



**LAIKIPIA WILDLIFE FORUM
RANGELAND REHABILITATION & MANAGEMENT PROGRAMME**

Implemented by Natural Capital East Africa
through Obufield Ltd.

**FINAL PROGRAMME SUMMARY REPORT
May 2008 – Dec 2014**



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PREFACE RELATING TO SACNASP:

Richard Hatfield had overall responsibility for this 7-year programme. His roles included overall project design; quarterly work planning; materials development; project management, administration and reporting; he also served as lead trainer and implementer, whilst training up and managing a team of six support trainers (senior and junior) who gradually took over most of the training and implementation roles.

EXECUTIVE SUMMARY

Purpose of the Final Report: The primary purpose of this document is to provide a platform for guiding investment going forward into Laikipia's rangelands. It does this by presenting **Summary Activities and Outcomes** of, **Lessons Learned** from, and **Recommendations** for the Rangeland Rehabilitation & Management Programme implemented under the Laikipia Wildlife Forum (LWF) by Natural Capital East Africa (NCEA).

Duration of the Programme: The duration of the programme was 2008-2014 (7 years). The original goal of LWF was to implement a consistent 10-year programme.

Sources of Funding: The programme was funded by RNE (Royal Netherlands Embassy) Kenya between 2008-2011; USAID (U.S. Agency for International Development) between 2010-2012; and, again, EKN (Embassy of the Kingdom of the Netherlands) Kenya between late 2012-2014.

Scope and Scale of the Programme: The scope of the programme involved initiation of rehabilitation and sustainable management of Laikipia County's rangelands; the scale was to focus on the County's pastoralist communities (which largely excluded the substantial private ranches); within these the priority focus was with the 13 Maasai group ranches (GRs) of Mukogodo Locations (Laikipia North). Specifically, the programme focused on developing 2 'learning hubs' within the 13 GRs, scaling outwards as possible and appropriate. The programme also undertook to facilitate development of a resource / learning hub in Laikipia West, to start an engagement process with transient Samburu and/or Pokot communities. LWF originally envisaged a 10-year programme.

Broad objectives of the Rangeland Programme

The original interest of LWF in 2008 was 'to develop and implement an integrated (range)land rehabilitation strategy for Laikipia'. Subsequently, the objective was refined as follows:

Overall long-term objective towards which the Rangeland programme is contributing:

To empower Laikipians, particularly pastoralist communities, to improve their lives and the lives of future generations by restoring and enhancing their land and natural water sources; as part of realising their vision for the future.

The key word is 'empower': that is, focus on enabling the **capacity** for sustainable management of productive rangelands, rather than focus on providing the end results. Within this long-term goal, the 10-year programme had the following target objective:

Primary Desired Result: Implement, test, validate & refine appropriate approaches for transforming rangeland management with partner communities in Laikipia; against the wider backdrop of largely-failed previous interventions in Eastern Africa. The core framework used was the Holistic Management (HM) approach. HM contains the following central ‘theories of change’, which the programme undertook to test practically by implementation and observed outcomes:

- Systems (holistic) Thinking: since land, economy and environment are inseparable, appropriate sustainable interventions / solutions must address all 3 aspects, and simultaneously.
- Social Learning: beneficiaries need to own the process, since they best understand their aspirations the complexity of their situations. As such, social learning is a process of socially constructing an issue with actors through which their understanding and practices change, leading to transformation of the situation through collective and concerted action.
- ‘Eco-Literacy’: key biological misunderstandings continue to hamper the reversal of land degradation; whilst correctly managed livestock can enhance land and water health, and resting of land and/or light stocking damages land and water health.

These were guided by, and were to contribute to, 7 broad longer-term ‘desired outcomes’:

- A Laikipia-level informal **rangeland network** gathering support for, creating awareness of, and fostering actions consistent with sustainable rangeland management.
- Local communities, private ranches, NGOs and government officials **working together**, experimenting with putting best-practice principles into practice, learning, and building relationships.
- Communities and others expanding their **understanding of the resource base**, the tools available for managing it, and the impact of those tools on the resource base.
- Communities and others **redefining their relationships** towards each other and towards the natural environment, coalescing around a vision for ‘the-Laikipia-of-the-future’ producing prosperity and peace.
- Establishment of a number of **best-practice learning sites** amongst communities not excluding private ranches across the district, resulting in covered soils, increased grass and tree production, restored natural water sources, improved livelihoods and sustainable communities.
- Solid **support from policy-influencers and –makers** for adopting and spreading best-practice; with practice in Laikipia becoming a model for Kenya and Eastern Africa.
- Formal and informal **decision-making processes** involving and benefiting all rangeland managers

Headline Results: USAID performance indicators

	Performance criteria	Totals
1	Number of hectares under improved management (governance and/or practice) by and/or influenced by the programme	<ul style="list-style-type: none"> • Improved mgmt: 89,901 ha. = 49% of group ranches. (89,901/970,000 (Laikipia County) x 19% of Laikipia’s area). • Influenced a further 108,264 ha. = 16% of Laikipia’s rangelands. (108,264/669,300). • Combined = 26% % of Laikipia’s rangelands.

2	Number of hectares showing biological improvement	The 4 sites with implementing grazing plans consistently constituted a total of 25,051 ha. Results show improvement where planned grazing was followed consistently, and with moderate-to-good implementation (eg Il Ngwesi, Oreteti). Good examples of improvement were achieved across many areas (see report), however, it is difficult to conclude any 'permanent' biological improvement or deterioration according to the biological transects monitored; actual biological improvement varied year-to-year, mainly driven by over-riding external factors (eg drought, grazing invasions). In addition the programme only has 2 full sets of comprehensive monitoring to compare (due to time lag establishing sites with stable 'new practice'); at least 2-4 additional sets would be required to discern trends.
3	No. person-training days in NRM governance and/or practice	Estimated at 18,600 (equivalent to 62% of people of GRs).
4	No. people under continuous, more intensive training as long-term district-wide community resource people	21 (grazing coordinators, grazing technical resource people, grazing supervisors).
5	No. households adopting improved practices in target sites	730 HH + 60 individuals (mainly employees).
6	Increased capacity of governance bodies (current level: maximum = level 9)	<ul style="list-style-type: none"> • 1 ranch@Level 8.5 • 1 community Trust@Level 8.5 • 1 community@Level 8 • 1 communities@Level 7 • 8 communities@Level6 • 4 communities + 3 grazing management umbrellas@Level 4 • 6 communities@Level 2
7	No. policies, laws, agreements or regulations promoting sustainable NRM implemented as a result of / influenced by the programme	<ul style="list-style-type: none"> • Grazing plans 30 grazing plans: 10 continuous / established (communities + Borana-community); 13 newly established (communities); 10 sporadic / inconsistent (communities & community-ranches/conservancies joint plans). • Grazing by-laws: 2 GRs / 11 villages. • 5 community long-term visions developed as context for grazing management within future development. • LEDS (local economic development strategy) developed with Il Ngwesi as blueprint for 5-year Neighbourhoods Strategic & Implementation Plan 2015-2019. • Formation of Naibunga Umbrella Grazing Committee to link to GR grazing supervisors (9) supported by the programme + GR grazing committees with roles & responsibilities. • Ol Lentille Greater Conservation Area grazing committee formed, linked to member communities. • Facilitation to reforming of Mukogodo East GR umbrella (formerly Ilamusi) • Ongoing dialogue with 4 'abandoned lands' communities around Ol Maisor-Ngorare

Headline Impacts

Of central interest to the programme were not only the common **Result Areas** above, but also significant *transformations in the process* by which those results are achieved, reflecting genuine **Capacity Built**. The working definition the programme used for capacity was 'competence, confidence, commitment'. These aspects were considered by looking through 4 interconnected 'lenses' representing different realms of transformation:

- individual transformation
- relationships transformation
- collective/community transformation; the above as necessary foundations for
- system / structural transformation i.e. better results and impacts.

Headline outcomes within these categories include:

INDIVIDUAL IMPACTS / TRANSFORMATION

Note: 155 households sampled in February 2013 across 4 group ranches focused on until then. 137 households sample in July 2015 across 9 group ranches (see accompanying reported authored by KMT (Kenya Markets Trust, 2016 'KMT Holistic Rangeland Management (HRM) Impact Assessment Report, Laikipia').

