

UNCCD expert workshop on a land index
22-23 June 2017

Summary and Recommendations

The UNCCD secretariat convened a small expert workshop to advance the development of an Index to enable country rankings and comparisons based on the status of enabling governance factors that contribute to sustainable land management. The criteria for creating the Index were introduced at the start, namely (1) utilizing existing indicators and datasets, (2) global coverage of more than 140 countries, and (3) founded on an evidenced-based conceptual framework.

The Index is envisioned to have two purposes: (1) to serve as a communication and awareness raising tool, i.e., a mechanism by which to explore the utility of using existing data to help promote better land management policy, planning and practice; and (2) to be considered in conjunction with other indices and assessments that capture bio-physical and socio-economic dimensions of land management in order to provide a convergence of evidence that is useful to decision-makers.

The author of the preliminary draft scoping paper presented the conceptual and methodological frameworks before discussing the key findings and presentation of results. A number of participants gave presentations on their experiences in developing and refining indices where the lessons learned informed the discussion on the strengths and weaknesses of the conceptual underpinnings, methodological and analytical frameworks, including the criteria and selection of indicators, and the more technical aspects, including aggregation methods, normalization and weighting, ranking and validation. The following highlights the key messages and recommendations that emerged from the workshop.

1. Concept

- There was a general consensus on many of the conceptual and technical aspects. Many participants felt strongly that the Index be defined as a measure of ability or capability (i.e., not of potential) of the society to improve land management practices.
- As the conceptual framework is based on governance theory, it was suggested that “governance” be a part of the Index name, recognizing that the goal is to improve “management”.
- It is important to frame the Index within the 2030 Agenda for Sustainable Development to be consistent with the SDG narrative and to build in flexibility for accommodating SDG and other indicators as they come online.
- A composite Index does not need to be comprehensive but should aim to initiate discussion and debate. While retaining a level of sophistication in the background, it should be kept simple and meaningful for communication purposes.
- Although it was agreed that the number of indicators should be small, there was a recommendation to consider indicators on peace/stability/corruption, which influence the capacity of actors and dynamics of partnerships among governments and organizations.

- An indicator on land tenure was strongly recommended, as the challenge in many developing countries is not ownership but security of tenure.
- All participants agreed on the need for a simple schematic presentation that is immediately comprehensible and logical in its structure.

2. Methods

Data selection:

- The relevance of data to the Index concept and indicators is a more important criterion than seeking diversity in data sources.
- It was suggested to revisit the current selection of indicators/datasets, including the use of relevant sub-indicators or components of existing indices:
 - i) Land tenure – World Bank data on registering property is more relevant for urban areas and does not cover customary laws. Data from other sources should also be considered (e.g., international property rights) to complement this data.
 - ii) Knowledge – There is double counting in the UN DESA’s human capital index. It is better to use data on mean of years of schooling or education component of the HDI.
 - iii) Women representation – Select and combine only relevant survey questions from World Bank’s Accessing Institution and use WB guideline to produce a sub-index. It was also suggested to include elements of the gender development index as an indicator of women’s achievements in basic capabilities relative to men.
 - iv) Access to infrastructure – The relationship of market and technology to sustainable land management can go on both directions (i.e., there are contradicting narratives). The current data used has only a weak link to the indicators. It was agreed to exclude both market and technology as indicators of access to infrastructure. Access to infrastructure could be represented by finance and World Bank data on getting credit. The number of commercial banks will be less relevant for access to finance in the future due to cash machines, online and mobile banking, etc.
- For the additional indicators on institutions, data from the Global Peace Index could be used for political stability and that from the Corruption Perception Index for accountability.
- If raw data is to be used to produce a new indicator (e.g., accessing Institution), it is advisable to publish the concept and methods in a peer-reviewed journal to establish data credibility prior to publishing the Index.
- When analyzing trends, it is important to note the time series differences (i.e., between 2010 and 2016) in World Bank data on doing business and accessing institutions.
- The indicators and data used for the Index should also be accessible to readers, for example, by detailing them in both printed and digital formats.

Normalization and weights:

- Min and max values should not be based on observed values in order to avoid zero values. The GLGI could adopt the HDI approach of normalizing data, which uses predefined goalpost for min-max scoring with natural minima and aspirational maxima in order to stimulate ambition.

- A normative approach should be used to assign weights to the governance pillars since there is no need to emphasize that the institution pillar has double weight as it naturally follows from the concept.
- Participants agreed that it was not advisable to derive weights from Principal Component Analysis (PCA) or Analytic Hierarchy Process (AHP). The PCA weights will change over time depending on the changes in the data. The AHP weights will require appropriate number of respondents and equal representation of various stakeholders. (see below)
- Data have different scales (e.g., ratio, discrete, etc.) so the interpretation of normalized data may not be appropriate and methods of transformation may be necessary.

Aggregation and validation:

- Geometric mean has several advantages over arithmetic mean (e.g. avoid perfect compensation/ substitutability of indicators) but the choice of aggregation method could also depend on target audience.
- Arithmetic means is more comprehensible to policy makers, so it could be used to start with and then make the transition to a geometric mean if needed after several years.
- Correlation values should be in the middle range to show internal consistency of the indicators within each pillar. It was suggested to use Cronbach's alpha for the correlation analysis.
- The regression analysis of governance indicators, pillars and dimensions should include regions as dummy variables.
- The weights from PCA (generated for the report) and AHP (generated during the workshop) could be used for the uncertainty analysis.
- The change in environmental indicators should be compared with the trend in the Index to see how they match. Time-series data for the former could be extracted from the JRC's soil productivity database.

3. Presentation of results

- It would be useful to provide regional and country narratives to make the Index more policy relevant.
- The Social Progress Index could provide further ideas on the presentation of results.

4. Analytic Hierarchy Process

During the workshop, participants undertook an exercise to determine weights of the indicators using AHP. The AHP results suggested the following weights for the governance pillars: actors' capacity 34.4%, organizations' commitment 28.8% and institution's enabling environment 37.0% (see Table 1).

Table 1: Individual and consolidated AHP weights of the governance pillars

Workshop Participant	Governance Pillars		
	Actors' capacity	Organizations' commitment	Institution's enabling environment
1	15	7	79
2	31	11	58
3	17	67	17
4	22	69	9
5	51	10	39
6	33	33	33
7	33	33	33
8	10	64	26
9	81	10	9
10	25	16	59
Consolidated*	34.3	28.8	37.0
Consensus	65.9%		

*Consolidation of individual weights is based on weighted geometric mean; Computation is based on Goepel, Klaus D., BPMSG AHP Excel template with multiple inputs, version 04.05.2016 – <http://bpmsg.com>, Singapore 2013

5. Conclusion

At the end of the workshop, a timeline and strategies were suggested for planning and publishing the Index. This included a two year work plan before making the Index public and completing the following:

- Maintain a web presence for open consultations with countries, international organizations, and the donor and scientific community
- Publish an article in a peer-reviewed journal with high profile scholar or personality
- Generate country profiles relevant to the Index to complement the main report

Overall, the participants appreciated the relevance of the work and expressed willingness to continue supporting the development of the Index.