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Item 11 of the provisional agenda*

Application of geospatial information related to land administration and management

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Note by the Secretariat

Summary

The present paper contains the report of the Expert Group on Land Administration and Management for consideration by the Committee of Experts on Global Geospatial Information Management.

At its eleventh session, held virtually on 23, 24 and 27 August 2021, the Committee of Experts adopted decision 11/107, in which it expressed its appreciation for the efforts of the Expert Group in continuing to take practical outreach actions to advocate and raise awareness of the importance of timely and effective fit-for-purpose land administration that must be affordable and accessible by all. The Committee also expressed its appreciation for the Expert Group's utilization of the Implementation Guide of the Integrated Geospatial Information Framework as a reference resource when considering guidance to implement the Framework for Effective Land Administration at the country level.

The Committee of Experts noted the initial consideration of the five key elements for implementing the Framework for Effective Land Administration at the country level, which translate concepts into practical guidance. The Committee urged the Expert Group to further consider the increased and complex rights, restrictions and responsibilities associated with land; the increasingly digital and mobile access to land information; the integration of building information modelling and the cadastre; and the cybersecurity and data security mechanisms needed to protect vital land information assets. The Committee welcomed the volunteered efforts of Member States to translate the Framework into languages other than English as an important step in continuing advocacy, raising awareness and promoting the merits and benefits of effective land administration. Last, the Committee noted that the Expert Group planned to convene a formal meeting, together with an international seminar on effective land administration, when global conditions permitted.

According to the report, effective land administration is fit-for-purpose, appropriate and adequate, interoperable, sustainable, flexible, inclusive and able to accelerate efforts to document, record, recognize and monitor people-to-land relationships in all their forms. Effective land administration provides humanity with better access to and security of land and property rights and supports the principle of leaving no one behind – one of the commitments under the 2030 Agenda for Sustainable Development. Under the Framework, a plurality of tenure types, globally agreed concepts and approaches are covered, the use of applicable internationally agreed standards is promoted and the need to respect the inherent rights of indigenous peoples to their lands, territories and resources, as well as their traditions and customs, is recognized. Land administration relates people to land and provides information on the how, what, who, when and where of land tenure, land use, land value and land development. Land administration systems are

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the basis for recording the complex range of rights, restrictions and responsibilities related to people, places and policies.

In this report, the Expert Group provides information on its activities, including progress on its workplan for the period 2020–2022 and efforts to update the workplan for the ensuing period. Efforts would continue to be prioritized in the workplan to advocate and raise awareness of effective land administration and ensure the usefulness of the adopted Framework based on national circumstances. The Expert Group reports on its fourth formal meeting, which was hosted by the Government of Singapore through the Singapore Land Authority as in-person event on 16, 18 and 20 May 2022. A United Nations Global Geospatial Information Management international seminar on the theme “Effective land administration” was organized in conjunction with the fourth meeting of the Expert Group, on 17 and 19 May 2022, supported by the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific.

The report also contains information on the ongoing consideration by the Expert Group to utilize the Implementation Guide of the Integrated Geospatial Information Framework as a reference resource when developing guidance to implement the Framework for Effective Land Administration at the country level, including appropriate assessment mechanisms that account for all nine pathways of the Framework for Effective Land Administration to support its implementation. In this regard, the Expert Group continued its consideration of a working modality to periodically review, update and maintain the Framework as a living document.

This report further provides the Committee of Experts with an overview of initial exchanges and considerations, with particular reference to the international seminar, with regard to issues related to the increased and complex rights, restrictions and responsibilities associated with land; the increasingly digital and mobile access to land information; the integration of the built environment and the cadastre; the cybersecurity and data security mechanisms needed to protect vital land information assets; and the integration of terrestrial, maritime and cadastral domains.

I. Introduction

1. The 2030 Agenda for Sustainable Development is a global plan of action for people, planet, prosperity, peace, and partnerships. When realized, the lives of all will be profoundly improved, and the world transformed for the better. Considering that most humanity do not enjoy secure land and property rights, to create sustainable and inclusive societies, there is a need to accelerate efforts to document, record and recognize people to land relationships in all forms, ensuring that no one is left behind.

2. At its eleventh session, held virtually on 23, 24 and 27 August 2021, the Committee of Experts adopted decision 11/107, in which it noted the efforts of the Expert Group in continuing to take practical outreach and actions to advocate and raise awareness of the importance of effective land administration that must be affordable and accessible by all. The Committee appreciated the Expert Group utilizing the Integrated Geospatial Information Framework (IGIF) Implementation Guide as a reference resource when considering guidance to implement the Framework for Effective Land Administration (FELA) at the country level. The Committee of Experts also noted the initial consideration of the five key elements to translate concepts into practical guidance when implementing the FELA at the country level.