- 1. Value of approach.** In 2013 75% of respondents thought the approach could solve their land challenges, and 65% felt it could solved their community challenges (the 5 greatest challenges cited as poverty, drought, illiteracy, poor leadership and security). Corresponding results for 2015 were 86% and 69% respectively.
- 2. Awareness of the approach.** In 2013 84% had heard of the programme, 100% were interested, and 83% supported the approach. Corresponding figures for 2015 were 96%, 100% and 96% respectively.
- 3. Participation.** In 2013 86% of male-surveyed households were participating in programme activities; of those nearly 100% said they were getting good results by participating; and 90% would like to increase their participation (2013). Corresponding figures for women were 50%, 75% and 60%, respectively (2013). All of these figures had increased in 2015 across the greater number if group ranches.
- 4. Benefits - men.** For men surveyed, the 3 greatest benefits were (i) "it promotes a common sense of purpose and unity" (70%) (ii) greater forage production (64%) and (iii) "it brings good knowledge" (58%) (2013). Levels were still at this level in 2015, now across the wider area, with 'it promotes a common sense of purpose and unity' scoring 72%, tied with 'it reinforces our culture'.
- 5. Benefits – women.** Amongst women surveyed, the 3 corresponding greatest benefits were (i) increased forage production (ii) "it brings good knowledge" (iii) combining of animals (56%) (2013). Women were not surveyed in 2015.
- 6. Building responsibility.** The programme has made people look at themselves and how they have contributed: there is widespread recognition by individuals that they as managers are responsible for land degradation, not droughts, fate or other factors ('Erosion begins in the human mind and spreads to the land' – Matthew Chana, community mobilizer).
- 7. Empowerment.** Two types of empowerment have been evident (i) the future of communities is in their hands, not others' hands (ii) the knowledge given on transforming land health, using only the resources communities already have at hand.

RELATIONSHIPS TRANSFORMATION

- 8. Reduced antagonism:** The programme has created space for livestock not be blamed as the problem; it has created space for communities not be blamed as the problem; and it has created space for the

ranches not be blamed as the problem. This was listed as a major challenge to rangelands in Laikipia at the start of the programme, and a major programme 'desired deliverable'. The change is mainly due to 2 factors (i) the benefits of properly managed (community) herds on ranches land seen as providing a suitable basis for increased community grazing on ranches (ii) enhanced joint planning process (planned grazing) between ranches and communities enhances relationships.

9. **Enhanced community unity.** See citation above: 70% of men surveyed cite 'promotion of common sense of purpose and unity' as the single greatest benefit of the programme. One example was the case in Il Ngwesi, which came back from the brink of sub-division, and credited the programme largely for that outcome.
10. **Improved family life.** Il Motiok and Il Ngwesi women in particular speak of the benefits to family of men having to migrate less often due to improved local forage production.
11. **Transforming the LWF image.** Communities acknowledge the programme transformed the negative image LWF had in the GRs, into one of valued partner.

COLLECTIVE OR COMMUNITY TRANSFORMATION

12. **Valuing grass.** Communities acknowledge mind-set change about (a) valuing the grass resource rather than taking it for granted (b) taking responsibility for the grass resource – something that was never necessary before. An excellent example is Il Ngwesi's recent protection of grown forage through management of pressure from friendly GRs to the west and confrontational Samburu herds to the east, over an extended period (June 2014 – June 2015).
13. **Valuing recovery period.** Appreciation of a grazing management approach that satisfies livestock whilst allowing sufficient recovery time for forage (in contrast to the historical recommendation of destocking).
14. **Valuing planning-and-control processes.** Recognition by communities of the value of active planning and management as tools by which they can control their own destiny.
15. **Governance structure improvement.** One of emphases has been community review and assessment of who impacts grazing management; and delineation of roles and responsibilities of each player. This process has typically resulted in greater recognition of and responsibility given to particularly livestock owners and herders, who are acknowledged to be key day-to-day decision-makers (see also Il Ngwesi example under Section 'Impacts and Results Part 8).
16. **Self-directed development.** The programme is acknowledged, internally and externally, to have contributed to effective 'development thinking' in Laikipia's pastoralist community context, and provided a framework to action such thinking. An excellent example was Il Ngwesi's recent self-directed 4-yr Neighbourhoods Strategic & Implementation Plan 2015-2019, which drew its methodology from the programme's previous Local Economic Development Strategy.
17. **External Recognition.** The USAID external evaluation team described the Rangeland Programme as the stand-out LWF programme (2010-2012); primarily because of its community-driven approach, and something they had not witnessed in their long experience: pastoralist mindset change.

SYSTEM OR STRUCTURAL TRANSFORMATION

Ultimately most intervention is interested in concrete, end-of-pipeline results:

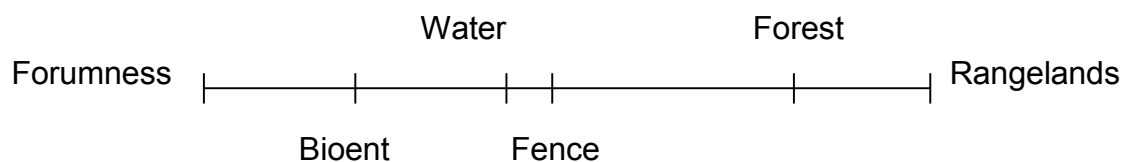
18. **Demonstrated examples of land/forage/water transformation.** Community learning sites demonstrated examples of land/forage/water transformation and experienced the benefits, using their own resources in combination with programme support training and mentoring (see summary statistics table above). Good examples have occurred in Il Ngwesi, Makurian, Il Polei-Munishoi and Il Motiok GRs (see under Section 'Impacts and Results'). However, as noted in the 'Highline Results – USAID Performance Indicators' above, whilst there were definite strong examples of improvement, it is difficult to conclude 'permanent' biological improvement according to the biological transects monitored; actual biological improvement varied year-to-year, mainly driven by over-riding external

factors (eg drought, grazing invasions). In addition the programme only has 2 full sets of comprehensive monitoring to compare (due to time lag establishing sites with stable 'new practice'); at least 2-4 additional sets would be required to discern trends. The only site showing consistent improvements across the 2 data sets was Il Ngwesi (see 'Land Health' results under Section 'Impacts and Results').

- 19. Planned grazing as 'standard practice'.** Grazing plans have now been established as standard community practice in 11 communities. However, there are obviously several degrees of sophistication, which take time to evolve. Different levels are represented in the summary statistics table above 'USAID Performance Indicators' under 'Governance capacity'.
- 20. Instability.** In addition, none of the above situations are necessarily 'permanent states'; each continues to be susceptible to instability in establishing a new grazing regime, both from internal and external 'shocks'. The most severe external shocks have been rainfall and connected in-migration, both by invitation and/or invasion: 4 below-average rains over the past 2 years have left communal grass stocks depleted ahead of the upcoming long dry season. The most serious internal shock involves disunity dynamics. The most hoped-for result from the programme's view is not that these shocks disappear (this will take time), but that the communities have sufficient commitment to 'get back up' and keep strengthening their regime, in order to reduce the impact of shocks through time. This has been evident with Il Ngwesi, Il Motiok and Il Polei-Munishoi, but not so much with Makurian.
- 21. The stand-out example is Il Ngwesi GR.** Il Ngwesi have the most developed new grazing regime, which started in their protected conservation zone, and spread over time to include all resident sections (Lower Sanga, Upper Sanga, Nandungoro-Lokusero). In addition to growing more grass, they have controlled and managed friendly incoming herds as well as hostile Samburu invaders almost continuously over the past 12 months. To the programme, this represents a 'coming of age' in demonstrating the 'commitment' aspect of their capacity gained; and a great example to others, since their uptake of the HM approach has endured huge swings.
- 22. Acceptance of livestock as a positive land health tool.** The concept and practice of livestock as a positive tool for the land is now widely acknowledged and accepted county-wide amongst pastoralists, ranchers, conservancies, technical staff of NGOs, and County Government.
- 23. Changes triggered in governance from which people have seen benefits.** In the case of Il Ngwesi it resulted in formal establishment of village management entities ('forums') responsible for village development, taking away significant responsibilities from the GR umbrella management entities (see 'Impacts and Results' section for details). It also resulted in significant reorganisation of grazing management in Naibunga Conservancy's 9 GRs. Residents acknowledge that such changes have helped reverse inappropriate top-down participation, decision-making and actioning, and promote a more user-driven bottom-up approach, which would seem to be critical for sustainable NRM.
- 24. Improved intervention design.** Above all, it has allowed us to learn what needs to be done and insight into how it needs to be done, and given a solid framework to do so.
- 25. National and regional contribution.** The programme has shared the Laikipia experience in multiple regional forums; where it is evident that a 'sea-change' in the approach to rangeland management is occurring; informed in no small way by the approach implemented and tested in Laikipia. In this regard, the positive contribution of LWF's programme cannot be underestimated; and to the degree to which this was the driving motivation for LWF's creation of the programme, its initiative has been vindicated.
- 26. Rangelands Programme acknowledged as 'the stand-out LWF programme',** according to a USAID external assessment conducted in 2013.

