Fit-for-Purpose Land Administration: Status, Success, and Scaling for Sustainable Development

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Key words: FFPLA, Land Administration, Scaling, Sustainable Development

SUMMARY

This paper presents an overview of the Fit-for-Purpose Land Administration (FFPLA) approach, examining its current status, implementation successes, and strategies for scaling to address global land tenure challenges. FFPLA prioritizes flexibility, inclusivity, and speed in securing land rights, particularly for marginalized communities, aligning with the Sustainable Development Goals (SDGs). Through analysis of case studies from Rwanda, Mozambique, and Benin, the paper highlights key lessons, including the importance of political will, participatory methodologies, technology integration, and capacity building. It also addresses challenges such as professional resistance, legal framework adaptations, and resource constraints. The paper proposes strategies for mainstreaming FFPLA, emphasizing public-private partnerships, digital transformation, and adaptation of legal frameworks. Emerging trends like AI, crowdsourcing, and spatial data infrastructure are explored for their potential to enhance FFPLA scalability. Ultimately, the work advocates for a renewed commitment to land tenure security, urging policymakers, practitioners, and researchers to advance FFPLA for equitable and sustainable development. This work contributes to the discussion on integrated land administration for climate resilience by promoting efficient, inclusive, and adaptable land management practices essential for sustainable development.

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1. INTRODUCTION

Secure land tenure is a critical foundation for economic development, social stability, and environmental sustainability. However, conventional cadastral systems are often costly, complex, and inaccessible to the majority, especially in developing countries. The Fit-for-Purpose Land Administration (FFPLA) paradigm emerged as a response, focusing on flexible, affordable, and scalable solutions addressing actual community needs rather than technical perfection (Enemark et al., 2016). FFPLA prioritizes inclusivity, cost-effectiveness, and rapid deployment by adapting spatial, legal, and institutional frameworks to local contexts. This approach facilitates the recognition of diverse tenure forms, including customary rights, aligned with global Sustainable Development Goals (SDGs), especially poverty reduction and gender equality (Enemark et al., 2016; Metaferia et al., 2023).
The objectives of this paper are to review the current status of FFPLA adoption worldwide, analyze lessons from implementation experiences, and propose strategies for scaling FFPLA to achieve universal land tenure security.

2. METHODOLOGY

This publication includes:

- Insights from 19 land administration experts, representing diverse regions and stakeholder roles, have been analyzed to uncover common themes and challenges. These experts include:
- **Case Studies**: Regional and country-specific examples illustrate the practical application of FFPLA principles and provide context-specific lessons.
  - Experiences were gathered from:
    - Land Journal Special Issue on "Providing Secure Land Rights at Scale".
    - Responses to the survey on "An Analysis of Land Demarcation Practices in Africa at the Emergence of FFP"
    - Insights from case stories
- **Workshop Insights: Insights from the FIG Commission 7.2 workshop *themed "Adapting, Adopting and Evolving Approaches to Land Administration; Towards Effective Upscaling of FFP Approaches"* held during FIG Working Week 2024.**
- **Existing Literature**: Building on the foundational publication of FIG 60 and other academic and policy resources, this publication situates FFPLA within broader global discussions on land rights and sustainable development.

3. STATUS OF FIT-FOR-PURPOSE LAND ADMINISTRATION

FFPLA's global adoption relies on three interconnected frameworks:

- **Spatial Framework:** Uses affordable, participatory mapping tools such as GNSS, drones, and mobile applications to expedite and simplify parcel mapping with flexible boundary definitions (Enemark et al., 2014, 2016)
- **Legal Framework:** Calls for legal recognition of non-conventional tenure types and adaptation of land laws to accept FFPLA outputs as legitimate (Wicomb, 2025)
- **Institutional Framework:** Ensures continuity and coordination through dedicated agencies or government bodies to manage and sustain FFPLA initiatives (Metaferia et al., 2023).

Countries including Rwanda, Ethiopia, Kenya, Indonesia, Colombia, and Benin have shown progressive FFPLA adoption with significant successes in scaling parcel registration, cost reduction, inclusivity, and conflict resolution (Enemark et al., 2021; Taiwo et al., 2022). For example, Rwanda registered over 11 million parcels in about five years through community participation and digital technology (Enemark et al., 2021)

However, challenges persist such as resistance from traditional institutions, rigid legal frameworks, technological capacity gaps, and political instability (Metaferia et al., 2023). Trends in digital land governance, public-private partnerships (PPPs), and adoption of AI and geospatial technologies are shaping FFPLA's evolution (Enemark et al., 2014).

4. LESSONS FROM GLOBAL IMPLEMENTATION

This chapter shifts focus to the practical key strategies, enabling tools necessary to scale FFPLA beyond initial pilots and isolated projects, paving the way for mainstreaming the approach and achieving nationwide implementation.

