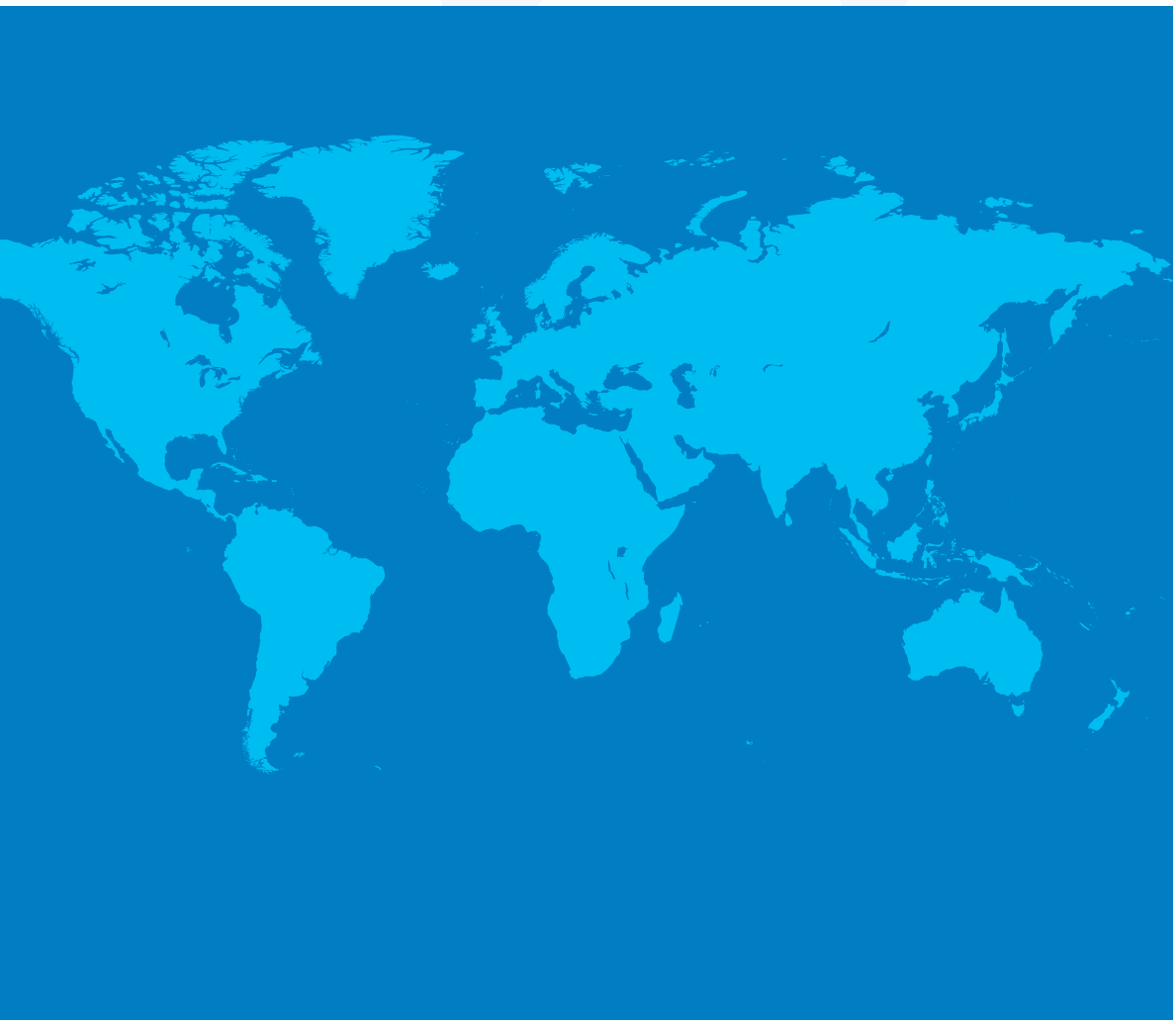
GLII WORKING PAPER NO. 3 / 2015



PROPOSED GLOBAL LAND INDICATORS

STATUS REPORT ON GLII INDICATOR FORMULATION, DISAGGREGATION, DATA SOURCES AND METHODOLOGY

SECURING LAND AND PROPERTY RIGHTS FOR ALL

UN HABITAT
FOR A BETTER URBAN FUTURE

GLII
GLOBAL LAND INDICATORS INITIATIVE

GLTN
GLOBAL LAND TOOL NETWORK

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Layout and Printing:	UNON, Publishing Services Section, Nairobi, ISO 14001:2004-certified

CITATION
Quan, J., and Kumar, R., (2017) Proposed Global Land Indicators: Status report on GLII indicator formulation, disaggregation, data sources and methodology. Global Land Indicators Initiative (GLII) Working Paper Number 3. UN HABITAT / GLTN Nairobi. Drafted October 2015

ACKNOWLEDGEMENTS:
GLTN and the author are grateful for advice and assistance in preparation of this document provided by independent consultants, Dr Alain Durand Lasserve and Dr Gora Mboup, and by NRI team members Ravinder Kumar and Lora Forsythe. We are grateful for the helpful guidance and support provided by GLII coordinator, Esther Obaikol, and other colleagues at GLTN, and for valuable contributions and comments from the following people and organizations: Diana Fletschner, LANDESA; Dieudonne Mouafou, Land Policy Initiative for Africa (LPI); Esther Obaikol, UN-Habitat / GLTN; Geertrui Louwagie, European Environment Agency; Karishma Boroowa, International Land Coalition (ILC); Jennifer Lisher, Millennium Challenge Corporation (MCC); Luca Miggiano, Oxfam; Nuria de Oca, World Bank; Marc Wegerif, Oxfam; Mercedes Stickler, USAID; Mike Barry, University of Calgary; Robin Mclaren, Know-edge Ltd.; Stefan Svenson, Lantmateriet (Swedish mapping, cadastral and land registration authority); and Tim Wilson, UNECA Statistical Office.

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BACKGROUND

INTRODUCTION

This document, compiled in October 2015, provides a status report on the development of the GLII land indicators, including the latest listing and formulations of proposed indicators, key elements for disaggregation, and broad considerations on data sources and methodologies for data collection and assessment. It is made available for consideration by GLII participants, partners and stakeholder organizations, together with a series of working papers on the GLII Conceptual Framework, and Operationalizing the GLII indicator framework a Sourcebook and a Curriculum for prepared by a team managed by the Natural Resources Institute (NRI, University of Greenwich).

The proposed indicators and continuing development of the GLII indicator framework are informed by discussions with a GLII Data and Statistics Reference Group, convened by GLTN to assist in refining the full list of indicators indicator and defining the data sources and methods. This group has discussed extensively the latest formulations, disaggregation, data sources and methodology of draft land indicators, in relation to the formulations of land indicators proposed for and now adopted for the framework of the Sustainable Development Goals (SDGs) by the United Nations Sustainable Development Solutions Network (UNSDSN) and United Nations Statistics Commission (UNSC). These discussions, resulted in a number of proposed revisions to the indicators as formulated by the GLII Working Group in The Hague in October 2014, and accepted by a GLII EGM held in Addis Ababa the following month.

At the time of writing the priorities were for GLII is to finalise the indicator framework based on the share principles and priorities of GLII participants and the organizations represented, to define relevant data sources and to propose feasible and robust methodologies for measurement and reporting, linked to existing relevant initiatives. Now that GLII indicators 1 and 2 have been incorporated into the SDG indicator framework, those ongoing activities remain essential for operationalizing the GLII indicator framework and enabling the collaboration of national statistical organizations in land monitoring.