Headline Challenges

1. **Programme ambitiousness.** The programme sought to redress the negative impacts of decades of complex social, economic and environmental dynamics, through simultaneous engagement in social, environmental and economic realms in each learning site.
2. **Programme complexity¹.** LWF programme developed a 'complexity scale', 0 (left hand extreme) – 5 (right hand extreme): Rangelands is deemed LWF's most complex programme.



3. **Unconventional approach to land management.** Pioneering an unconventional approach to land management with land owners and other interested parties is inherently challenging. As such, a significant portion of programme time was channelled into process-building and human capacity-building, as opposed to achieving results-on-the-ground: 'new approaches take time'.
4. **Activity focus and results are determined by the implementing community.** In addition, any approach centred on community transformation is unconventional and challenging. Community-owned and driven has its implications: the greatest activity investment of the programme was based on iterative rounds of dialogue, training, implementation, review, re-dialogue, re-training that required inclusivity of the whole community in any one site, at the same time addressing complexities of normal community dynamics and politics. (see section on 'Programme Approach'). Ultimately pace of progress is dictated by the slowest 'piece'.
5. **'Learning-by-doing'.** Linked to the above, one ongoing challenge was – given the programme's interest in process-type results - to implement a process adaptively, whereby the full plan could not, by its very nature, be known in advance; however, this was only a challenge in so far as expectations of results are concerned, particularly those focused on 'system-type' results.
6. **Staff capacity.** The task of building appropriate programme internal staffing was also adaptive, in the sense that both programme implementers / facilitators learned alongside communities. A particular challenge was ascertaining new staff skills needed as they unfolded under an adaptive process, and supplying those enough in advance to then facilitate community needs.
7. **Depth vs breadth.** Given the scope of the work context, there was a constant tension between adding depth versus breadth. In particular, there was need, on one hand, to achieve 'proof of concept', and reinforce progress as much as possible; whilst, on the other hand, open grazing systems are impacted by many players beyond – sometimes far beyond – a site's boundaries and who as such need at the least to understand others grazing plans, the concept and rules.
8. **Inconsistent support by LWF secretariat.** Given LWF's original interest in pioneering and championing a more successful, sustainable approach to rangeland management in particular, and resource management in general, the programme enjoyed full support of LWF in the initial 4 years, especially in terms of engaging players across the county. Focus on this commitment was unfortunately lost during leadership changes, and the programme suffered as a result, particularly in terms of engaging policy makers and influencers within the county.

¹ LWF Secretariat planning assessment, 2011

9. **Weather.** Rainfall levels played a critical part in progress; much greater progress was made during periods of good rains, in terms of (i) community availability and participation and (ii) results on the ground. Progress stalled hugely in the severe 2009 drought; and less so during the two years 2013 and 2014 when rains have been below average for 4 consecutive rainy seasons. So, on balance, the programme experienced 3 good rainfall years and 3 bad/poor rainfall years.
10. **Animal impact: focus on the lesser aspect (bomas).** Whilst the application of temporary night bomas to rehabilitate bare land is now widespread, county-wide managers have generally not yet appreciated the greater aspect of impact by animals: daytime planned and bunched grazing. The latter is merely application of the same principles, less intensively but will build over time when repeated each season; the advantage of planned and bunched grazing is its applicability across whole land areas, and as such its potential benefit far outweighs that of night bomas.
11. **Weather and behaviour.** Dry seasons generally presented challenges of people having time to be trained, as opposed to being occupied with survival duties; in contrast, people tended to 'relax' during wet seasons, which challenged disciplined implementation. The programme worked on dialogues to reverse that dynamic, whereby hard work done in wet seasons would mean more relaxed dry seasons.

Headline Lessons Learned

1. **Social transformation is the key** because, with adults, changes in behaviour need to 'fit' within existing social, economic and environmental reality i.e. become internalised. As such, technical solutions (system transformation) must be grounded within the social context in order to succeed and endure; practically speaking, this means development programmes need to invest significant time to the process of achieving genuine community ownership. Once internalised, changes in practice become relatively easy. Without internalisation, changes in practice generally do not endure.²
2. **Social transformation is not something one can do for someone else.** It is a process that needs to be invested in, but pace and level of progress can only be influenced by outsiders, not controlled or owned. The community becomes the problem-solver for its own environment; which is more appropriate since it understands its local context i.e. aspirations and complexities.
3. **The role of external agents.** By extension, interventionists' most appropriate role is as 'problem posers' – presenting new ideas, facilitating discussion, challenging norms – rather than the conventional idea of 'problem-solvers'.
4. **Community managed livestock CAN reverse community degraded land.** The results and apparent acceptance / mainstreaming of the approach at county level do vindicate the HM approach, in the programme's opinion; particularly in the context of an apparent lack of alternative 'answers' to reversing land degradation elsewhere.
5. **Village level is the most effective social unit.** This can serve as the building blocks of greater social groupings that begin to match ecological or economic units.
6. **Leadership is crucial.** Communities typically determined 3 key aspects to any success: direction, knowledge, and commitment. The programme assisted with the first 2 aspects; the third requires a critical mass of individuals to lead by example. Good leadership was critical for the successes experienced in Il Ngwesi and Il Motiok, for example. However, leadership is generally weak in the Laikipia GRs.
7. **The most important activities are those that increase interaction levels within and between communities,** whether talking, doing or enjoying, as key to (re)building the capacity for collective action.

² Echoed by Chris Field 'Where there is No Development Agency: a manual for pastoralists and their promoters: with special reference to the arid regions of the Greater Horn of Africa', NR International, 2005.

8. **Need to include the whole community in the work and decision-making process**, rather than sub-groups (committees etc.), on continuous basis through clearly laid out and followed procedure.
9. **Need for an iterative, continuous partnership with communities**: there is need to ‘walk the journey together’ between interventionists and beneficiaries, as equal partners in a ongoing process. This builds the trust required for honest dialogue informing progress.
10. **Critical mass**. Transformation is a large, relatively unchartered task and as such it requires a dedicated, coordinated group of people, ideally from different entities, sticking together, with the right level of backing, driving the change process forward.
11. **Failure to engage private ranches**. In retrospect, the programme ideally needed to have had dedicated activities aimed at engaging private ranches, for two reasons (i) private ranches are part of communities’ livelihood strategies (ii) they have the ability to use their resources to influence community behaviour (iii) they are influential at policy level within the county. However, such focus would have detracted from community focus in terms of budgets and staff.
12. **Required levels of funding**. The experience of the programme was that a threshold of approximately USD 200-250,000 per year is required to keep adding breadth whilst maintaining depth for a programme as ambitious as Rangelands in its current design. Certainly the programme struggled to maintain its gains, let alone expand, in its last 3 years operating on a budget of USD 100,000 per year.