4. At its eleventh session, the Committee urged the Expert Group to further consider: the increased and complex rights, restrictions and responsibilities associated with land; the increasingly digital and mobile access to land information; the integration of building information modelling (BIM) and the cadastre; and the cybersecurity and data security mechanisms needed to protect vital land information assets. The Committee welcomed the volunteered efforts from Member States to translate the FELA into languages other than English as an important step in continuing advocacy, raising awareness, and promoting the merits and benefits of effective land administration. Finally, the Committee of Experts noted that the Expert Group planned to convene a formal meeting, together with an international seminar on ‘effective land administration’, when global conditions permit.

5. The Expert Group continues to advocate and raise awareness of the merits and benefits of effective land administration and the usefulness of the adopted FELA based on national circumstances. The FELA with nine pathways aligned to the nine strategic pathways of the IGIF, seeks to provide the reference and guidance for Member States with regard to administering the relationships between people and land, and when establishing, strengthening, coordinating, and monitoring their land administration nationally or sub-nationally. Land administration relates people to land and informs on the ‘how’, the ‘what’, the ‘who’, the ‘when’ and the ‘where’ of land tenure, land use, land value, and land development. Land administration systems are the basis for recording the complex range of rights, restrictions and responsibilities related to people, places, and policies.

7. Effective land administration is fit-for-purpose, appropriate and adequate, interoperable, sustainable, flexible, inclusive, and able to accelerate efforts to document, record, recognize, and monitor people to land relationships in all forms. Effective land administration provides humanity with better access to and security of land and property rights leaving no one behind – the commitment of the 2030 Agenda for Sustainable Development. The FELA embraces a plurality of tenure types, globally agreed concepts and approaches, promotes the use of applicable internationally agreed standards, and recognized the need to respect the inherent rights of indigenous peoples to their lands, territories, and resources, as well as traditions and customs.

8. This present report provides information on the Expert Groups’ membership, progress and activities, including on the review and update of its work plan for the period 2020 – 2022, on efforts to advocate and raise awareness of effective land administration, and ensure the

usefulness of the FELA. The Committee of Experts is invited to take note of the report and express its views on the Expert Groups' activities and considerations. Points for discussion and decision are provided in paragraph 32.

II. Membership and activities

9. During this intersessional period, Germany, the Philippines, and Tajikistan joined the Expert Group. The Expert Group is presently comprised of expert representatives from 28 Member States, 4 entities from the UN System and 7 from relevant organizations from within the Committee of Experts' stakeholder community. The Expert Group convened two virtual meetings during this intersessional period, its eleventh on 18 January 2022 and its twelfth on 6 July 2022. These meetings afforded opportunities for the Expert Group to review and consider its activities and progress of its work plan for the period 2020 - 2022.

10. At its formal in-person fourth meeting in Singapore, between 16 - 22 May 2022, the Expert Group was informed that the Netherlands is stepping down as a co-Chair after seven years in this leadership role. The Expert Group expressed its sincere appreciation and gratitude to the Netherlands for its contributions and leadership, including in the lead up to the establishment of the Expert Group in 2015. During the twelfth virtual meeting of the Expert Group on 6 July 2022, members welcomed Singapore as co-Chair of the Expert Group together with Chile, commencing from the twelfth session of the Committee of Experts. It should be noted that Chile is currently serving its first three-year period as co-Chair.

11. The Expert Group continues to encourage the translation of the FELA into languages other than English by its members. These volunteered translation efforts support the raising of awareness, promote better understanding, and encourage the implementation of FELA at the national and sub-national levels. The Expert Group expressed appreciation to Belgium for the French translation and to the Netherlands for the Dutch translation. The Expert Group welcomes further volunteered efforts from Member States to translate the FELA into languages other than Arabic, Chinese, Dutch, English, French and Spanish.

12. The Expert Group participated in the meeting of the executive board of the Regional Committee of United Nations Global Geospatial Information Management for Asia and the Pacific (UN-GGIM-AP), which was hosted by Singapore on 16 May 2022. The Expert Group also participated in the discussion related to authoritative data, authority and custodianship at the sixteenth virtual meeting of the Working Group on Policy and Legal Frameworks for Geospatial Information Management.