The transition from a pilot to a large-scale implementation represents a fundamental shift in focus and methodology. Pilots are typically small-scale, designed to test new approaches and technologies within limited geographic areas or specific population groups. Their primary goal is learning and iteration, allowing for flexibility, adaptation, and refinement based on lessons learned. Resources are often constrained, and intensive guidance and technical assistance are common. Examples of such pilots have been experienced across Rwanda, Mozambique, Benin, Indonesia, Colombia, and Kenya. A typical example was in Makueni County, Kenya, where the principles of FFPLA were applied, and a mobile application was developed for data collection.

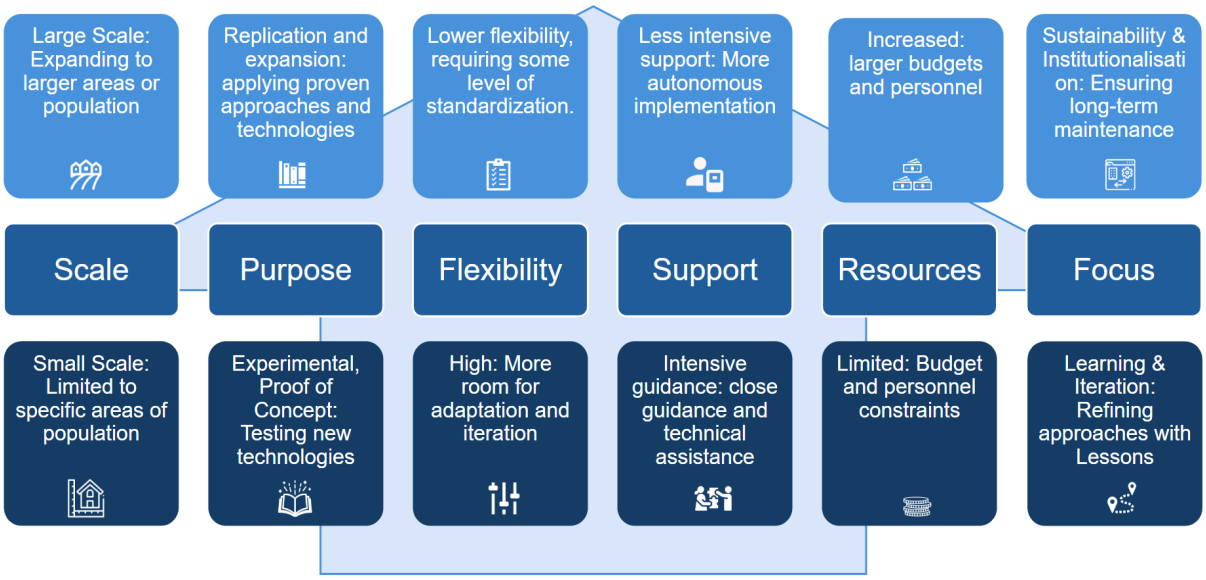

Figure 1. From Pilots to Large-Scale Implementation of Fit-for-Purpose Land Administration

In contrast, up scaling involves replicating and expanding these proven approaches and technologies to cover larger areas and populations. This requires strong political will and institutional support, as highlighted in the interview results. The focus shifts from learning to standardisation and consistency in procedures, necessitating less intensive, more independent support as the project matures. Participatory approaches, involving local communities and professionals, are crucial for successful scaling and data maintenance. Technological advancements, like mobile apps and satellite imagery, enable cost-effective and efficient data collection (FAO et al., 2022; Taiwo et al., 2024).

Ultimately, up scaling aims for sustainability and institutionalisation, ensuring the long-term viability, maintenance, and seamless integration of FFPLA approaches into existing systems and policies is possible. Legal frameworks and education are essential to ensure the long-term sustainability and acceptance of FFPLA, and overcoming resistance from traditional surveyors and legal professionals is vital for widespread adoption.

Diverse country experiences offer valuable insights:

- **Rwanda:** Rapid post-conflict parcel registration at scale through digital participatory methods demonstrates the importance of political commitment and stakeholder engagement (Enemark et al., 2021).
- **Mozambique:** Leveraged mobile technology for rural land documentation and prioritized gender equity, promoting tenure inclusion for women (Metaferia et al., 2023).
- **Benin:** Transitioned from fragmented paper systems to digital registries, emphasizing capacity building and data sustainability (Enemark et al., 2021).
- **Indonesia:** Implemented generalized boundaries and technology integration to accelerate nationwide land registration at reduced cost (Aditya et al., 2020)
- **Colombia:** Used land regularization initiatives linked to peace processes, underscoring community involvement in tenure formalization (Metaferia et al., 2023)

- **Kenya:** Piloted participatory adjudication supported by geospatial tools, facing mixed sustainability outcomes that highlight the need for institutional backing (Enemark et al., 2016; Metaferia et al., 2023)
- **Ethiopia:** Achieved large-scale rural land documentation but faces challenges upgrading urban land administration systems (Enemark et al., 2021)

Key success factors include participatory approach, technical flexibility, sustained political support, institutional capacity, appropriate technology, funding mechanisms, and legitimacy through legal recognition (Enemark et al., 2016; Metaferia et al., 2023)

5. STRATEGIES FOR SCALING FFPLA

Successful scaling from pilot projects to nationwide coverage requires a holistic approach:

- **Political and Legal Enablers:** Strong political will combined with reforms to accommodate diverse tenure types and recognize FFPLA data as authoritative is critical (Wicomb, 2025)
- **Public-Private Partnerships:** Collaborations mobilize resources and innovation, exemplified in Rwanda's and Ghana's land administration projects (Enemark et al., 2021).
- **Capacity Development:** Training across government, private sector, and communities ensures competent FFPLA implementation and sustainability (Metaferia et al., 2023).
- **Building Trust and Legitimacy:** Integrating customary and informal tenure recognition fosters public confidence and social acceptance (Wicomb, 2025).
- These key strategies encapsulate the necessary activities required in overcoming resistance and upscaling the FFPLA approach, thereby ensuring the security of tenure for all.