CONTEXT & BACKGROUND FOR THE RANGELAND PROGRAMME

Rangelands within the LWF context

Rangelands constitute some 70% of Laikipia, split roughly between 3 land tenure types: private ranches and conservancies (42% of Laikipia), group ranches occupied by Mukogodo Maasai communities (19%), and 'abandoned land' populated by transient semi-permanent Samburu and Pokot from neighbouring counties (approx. 20%).

As such, by default, in general each type forms a separate 'interest block'; and historically tension has arisen between the 3 groups. The abandoned lands communities are blamed for insecurity, as well as opportunistic natural resource consumption; whilst the issue of historical injustices around land acquisition exist between group ranches and their private ranch neighbours. This manifests itself in group ranches being accused of having "too many animals" which drives constant 'borrowing' of ranches; whilst the ranches are accused of having "too much land" which used to belong to group ranch communities.

LWF and its members recognised that this resulted in sub-optimal outcomes for all. At the same time, the huge livestock, wildlife, biodiversity, cultural and landscape value of rangelands is widely recognised. Reconciliation of these two aspects – positive and negative – was the driving force for design and implementation of a Rangelands Programme housed within LWF.

At the time of the design of the Rangelands programme, it was decided – partly due to available funding interests – to focus on land rehabilitation and management in the group ranches, as a means of eradicating the 'livestock' conflict with ranches, and setting a foundation for sustained prosperity in communal lands.

Based on its own experience and that of others, the LWF recognised that an approach which simultaneously tackled the environmental, economic and social aspects of communal rangelands was needed, not least because all of these aspects are interconnected and determine rangeland productivity for people and animals (wildlife & livestock, and biodiversity broadly). In addition, the LWF had recognised that conventional thinking tended to threaten or alienate pastoralists because it was predicated on first reducing livestock numbers, clearly a non-starter with people whose lives are so closely tied to livestock numbers for cultural as much as economic reasons.

Ongoing threats to Rangeland Management in the target areas and in Laikipia

Overall, Laikipia's rangelands are subject to a downward spiral of continuous land and social degradation. Within this backdrop, there are at least 4 significant ongoing dynamics:

1. The ongoing threat from increasing poverty in the group ranches, riding on historical land grievance with their neighbours the ranches.
2. The threat of government large holdings / ranch land redistribution.
3. The political and economic pressure for ranches to seriously improve their productivity.
4. The county-level invasion threat due to neighbours' degraded lands especially Samburu & Pokot.

These are compounded by:

- **Lack of awareness and knowledge** about the interaction between rangeland management and ecosystem health, and the implications for good practice, across the county.
- **Lack of community unity** in the group ranches, preventing knowledge being acted upon.
- **Historical suspicion** between group ranches, private ranches, neighbouring communities and government.

The main symptoms of this state of affairs are:

- Rangeland degradation both on community lands and private ranches.
- Depressed livelihoods.
- Human insecurity.

In addition, future threats are likely to be driven by human population growth, demand for better livelihoods (changing aspirations), and climate change.

Rationale for the approach used (holistic management)

The Holistic Management (HM) decision-making framework was selected as an innovative approach to apply in communal rangelands for a number of compelling reasons:

- 1. The 'Triple Bottom Line' management approach.** The HM decision-making framework is specifically designed to simultaneously consider the environmental, economic and social dimensions of any given management setting – as necessary for true sustainability.
- 2. Land regeneration know-how.** The HM approach includes livestock and grazing as two additional tools alongside other more conventional management tools. These apply basic biological principles to increase rangeland health and productivity, thereby regenerating ecosystems rather than just sustaining their current relative poor health.
- 3. User driven approach.** The process is wholly owned by the owners and users of the resources. Combined with new knowledge, this presents an opportunity to the owners of the communal rangelands to draw on their own wealth base and culture as a tool to restore rangeland productivity.

In the Laikipia context, the overall goal of the approach is for land owners and users to make socially, economically and environmentally sustainable decisions both for the short-term and long-term; implement those actions; and monitor those actions to ensure progress as desired.

The HM approach contains several important elements worth noting:

- It is specifically designed to manage complexity under constantly changing conditions.
- It focuses on the whole management unit rather than the parts only (piecemeal).
- It employs management *processes* (adaptive) rather than *systems* (fixed).
- It focuses on articulation of a long-term development 'goal(s)'.
- It requires the participation and buy-in of all those who impact progress towards such a goal.
- It employs specific planning tools (grazing, financial and land planning).

Key Aspects of Holistic Management

New understanding of natural processes

The key to understanding rangeland 'best practice' is in understanding the basic biological processes that determine the health and productivity of rangelands namely: water cycle; mineral cycle; (sunlight) energy flow, and plant communities. And then understanding how the various tools available for land management (technology, fire, rest, grazing and animal impact) influence each of these processes, positively and negatively.

Two key tools for the land management toolbox

- Planned Grazing

Land owners and managers are trained how to maximise the amount of grass grown in wet seasons, and how to make it last through dry seasons through Planned Grazing. It is essentially about having the right animals in the right place at the right time for the right reasons.

- Bunched Grazing

This technique is based on the principle that – contrary to popular belief – animals are integral to the generation and regeneration of plants and healthy rangelands; but this is only occurs when they are bunched together. When huddled close to one another animals act not only as a 'harvester' but also as a 'bulldozer', breaking the ground and allowing for water and nutrient flow, and 'planter', implanting seeds and adding fertilizer. Bunched Grazing is used together with Planned Grazing, which combine to maximise capture, storage and release of the sun's energy, and as a result capitalize on its massive regenerative power to build grasslands up.

Not forgetting the social and economic dimensions..

Bringing back healthy land is only part of the solution. Land can't be managed in isolation because management of land is tied to culture and to livelihoods – each land management action also has a social dimension and an economic dimension; any meaningful and lasting action therefore needs to satisfy all three, much like a 3-legged stool needs equally strong legs to function properly. This is the essence of what it means to be 'managing holistically'.

A major element of the HM approach is for practitioners to lay out in detail the future they want to see. Ultimately a holistic approach to management is not about land or grazing but about how people think and act. Its main contribution is to help managers make consistently good decisions in complex, constantly changing situations.

Above all, the approach seeks to positively influence – and correct - the dynamics that have created and reinforced sub-optimal rangeland condition in Laikipia over many, many years. **As a result, it is recognised that such an approach will take longer than conventional technical approaches to bear fruit in the communal land ownership setting the LWF works in.** This is for self-evident reasons: popular conventional approaches which tend to see rapid short-term gains require high external inputs, lack long-term continuity without continuous external input, have little scalability, do not suit the communal land tenure scenario where there are multiple (100s or 1000s) decision-makers, and tend to be outsider driven, technocratic, top-down, and thus deeply and fundamentally flawed (LWF, 2008). In addition, the approach contains a number of new concepts that add new elements to conventional decision-making as well as technical land management, further adding to the challenges of adoption.

Scope and Scale of the Programme – activities and geography

A Laikipia Rangeland Strategy was developed to provide a framework to direct work:

SO1: Build awareness and knowledge on 'good practice'

SO2: Support 'best practice' sites

SO3: Strengthen group ranch unity

SO4: Identify and support 'change agents'

SO5: Contribute to policy on strategic RM issues

Main activities according to strategic objective and transformational aspect

Strategic Objective	Transformation aspect			
	Individual	Relationships	Collective / Community	System / Structural
District-level awareness & knowledge on best practice	<ul style="list-style-type: none"> • LWF newsletter articles • open days • grazing manuals for illiterate and literate audiences • filming 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • assistance to grazing management umbrella bodies • assistance to county inoculation programmes 	<ul style="list-style-type: none"> •
Build best practice sites	<ul style="list-style-type: none"> • training on eco-literacy • training on livestock-land management • implementation 	<ul style="list-style-type: none"> • governance inclusion • roles & responsibilities 	<ul style="list-style-type: none"> • common future visions • action planning • formation & training of management entities • grazing planning & implementation 	<ul style="list-style-type: none"> • mentoring of grazing planning & implementation • capacity assessments • biological monitoring
Strengthen group ranch unity	<ul style="list-style-type: none"> • situation assessments • future visioning 	<ul style="list-style-type: none"> • governance inclusion • roles & responsibilities 	<ul style="list-style-type: none"> • common future visions • strategic plans • action planning 	<ul style="list-style-type: none"> • capacity assessments
Identify & support change agents	<ul style="list-style-type: none"> • enrollment of change agents 	<ul style="list-style-type: none"> • joint grazing planning and incentives / rules 	<ul style="list-style-type: none"> • facilitating building partner relationships 	<ul style="list-style-type: none"> • Facilitation and mentoring of joint grazing plans • Change agents incentivizing community practice
Contribute to policy	<ul style="list-style-type: none"> • LWF newsletter articles • articles for regional policy forums • participation in regional policy forums • Laikipia Economic study informing county government 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • advocacy for ranches – group ranch partnership 	<ul style="list-style-type: none"> •

