



A Field Guide To Pastoralist-Led Rangelands Assessment

March 2014



IUCN Landscapes Programme

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Introduction

What is Community-Led Rangelands Assessment?

Community-Led Rangelands Assessment promotes the use of traditional or indigenous knowledge of pastoralists, as the dominant group utilizing rangelands, to guide planning and management of rangelands resources to support and build resilient pastoral livelihoods. Use of traditional knowledge is considered cheaper, easier to use and replicable. It promotes the respect of local communities' culture and its integration into scientific methods. The use of traditional knowledge, which has been tried, tested and refined over many years, forms a tangible basis on which to evaluate and guide interventions in the rangelands.

What is the rationale behind Community-Led Rangelands Assessment?¹

Intimate pastoralist knowledge of the range landscape: Pastoralists have a deep understanding and well developed body of traditional knowledge about rangeland use and of its health established through centuries of constant interaction with and reliance upon natural resources that support their livelihoods. They have an intimate knowledge of the geographical landscape around them and they do their own assessments on various timescales. They know which land is productive and when; and they understand the varied nutrient flows within the landscape that can support livestock. They have a lot of understanding of a range of other factors such as soils, topography, vegetation, pest, parasites and predators. From all of these they have developed composite indicators, although these may not be stated as such. Many of these indicators are comparable with scientific or ecological measures.

Underlying values of rangeland units to pastoralists: Each patch of land within a landscape has its own inherent or underlying qualities, for example it may contain a particular grazing or browse species that are beneficial to livestock during a given season e.g. some browse species increase fertility of livestock if utilized just after the rains. The pastoralists will, to take another example, avoid other areas as they contain high loads of pests such as ticks. Therefore, if they are given the choice, they will take their livestock to a particular place at a particular time of year – a clear indication of rangeland preferences that are vital in planning processes.

Traditional knowledge as a part of landscape resilience: Semi-arid and arid areas are highly variable both between years and between seasons, especially with regard to rainfall dynamics. Over the years, pastoralist communities have developed mechanisms to adjust to this unpredictable nature to make their livelihoods resilient. Resilience is therefore built into the local knowledge and a subtle level of range management that has been largely been ignored by dryland policy makers. Traditional knowledge has not been recognized an important part of landscape resilience.

Integrating traditional knowledge with modern science and technology: This pastoralist-centered assessment, therefore, uses modern ecological knowledge and satellite imagery as a tool to assess rangelands health. In effect, select members of a pastoralist community are allowed to describe their landscape using a satellite image of the area, working together with ecologists as a team. It allows pastoralist communities to rapidly describe the functions of the landscape in a meaningful way for decision and policy makers to understand the landscape in terms of pastoralist livelihoods and resilience.

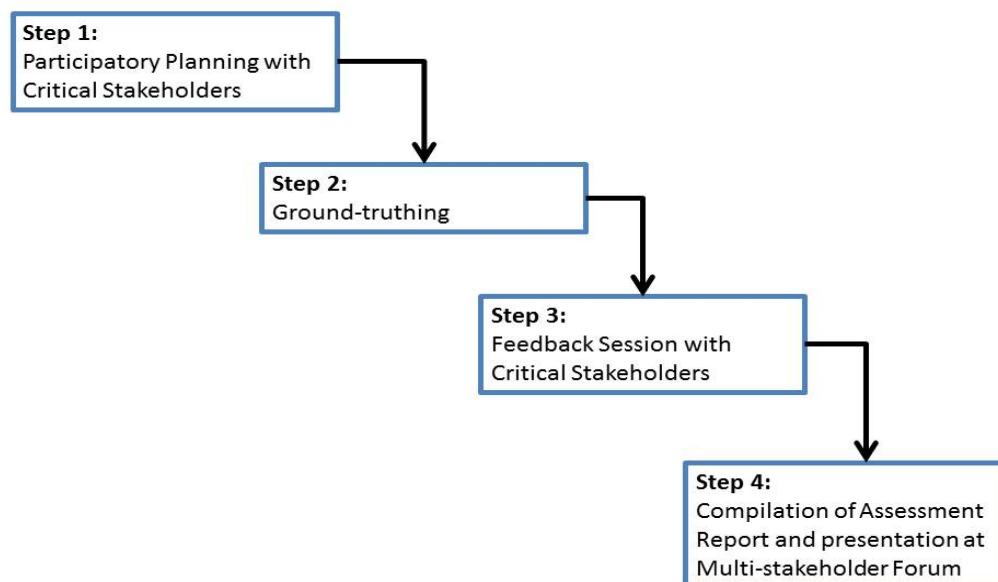
¹ This rationale is based upon several studies conducted by and for the World Initiative for Sustainable Pastoralism. These studies can be accessed at <http://iucn.org/wisp/resources/publications/>