This document is now accompanied by a Sourcebook on data sources and methodologies for measurement and assessment of land indicators (GLII Working Paper No. 4).

1 GLII in consultation with NRI has constituted a Data and Statistics Reference Group for finalization of data sources and methodologies for presentation at the World Bank Land and Poverty conference in Washington D.C. in late March 2015. The members of the group are:

- Gora Mboup – former head of UN-Habitat Urban Observatory and Director Global Observatory linking Research to Action (GORA for People), New York / Dakar: gmboub@gora4people.org
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- Diana Fletschner - Sr. Director, Research, Monitoring and Evaluation, Landesa - DianaF@landesa.org

In addition the following people will be involved in supporting and documenting the work of the group:

- Data and Statistics coordinator for NRI team assisting GLII: Ravi Kumar, Natural Resources Institute, University of Greenwich, UK: r.kumar@gre.ac.uk
- NRI team leader assisting GLII: Julian Quan, Natural Resources Institute, University of Greenwich, UK: j.f.quan@gre.ac.uk
- Dr Alain Durand Lasserve, GLTN consultant working with the NRI team on Concepts and Definitions to support the indicators and the GLII Conceptual Framework: a.durand-lasserve@wanadoo.fr
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LIST OF PROPOSED INDICATORS

LAND TENURE SECURITY

1. Documented land rights: Percentage of women and men with legally recognized documentation or evidence of secure rights to land
2. Perceived tenure security: Percentage of women and men who perceive their rights to land are protected against dispossession or eviction
3. Tenure security under a plurality of tenure regimes: Level of legal recognition and protection of land rights and uses derived through a plurality of tenure regimes
4. Equal rights of women: Level to which women and men have equal rights to land, including rights to use, control, own, inherit and transact these rights
5. Indigenous land rights: Proportion of indigenous and community groups with claims to land, and percentage of land areas claimed and utilized by them that have legally recognized documentation or evidence of secure rights to land

LAND CONFLICTS AND LAND DISPUTES: (THREE NEW PROPOSED INDICATORS)

6 Frequency of land disputes and conflicts: Percentage of women and men, Indigenous Peoples and local communities who have experienced land, housing or property disputes or conflict in the past X[2] years

7 Availability of dispute-resolution mechanisms: Percentage of women and men, indigenous and local communities that have access to effective dispute-resolution mechanisms

8 Land dispute resolution effectiveness: Percentage of women and men, indigenous and local communities who reported a conflict or dispute in the past X[3] years that have had the conflict or dispute resolved.

- An additional indicator has been suggested: Percentage of all cases tried by national courts that concern land disputes.

2 Appropriate number of years to be decided
3 See footnote 2.

LAND ADMINISTRATION SERVICES

9 Land administration efficiency: Range of times and costs to conduct land transaction

10 Transparency of land information: Level to which land information is available for public access

11 Land administration availability: level to which all users, including women and vulnerable groups, have equal access to land administration services

12 Mobilization of land-based taxes: Government tax derived from land-based sources as a percentage of total government revenue

13 Land area mapped: Proportion of national land areas with rights holders identified that is incorporated into cadastral maps / land information systems.

In addition, formulation of specific potential indicators was suggested at the EGM, so as to address:

- Land administration capacity: e.g. average number of transactions conducted (or concluded) per week (or per month, per year) as a percentage of the total number of processes pending (for a defined set of types of transaction)
- Land administration accuracy: e.g. extent to which government provides protection or reimbursement for losses incurred by the mistakes caused by official land agencies
- Affirmative action: extent of affirmative action to promote land access and tenure security of identified vulnerable groups.

SUSTAINABLE LAND USE

14 Aggregate national changes in land-use sustainability: Changes in the geographical extent of sustainable land use, measured by i) land cover/ land-use change; ii) land productivity change; and iii) soil organic carbon change.

15 Progress in sustainable land-use planning: Proportions of rural and urban administrative districts or units in which land use change and land

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development are governed by sustainable land-use plans that take account of the rights and interests of the local land users and land owners.

03

PRINCIPLES AND PERSPECTIVES FOR DEVELOPING THE GLII INDICATOR FRAMEWORK

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Given the current uncertainties with the development of the overall SDG indicator framework and the incorporation of land, some general principles and perspectives for the work of GLII during 2015 are outlined below. These proposed principles can potentially orient discussions at the EGM and subsequent work to take forward the indicator framework. They overlap with principles set out in the conceptual framework, and following discussion by the EGM, could be integrated with it.

i. Develop a comprehensive and effective set of indicators for monitoring land governance: Consider the extent to which the indicator list as a whole responds effectively to GLII stakeholder concerns with the overall quality of land governance, and meets the needs of the various SDGs that refer directly or indirectly to land rights. This includes the need to identify gaps and deficiencies in the present formulations for capturing fundamental concerns (e.g. on questions of appropriateness and accessibility of land-dispute resolution and land administration systems, and levels of inequality in distribution of land and the loss of land rights by the poor.

ii. Focus on development of robust methodologies for indicator tracking, with a view to enabling gradual uptake of land indicators in relation to the SDGs: The key requirements are to progress development of methodologies that enable data collection on land indicators to be embedded in routine data collection by national statistical systems, and feasible complementary methodologies for expert and stakeholder assessment of progress in land governance.

iii. Catalysing partnerships for mainstreaming land monitoring: Establish a partnership arrangement for complementary analysis and reporting on land issues alongside what can be done within the SDG framework, to enable gradual uptake and integration of land indicators, even if land is initially only partially incorporated in relation to some goals e.g. Sustainable Cities and Gender Equality).

iv. Defines GLII roles as facilitator on land monitoring at global scale: Define arrangements whereby GLII can contribute as a stakeholder platform to the supervision, coordination and implementation of data analysis for global land monitoring for purposes of the SDGs and for broader complementary monitoring and understanding of land governance as a whole. This may involve conducting global analysis of country and regional data sets derived from DHS and global polls on questions that cannot easily be captured by country-level reporting.

v. Promoting platforms at country level for land monitoring: Promote in-country multi- stakeholder platforms for triangulation of survey and land administration data, annual review and reporting of country land data for the SDGs, and complementary analysis and reporting, providing the necessary methodological guidance.

vi. Promote harmonization and alignment of global databases and initiatives for land monitoring: Assess the extent to which existing global assessment initiatives and databases, such as those operated by the World Bank (LGAF), UN-Habitat, the Food and Agriculture Organization of the United Nations (FAO) and the Land Portal can be used and adapted to provide data for tracking the proposed GLII indicators and for harmonized global monitoring efforts that can capture progress in implementation globally of the Voluntary Guidelines on the Governance of Tenure, and regionally for Africa, the Land Policy Initiative Framework and Guidelines.

vii. Contributing to design of harmonized data sources: Engage with the design of land modules for Demographic and Household Surveys (DHS), census and poverty surveys, which may be able to collect data relevant to the longer list.

viii. Integrating land monitoring into relevant ongoing development initiatives: Integrate and harmonize the land monitoring into development programmes and initiatives of international development agencies, bilateral donors, regional initiatives (such as the African LPI) and national governments to help ensure that land monitoring for purposes of both the SDGs and longer term efforts to deepen stakeholder understanding and learning is conducted in the proposed form, with defined standards and methodologies, in an increasing number of developing and transition countries.

ix. Extending frontiers of knowledge on land monitoring: Encourage further research and monitoring initiatives which gradually extend the depth of analysis and reporting of country-level information and the level of country coverage.