In addition, the main focus - best practice collective capacity - was broken into 9 levels (milestones increased into 9 from the original 6 at start of the programme, in order to better reflect reality):

1. A defined area under management
2. Decision making body in place
3. Decision making body actively supports and works with programme
4. Implementing body in place (community HM team)
5. Implementing body effective
6. Planning process in place (i.e. grazing plans developed on regular basis)
7. Plans implemented effectively
8. Holistic goal developed (including long-term desired livelihood & development goal, and desired land state)
9. Decisions on actions are tested against future vision for social, economic and environmental appropriateness

The following diagram summarises the process envisioned at the start of the programme:



STEP 1 What's the problem?
The causes of bare land

Awareness raising on:
e.g.

- Overgrazing
- Under grazing
- Animal numbers
- Animal impact
- Biodiversity loss = Desertification

KNOWLEDGE:
What makes a well functioning ecosystem?

The health of 4 interdependent processes:

- *Water cycle*
- *Mineral cycle*
- *Energy flow*
- *Succession* (all forms of life)

Q: What makes these tick?

KNOWLEDGE:
The only tools available to manage ecosystem processes

Fire: The most ancient tool
Rest: The most misunderstood tool
Grazing: The most abused tool
Animal Impact: The most underused tool
Technology: The most used tool

Used with:
Human creativity, money and labour

STEP 2 Learning new techniques

- Consolidating herds
- New herding methods
- New feeding behaviour

STEP 3 What are we managing for?
Becoming clear about purpose

- Goal setting by land owners/managers: Economic, environmental, lifestyle aspects
- Different people have different goals & different situations eg wildlife, livestock, farming, debt, lifestyle etc

STEP 4 Planned Grazing - using animals to increase plant biomass and diversity towards goals

- Dry Season grazing plans
- Wet season grazing plan
- Getting the right animals in the right place at the right time for the right reasons

STEP 5 Are we getting the results we want?
Monitoring

- Biological monitoring for management
- Financial monitoring

STEP 7 Community Land Planning:
Consolidating the gains

Land planning informed by Planned Grazing
e.g.

- Water development, Infrastructure
- Livestock migration: gains, risks, consequences
- Resolving conflicts

STEP 6 Making better decisions:
Making all actions count

Framework for making the best choices about and applying the right tools for:
e.g.

- Livestock development
- Wildlife enterprises
- Other options

**LAIKIPIA WILDLIFE FORUM
RANGELAND REHABILITATION PROGRAM**
using the Holistic Management approach

"more than grazing"

LWF is integrating the Objectives:

1. Land rehabilitation
2. Local economic development
3. Community based land and environmental planning

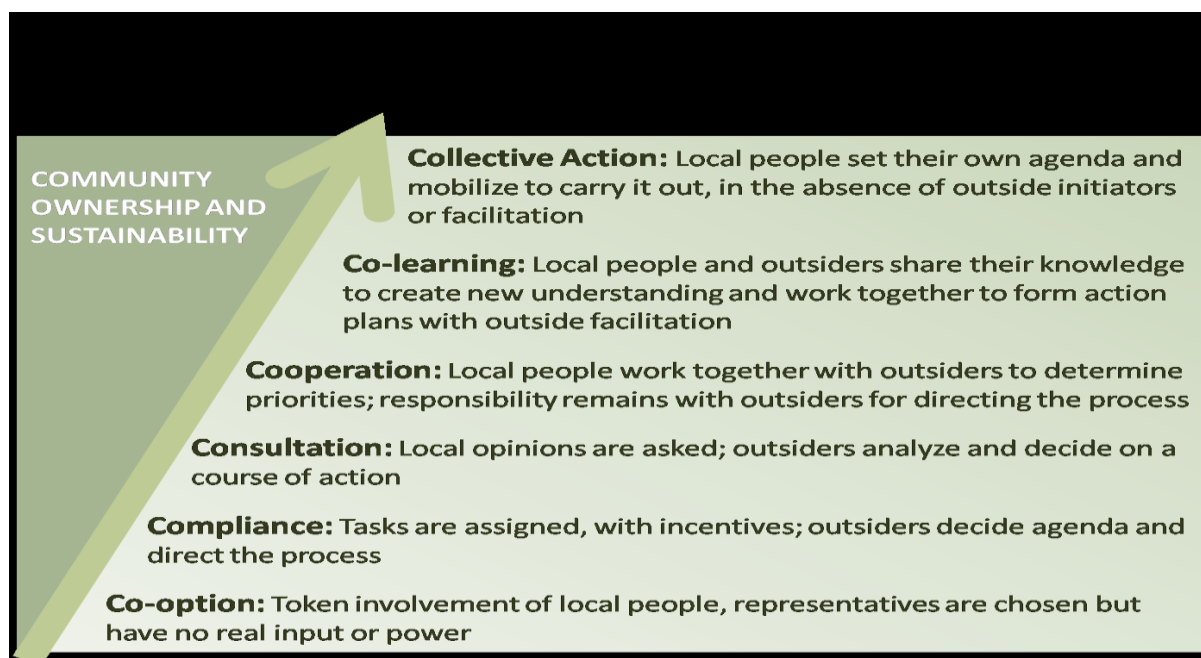


Holistic Management
Healthy land
Healthy economy
Healthy people
www.holisticmanagement.org

Program developed with & facilitated by
Richard Hatfield
richard_hatfield@yahoo.co.uk

Approach to delivery of services – major tools and techniques used

1. Simultaneous facilitation of 4 recognised interconnected realms of transformation: (1) individual transformation (2) relationships transformation (3) collective/community transformation (4) system/structural transformation i.e. better results and impacts. The premise being that each aspect impacts the others since they are interconnected; consequently common focus on one aspect only (typically system transformation) allows default impacts in the other aspects, typically negative unintended consequences. Much was drawn from the 'psycho-social' field of development in terms of incorporating social transformation into the approach.
2. Community engagement. The focus on community transformation dictated an equal relationship with the programme beneficiaries. According to the illustration below, the programme sought to engage with communities at the 'Co-Learning' level of relationship, ideally assisting future evolution to the 'Collective Action' level. This did at times also require the programme to engage at the 'Cooperation' level, but on temporary basis i.e. communities were required to demonstrate their willingness to then revert back / evolve to Co-Learning mode.



3. Facilitation and training of communities in 6 core 'skill-sets':
 - Situation self-assessment: 'looking back'
 - Future visioning: 'looking forward'
 - Dryland ecosystems: how they work and how to assess the state of any land
 - Dryland management tools: existing tools and new tools that expand the existing 'tool box'
 - Planning processes: (i) grazing (ii) community development including action planning
 - Management: (i) grazing implementation and management
4. Experiential learning. The field of adult learning outlines a required approach to adult learning: start with what people know – introduce a new concept – reflection – assimilation or accommodation – action. This approach was used by staff throughout the programme.
5. Iterative learning process. An iterative design-implement-test-learn cycle to used to test different approaches to community engagement, training, implementation and learning, in order to further refine their effectiveness.
6. Learning by Doing. It was recognised that the nature of much of the skill sets being taught need to be learned by doing, hence the emphasis on mentoring of implementation. This applied particularly to the planning and management aspects.