Key steps in Community-Led Rangelands Assessment

Generally, community-led rangelands assessment involves 4 main steps:

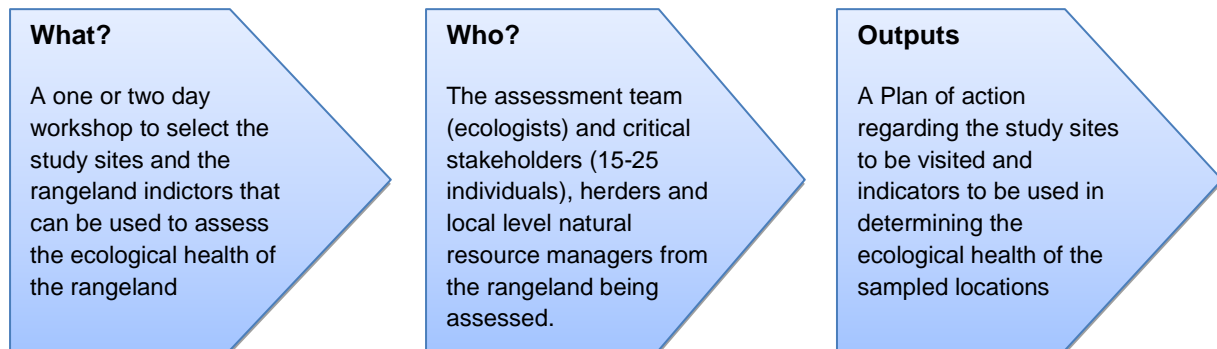
1. Participatory planning with critical stakeholders to select key variables/indicators of rangelands health that would be considered for the assessment;
2. Ground-truthing in order to characterize and map the extent and condition of the rangelands.
3. A feedback session with critical stakeholders who were involved in Step 1
4. Compilation of the assessment report, which should be presented at a multi-stakeholder forum of development partners, leaders and decisions makers, with the aim of promoting awareness and discussions around investments that integrate sustainable rangelands resource use and management.

Key steps in Community-Led Rangelands Assessment



Step 1: The Participatory Planning Process

The participatory planning process should ideally be a one or two day workshop with a group of critical stakeholders (a maximum of 15-25 individuals should suffice) from the rangeland being assessed. A quick guide to this planning process is found in Annex 1. These critical stakeholders should be persons who have an intimate knowledge of the rangeland and whose daily work involves a high degree of 'on-the-ground' engagement. The group should be comprised of herders and local level natural resource managers, such as district forest officers and water resource managers.



The main aim of this process is to select rangeland indicators that can be used to assess the ecological health of the rangeland. Therefore, as key criteria for their selection, the indicators should ensure consistency, reliability and predictability. They should be responsive at appropriate scales (sensitivity to environmental change/respond to temporal and spatial scales) and they must have a history of use, be easy to understand, conceptually well founded (dependable for data validation), limited in number, but with the power to make short or long-term predictions.

For example, indicators based on types of vegetation associated with different soil types; sources of water or topography of the land are considered the most appropriate. Other broadly used indicators are soil characteristics, pest infestation, accessibility (security, etc.) and water (sources and availability).