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PROPOSED INDICATOR FORMULATIONS, RATIONALE AND DATA SOURCES

4.1 TENURE SECURITY

Indicators 1 and 2, focusing respectively on measurement of documented land rights and perceived tenure security, were prioritized by GLII as candidate indicators for inclusion in the SDG framework, together with indicators 3 and 4, which are more qualitative, process-related indicators focused on the extent to which countries recognize and support multiple tenure systems, including both statutory and customary, and levels to which women and men have equal rights in land.

As a result, proposed indicators for tenure security have been discussed extensively in relation to existing data sources and feasible methodologies for new data collection, resulting in clear proposals and agreement on the formulation of these indicators. The GLII Data and Statistics Reference Group agreed that a proposed UNSC headline indicator – "Proportion of the adult population with land tenure that is legally recognized and documented or perceived as secure, by sex and age group" – should be broken down into specific indicators (GLII indicators 1 and 2) to measure separately the extend of documentation of legally recognized tenure rights and land users' perceptions of tenure security:

Indicator 1. *Percentage of women and men with legally recognized documentation and evidence of secure rights to land.*

Indicator 2. *Percentage of women and men who perceive that their rights to land are protected against dispossession or eviction.*

Indicators that focus on (i) documented evidence and (ii) perceived protection of land rights are both necessary to provide a full picture of the tenure security. Although those without land rights documentation may frequently perceive their land rights to be under threat, and those with documentation may feel effectively protected, there may be situations where documented land rights alone are insufficient to guarantee tenure security. Conversely, even without legally recognized documentation, individuals may feel themselves to be protected against eviction or dispossession. Therefore, capturing and analysing these diverse ranges of situations will enable a more comprehensive understanding of land rights and tenure security in a country.

The NRI team concluded that it is not practical to retain mention of organizations and communities alongside individual women and men in the same indicator. However, the measurement of documented land rights and perceptions of tenure security must include people whose rights are secured as members of communities, indigenous groups, and producer or housing associations that hold land rights in common. In addition, a specific indicator on indigenous and community tenure is also required – this has been developed as proposed GLII indicator number [5].

DISAGGREGATION

i. By sex – women and men, including: the percentage of women and men with rights secured (the basis for understanding tenure security by gender is described in more detail in the reporting section). The indicator will capture land rights for all women and not just for women-headed households as many surveys do.
ii. By age groups as recommended by UNSC is considered important in order to capture the extent to which the young and old are able to hold secure land rights in their own right and capture the tenure security of all family members. Consideration should be given to a standardized definition of relevant age groups, according to available data sources and applicable standards in data collection.

5 The usual age categories for household surveys are <5, 5-15; 15-45, and 45+. However, 15-45 could be further broken down in order to address growing problems of land access and tenure security for youth and young adults as a result of growing land scarcity in many locations

iii. Urban and rural populations (according to how these are defined in different countries). Although integrated reporting for both rural and urban populations is required, the two should also be disaggregated, and this may require differently designed survey and assessment modules for use in urban and rural areas (e.g. the forms of tenure and types of legally recognized documentation may differ for each; questions about housing may be a proxy for understanding land rights in urban areas; perceptions of risk of eviction are likely to be more relevant in urban areas, but risks of dispossession more relevant in rural areas). Further consideration should be given to the principle urban / rural differences to be addressed in data collection level: e.g. a household and / or plot focus for rural data, and a dwelling or plot focus for urban. Questionnaires should have appropriately coded tenure typologies embedded.

iv. By major geographical or administrative region – for large countries and those with federal or highly decentralized structures. Decisions on this should be left to the country level according to the national systems for data collection.

v. By income group: This is considered useful to help capture the equity dimension – whether or not poorer groups enjoy security of tenure to the same extent as the more wealthy. DHS do not normally include income data, although multi-dimensional poverty index data should be available by quintiles from most household surveys; poverty surveys would be able to include income data, however, and it would be necessary to ensure that these surveys include land. For urban areas, it is proposed to disaggregate data between slum and non-slum areas using UN-Habitat criteria.

vi. By tenure type: This will enable an assessment of levels of security provided by different forms of land ownerships, including statutory and customary, leasehold and rental arrangements and through individual, spousal / household, or community / group based land registration or titling. If data is collected in this way it would also permit identification of the percentage of men and women whose tenure security derives from legal recognition and documentation of household, community or indigenous rights. These different tenure categories should also be clearly evident in an assessment of the extent to which land rights are perceived to be protected in practice.

vii. By the source of perceived threat to secure land rights: e.g. private landowners, government, private companies, community leaders, or family members. This disaggregation can potentially provide useful pointers for policy, although it might introduce additional complexity in data collection, which may not be feasible.

DATA SOURCES

In line with the findings of the feasibility study undertaken for GLII by the World Bank, and the discussions of land indicators in relation to the SDGs, the principle proposed data source for both of these indicators should be the inclusion of purpose designed land modules into standardized demographic and household surveys. The development of standardized land modules for potential integration into the range of existing household surveys is actively underway by the World Bank. During the next month, the NRI and the GLII Data and Statistics Group plan to interact more closely with the World Bank team undertaking this work, with a view to developing firm proposals for incorporation of land into specific household surveys for discussion with implementing and sponsoring agencies.

For indicator 1, administrative data from national land agencies is also likely to be an important data source in some countries, depending on the coverage, consistency and quality of land information systems. In addition, it should be recognized that administrative data is likely to provide a more readily available and, in principle, more comprehensive source of data (not being reliant on sample

surveys) for regular reporting by countries. This should be used in the short-term, despite misgivings about data quality, given the time and cost requirements of incorporating land modules into household surveys and the frequency with which repeat surveys are likely to take place. GLII should therefore promote collaboration between national statistical and land administration agencies, and triangulation between administrative and household survey data in tracking this indicator. An important objective is that the quality, accuracy and completeness of land administration data on the incidence of documented land rights in relation to populations and land parcels as a whole should be gradually improved over time.

For indicator 2, global or regional opinion polls can potentially provide data on perceptions of tenure security more rapidly than household surveys, although the results are likely to be less reliable and comprehensive because of smaller sample sizes and the resultant risk that certain groups and regions may be excluded. Opinion polls should therefore also be considered as an important potential data source. However, if this indicator is not incorporated directly into the SDGs, it is possible that the costs of commissioning global polls to provide data on perceptions of tenure security and other aspects of land governance would prove prohibitive for the organizations involved in GLII.

Indicator 3. *Level of legal recognition and protection of land rights and uses derived through either statutory or customary regimes.*

This will require definition of a typology of tenure types covering both urban and rural areas and a categorization of levels of recognition and protection involving clear criteria (e.g. legal recognition of customary rights vs provision for formal documentation of customary rights vs provision for due legal process required for transfer, reallocation of removal of those rights). This is to ensure that the indicator can capture relevant changes and variations and provide a standardized methodology for assessment and reporting.

DATA SOURCES

These include: i) administrative data, legislation and regulations; ii) expert opinion and assessment; and iii) data derived from surveys and polls designed to collect information on indicators 1 and 2. These data sources used together may also permit disaggregation of numbers of men and women with recognized rights falling into different tenure categories, and a systematic assessment of "levels" of recognition and protection of the continuum of land rights against agreed benchmarks. This will make processes of expert engagement and assessment at country level central to tracking this indicator.