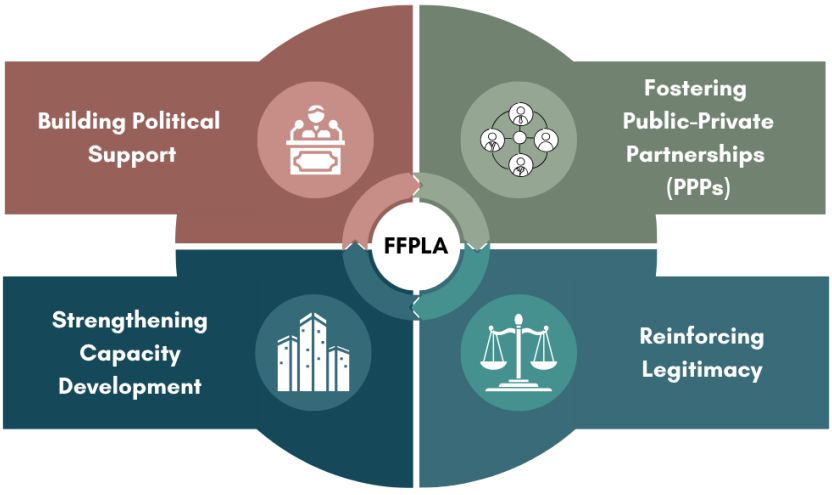

Figure 2. Key Strategies for mainstreaming FFPLA

These strategies stress multi-sector collaboration involving governments, private companies, and civil society to ensure institutionalization and resilience of FFPLA systems (Enemark et al., 2016, 2021).

5.1. Toward Universal Land Tenure Security by 2030

Universal tenure security aligns squarely with SDG target 1.4 to ensure equal rights to ownership and control over land. FFPLA offers a pragmatic pathway toward this target by enabling affordable, inclusive land administration tailored to diverse contexts (Enemark et al., 2016).
Key enablers include uninterrupted political commitment, adequate funding, systematic capacity enhancements, responsible technology use, and inclusive governance structures (Metaferia et al., 2023; Wicomb, 2025)
A call to action is necessary for all stakeholders to embrace FFPLA principles, invest in innovation with equity, and intensify partnerships to overcome barriers quickly and effectively (Enemark et al., 2021)

6. CONCLUSION

Fit-for-Purpose Land Administration represents a transformative strategy to address global land tenure challenges by marrying affordability, inclusivity, rapid deployment, and scalability. Global experiences underscore its potential to radically expand secure tenure, support economic development, and enhance governance.
While challenges remain, particularly institutional resistance and legal rigidity, FFPLA's foundational principles and emerging technological and policy trends provide robust avenues toward mainstreaming. Success will depend on political advocacy, legal reforms, collaborative partnerships, capacity strengthening, and technological integration.
The urgency to secure land tenure for all requires embracing FFPLA pathways as essential components of global land governance reforms and sustainable development.

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BIOGRAPHICAL NOTES

Israel Oluwaseun Taiwo
Israel Oluwaseun Taiwo is a geomatics lecturer in the Surveying and Geoinformatics department of the Federal Polytechnic Ado-Ekiti, Nigeria where he currently serves as acting Head of Department. With expertise in the application of remote sensing data for land administration, he holds a PhD in Remote Sensing and GIS from the the Federal University of Technology, Akure. Israel is a registered Surveyor with the Surveyors Council of Nigeria, an active member of the Nigerian Institution of Surveyors and the International Federation of Surveyors (FIG). Israel currently chairs the FIG working group 7.2 - Fit-for-Purpose Land Administration (FFPLA), where he focuses on engaging the challenges of scaling up FFPLA approaches and fostering efforts to ensure the security of tenure for all. He believes that volunteering is fundamental to achieving the Sustainable Development Goals.

Paula DIJKSTRA
As the Director of Kadaster International, Paula oversees the coordination of the organization's global initiatives and international cooperation projects. Kadaster International offers consultancy services to governments worldwide in land administration, geoinformation services, e-governance, and SDI implementation. Joining the international department in 2011, Paula brings extensive experience to her role.
Her academic background includes a Master's degree in Social Geography, complemented by specialized training in GIS, cadastral data acquisition, and 3D modelling. Currently, Paula serves as the chair of the FIG task force dedicated to advancing the Sustainable Development

Goals. Also, she is appointed as co-chair of the UNGGIM Expert Group on Land Administration Management.

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