For the purposes of generating information and bringing all participants to a common understanding, each of the different indicators can be discussed in some detail – identifying the nature of the indicators, how they change spatially and temporally, what are the drivers of change, etc. Once that is completed, the group can select one set of indicators they feel is most appropriate for the exercise at hand.

The next step is to facilitate a discussion on how local pastoralists characterize or classify their landscape. The criteria for classification might be directly linked to the indicators identified above, or they may be based on some other utility function (e.g. wet or dry season grazing), according to the different land use systems in existence, or even on particular land forms present in the rangeland. Either a digitally projected google map of the rangeland, or a hard copy of the google map (ensuring that it is of a suitable size), is presented to the group. The group is then facilitated to divide the landscape according to these classifications, generating 'polygons' of the major grazing land units. It is important to use known and visible reference locations/landmarks to orient the participants and help relate the map scale to the ground scale. This is particularly helpful for members of the group who might be illiterate or unfamiliar with the use of google maps.

A general description for each polygon can then be developed using the following criteria:

- Condition – excellent, good, fair, poor, very poor (ask for explanations)
- Trends – stable, declining, improving (ask for explanations)
- Season of use (wet/dry) – in the past or now? Why?
- Suitability for livestock species – cattle, sheep, goats, camels. Why?
- Relative preference for livestock – most preferred, preferred, least preferred. Why?
- Threats of degradation. What are the drivers?

Based on the amount of time and resources available for the ground-truthing exercise, the group can then make decisions on the number of and which locations (polygons) should be sampled as study sites. It is at these sites that transect walks will be conducted to collect data on presence, abundance and distribution of the rangelands health indicators presented above.

Finally, a small select number of participants from within the larger group are identified to carry out the ground-truthing with the ecologists. This smaller group should number about 3-6 individuals, and must include some of the herders/pastoralists who are familiar with all the study sites selected and the indicators proposed. In addition, these individuals should be strong enough to walk long distances during transects, and be known and respected among the local communities to guarantee security of the assessment team. Ensure that both old and new herder scouts are included – this helps bring in a mix of older knowledge as well as current situational information. It is advisable, if possible and if considered necessary, to include one or two additional individuals (again, these individuals must have intimate knowledge of the area) at each study site to assist in data collection during the transect walks.

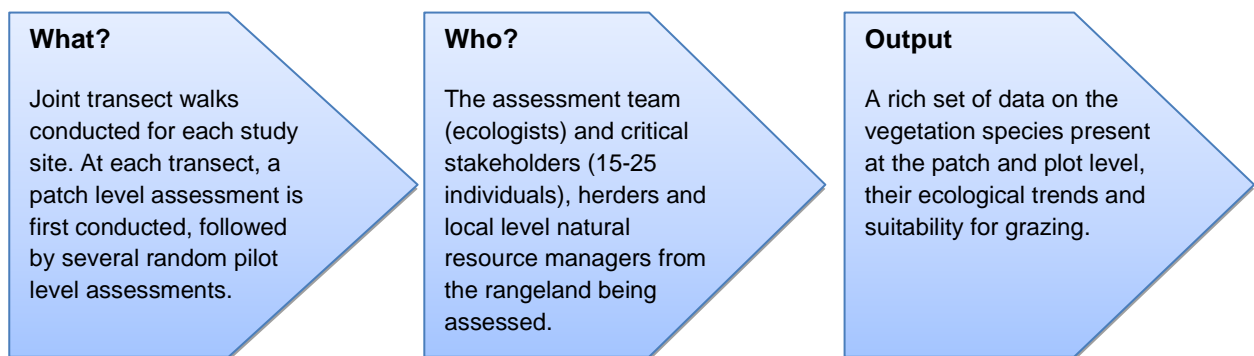
Materials to be prepared:

- Printed rangeland Google Earth maps of suitable size (preferably A0) OR Laptop (with internet connection) and projector – in case one chooses to project the Google Earth maps.
- Washable marker pens for drawing
- Permanent markers
- Flip chart paper and stand
- Notepads and pens