The World Bank's LGAF covers this indicator well with a methodology that could potentially be developed to answer the indicator appropriately, in all its complexity. However, there may be tendencies to overlook women's land rights due to reliance on expert consensus and the fact that most national experts are men. Where LGAF is not already implemented, the methodology could potentially be adapted in those countries with a pilot run carried out or supported by the World Bank and /or GLII. At this stage, the relevant next step is to look at LGAF and other existing methodologies and indices used by UN-Habitat's LIFI and the International Fund for Agricultural Development. This should be with a view to developing more specific proposals for standard methodological guidelines for assessment at country level, including typologies of relevant forms of tenure in both rural and urban areas, and guidelines for the establishment of national expert groupings for triangulation across administrative and available other data sources, and to assist national statistical services and land administration agencies in annual reporting. Typologies of tenure types and levels of recognition and protection could be developed to provide a relatively simple matrix for assessment along the following lines:

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Indicator 4. *Equal rights for women: Level to which women and men have equal rights to land, including rights to use, control, own, inherit and transact these rights.*

LEVELS OF PROTECTION	FORMS OF TENURE						
	FREEHOLD	LEASEHOLD	LAND RENTALS	CUSTOMARY RENTAL SYSTEM	GROUP TITLING	LICENCE TO OCCUPY	SQUATTING ON PUBLIC LAND
Legal recognition of rights							
Legal provision for rights registration							
Legal provision for enforcement and redress							

There is strong agreement on the value and importance of this indicator, but it remains challenging in that for any one country the treatment of women's rights by both formal law and customary systems, including inheritance practices and the ability of and the net outcomes in terms of the realization of women's rights and the tractability of discriminatory social practice to legal enforcement, would need to be assessed. It will also be necessary to benchmark "levels" of gender equality in a standardized way and with reference to the principle tenure categories, and to undertake country assessments in a culturally sensitive way, but without accepting denial of women's land rights due to entrenched cultural perspectives and concepts.

The nature of the indicator implies a central role for a standardized expert assessment process that draws on multiple data sources that include: i) existing data bases; ii) analytical and research reports (especially synthetic reviews and meta-evaluations where available); iii) administrative data; iv) potential inclusion of relevant data in land and perception modules of household surveys; and v) inclusion of relevant questions in opinion polls. For all of these reasons, it is likely to be challenging to develop a robust methodology that ensures consistency across countries.

At this stage, a number of potentially relevant data collection instruments have been identified which need to be more fully assessed:

- A World Bank team is working with the UN-EDGE (Evidence and Data for Gender Equality) project to pilot test survey methodology options to introduce land modules into LSMS surveys in order to capture

information on gender equality in access to, and control of, economic assets in land and property. This relates to proposed SDG 5 on elimination of all forms of gender discrimination and would generate much of the information required to track this particular indicator

- The UN-Habitat Urban Inequities survey has provided experience of techniques and methodologies to capture levels of gender equality / inequality in rights to land and housing in urban areas.
- LGAF has experience with practical methodologies for country-level expert assessments of gender (in)equality in relation to various aspects of land governance. However there are concerns about gender bias in expert assessments and constraints on women's participation in these processes.
- An FAO team has developed a Legislative Assessment Tool (LAT) to gather data and assess levels of gender equality in land rights. While this seeks to cover the extent to which legislative and judicial systems are able to addresses customary practice, it is acknowledged to be difficult to integrate customary practice per se into the analysis.

An open question is whether or not this indicator should be restricted to assessment of gender equality according to national legislation, policy and judicial practice. This would involve a relatively simple expert assessment process drawing on existing databases and tools. Women's experience of land rights in practice and effective levels of gender equality might then be captured by extending the range of questions asked in land modules of household surveys and opinion polls, which are proposed as the primary data sources for addressing Indicators 1 and 2. Household survey land modules could, in principle, be designed in such a way as to provide data on perceptions on the scope for women to inherit, bequeath and otherwise transact in land rights, along the lines being piloted in LSMS by the World Bank for the EDGE project. The results could then be interpreted alongside the other data sources in responding to Indicator 4. There may, however, be practical limitations on the extent to which land modules incorporated into household surveys can generate data on the effective relative bundles of rights available to women and men, given the cost requirements and complexities of the methodological requirements.

Indicator 5: *Indigenous and community land rights: Numbers and proportion of indigenous and community groups with land claims that have legally recognized documentation or evidence of secure rights, and percentage of land areas claimed and utilized that have been legally secured.*

An indicator such as this is necessary to ensure proper attention to the unique and important challenges in respect of the land rights of indigenous communities and other community groups holding land in common. The status of community and indigenous rights has figured significantly in both GLII discussions and as a key element required to capture access to assets in relation to proposed SDG number 1 on the elimination of poverty[6], However, data collection to measure documentation and perception of tenure security through household surveys will fail to capture the position of indigenous and community groups comprehensively due to their focus at the household or individual level, and the limitations of sample sizes.

There is room for further adjustment to the precise formulation of this indicator in relation to the specific disaggregation requirements and the data that can be feasibly collected. The following points need to be considered:

6 For instance, UN Sustainable Development Solutions Network (UN-SDSN) has proposed an indicator to measure "proportion of men, women and communities" with documentation of secure legal rights.

- The significance of indigenous and community groups as potential land holders will be highly variable across countries. Therefore, in order to make meaningful country comparisons a focus on the proportion or percentage of groups whose land claims are recognized is needed, rather than on simple numbers. The latter would still be of value however for year-on-year comparisons within individual countries.
- A focus on areas in addition to the number of claims is relevant because in many cases the rights of indigenous or community groups may be restricted relative to the total areas used or claimed.
- To assess the proportions, some sort of estimates or inventories of the total numbers of groups or communities with land claims and of the areas involved would be required whether or not there is specific legal provision to enable indigenous or community-based land rights registration. This will be difficult in cases where potential group land claims are not yet identified, and have not been compiled by government or independent sources. It will also be difficult where the levels at which group-based rights can be defined are uncertain or ambiguous (e.g. at the level of family or lineage based lands, villages or larger chieftaincies).
- In addition to indigenous or community rights over land areas claimed for their exclusive use and occupation, the tenure status of land areas held and used in common by members of one or more communities, such as pastoral lands and publically used forests, should also be included. This is even if the groups concerned do not need or seek exclusive access to these lands or are not exclusively reliant on them, but also have access to other lands for residential and agricultural purposes. This expands the scope of total land parcels to be considered, which is likely to remain indeterminate in many cases, as would the size of the areas involved. Often the areas in question (e.g. village grazing commons or forest areas) may be relatively small, but in other cases they are very large (e.g. large rangeland or wetland areas subject to multiple seasonal uses by different groups).

There are important questions relating to the security of land rights of individuals and households in cases where land rights or title are held on a group or community basis. This is particularly so for women's access to land and decision making processes which may be dominated by men and or by traditional authority figures. Indicator 5 is complicated and restricted by focusing on community and indigenous land holding arrangements, which provide for secure and documented rights and democratic decision-making processes for all community members (an ideal which in most cases is likely to remain some way off). Instead, these issues should be addressed by capturing relevant data on land rights documentation and perception through household surveys for all forms of tenure as proposed for indicators 1 and 2, and through expert assessment of levels of gender (in)equality as proposed for indicator 4.

DATA SOURCES

- Administrative data compiled by government: this is likely to be highly variable across countries, incomplete in relation to the overall scape of land areas / parcels to be considered, and may be entirely absent in cases where national legislation does not recognise indigenous and community rights.
- Data compiled by independent national organizations advocating community rights: likely to be important in countries where group-based land use and land claims are common.
- Exiting data bases compiled by international organizations: there have been a variety of global efforts to document indigenous or community claims and rights. FAO databases contain relevant information, provided from agricultural censuses, but these are relatively infrequent.