7. Outcome mapping. Conventional project 'logframes' (logical frameworks) outline a logical flow of activities to results to impacts, which form the basis for evaluation of the project's success, or not. However given this programme level of complexity and user-driven approach, it was deemed that a pre-determined results framework was of limited utility, and that the Outcome Mapping (OM) approach³ to 'results' was more appropriate, since this approach allows acknowledgement of a far wider array of results (outcomes) associated with a project – whether direct or indirect, positive or negative, planned or unplanned. This approach also accommodates the issue that many significant results are not measurable (whilst logframes 'indicators' are required to be measurable).
8. Intentional Design. As part of OM approach, a specific sets of narrow objectives were articulated for each partner with which the programme was working with in effecting change. These are reported on under 'Results'.
9. To achieve this the programme's target was to focus on developing a set of at least 6 'learning sites' organised into 3 'hubs' across the district as the main 'vehicles of change'. The intention was to have 1 hub each in the east, central and west parts of the district (now county). Learning sites would need to be self-chosen rather than pre-selected, however, the intention was for the eastern hub to be from the Mukogodo East GRs (Il Ngwesi, Makurian, Kuri Kuri, Lekurruki); and the central hub to be within the 9 GRs of Naibunga Conservancy. The location of the western hub was left open, due to the fluid nature (and technically illegal presence) of communities in that part. In time, Il Ngwesi and Makurian emerged as the main eastern learning sites; Il Motiok and Il Polei-Munishoi emerged as the central learning sites; and Ol Maisor ranch emerged as the western learning site, due their willingness to test the approach.
10. Use of money in communities. The programme did not pay sitting, or attendance, allowances. For the first 3 years it also did not pay any stipends for work done, despite great pressure to do so. However, after establishing relationships with communities, it was possible to ascertain where paying of stipends was fair and could legitimately enhance progress; and where paying of stipends would subvert initiatives. Thus, use of money was seen as any other tool: appropriate in some circumstances, and not in others. That said, a significant and constant dynamic encountered was the expectation from pastoralist communities that they be paid as project beneficiaries, since there would be no project without them. Otherwise, the project engaged a number of communities in dialogue re self financing activities they saw as valuable (grazing committee meetings, grazing planning, implementation management team, boma movers, salt provision etc.) rather than relying on projects. They were many promising ideas that need follow up eg sand harvesting tax, livestock saccos etc. Ideas of livestock owners paying were generally rejected.

Staffing

The size of the programme gave the contractor the necessary stability to invest in staff recruitment and development. The number of staff involved with the programme grew to 8: 2 master trainers (part-time); 2 community mobilizers (full time); 3 community technical 'resource people' from within programme communities; 1 M&E trainer / supervisor + resource mapper; and 1 administrative assistant.

However, through 2013 and 2014 as the available funds decreased (due to cuts in the budgets), the amount of time particular staff were working on the programme had to be reduced commensurately.

In addition to organised trainings, the programme variously provided financial support to community grazing committee meetings; grazing implementation teams (including herders where necessary, supervisors, boma movers), and at times essential supplies such as salt communal dip to facilitate new collective action.

Latterly, the programme invested in supporting 15 grazing supervisors from across the 13 GRs, as part of bringing inclusion and coordination of grazing plans.

³ 'Outcome Mapping: building learning and reflection into development programs', S. Earl, F. Carden, T. Smutylo, IDRC, 2001.

Monitoring & Evaluation: the role of assessments/baselines in benchmarking programme success and development

“Not everything that counts can be counted, and not everything that can be counted counts” Albert Einstein.

The core objectives of the programme centred on developing a ‘pipeline to deliver success in rangeland management’, rather than ‘end of pipeline outputs’. As such, this made application of ‘baselines’ more problematical than normal.

With respect to biological monitoring, baselines were carried out. However, the exercise was not as simple as it may appear to be: in the process of developing grazing plans baselines would be conducted for treatment vs control areas, only for later changes to render either or both irrelevant, as treatment changed areas. It took a number of seasons, sometimes years, for overall grazing strategies to evolve to become consistent enough to have confidence in measuring. However, a consistent strategy did not prevent changes of use in individual seasons. A good example is Il Ngwesi, where external pressure during the past year meant that they temporarily abandoned their grazing plans, and consumed forage they had planned to keep in order to prevent invaders from consuming it first. Overall, it could be argued that the ‘noise’ from changes to plans outweighed the ‘signal’ of the plans, in terms of hard data.

Biological monitoring carried out was of the comprehensive, scientific type that needs to show changes over time – beyond the time frame of this programme, given frequent disturbances. It is also a time-consuming operation. In retrospect, it would have been perhaps more useful to have focused on, or at least included, the more simple, quick, more qualitative type of monitoring that shows for managers the improvements, albeit non-scientifically. Ironically, perhaps the most meaningful indicator for users - increased forage - was not measured. This should be corrected in future. The baseline was taken at end-of-rains in December 2010, repeated in end-of-rains December 2013, with LWF plans to repeat in 2015.

Non-biological monitoring centred on randomised household survey in the programme learning sites, of men and women in each household, to ascertain their perception of, attitude towards, participation in, and assessment of the programme’s activities. There was no baseline taken, since the assessment only sought to assess the programme (‘before vs after’). Assessments were taken in late 2012 (4 years in) and 2015.

That said, however, there is no real substitute to hearing the impacts of the programme from community members. Focus group discussions (FGDs) are perhaps the most useful means of verification, but do not lend themselves easily to standardisation. A round of FGDs as part of the Rangeland programme assessment is planned by LWF for late 2015.

Otherwise the programme found the need to carry out M&E within its own budget demanding, and would have gained in terms of coverage from being able to access resources under the overall LWF M&E budget. Initially the intention of LWF was to have Mpala Research Centre support the bulk of bio-monitoring as a project partner, however, this did not materialise. Similarly, the later intention for NRT (Northern Rangelands Trust) to partner the programme during 2013-14 did not materialise.

Partners and Collaborators

Best Practice site partners: Il Ngwesi, Makurian, Il Motiok, Il Poli-Munishoi, OI Maisor ranch.
Change agent partners/collaborators: Borana ranch, OI Lentille Trust; latterly Loldaiga and Ngorare ranches; former engagement with OI Jogi ranch.
Collaborators: KMT (Kenya Markets Trust) supporting evidence gathering.

DETAILED ASSESSMENT OF RESULTS & IMPACTS OF THE LWF RANGELAND PROGRAMME

Primary Desired Result: Implement, test, validate & refine appropriate approaches for transforming rangeland management in Laikipia; against the wider backdrop of largely-failed previous interventions in Eastern Africa. The core framework used was the Holistic Management (HM) approach. HM contains the following central premises or hypotheses which the programme undertook to test practically by implementation and observed outcomes:

- Since land, economy and environment are inseparable, appropriate sustainable interventions / solutions must address all 3 aspects, and simultaneously.
- Beneficiaries need to own the process, since they best understand (i) their goals (ii) the complexity of their situations; which means their input is crucial, and their decisions final.
- Key biological misunderstandings continue to hamper the reversal of land degradation; whilst correctly managed livestock can enhance land and water health, and resting of land and/or light stocking damages land and water health.

Given the results which will be presented in this section, the programme's conclusion would be that, overall, the above hypotheses under the HM approach were vindicated. This conclusion is reached by examining the outcomes associated with this 3-pronged approach.

At the same time, it is worth repeating two 'notes of caution' mentioned in the contractor's original Expression of Interest:

- A. "It is expected that results will vary in magnitude, sometimes significantly, from site to site due to each's context... Hence the advantage of developing several... learning sites for comparison of results before conclusions are drawn".
- B. "Whilst beneficial results are expected in the short-term, it should be noted that this project (sic) will primarily kick-start a long-term process based on improved management capacity of communities, where the fruition of many results will only be realised sometime into the future from activities initiated now".

There are a multitude of angles from which to assess results given the complexity of the programme. This section examines results through 7 different 'lenses':

1. 'Outcome Challenges': influencing partners.
2. Summary generic result indicators as of Sept 2015: USAID's Performance Indicators.
3. Assessment of management entities' capacity over time.
4. Photographic evidence of Best Practice results.
5. Il Ngwesi: specific example of Outcomes.
6. Formal biological monitoring results & individuals' capacity assessment.
7. Assessment of focus group discussions (FDGs) in learning sites.