Step 2: Ground-truthing

For each polygon, a number of joint transect walks with the group should be conducted:

- Try to assess degradation categories in each of the polygons.
- You can choose to do road drives and make regular stops to make patch level assessment (be at least 100m from the road).
- At each stop, record the GPS coordinates and then proceed to make a patch level (area within your visual limits) assessment. Please use Tool 1 (Annex 2) for this purpose.
- Along the transect walk at each stop, randomly place plots to assess parameters according to Tool 2 (Annex 3).
- Once you have finished the number of pre-determined transects for a polygon, you can do a summary assessment for the polygon using Tool 2, based on the patch level assessments already carried out.



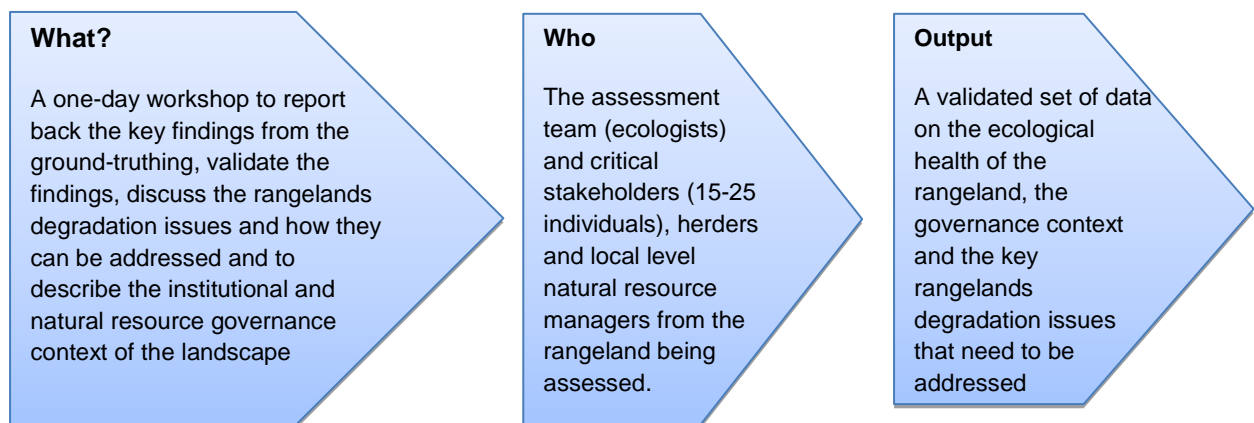
The greater the number of stops and transects within a polygon, the greater the representativeness of your assessment. Try to ensure that the transect walks are as spaced out as possible (at least a few kilometers from each other), and that they cover as much of the polygon as is practical given the resources and time available.

Materials to be prepared:

- Fully functional hand-held GPS device. Check for functionality before going to the field. Include spare batteries.
- Sufficient copies of the field data sheets (Tools 1 and 2 annexed herewith)
- Proper folder/clip board for use when entering data on sheets in the field.
- Notepads and pencils.
- Route map (if required).

Step 3: The Feedback Session

The same group that initially met for the participatory planning process should meet again for the feedback session. During this session, participants who undertook the ground-truthing exercise report back to the larger group on their experiences and key findings. Attention should be given to findings that are different, or even contradictory, to the general description (characteristics) and trends identified for each study site during the planning process. If necessary, corrections to the map can be made. If there is contradictory information regarding trends in a study site, the group can discuss the reasons behind the difference in what is perceived and what is actually observed.



At this stage the group should also discuss the key rangelands degradation issues identified, and how they think these should be addressed.

The session can then go on to discuss the institutional and natural resource governance context of the landscape:

- What are the local natural resource governance structures – local laws, regulations, cultural taboos and norms, institutions (both traditional and modern), etc.?
- Who makes decisions regarding natural resource governance? If this has changed over the years, how has it changed and why?
- How have higher level policies affected natural resource governance at the local level? (e.g. policies on rural investments, development, agriculture, infrastructure, NGO driven interventions, etc.)

