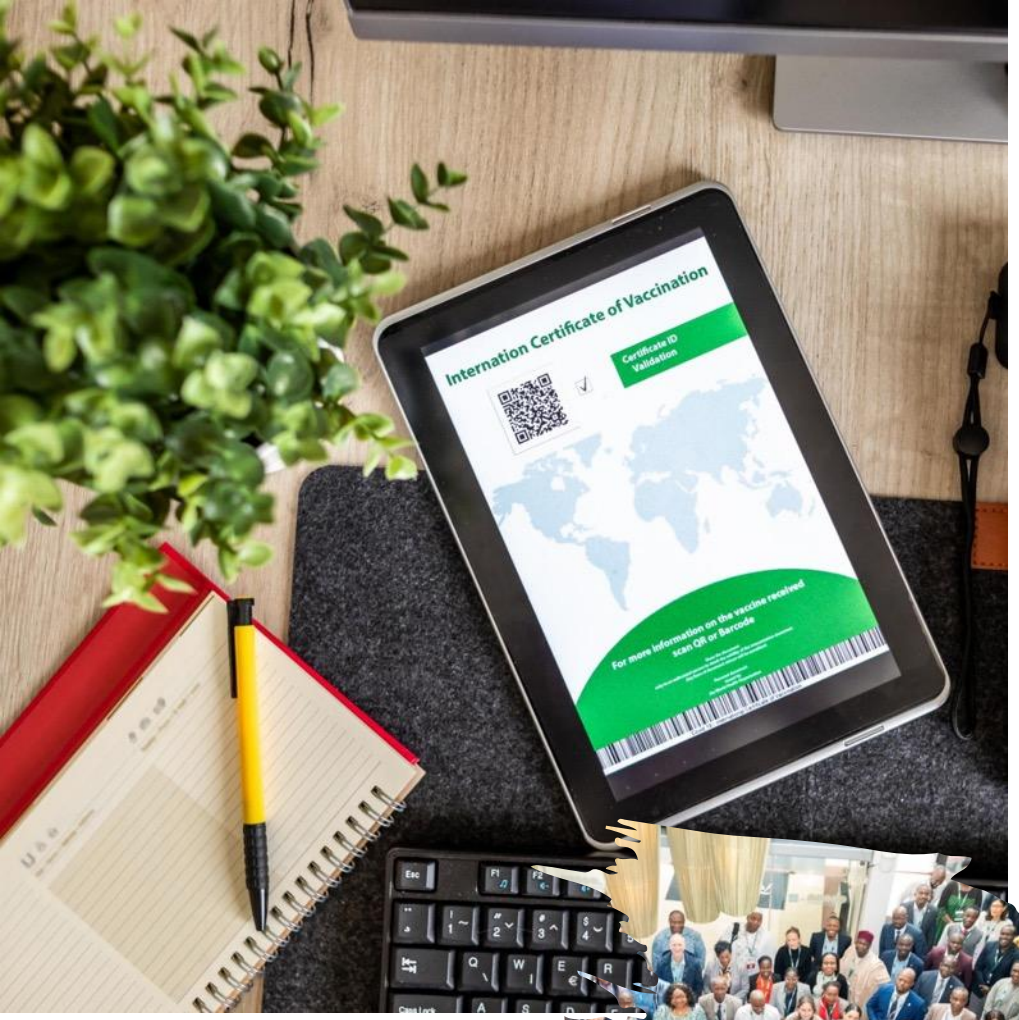
Focused Initiatives

Programs like Land Clinic and SDG sessions promote updated tools for gender equity in land access.

Community Engagement

Inclusive policies and local involvement are vital to advancing women’s land rights.

Women’s Access to Land



Land Administration Education

Foundational Role of Education

Education is essential for developing effective land administration systems worldwide.

TERLA Framework Development

FIG Commissions 7 and 2 created the TERLA framework to guide responsible land administration teaching.

Recent Educational Initiatives

Initiatives include MOOCs, surveys, and partnerships with African Union and NELGA to enhance education.

AI Integration for Curriculum

AI tools support curriculum guidance, improving relevance and accessibility of land administration education.

Comparative Analysis and Strategic Insights

Comparative Land Administration

Diversity of Land Systems

Comparative analysis reveals differences and unique features of land governance worldwide.