- On-line platforms under development by the World Resources Institute (WRI) for global mapping of indigenous and community rights, due to be launched during 2015. This platform relies on data provided by governments and non-government organizations, but there are limitations in numerous countries, especially where such data is not publically available, governments are reluctant to release it, and geo-referenced data on the land areas concerned is not available. There is potential for crowd-sourcing of data on community land claims, and the development of on-line tools and platforms to enable this is also underway.
- Household and other surveys: household surveys can, in principle, provide relevant information about community-based land rights, depending on how the relevant modules are designed, however, there may be limitations due to sample sizes and methodologies in providing a comprehensive picture. Independent, purpose-designed surveys of indigenous and community groups would be methodologically challenging and expensive to mount on a comprehensive basis, although survey initiatives may be possible in some countries where there is good cooperation between government and concerned civil society organizations. National surveys or inventories may be required to establish the extent of potential indigenous and community land claims where this information is not available already.

On balance, the conclusion is that this indicator would be most suitable for global assessment and reporting by working in partnership with a relevant global mapping platform, such as that under development by RRI, supported by information supplied from country level by official and independent sources. Active data compilation will be needed to fill large gaps in existing data, to which GLII partners and participants could contribute.

4.2 LAND DISPUTES AND LAND CONFLICTS

Indicator 6: *Frequency of land disputes and conflicts: Percentage of women and men, Indigenous Peoples and local communities who have experienced land, housing or property disputes or conflicts of different types in the past X[7] years*

Indicator 7: *Availability of dispute-resolution mechanisms: Percentage of women and men, indigenous and local communities that have access to effective dispute resolution mechanisms*

Indicator 8: *Land-dispute resolution effectiveness: Percentage of women and men, indigenous and local communities who reported a conflict or dispute in the past X[8] years that have had the conflict or dispute resolved.*

These three new indicator formulations emerged from discussion at the GLII Working Group meeting in The Hague in October 2014 and the EGM in March 2015. It was agreed that a simplistic focus on efficiency (reflected in previous formulation of Indicator 7 -Time to resolve a land dispute) does not tell us anything about the social and economic impacts of land disputes or countries' relative success in avoiding or preventing land conflicts. Bearing in mind the objectives of improving country-level problem diagnosis and planning, raising awareness of countries that have particular problems, and learning lessons from countries that are being successful in resolving and reducing land disputes, it will be more informative to track changes in the prevalence of various kinds of disputes and the availability, suitability and effectiveness of dispute resolution systems and mechanisms to address them. The effectiveness of land-dispute resolution is relevant and the accumulation of unresolved disputes and

7 Appropriate period to be decided
8 As for previous footnote

the rate at which disputes can be satisfactorily resolved are important factors, but the time required to resolve a dispute is likely to be highly variable depending on the nature of the dispute. Also, there are likely to be difficulties in obtaining accurate and comparable information from administrative sources and in aligning reporting periods across countries. It was therefore felt that the indicator formulations 6, 7 and 8, as set out above, would be much more appropriate.

DATA SOURCES

Data can be collected through land and perception modules included in household surveys, or in the short term through opinion polls if these are more practical and feasible, bearing in mind that questions about disputes and means of resolving them can be closely allied to those to be included on perceptions of security and protection of land rights. Using household surveys as the principal data source would permit disaggregation of data by sex, income group, geographical region and types of tenure as proposed in the survey modules to provide the data for 1 and 2, using the same sample populations.

Although a typology of land disputes and conflicts and available resolution mechanisms would inform the survey design, it is not strictly necessary as it would be for an expert assessment process, and a disaggregated picture of the types and frequency of land disputes and conflicts could be built up from the empirical data, including the types of stakeholders involved, from intra-familial to boundary disputes and conflicts between communities, with governments, amongst different types of land user, and those affecting refugees and displaced people.

At the same time, although administrative data from the formal judicial system cannot be expected to capture information from disputes that never reach the courts, such as those that occur within the customary sector, it can provide an indication of the scale and frequency of disputes in a country. Therefore an additional indicator has been suggested that could be based on administrative data from the judicial system that would be relatively easy to collect:

- Percentage of all cases tried by national courts that concern land disputes.

In order to track progress and the effectiveness of the courts in resolving cases, it should also be possible to measure: numbers and percentage of pending and unresolved land cases in the formal courts reported (in the previous year) that have been resolved. This would give an idea of the capacity of the courts to resolve land disputes, and their efficiency in doing so. Administrative sources should also be able to provide information on the existence of specialized land courts / tribunals and alternative dispute resolution mechanisms, including customary and non-statutory mechanisms that are available.

4.3 LAND ADMINISTRATION SERVICES

The status and formulation of proposed indicators of the quality and relevance of land administration services is subject to continuing debate. Potentially, there are multiple aspects which can be measured using available administrative data and structured expert assessment processes. The finalization of indicator formulations also depends on the exact features to be monitored and the likelihood of appropriate data being available. The following five indicators, indicators 9 – 13, reflect the priority topics agreed for monitoring. The formulations have been revised based on discussions at the last EGM, and key considerations in relation to each are set out below.

Indicator 9: Land administration efficiency: *Range of times and costs to conduct land transactions*

This indicator was modified from its original formulation, which reflected a simplistic concern with administrative efficiency based on average time and costs, because of the diversity of types of land transaction and the likely variation of speed and cost of transactions according to the power and influence of the parties concerned and the prevalence of rent-seeking amongst land officials. Corruption in land administration can shorten the time and raise the costs of transactions, but can also lengthen this time if the parties involved refuse to rely on payment of bribes. Speedy land procedures in land transactions can be detrimental to those who do not have access to political power, land administration and justice, as it can result in loss of land rights. This indicator requires development of a standardized typology of types of land transactions and collection of data on the range of times and costs involved for each, including land transfers, new land allocations by the state, and tenure upgrading. Where opportunities exist to register informal and customary rights and transfers through the land administration systems, those transactions should be included.

Indicator 10: Transparency of land information: *Level to which land information is available for public access*

A focus on transparency is necessary to capture the availability of land information to different social groups. This indicator requires definition of a standardized typology of types of land information and a standardized system for benchmarking "levels" of availability of information. Availability of land records maintained at local level (by municipalities, districts, communities or private landlords) and information related to unregistered land holdings, rights of access and use and temporary rights should be considered in addition to data held by centralized land registries. Any restrictions on availability of land information to women and to particular groups, or fees attached to accessing information, should be assessed. It should be recognized that for certain categories of information there may be restrictions and risks to both national and personal security in divulging certain categories of data, and that some governments may be reluctant to make land information publically available.

Indicator 11: Land administration availability / accessibility: *Level to which all users, including women and vulnerable groups, have equal access to land administration services*

Once again a typology is necessary, in this case for relevant land administration services, including services relevant to the registration and documentation of informal or customary rights. Some form of standardized benchmarking for levels of availability will also be required. An assessment of land administration access points, both in terms of geographical accessibility and location of services and procedural accessibility (can the service be accessed directly, or does that have to be done via e.g. notaries, solicitors, via intermediaries or in writing / online) is needed. Important elements related to services and access are their relative distribution in relation to the population, travel distances and costs, levels of literacy, any restrictions on availability of land information to women and to particular groups, and any fees and charges involved. (Similar considerations may also apply to land information under Indicator 10).