Finally, the session could discuss the shrines, sacred and cultural sites existing within the landscape:

- Where are these located (use place markers on the map)
- Why are these important? What role do they play in the society in general, and how do they impact natural resource governance in particular?
- What policies, both at the local level and at the higher level, affect these shrines and sites?

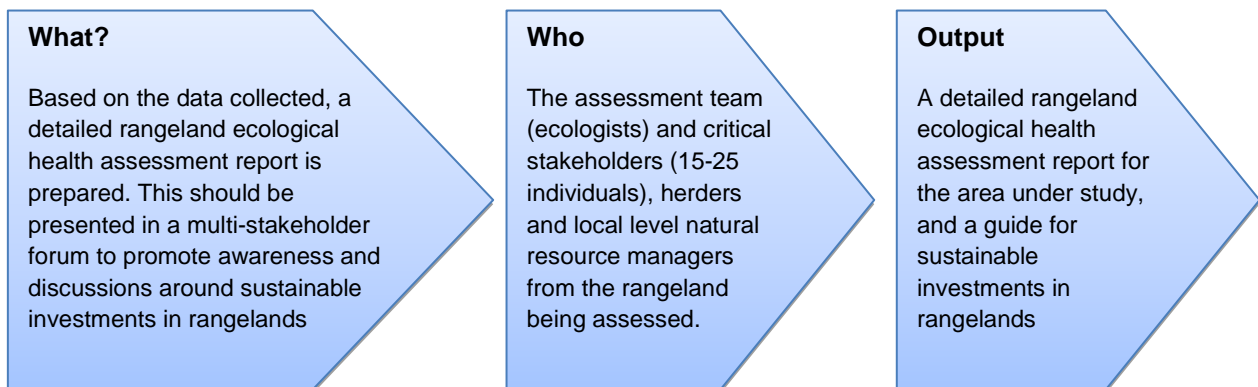
Materials to be prepared:

- Printed rangeland google maps of suitable size (preferably A0) OR Laptop (with internet connection) and projector – in case one chooses to use projected Google Earth maps.
- Washable marker pens for drawing
- Permanent markers
- Flip chart paper and stand
- Notepads and pens
- Summary of data collected from the field

Step 4: Compilation of Rangeland Assessment Report

Using the information gathered from the feedback review group, and the data from the field, it is now possible to compile a rangeland assessment report for the area under study. The report should capture the following: The assessment area, methodology and sampling sites; the assessment results; Landscape ecological health assessment for each area of study (e.g. each district); Traditional Rangeland Governance and Management in the area; Threats/Challenges to sustainable natural resources & rangelands management; Conclusions and recommendations; and the relevant tools and other guidance notes as annexes.

This report should then be presented at a multi-stakeholder forum of development partners, leaders and decisions makers, with the aim of promoting awareness and discussions around investments that integrate sustainable rangelands resource use and management.



The Dos and Don'ts of Community-Led Rangeland Assessments

Do:

- Ensure the entire assessment team is briefed properly on the objectives and methodology of the study
- Carry out some test or pilot data collection exercises with the field team and data collectors to familiarize themselves with data collection procedures, and to address any challenges that may arise during data collection. Where does this fit in the steps? Show it there
- Plan a route map through the study sites in advance. This will help optimize the use of time and resources when in the field.
- Split the field into 2-3 sub-teams to undertake transects and collect data so as to enhance quick data collection. Ensure the sub-teams have the capacity to undertake the field work independently, or with minimal supervision. The ecologists should provide necessary backstopping
- Cater to the needs of illiterate members of the team or those with minimal experience handling maps, data sheets, GPS devices, etc. Modify methods used or assign tasks to individuals accordingly.
- Encourage gender balance in your planning groups and field teams to obtain data/information from varied perspectives.
- Take recognition of the historical and social background of the study area. Be aware of special interests that may bias or otherwise distort the interpretation of findings from your work.

