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## Supplementary information

### Evolution of academic characterizations of LTS

Common themes found in reviews of this literature are that the academic literature emphasize LTS as multidimensional, complex, and often burdened by historical legacies (Robinson et al. 2017). Van Gelder documents the inconsistent characterizations of LTS and the evolution of attention to key components of LTS. He notes early work on LTS focused largely on *de jure* rights (van Gelder 2010), while more recent work has incorporated the role of *de facto* rights for LTS (Payne 1997, 2001; Durand-Lasserve & Royston 2002; Durand-Lasserve 2006), as well as the importance of understanding perceptions of tenure security by landholders as a key component of LTS (Bruce & Migot-Adholla 1994; Holden & Yohannes 2001; Payne 2001, 2004; van Gelder 2007, 2010; Sjaastad & Cousins 2009; Burnod et al. 2012; Robinson et al. 2014; Gallup 2017). More recently, Simbizi et al.(2014) emphasized the drivers of LTS are not just limited to *de jure* and *de facto* rights (Cronkleton & Larson 2015), but also the regulatory institutions, people involved, and formal and informal rules that govern behavior and rights, arguing that LTS itself is derived from the land tenure “system”.

Table S1: Distribution of codes<sup>a</sup>

| <b>Codes</b>                                 | <b>Example quote</b>  | <b>Percent of respondents<sup>b</sup></b> |
|--|---|---|
| Legal status                                 | “We focus mostly on the legal aspects of tenure. We think that clear tenure has important implications on the ground and for people to exercise a series of rights tied to land.”   | 74%                                       |
| Rights                                       | “We understand land tenure security as the rights of people to hold land as individuals. And that landholders should expect from the government that their land title is secure and is protected.”                                      | 35%                                       |
| De facto                                     | “Land tenure security does not only mean having a title in the Colombian context. Tenure security oftentimes simply refers to someone renting some land or being in possession of it regardless of the legal status.”                   | 25%                                       |
| Conflict                                     | “We think that if there is conflict, the tenure of the stakeholder is not secure. Conflict is the indicator of security.”   | 17%                                       |
| Recognition                                  | “Security of land tenure is the recognition of rights by the law and outside groups and the respect of those rights including recognition that those rights exist and are protected.”   | 17%                                       |
| Social, political, and environmental context | “Land tenure security is not just a concession from the government but an acquired right – the ability to use land to advance social/political/economic status, as well as to preserve culture and heritage, in rural and urban areas.” | 15%                                       |
| Presence – activity on the land              | “I characterize [land tenure security] with how long you've been on the land. Your title, presence, and activity on the land.”  | 11%                                       |

|  |   |       |
|--|---|-------|
| Domain and control over land and resources | “The ability for people to make sovereign decisions about a piece of land they live on, and feel as though they own it, sell it, access all possible forms of assistance the government or NGOs provide. So security has everything to do with a person’s power to make decisions about the land they occupy, and that when they make those decisions they will work for them and they will stick.” | 9.3%  |
| Dispossession                              | “The inability to access customary land, and the lack of legal protection, the lack of capacity, and the expansion of foreign investment - land-based foreign investment [threaten land tenure security].”  | 9.3%  |
| Enforcement                                | “We understand land tenure security as the rights of people to hold land as individuals. And that landholders should expect from the government that their land title is secure and is protected.”  | 7.4%  |
| Concessions                                | “The area of Peten in which we work is all reserve land, so land tenure security for the communities within the reserve is dependent on a government concession. Land tenure security depends on whether the concession gets renewed or not.”   | 5.6%  |
| Perception                                 | “It’s about trust and certainty that the future benefits of environmental stewardship will accrue to the steward and the stakeholder. So it’s being certain about the flow of benefits from an environmental resource; and without that certainty, there is little motivation for such stewardship.”  | 0.18% |

<sup>a</sup> Interviews were coded using the presented codes. Quotes could be coded using more than one code. Practitioner responses had, on average, 4 codes each, and 98% of quotes had more than one code.

<sup>b</sup> The column does not sum to 100% because each interview could be coded with more than one code.



Table S2: Distribution of goals that are targeted for improvement via strengthening land tenure security by sector<sup>a</sup>

|                      | Sector       |                      |           |              |             |               |                     |                      |        |          |                      |
|----------------------|--------------|----------------------|-----------|--------------|-------------|---------------|---------------------|----------------------|--------|----------|----------------------|
|                      | Conservation | Water and Sanitation | Education | Humanitarian | Agriculture | Public health | Indigenous-specific | Economic development | Gender | Conflict | Policy or governance |
| Food security        | 38%          | 67%                  | 44%       | 70%          | 47%         | 58%           | 36%                 | 50%                  | 33%    | 25%      | 33%                  |
| Gender equality      | 38%          | 83%                  | 44%       | 60%          | 47%         | 58%           | 50%                 | 50%                  | 100%   | 0%       | 33%                  |
| Conservation         | 81%          | 67%                  | 78%       | 70%          | 51%         | 50%           | 50%                 | 58%                  | 0%     | 25%      | 33%                  |
| Indigenous rights    | 54%          | 50%                  | 56%       | 70%          | 50%         | 50%           | 86%                 | 46%                  | 67%    | 50%      | 67%                  |
| Economic development | 65%          | 83%                  | 78%       | 70%          | 47%         | 58%           | 45%                 | 79%                  | 33%    | 25%      | 67%                  |
| Conflict resolution  | 54%          | 83%                  | 89%       | 70%          | 49%         | 0%            | 50%                 | 67%                  | 33%    | 100%     | 33%                  |
| Resettlement         | 15%          | 33%                  | 11%       | 40%          | 44%         | 50%           | 27%                 | 21%                  | 33%    | 50%      | 0%                   |
| Household security   | 31%          | 83%                  | 33%       | 70%          | 51%         | 50%           | 36%                 | 42%                  | 33%    | 25%      | 33%                  |
| Other                | 0%           | 0%                   | 0%        | 10%          | 20%         | 0%            | 9%                  | 8%                   | 0%     | 0%       | 33%                  |
| <i>n</i>             | 26           | 6                    | 9         | 10           | 20          | 4             | 22                  | 24                   | 3      | 4        | 3                    |

<sup>a</sup> Practitioners could identify more than one sector and more than one goal.

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