Indicator 12: Mobilization of land-based taxes: *Government tax derived from land-based sources as a percentage of total government revenue.*

This indicator should be disaggregated by types of tax, distinguishing: a) taxes from administrative fees and costs; b) taxes paid to local authorities and to central government; c) taxes levied on i) land values, ii) land transactions or transfers, iii) capital gains on land and property, and iv) rental income. In addition, d) any particular taxes levied on undeveloped land should

be identified. It should be noted that comparability across countries may be difficult using a simple measure of land tax revenue as a proportion of gross domestic product, given the variable incidence and scale of private land holdings as a potential source of tax revenue, and variation in levels and structure of different national revenue sources (e.g. exports, extractives and remittances relative to land), that lead to a risk of misrepresentation of progress in raising land taxes by various countries. It may be necessary to take into consideration the prevalence of tax evasion and fraud in the land sector and of rent seeking by land or revenue officials. Also, it cannot be assumed that there is a direct link between levels of tax revenue and its use for public service provision.

Indicator 13: Land area mapped: *Proportion of national land areas with rights holders and tenure status identified that are incorporated into cadastral maps / land information systems*

There has been discussion of the precise purpose and formulation of this indicator; the formulation above attempts to clarify this and capture the elements of concern to GLII participants, but should not necessarily be treated as final. The purpose is to capture changes and variation in national capacities to incorporate the full range of types and sizes of land parcels and the tenure status of associated landowners or users into cadastral maps and spatial data systems, rather than to assess the extent to which national territories and total numbers of land parcels are actually titled. Assessing the extent would risk exclusion of areas under informal settlements and subject to customary rights, which might thus be considered as vacant land available for allocation despite existing uses, and provide incentives for titling as opposed to other forms of defining and securing land rights that might be more appropriate. Information on land areas and parcels mapped, and rights holders / users identified, would need to be reconciled with data on different tenure categories and the numbers of parcels mapped and number of land rights holders for this indicator in order to deliver truly meaningful and comprehensive results. One important aspect is whether or not, and to what extent, participatory boundary delimitations (using sketch maps or high resolution ortho-photo maps with geo-referenced coordinates) are incorporated into official LIS and used as a means of identifying land holding communities, associations households or individuals, and plot-level or territorial boundaries with other groups and land users. This is also relevant to Indicator 3, on the recognition of multiple forms of tenure by governments; if areas under customary land management or subject to community or indigenous claims are included in official maps and LIS, then this both strengthens the rights and increases the coverage. That makes the information system more accurate and useful, even if the administration of these rights and the maintenance of parcel maps are devolved to local government or to community level, and the exact identities and tenure status of land users at the individual plot level are not yet confirmed.

Another dimension is the extent to which land uses and, for example, concessions and licences awarded and public land uses governed by different sector departments, for example forestry or mining, or urban and infrastructural development, are captured by the national land for administration cadastre. This is desirable from the point of view of coordinated development planning and people-centred land governance, (and is relevant to the sustainable land use indicators, below). Addressing either or both of these points can potentially increase the area coverage of an LIS, and make it more useful by providing a means to identify where land rights and uses overlap and where conflicts may exist, due to multiple land uses and / or inconsistencies in the data used for previous land

allocations, or lack of consideration of established customary land uses on the ground.

In addition to the above five indicators, a number of additional potential indicators of specific aspects of land administration systems have been suggested, all of which would require further discussion:

- Land administration capacity: average number of transactions conducted (or concluded?) per week (or month) as a percentage of the total number of processes pending. This would require the definition of a specific sets of types of transaction. The variable lengths and range of times involved in different types of transactions, and varying definitions of the point at which transactions can be considered to be complete, could potentially create difficulties in aligning the time periods concerned across countries. This, together with the variable volume of transactions in different countries and across urban and rural areas, could create problems in obtaining meaningful and comparable data sets.
- Land administration accuracy: for example, the extent to which government provides protection or reimbursement for losses incurred by the mistakes caused by official land agencies, which could be measured by assessing the availability of compensation in the event of mistakes, or by scrutiny and analysis of land records, parcel maps and land information systems.
- Affirmative action: extent of affirmative action to promote land access and tenure security of identified vulnerable groups. This proposal originates from a discussion of equity aspects which are discussed further below. Although such an indicator could be included as part of expert assessments of land administration systems, it might be better as an extension of indicators 3 and 4, intended to cover the extent of recognition of different tenure types and levels of gender equality in land rights.

DATA SOURCES

- Administrative data from land registries and other government agencies, including local government, is a main source of data but is not sufficient as it is frequently inaccurate.
- Expert assessment involving land professionals and researchers with representation of land users and civil society groups is needed to collate and interpret administrative data from various sources. To be globally comparable, expert assessments must refer to the same defined concepts and typologies, and use a common interpretive matrix.
- The LGAF methodology offers a good starting point; it considers multiple aspects and could be adapted, although it has been noted that a) it only addresses the formal sector; b) gender bias has been reported in selection / availability of experts and the assessments made; and c) assessments are infrequent, costly and detailed, going beyond headline indicators needed to assess overall quality and relevance of land administration systems. Nevertheless, given the need for expert assessment in addressing the quality of land administration, the scope for adaptation and extension of existing LGAF methodologies to enable more frequent coverage of a small set of priority headline indicators for a larger number of countries should be explored, in direct collaboration with the World Bank.
- Data is also needed from users and citizens, requiring a survey methodology that incorporates questions on accessibility of land services, and the time and cost of land transactions. It is therefore necessary to explore the scope for including small numbers of questions in land modules of household surveys to address these points. Corruption in land administration can be addressed by perception surveys, but data collection on availability of land information will probably be too detailed and difficult to include in standardized household surveys.

- The World Bank Doing Business (DB) survey also represents an important source of information on land administration, and although it has tended to focus on urban areas, capital cities and commercial land users, its scope is gradually being extended and there may be scope for collaboration of DB with GLII in order to capture some of the necessary data.

4.4 SUSTAINABLE LAND USE

A set of indicators to measure land-use change / land degradation has been proposed by a working group of land-use specialists and soil scientists working in coordination with GLII. These indicators are directly relevant to proposed Sustainable Development Goal 15, and are proposed for inclusion in the overall SDG framework, but GLII has also affirmed the need to pursue monitoring tenure security, sustainable land use and land governance as a whole within the same overall framework:

Indicator 14: Aggregate national changes in land-use sustainability: Changes in the geographical extent of sustainable land use, measured by: i) land cover/land-use change; ii) land productivity change; and iii) soil organic carbon change.

Taken together, the three factors addressed by indicator 14 are the key variables that affect the sustainability of land use both at the plot level and in aggregate at a national or sub-national landscape or territorial scale, and are also the most readily available and comparable variables for measurement.

Land cover change refers to changes in vegetation and biomass cover and thus captures changes in land use that involve the removal or degradation of forest and vegetation. As it is a symptom of land use or land management change, land cover change can be used as a proxy for land-use change. The advantage of land cover is that it can be observed directly by remote sensing, while observations of land use and its changes generally require the integration of natural and social scientific methods (expert knowledge, interviews with land managers) to determine which human activities are occurring in different parts of the landscape, even when land cover appears to be the same. Land productivity relates to the net primary or biological productivity of land and soil resources rather than agricultural productivity. Soil carbon offers not only a means of measuring the net carbon stocks in the soil (an important carbon sink in addition to forests and oceans, thus providing benefits for climate change mitigation), but as it is directly related to maintenance of soil fertility maintenance, soil water flow regulation, and thus to soil biodiversity, it also provides a useful proxy for the health and thus the sustainability of soil ecosystems.

These factors are measurable globally, primarily through satellite and aerial photography based earth observation and remote sensing, although they also require validation at the national level using additional, ground based data sources. It is expected that existing global data collection and analysis, based on modelling and interpretation of remote sensing data, is sufficiently developed to enable global reporting and analysis for tracking these indicators, as detailed in the table below. As such, the indicator is suitable for global analysis and reporting, relieving individual countries of responsibilities for complex assessment and reporting processes based on more limited and dispersed data sources and technical capacities available directly to them.