Don't:

- Forget to ensure quality control of the assessment at every stage of the process.
- Rely entirely on your planning groups and field teams. Do some independent research, be observant in the field and objective in your analysis to guard against bias and misinterpretations.
- Allow one or two individuals to dominate proceedings and discussions. All participants must be given the opportunity to be fully involved in the process.
- Use only one person as a translator between the assessment team and the local participants during discussions. Alternating your translators helps minimize bias in information and instructions being relayed.

Annexes

Annex 1: **Guide to Workshop with Pastoralists**

Step 1. Landscape assessment

Develop the criteria /indicators for assessing rangeland health

- a. Vegetation aspects (species composition, cover)
- b. Soils characteristics
- c. Pest infestation
- d. Accessibility (security etc)
- e. Water

Steps 2. Landscape characterization /classification

- a. Discuss pastoralists landscape characterization /classification criteria (e.g vegetation, landforms, soils etc)
- b. Use Google projection to create broader landscape classification based on pastoralists' perception of landscape to generate polygon. Use known and visible reference locations/landmarks to orient the participants and to help relate map scale to the ground scale
- c. With the help of the participants, draw the polygons of the major grazing land units

Step 3. Make general description for the projected polygon making assessment for:

- a. (a). **Condition** – Excellent, Good, Fair , Poor, very poor (ask for explanation)
- b. (b). **Trends**- Stable, Decline, Improving (explanation)-
- c. (C). **Season of use** (wet/Dry)- In the past or now? Why?
- d. (d) Suitability (Livestock species)- Cattle, goat, camel) why
 - i. relative preference – most preferred, medium least preferred- why most preferred?
 - ii. threats of degradation (contributing factors)

Step 4. Joint transect walk with selected knowledgeable herders-(mix of old and herder scouts)

- a. Try to assess degradation categories in each of the landscape (polygon)
- b. You can choose to do road drives and make regular stops to make patch level assessment (be at least 100 m from the road).
- c. At each stop , make a patch level (area within your visual limits) to make assessment (Use tool 2)
- d. Randomly place plots to assess parameters (Ref to tool 3)

Annex 2: Tool 1: Field Data Sheet for joint (Herder/ecologist) rangeland assessment

Karamoja (1 per 'patch' and summary per 'polygon')

Date.....District..... Polygon.....Patch.....

Facilitators.....Knowledge holders.....

Herder assessment

Particulars	Description
Landscape type (Google earth Polygon	
Sub local classification (specific names for landscape patches)	
Transect number	
Herder soil type (color, texture, temperature)	
Soil erosion indicators (Ecologist)	
Grazing history (Frequent, occasional, Rare)	
Grazing Suitability (Livestock species)	
Landscape Grazing potential (LGP)- (High, medium, low)	
Wildlife indicators (fecal, foot prints etc)	
Season of use (Wet/Dry)	
Range Condition (Excellent, good, fair, poor)	
Range trends(Stable/Decline/Improving	
Threats to the range health	
Cultural/spiritual values	

ADDITIONAL NOTES:

Annex 3: Tool 2: Plot data - Documentation of community rangeland health indicators at plots scale – 10 per polygon

Date.....District..... Polygon.....Patch.....Plot.....

Facilitators.....Knowledge holders.....

Cover (bare ground) (%)	
Herbaceous (%)	
Woody cover (%)	

Species (Karamoja name)	Preference (Livestock species) e.g cattle. Goat, sheep)	Preference Index (High, medium , Low)	Herder abundance assessment: once per polygon and once per key patch. On 'DAFOR+CS scale – see below)	Trends Increasing/ Decreasing/stable	Life forms (tree/shrub/herbs Grass

DAFOR+CS – Dominant (>75% cover), Abundant (>30%), Frequent, Occasional, Rare. In natural systems abundant and dominant is unlikely (percentage cover is only an indication), C-Clumped, S - Scattered



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