1. 'Outcome Challenges': influencing partners

'Outcomes Challenges' is part of the Outcome Mapping approach to project evaluation. Outcome Challenges represent a specific set of objectives articulated for each 'Boundary Partner'. Boundary Partners are those individuals, groups and organisations with whom the program interacts directly to effect changes & with whom the program can anticipate some opportunities for influence.

Boundary Partners identified early in programme:

1. **Group Ranch Communities:** Il Ngwesi, Makurian, Il Polei-Musul-Munishoi, Kijabe-Nkiloriti-Tiemamut (later became Il Ngwesi, Makurian, Il Polei-Munishoi & Il Motiok).
2. **OI Maisor ranch**
3. **Conflict Communities:** Mathira, Narok, Lonyiek
4. **Laikipia private ranches**

5. **Laikipia residents** (farmers, businesses, families, CBOs, NGOs, etc.)
6. **Policy-makers and –influencers** (government officials, politicians, NGOs, land owners, business operators)

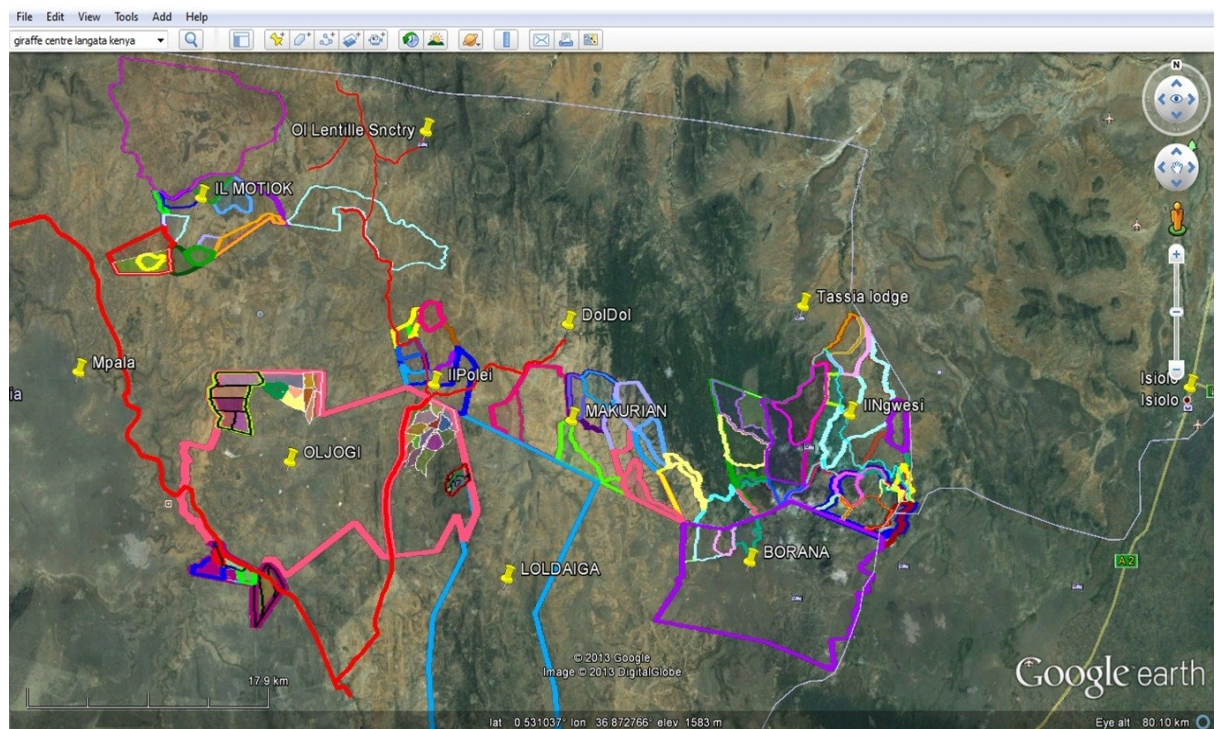
Under the methodology, a specific set of objectives were articulated for each Boundary Partner (in italics below). An assessment of achievement is given immediately below each objective:

Boundary Partner 1: Group Ranch Communities (Il Ngwesi, Makurian, Il Polei-Munishoi & Il Motiok)

Outcome Challenges:

- *The programme intends to see communities that recognise the importance of planning rangeland management, have assimilated new knowledge to do so, and are implementing land and water restoration on a portion of their land as community learning sites.*

This was the core of the focus of the programme. Over its course some 29 land management units, in effect distinct ‘communities’, emerged across the 13 group ranches, which also stretched the programme’s resources significantly. The majority, if not all, recognise the importance of planned management, and continue to assimilate new knowledge to do so. By programme end all 29 units were engaged, with 9 continuous grazing planning and implementation, 7 inconsistent (sporadic) plans, and 13 new plans. The programme was engaged as needed in a further 4 community-ranch joint plans (Borana, Loldaiga, Ol Jogi, Mpala, and 1 permanent plan (Borana-community fattening herd). See map below for managed areas and grazing blocks. See section 3 below for more on management entities’ capacity.



- *Positive changes in management, land and water health are evident and appreciated.*

Interestingly, all the learning sites implementing continuous plans are seeing these benefits; whilst those under sporadic plans are not, but at present seem unable to cross the threshold into continuous planning and implementation.

- *They are able to clearly plan (grazing) and articulate a vision for their rangeland management activities and goals that is relative to their context and needs; as well as implement and evaluate actions.*

Again, 'practice makes perfect': planning is embedded as normal practice in those communities implementing continuous plans. Whilst the programme facilitated articulation of future visions, as a framework for evaluating management decisions, Il Ngwesi is the only community group (5 management units) that has internalised the vision to inform practice and policy.

- *Awareness, knowledge and actions are widely disseminated amongst the community, and there is wide participation in decision-making.*

One of the core elements promoted was inclusion of whole communities throughout all processes, from situation self-assessment, through training, governance adjustment and implementation; on the premise that true collective action demands so. It would appear the benefits of inclusivity is one of the major achievements of the programme.

- *They are able to evaluate the appropriateness of proposed actions that potentially impact their land and water resources.*

Of course, communities were already doing so; the programme attempted to supply a more structured framework to help give clarity to community development goals and, by extension, evaluation of whether proposed actions were more or less suitable to long-term development. Again, at this stage in communities only Il Ngwesi have attained this level.

- *They call upon technical support and expertise as appropriate.*

Generally most situations are still young, with programme staff continuously visiting learning sites to assess technical needs for themselves. Il Ngwesi has 'graduated', however, there is still room for significant improvement over time, particularly in daily management of herds.

- *Some are in a position to host, teach and train others, as models of best practice; also contributing constructively towards debates and policy processes.*

Il Motiok and Il Ngwesi have hosted many visitors, and Il Ngwesi in particular has become skilled at sharing their story and knowledge. Il Motiok and Makurian have the aspiration of developing 'education tourism' and/or training for communities.

Boundary Partner 2: Ol Maisor ranch

Outcome Challenge 2:

- *The ranch has assimilated new knowledge and is implementing planned and bunched grazing as normal practice, in line with its long-term management goals.*

Achieved.

- *Positive results are evident and ongoing in relation to soil cover, plant productivity and natural water resources.*

Achieved; however ranch monitoring has not been consistent, the most reliable indicator is increased stocking rates.

- *Positive aspects are evident for the wildlife in terms of range utilisation.*

Unknown.

- *The ranch has adopted holistic financial planning and is seeing substantial increased profit allowing new investments and/or enterprises.*

The ranch is still in the process of adopting holistic financial planning (i.e. financial planning for social and environmental profit as well as economic).

- *Management and staff are more satisfied with their roles and existence.*

This is to be determined, however, some of the main management issues have not been resolved.

- *The ranch has sustainable partnerships and enhanced relationships with bordering communities, particularly Mathira and Narok residents.*

A process of dialogue has been initiated, as opposed to the prior situation of interaction in times of need. However, other issues in the area have taken precedence in terms of overall ranches-community relations; which in their resolution can also contribute to a foundation for enhanced partnership. Meanwhile, the programme also opened up dialogue with the Mathira 1 & 2 and Thome 1 & 2 communities bordering neighbouring Ngorare ranch, together with the ranch.