While Indicator 14 is primarily relevant to rural areas, it should be able to capture the aggregate results of the changes in land cover and other key factors in land-use sustainability at the national scale that result from urbanization. Nevertheless, there are concerns about the ability of these indicators to properly grasp the complexity and potential wider impacts of land and

soil degradation. Even combined, the three variables considered do not comprehensively address all quantity and quality aspects of land use. Complementary indicators at national to subnational scale that monitor issues relevant to specific national contexts are crucial. Countries should validate default global data with national data, using data sourced nationally/locally. There should also be scope to enable some geographical disaggregation of the biophysical data set and cross referencing to data sets on tenure status and land holding, especially in "hotspots" where land uses are contested and environmental resources and services are at risk. Linking globally available data to nationally and sub-nationally collected data would thus blend a top-down with a bottom-up approach.

DATA SOURCES

The main data sources and links to relevant global analysis and assessment initiatives that can potentially provide the necessary data are shown in the table below, together with the relevance of the different sub-indicators to the proposed SDGs.

Proposed sub-indicator	Description	Measurement	Link to relevant global initiatives (Annex II)	Proposed SDGs4 to which the indicator contributes
Land cover/land-use change	Land cover/land-use serves as an 'umbrella indicator' that allows stratification/ disaggregation of the land productivity and soil organic carbon indicators. Land cover classes (e.g. forestry, agriculture, urban) will vary in importance depending on the context. Changes in land cover/land use give a first indication of the loss or degradation and restoration of land and soil quality.	Proportions of different land cover/land-use classes According to a globally-accepted legend (e.g. FAO Land Cover Classification System - LCCS). The indicator requires geo-spatial mapping of land cover/land-use classes using comparable methodologies at regular time intervals. Harmonized data are available at global and national scales.	EC, EEA, FAO's LCCS, LQC & LUC, GBEP, GEF through land degradation assessment, GOFC-GOLD, SDSN, UNCCD, UN-Habitat, WB's LGAF	Proposed SDGs 6, 11, 13, 15
Land productivity change	Land productivity addresses the net primary production per unit of area and time. Land productivity reflects the overall quality of land and soil, as a result of climatic conditions and resource use/ management. Changes in land productivity, interpreted together with additional data, may give an indication on the loss or degradation, as well as on the restoration of land and soil quality.	The indicator requires a long-term time series of land productivity measures in high spatial resolution, best addressed by earth-observation-approximated net primary productivity (NPP). Methodologies for calculation of NPP based on remotely-sensed data are established. Global data for reference years are readily available.	EC's Copernicus Programme data, EC-JRC data sets, FAO land suitability criteria & crop types and yields, UNCCD, WB	Proposed SDGs 1, 2, 6, 7 13, 15

Soil organic carbon change	Soil organic carbon is relevant to estimate carbon fluxes and can be an important indicator of overall soil quality.	Soil organic carbon (C) can be estimated as a stock (expressed as mass per unit area, e.g. g C per ha) or as content (e.g. % or g C/100 g soil) for a reference depth. The indicator requires geo-spatial mapping of soil organic carbon over a reference depth using comparable methodologies at regular time intervals. Methodologies to model soil organic carbon are established. Global modelling outputs of soil organic carbon are available for reference years.	FAO agro-environmental indicators, FAO-UNESCO Soil Map of the World, GBEP	Proposed SDGs 13, 15

(Source: Proposal for land and soil indicators to monitor the achievement of the Sustainable Development Goals (SDGs): EEA, GLTN, GLII and IASS, February 2015)

In addition, there should be scope for coverage by monitoring of the social and economic impacts that changes in land-use sustainability have, and the institutional dimensions of sustainable land management. Some attention must also be paid to monitoring the extent to which countries are able to introduce and implement development of strategies, policies and management arrangements that promote sustainable land use in practice and address its human, social and economic dimensions by engaging planning institutions, local land users and other stakeholders. There should be scope for local monitoring and accountability initiatives that include a wide range of stakeholders and complement national reporting on changes in the key bio-physical variables.

For these purposes a process indicator has been suggested to measure the incidence planning arrangements to strengthen sustainable land use and make practical progress in relation to the proposed indicators. This is similar to the approach taken with proposed indicators on (3) recognition of multiple tenure systems, (4) gender equality in land rights and accessibility and (11) availability and relevance of land administration services, for which progress at country level in putting in place effective land governance arrangements needs to be tracked, and is not captured directly by outcome indicators.

Such an indicator should capture the key elements of:

- Numbers of rural and urban administrative districts with (participatory) sustainable land-use plans
- Relevance of such plans to local and regional economic development and the responsiveness of planning arrangements to social demands and concerns
- Scope for and extent of adherence to sustainable land-use plans and stakeholder engagement procedures
- Level of coordination of land-use planning with land rights administration and other sector specific government plans and investments

Possible wording for this indicator (which remains to be validated by GLII), would be:

Indicator 15: Progress in sustainable land-use planning: *Proportions of rural and urban administrative districts or units in which land-use change and land development are governed by sustainable land-use plans that take account of the rights and interests of the local land users and landowners.*

This indicator should be disaggregated by the lowest relevant level of administrative unit, such as rural districts or urban municipalities, although the presence of higher level development plans (at regional or provincial level, or for e.g. major development corridors and urban regions) are also relevant; the consistency and regards for sustainability that these have in relation to local land-use management also needs to be assessed. The nature of sustainability and the character and objectives of land-use planning also differ between urban and rural areas, and so it is desirable to make separate assessments of the effectiveness of land-use planning for urban and rural areas.

DATA SOURCES

The principal data source for this indicator would be stakeholder based expert assessment using administrative data. This would need to draw on information from the local level, as the adherence to and responsiveness of local land-use plans cannot be gauged centrally. Stakeholder participation is necessary in order to assess sustainability focus of land-use plans and their level of social inclusiveness and responsiveness.

Finally, the inter-relationship between these proposed GLII indicators 14 and 15 and other indicators proposed under SDG 15 and other sustainability goals, and the extent to which they are complementary or overlap, need to be considered. The urban sustainability dimensions that can be addressed by planning include safety, security of informal settlements and aspects of quality of urban life, together with the relevant outcomes should be captured by SDG Goal 11 Sustainable Cities, which should also include coverage of the tenure security of urban settlements). In terms of coverage of institutional arrangements for effective planning, however, Indicator 15 is directly relevant to both urban and rural areas.

4.5 EQUITY ASPECTS

The equity outcomes of land policies, systems of land governance and land programme and project interventions are central concerns for GLII participants and partners. Key aspects are the inclusiveness of policies, institutional arrangements for land governance, the fair treatment of women, vulnerable groups and people in poverty, irrespective of tenure status, and equitable opportunities for people to secure their land rights and, especially, to improve access to land where they are landless or do not have access to sufficient land to meet basic needs for food, income and livelihoods. A working group convened at the most recent GLII EGM held in Washington on 23 March 2015 considered the best way for GLII to address the equity dimensions of land access, distribution and governance. Rather than propose any additional land indicators to tackle equity dimensions, the EGM made a number of key considerations on relevant data collection and analysis:

- GLII's concern should be with equity in land governance and the management of land rights management in general, rather than specifically with equality and inequality in land distribution, although this is one important aspect. Not everybody needs to have access to land, and different land users are able to use different land areas effectively. Nonetheless, all should have equal opportunities to improve land access and security of tenure, which may require programmes of agrarian reforms and land distribution in some countries.
- A variety of factors needs to be considered in addressing equity, including age, gender, income, marital status and household structure, land holding size and value, nutritional and food security outcomes, and the extent to which different forms of tenure guarantee security for different income and social groups. In particular, it is important to be able to gather information in order to be able to identify vulnerable groups who are particularly

in need of land and do not have it, or those who are at particular risk of losing land rights. It is also important to assess whether or not tenure formalization leads to development benefits so as to assess to what extent measures to improve land access, tenure security and governance meet their needs.