Research Contributions

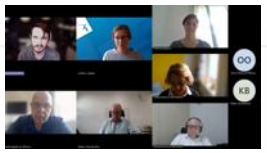
FIG Commission 7's Working Group 7.8 advances peer-reviewed studies on semantic and global land data.

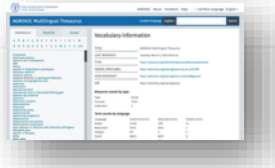
Terminology Harmonization

LandVoc and CaLAThe support unified terminology and metadata across different jurisdictions.

Frameworks for Innovation

Comparative frameworks enable benchmarking, mutual learning, and reform advocacy without enforcing standardization.





C7 Workplan 2023-26 State of Play

FIG Commission 7 2023-26 Workplan Dashboard

		2023	2024	2025	2026	Current Status
	WG 7.1 FELA					
Activities	Case and Tool Capture	25%	70%	5.00%		100%
	Advocacy and Awareness	10%	30%	30.00%		70%
Outputs	FELA Publication	5%	10%	50.00%		65%
	WG 7.1 FFPLA					
Activities	FFPLA Implementaiton Survey	10%	30%	20.00%		60%
	FFPLA Case Stories	25%	60%	15.00%		100%
	Land Tenure Day'	0%	0%	0.00%		0%
Outputs	FFPLA Publication	0%	15%	50.00%		65%
	WG 7.3 3D&LADM					
Activities	LADM Revision Support	25%	55%	15.00%		95%
Outputs	Broadening 3D Land Administration	10%	55%	25.00%		90%
	LADM Revision Document	0%	55%	30.00%		85%
	2nd SI on LADM Revision	0%	55%	40.00%		95%
	WG 7.4 AI&RS					
Activities	Technique and Tool Identification	25%	55%	20.00%		100%
	Country Level Case Capture	25%	25%	20.00%		70%
Outputs	RS&LA Publication (SI)	0%	0%	0.00%		0%
	WG 7.5 Women					
Activities	FIG Pub 24 Review	15%	30%	45.00%		90%
	Stand for Her Land Support	20%	20%	30.00%		70%
	Case Story Capture	10%	25%	35.00%		70%
Outputs	Publication 24 Update	5%	15%	40.00%		60%
	Field Catalogue / Land Clinic	0%	10%	50.00%		60%
	WG 7.6 LA+LUP					
Activities	Capturing country cases	20%	40%	20.00%		80%
	Capturing tools and techniques	20%	40%	20.00%		80%
Outputs	Publication DT&LM	0%	10%	30.00%		40%
	SI on DT&LM	0%	5%	0.00%		5%
	WG 7.7 LA Education					
Activities	TERLA development	20%	50%	25.00%		95%
	Curriculm Review	20%	50%	25.00%		95%
Outputs	TERLA Publication	0%	100%	0.00%		100%
	Journal Article	0%	20%	80.00%		100%
	WG 7.8 Comparative Cadastres					
Activities	Needs Assessment	5%	20%	0.00%		25%
	Strategy Development	5%	20%	65.00%		90%
	Pilot Implementation	5%	0%	0.00%		5%
Outputs	State-of-Play Reports x4	25%	10%	65.00%		100%
	Pilot / Demonstration / Implementation	0%	0%	0.00%		0%

Conclusion and Acknowledgements

Challenges & Opportunities

Persistent Challenges

Land administration faces gaps between ambition and operational capacity and miscommunication.

Limited Infrastructure

Political will and technical infrastructure limitations hinder effective land administration reforms.

Opportunities for Innovation

Collaboration and innovation provide compelling opportunities to transform land administration.

Leadership and Dialogue

FIG Commission 7 can guide the profession by balancing ambition with pragmatism and fostering dialogue.

Conclusion

Evolving Land Administration

Land administration adapts to challenges like climate change, urbanization, and digital shifts worldwide.

Advancing Frameworks and Technologies

Frameworks and technologies progress, yet implementation barriers still limit full potential.

Leadership and Collaboration

FIG Commission 7 leads by fostering collaboration and developing tools to support reform efforts.

Balancing Global and Local

Balancing global frameworks with local realities ensures strategic and grounded progress.

Strategic partners

Knowledge partners

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ACKNOWLEDGEMENTS

Sincere thanks to contributors and partners for their support and dedication to the work.
Dedication and collaboration have advanced global land administration and governance.
Invite questions, feedback, and continued engagement to build resilient, inclusive land systems.

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