13. The Expert Group kept abreast with the development and status of ISO 19152 – Land Administration Domain Model (LADM) second edition, which will be in six parts. The Expert Group was briefed of ongoing development and status by the Technical Committee 211 of the International Organization for Standardization (ISO-TC211) during its fourth meeting in Singapore and participated in the LADM 2022 workshop held in Dubrovnik, Croatia from 30th March – 1st April 2022.

14. The Expert Group participated and contributed to the Regional Workshop on Strengthening National Geospatial Information Management organized by the Pacific Geospatial and Surveying Council (PGSC), the Ministry of Land and Mineral Resources, Fiji and the Pacific Community (SPC) support by the UN-GGIM Secretariat from 16 to 17 June 2022 in Suva, Fiji. At this workshop, the Expert Group introduced the FELA and advocated for effective land administration amongst Pacific island countries and territories. The presentation related effective land administration and the FELA to climate change, with a special focus on island countries and territories, referencing the second part of the Sixth

Assessment Report, Climate Change 2022: Impacts, Adaptation and Vulnerability¹ of the Intergovernmental Panel on Climate Change (IPCC).

15. The Expert Group and the European Spatial Data Research (EuroSDR) organization initiated a research project, with a focus on the European region, aimed to raise awareness of the merits and benefits of effective land administration and share knowledge and experience leveraging the FELA as the overarching policy guidance. The objectives of this initiative are:

- (a) to share and promote the FELA;
- (b) to gain wider insights and appreciation through an online survey and interviews with key actors;
- (c) to organize workshop to discuss findings and gather additional inputs to validate the research findings;
- (d) to publish research findings as an official EuroSDR publication that is scientifically indexed and made widely available as an open access publication – and various other formats; and
- (e) to transfer research findings through the organization of an EduServ course.

16. The above research project is ongoing, the online survey was designed and completed, and initial contributions gathered. The progress and outcome of this research project will be continuously shared with the Expert Group.

17. The Expert Group will contribute to the technical program of the XXVII Congress of the International Federation of Surveyors (FIG) from 11 - 25 September 2022 in Warsaw, Poland to further promote the FELA and raise awareness of the merits and benefits of effective land administration. Additionally, the provisional findings of the joint research project with EuroSDR are expected to be shared to further raise awareness of the usefulness of the FELA.

III. Fourth meeting of the Expert Group and International Seminar

18. The formal in-person fourth meeting of the Expert Group was convened in Singapore between 16 - 20 May 2022 in conjunction with the International Seminar on United Nations Global Geospatial Information Management with the theme 'effective land administration'. The Government of Singapore, through the Singapore Land Authority (SLA), ably hosted the meeting and International Seminar, the latter of which was supported by UN-GGIM-AP. All participants of the fourth meeting also participated and contributed to the International Seminar held on 17 and 19 May 2022, at the same venue, the Suntec Convention and Exhibition Centre. The week in Singapore was arranged as follows:

¹ https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FinalDraft_FullReport.pdf

	MONDAY 16 MAY	TUESDAY 17 MAY	WEDNESDAY 18 MAY	THURSDAY 19 MAY	FRIDAY 20 MAY
MORNINGS	Fourth expert meeting of EG-LAM (by invitation only)	International Seminar on Effective Land Administration	Fourth expert meeting of EG-LAM (by invitation only)	International Seminar on Effective Land Administration	Fourth expert meeting of EG-LAM (by invitation only)
AFTERNOONS	UN-GGIM-AP Executive Board meeting (by invitation only ¹)	International Seminar on Effective Land Administration	Technical study visit (by invitation only)	International Seminar on Effective Land Administration	Fourth expert meeting of EG-LAM (by invitation only)

19. The fourth meeting was attended by 52 participants, representatives of 18 Member States and 6 international organizations and the United Nations system. The Expert Group discussed and considered:

- (a) **Rights, restrictions, and responsibilities (RRRs) associated with land.** Emphasizing the need to document, record and register rights, restrictions and responsibilities associated with land to leave no one behind. The Expert Group expressed that rich land data allows a more accurate and holistic understanding of land and the urgent need to envision land for future generations with long term plans, mapping out visions including for the current 40-50 year age group, cognizant of the needed social, environmental, and economic protection vis-à-vis land. In the discussion, the Expert Group recognized the ability of governments to organize and integrate land information if attributes relating to RRRs including their spatial extent, duration, people involved, and purpose are defined in a uniform fashion and stored in authentic registers. The documentation, recordation, and registration of RRRs are seen as able to contribute to quality of life and wellbeing for all.
- (b) **Digital and mobile access to land information.** The Expert Group emphasized the need to embrace technology to improve the user experience and data usage, noting the trend to migrate to fully digital platforms. And, by recognizing that every country is at different levels of development regarding their land administration and that accessibility must be inclusive at the same time, consider the need of people without digital or mobile access to land information. The Expert Group also confirmed their understanding that rich and good land data and information contributes to evidence-based decision. Improving digital and mobile access to land information and thus data sharing and integration, help to streamline regulatory processes in land administration improving consistency and reliability of data. Effective land administration foresees the accessibility of nationally uniform and open information for all actors as prerequisite.
- (c) **Integration of the built environment and the cadastre.** The importance of land administration was emphasized with regards to efficient and accurate infrastructure planning and service delivery. Land administration processes and systems developed in an environmentally responsible manner, and within an urban setting, optimize limited land and sea spaces. With the integration of the built environment, there is the ‘whole of space’ approach, requiring collaboration and trust between government agencies with differing mandates and responsibilities (urban planning, building control, land administration and cadastre, etc.) including academia and the private sector. In this regard, data,

methodologies and tools for such an approach were highlighted. This integration is seen as an opportunity to integrate data across multiple agencies, timescales, and formats with interoperability at the core. Further, within this discussion, the chance to leverage inter-agency collaborative processes to update and maintain data was stressed.

- (d) **Cybersecurity and data security mechanisms needed to protect vital information assets.** The Expert Group stressed the importance of cybersecurity and data security mechanisms, and agreed on the need to adhere to current and evolving security standards which include role-based control over data, single sign on and encryption when called for, etc. Further, trusted land registration and cadastral survey systems provide certainty essential for confidence and efficiency in land transactions and hence in the land administration systems. Special attention towards cybersecurity and data security needs to be given when improving the management of land and survey records and information while promoting transparency, accountability, and integrity, and including consideration for data privacy and protection. Authoritative and authenticated data and sound data quality management are seen to be imperative when the land administration embraces emergent technologies such as the use of artificial intelligence algorithms and machine learning, the distribution of data and access through platforms, portals, and data hubs.

20. There was continuous recognition of the need to address adequate and appropriate data and information, to leverage technologies and technological innovations to efficiently collect, collate, and consume reliable, timely and quality data and information for land administration and management, and to share and disseminate land information. It was stressed that effective land administration is dependent on digital transformation to ensure the availability and accessibility of current, comprehensive, and credible data.

21. The Expert Group, in concluding its week in Singapore, expressed its gratitude and congratulated the Singapore Land Authority for the fruitful and successful fourth meeting and the International Seminar. The opportunity and value of such a face-to-face meeting, the in-person engagement, interaction and networking were highly appreciated by participants and commended. In the interim, the Expert Group expects to continue leveraging virtual meetings to advance its work plan. The Expert Group met virtually on 6 July 2022 and expects to convene another virtual meeting after this twelfth session of the Committee of Experts. The Expert Group also considered its next face-to-face meeting after the thirteenth session of the Committee of Experts in 2023.

IV. Workplan 2020 - 2022

22. At its eleventh session, the Committee of Experts requested the Expert Group to continue to raise awareness and advocate for effective land administration, ensuring the usefulness of the adopted FELA within the context of national circumstances. The Expert Group is expected to utilize the IGIF Implementation Guide as a reference resource when developing guidance to implement the FELA at the country level; share and exchange knowledge, information, and experiences, including relevant use cases, practices, and examples; address cultural, professional, and technological barriers; and engage and collaborate with the regional committees and thematic groups of UN-GGIM as appropriate.

23. In this context, the work plan of the Expert Group for 2020 – 2022, as agreed by the Expert Group after the tenth session, had the following focus:

- (a) Addressing the guidance, feedback and comments provided by the Committee of Experts at its tenth session;

- (b) Advocating and raising awareness of the merits and benefits of effective land administration, and share knowledge and experience leveraging the FELA as the overarching policy guidance that can be referenced by Member States;
- (c) Leveraging the IGIF Implementation Guide to translate the overarching guidance and concepts of the FELA into practical implementation guidance and actions for Member States when implementing the FELA;
- (d) Establishing a modality to periodically review, update and tailor the FELA, as living document, cognizant of the changing and evolving societal, economic, environmental, political, and technological landscapes and national circumstances;
- (e) Providing a forum for dialogue and coordination between Member States, United Nations system, international organizations, and experts with a view to advocate, promote and deliver effective land administration;
- (f) Addressing issues, gaps and appropriate approaches including that of access to basic datasets, to accelerate efforts in documenting, recording, and recognizing people-to-land relationship in all its forms; and
- (g) Leveraging synergies, avoid duplication through collaboration with other functional and thematic groups of UN-GGIM.