- To a high degree, equity can be approached by disaggregation of data collected for the other land indicators which should all capture, as far as possible, the disaggregated data required for analysis of security of tenure, risks and fear of loss of land rights, access to land administration services and to land-dispute resolution and land-use planning mechanisms according to different tenure categories, income, gender and major regions for both urban and rural areas.
- However, collection of some additional complementary information will also assist in the analysis of equity dimensions. This includes information on land holding sizes, land concentration (and land values in order to assess the social inclusiveness of land holding patterns. This data is already collected periodically: e.g. for land holding sizes and land concentration by agricultural censuses, brought together in the FAO World Agricultural Census, which calculates the Gini index of land concentration, and for urban land values, by UN-Habitat's Urban Inequities Surveys. This should permit analysis of the proportions of productive land and shares of land values that are held by what fractions and specific socio-economic groupings of national populations. (Land holding size and land values need to be considered together as land area is not itself a measure its value, and land holding sizes can vary a great deal according to agro-ecological zones, demographic pressure land scarcity.)
- In addition, two specific areas were identified which would benefit from expert assessment and should ideally be reported on from country level as part of reporting on equity issues:

a) Frequency of loss of land rights and landlessness: It is interesting to know which groups are losing land, whether or not compensation is paid, and if proper procedures are followed. There are three potential data sources:

i. as part of land modules in household surveys, extending the questions on perceived security of tenure and land conflicts by asking respondents about involuntary loss of lost land rights within a defined period.
ii. Administrative data and independent records compiled by civil society organizations concerned with land rights.
iii. Existing agricultural, urban and other surveys which identify numbers of rural landless and unlicensed squatters and pavement dwellers in urban areas. Landlessness would need to be carefully defined, however, as not everybody necessarily needs to have secure land rights.

b) Extent to which government policies include or enable affirmative action or enable targeted initiatives to assist land access or land acquisition by vulnerable and landless groups: this would require expert assessment involving both government and independent civil society stakeholders, which could be undertaken alongside an analysis of the quality and effectiveness of land administration, levels of recognition of different forms of tenure, including where land rights remain undocumented, and levels of gender equality.

- The analysis should ideally take place at both country and global levels and should enable identification of vulnerable groups and understanding of how improvements in land governance and land policies may be contributing to more equitable development outcomes. GLII should therefore

develop guidelines for the analysis of equity issues, in addition to devising methodologies for collection of appropriately disaggregated data.

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DATA SOURCES - COVERAGE, QUALITY, RELIABILITY, DATA AVAILABILITY

i. ***Household surveys including Demographic and Household Surveys (DHS),*** and the Multiple Indicators Cluster Survey (MICS) with incorporation of appropriate land modules (see below on Methodology). These surveys must become routinely embedded in national data collection systems and not project-based surveys funded by international donors. It will be necessary to agree on a typology of recognized forms of tenure and types of documentation that can be adapted for each country as this will affect the precise questions that are asked in household survey (see Methodology, below).

ii. ***Global opinion polls:*** in principle these are repeatable on an annual or two-yearly basis and can be expected to deliver results for smaller but nationally representative sample population in the short term more quickly than reliance on DHS[9]. Global polls can potentially incorporate questions on documented evidence of security of tenure, as well as perceptions on protection against dispossession. Global polls are primarily relevant for perception data; questions about documented tenure rights can also be included, but global polls do not provide a definitive reliable source on this, given their limited coverage and small sample sizes.

iii. ***Triangulation of household survey data with land administration data sets:*** few will have comprehensive and consistent documentation of land rights, however the objective is to promote gradual improvement in national land information systems. This will require some sort of expert assessment process involving both national statistical and land administration agencies.

iv. ***Census:*** national censuses can potentially include similar information to demographic and household surveys but at lower levels of detail. The FAO agricultural census for 2020, to be repeated in 2030, also provides a good opportunity for data collection on rural land holding.

v. ***Opportunity from big data:*** (social media including mobile phones; data revolution): measurements of secure tenure can also benefit from the data revolution marked by significant social and economic information from social media including mobile phones.

vi. ***Sequencing of data sources:*** a feasible incremental approach to comparable global data collection could be based initially on information derived primarily from global polls (with triangulation with administrative data), at least for a certain proportion of countries, as adjustments to existing household survey designs will take time, and household surveys are normally conducted at four- or five-year intervals. As time goes on and survey methodologies, and administrative record keeping and the capacity to analyse and use "big data" improves, these sources can be expected to contribute more and more data.

9 The DHS already includes questions on owning a house, owning (agricultural) land and whether it is singly or jointly owned, but not on documentation of perception…DHS seems to ask only about ownership as the form of tenure

GLOBAL LAND INDICATORS INITIATIVE (GLII)

The need to step up monitoring of land governance issues led to the establishment of GLII in 2012 by Millennium Challenge Corporation, the World Bank and UN-Habitat. The platform is hosted and facilitated by Global Land Tool Network (GLTN) at UN-Habitat. GLII is as a collaborative and inclusive process for development of Global Land Indicators that aims to making global scale monitoring of land governance and progress towards secure tenure for all a reality. In addition to developing land indicators, the GLII platform provides accompanying tools and guidelines for monitoring, reporting and capacity building, and a means of coordinating and convening land and data communities. The initiative has now grown to over 50 platform members, including non-governmental organizations, multi-lateral agencies, academia, research institutions and training institutions, farmers' organizations, UN agencies working on land governance, land data and statistical agencies.

Through a series of consultations in 2012-16 amongst land professionals and development practitioners from civil society, UN and donor agencies, research institutions and independent experts, GLII has developed a set of harmonised land indicators intended to measure progress towards tenure security and better land governance at country level and globally. As a result, GLII has become established and continues to develop as a stakeholder platform for knowledge generation and learning on land monitoring.

GLII platform members alongside the Global Donor Working Group on Land (GDWGL) and other agencies contributed strongly to securing inclusion of land indicators in the framework for monitoring progress towards the Sustainable Development Goals. The GLII set of 15 nationally applicable and global comparable land indicators goes beyond the provisions for tracking the SDG land indicators to cover four key areas of land governance: land tenure security; land disputes and conflicts; land administration services; and sustainable land use management. In collaboration with platform members, GLII has developed a series of working papers on land monitoring; facilitated the development and piloting of methodology and tools for data collection on tenure security in several countries in Africa; and developed a Training Curriculum on Methodology for Data Collection and Reporting on Land Indicators fostering global learning and knowledge sharing on land monitoring. Find more information at www.gltn.net.

Members of the GLII platform continue to explore innovative means of land data collecting, monitoring and reporting, including steering land and data community consultations on harmonized indicators and methodologies for data collection, in-country monitoring and analysis and regional and global discussions. GLII now continues to work towards realising its' mission of making global scale monitoring of land governance a reality focused on common global indicators, globally comparable data sources and harmonised monitoring and reporting processes, aligned with the globally agreed Voluntary Guidelines on the Governance of Tenure and regional frameworks such as the Framework & Guidelines on Land Policy in Africa.

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