24. At its twelfth virtual meeting, the Expert Group began consideration of an inventory of the issues to be covered by its updated work plan 2022 – 2024. Members suggested that, whilst the Expert Group continues to focus on promoting and raising awareness of the merits and benefits of effective land administration, and to advocate for the implementation of FELA at the country-level, the next work plan should also address issues related to effective land administration. Apart from: i) rights, restrictions, and responsibilities associated with land; ii) the digital and mobile access to land information; iii) cybersecurity and data security mechanisms and iv) integration of built environment and the cadastre; the inventory of issues should include the integration of terrestrial, maritime and cadastral domains; climate change; and valuation, property taxation and market transparency. In this regard, the Expert Group will further cooperate with the Working Group on Marine and Geospatial Information and the Working Group on Policy and Legal Frameworks for Geospatial Information Management and also continue to engage regional committees and relevant stakeholders.

V. Next steps and considerations

25. The Expert Group seeks opportunities to engage and work with the regional committees of UN-GGIM to advocate the importance, merits, and benefits of effective land administration. Initiatives such as the research project jointly with EuroSDR, and the regional workshop 16-17 June 2022 in Suva, Fiji, emphasized the need to engage with experts from all regions to raise awareness and advocate for effective land administration, and encourage the implementation of the FELA, the overarching policy guidance for the land sector.

26. Going forward, the Expert Group seeks to collaborate with the Working Group on Marine Geospatial Information to establish a closer link between the FELA and the Operational Framework for Integrated Marine Geospatial Information Management (IGIF-H) and to jointly consider the integration of terrestrial, maritime and cadastral domains. The importance of comprehensive or holistic spatial planning processes which encompasses land, coastal area and the sea were emphasized at its meetings including the International Seminar. The Expert will also continue to work with the Working Group on Policy and Legal Frameworks for Geospatial Information Management on matters related to data privacy and protection including issues related to authoritative data.

27. The Expert Group further considered the implementation of the FELA together with the IGIF. During the fourth meeting of the Expert Group in Singapore, it was reiterated that any guidance for implementing the FELA must leverage the guidance and resources provided in the IGIF Implementation Guide, recognizing that national circumstances may require further elaborating and adapting the guidance and recommended actions, as appropriate.

28. The Expert Group was urged by its members to cooperate with the International Federation of Surveyors (FIG) Commission 7 on the implementation of the FELA. An aspect of this cooperation could be the development of resource materials to support capacity and capability strengthening for the implementation of the FELA and the IGIF, and that such cooperative activity be considered in its work plan for 2022 – 2024. The Expert Group also expressed the need to cooperate with academia and the private sector to develop, pilot and apply technical processes and methods in land administration.

29. Considering the presentations and discussions at both the Expert Group's fourth meeting and the International Seminar in Singapore, the Expert Group sees the necessity to address land administration within an 'ecosystem' or 'interconnected domains' to be effective. Further, the Expert Group witnessed the progressing relevance and value of effective land administration in the context of 'security of tenure and food security' (the Addis Declaration, 2016); importance of 'standardization' during the Delft Meeting (2017); 'land conflicts, migration and peace' during the Deqing Meeting (2019); and 'climate change' at its Singapore Meeting (2022). Thus, the Expert Group advocates for greater flexibility and innovation in land administration and management to strengthen resilience, given the impacts of climate change. Addressing the climate crisis requires more integrated information on land tenure, land value, land development, land use and land use change to effectively administer and manage land.

30. The Expert Group welcomes further volunteered efforts from Member States to translate the FELA into additional languages to support raising of awareness, promote better understanding, and encourage the implementation of FELA at the national level.

31. The Expert Group proposes to organize its formal fifth in-person meeting in 2023, after the thirteenth session of the Committee of Experts, provided there is a Member State ready to host the Expert Group, preferably in conjunction with an international seminar.

VI. Points for discussion

32. The Committee of Experts is invited to:

(a) Take note of the present report and the work and progress of the Expert Group on Land Administration and Management during this intersessional period;

(b) Provide views and guidance to further improve advocacy and awareness of the Framework for Effective Land Administration together with the merits and benefits of effective land administration; and

(c) Provide views and guidance to its consideration and development of a work plan for 2022 - 2024.