- *The ranch acts as a learning resource for other private ranches.*

From a grazing perspective, yes.

Boundary Partner 3: Conflict Communities (Mathira, Narok, Lonyiek)

Outcome Challenge 3:

- *Communities have organised themselves around activities that will improve their land and natural water resources; and are implementing.*
- *Communities are seeing tangible benefits from doing so.*
- *Competition and conflict with neighbouring communities have reduced, and in cases relations have been enhanced, as a result.*

See above - whilst the programme facilitated initiation of dialogues with Mathira 1 & 2, Narok and Thome 1 & 2, resources were too thinly spread to sustain the initiatives. Engagement with Lonyiek, whilst discussed with Mugie, did not materialise, mainly due to its remoteness.

Boundary Partner 4: Laikipia private ranches (including conservancies)

Outcome Challenge 4:

- *Private ranches are showing interest in, experimenting with, and contributing to the growing debate on best practice techniques through self-directed learning.*

General evidence shows that this appears to be the case, including Ngorare, Mugie, Ol Maisor, Suyian, Segera, Mpala, Ol Jogi, El Karama, Ol Pejeta, Loldaiga, ole Naishu, Borana and Lewa. As mentioned Ol Jogi, Loldaiga and Borana host communities under holistic-type planned grazing, assisted by the project. Other, self-directed plans have included Segera, Ngorare, El Karama and Mpala.

- *Technical guidance as needed is made available to them.*

Technical and training assistance, albeit limited, has been made available to those ranches who have requested it, principally Ol Maisor, El Karama, Ngorare, Loldaiga, Ol Jogi and Borana.

Boundary Partner 5: Laikipia residents

Outcome Challenge 5:

- *There is increased awareness by residents across Laikipia of land and natural water issues, and of the implications of continued degradation.*

Promoted mainly to LWF members through multiple articles in LWF newsletters; and 1 Open Day held on Ol Pejeta, co-organised with Mpala Research Centre.

- *There is increased awareness of the basic processes that determine ecosystem health and productivity, and by extension, everyone's livelihood; along with the recognition of each's actions, and that the challenges are surmountable i.e. basic environmental literacy.*

Limited achievement. This occurred in the first years of the programme, and became a widely-distributed core message of LWF's led by then-ED Anthony King. The programme had neither the reach nor the resources to continue that effort after his departure.

Boundary Partner 6: Policy-makers and -influencers

Outcome Challenge 6: The programme intends to see at district level:

- *District and national government officials and policymakers who are committed to and are active participants in sustainable/regenerative rangeland management, supporting development of local capacity, consulting non-traditional groups when planning and making decisions on rangeland management.*

The shift to county government has opened space for the above processes to occur. The programme leader has been active in promoting sustainable/regenerative rangeland management into county planning and decision-making, beginning from 2013. The contractor has since been invited to participate in formulation of a county rangeland management policy and strategy.

- *Private sector actors (eg tourism, bio-enterprise) who are active participants in rangeland management partnerships*

The two active private sector actors are Ol Lentille Trust (tourism) and Borana (tourism-community development-commercial livestock-wildlife conservation). OLT has initiated its own HM programme, whilst Borana is hosting the Makurian-II Ngwesi community fattening herd. There is increased interest in Laikipia West around community fattening and marketing partnerships, with the advent of Laikipia Beef Company.

- *National and international institutions (especially INGOs/NGOs) that are aware of, and acknowledge, the utility of the sustainable/regenerative rangeland management concept; and are beginning to incorporate it their planning and programming.*

The Laikipia rangeland programme has provided a platform for learning and dissemination throughout Kenya, and beyond. The programme has participated in numerous forums focused on sustainable rangeland management, and has been invited to give numerous presentations. In addition, the contractor has also been implementing projects and/or programmes in other areas of Kenya (Marsabit, Turkana, Isiolo, Kajiado and Narok counties), which has allowed great interaction and sharing, particularly of the programme's experience from Laikipia. These interactions indicate that the region's rangeland community is searching for solutions, and that the HM approach is being engaged with in multiple situations across the region, from ground-level management to policy level. The greatest affirmation of the approach comes from the pastoralist grassroots, who have universally claimed that the approach is one that they want to adopt, since it makes sense to them, and reinforces their heritage and historical knowledge. The positive contribution of LWF's programme to this 'sea-change' cannot be underestimated.

- *There is increased support for and participation in developing a district-wide future vision, which articulates the quality of life residents seek and, by extension, describes the future resource base and what must be in place to realise the vision i.e. the start of a foundation for effective environmental governance at district level.*

This aspect was introduced and acknowledged, and as a starting point, has been now been incorporated into the county planning process through the contractor's input into the LWF member-funded study, and summary document "The Contribution of the Rural Economy of Laikipia as the Basis for a Model County: a discussion document designed as input to the Laikipia County Government planning process".

2. Summary Generic Result Indicators – as of Sept 2014 (USAID Performance Indicators)

	Performance criteria	Il Ngwesi incl community-managed areas outside GR	Makurian incl community-managed areas outside GR	Il Polei - Munichoi	Il Motiok	Other 6 Naibunga GRs	OI Maisor ranch	LWF Eastern Unit - other	Other LWF Units	Total as of Sept 2014
1	Number of hectares under improved management (governance and/or practice) by and/or influenced by the programme	13,576	9205	2788	3804	47,740	12,112	46,405*	61,859**	Improved mgmt 89,901 + Influenced 108,264
2	Number of hectares showing biological improvement	12,353	3436	1779	2124	0	5000	Not known	Not known	25,051
3	No. person-training days in NRM visioning, governance and/or practice	est 8000	est 4500	est 1000	est 1000	est 2500	est 200	est 1000	est 400	est 18,600
4	No. people under continuous, more intensive training as long-term district-wide community resource people	5	3	2	1	6	-	1	4	22
5	No. households adopting improved practices in target sites	300	250	100	80	0	60 people	Not known	Not known	730 HH + 60 individuals (mainly employees)
6	Increased capacity of governance bodies (current level: maximum = level 9) ***	Villages: 1@Level 8 + 1@Level 7 + 2@Level 6 + Trust @Level 8.5	Villages: 4@Level 6 + 4 @Level 4 + 1 GR grazing cmtee @Level 4	Level 6 + Consy Board @Level 4	Level 6	Villages: 6@Level 2 + umbrella body 'Conservancy' Level 4	Level 8.5	N/A		2 @Level 8.5 1 @Level 8 1 @Level 7 8 @Level 6 0 @Level 5 7 @Level 4 6 @Level 2
7	No. policies, laws, agreements or regulations promoting sustainable NRM implemented as a result of / influenced by the programme	Grazing plan enforcement strong Grazing by-laws process underway for adoption 4 st quarter 2014.	Grazing by-laws developed. Facilitation into revival of umbrella arm for the 4 Mukogodo East groups ranches	Formation of Naibunga Umbrella Grazing Committee to link GR grazing supervisors (9) supported by the programme + GR grazing committees and grazing plans. OI Lentille Greater Conservation Area grazing committee formed, linked to member communities.			Ongoing dialogue with 4 'abandoned lands' communities around OI Maisor-Ngorare	Input into 2 sporadic agreements (Loldaiga, Borana) and 1 full-time agreement (Borana-Makurian steer herd)	Input into 2 sporadic agreements (OI Jogi, Mpala)	33 grazing plans: 9 continuous / established; 13 newly established; 11 sporadic / inconsistent.

* Borana, Loldaiga ranches

** Ol Jogi, El Karama, Ol Lentille Greater Conservation Area, Ngorare

*** Levels or milestones 1-9 below identified in relation to the capacity building of rangeland management individuals and/or entities (milestones have been increased into 9 from the original 6 at start of the programme, in order to better reflect reality):

1. Defined area under management
2. Decision making body in place
3. Decision making body actively supports and works with programme
4. Implementing body in place (community HM team)
5. Implementing body effective
6. Planning process in place (i.e. grazing plans developed on regular basis)
7. Plans implemented effectively
8. Holistic goal developed (including desired livelihood and development goal, and desired land state)
9. Decisions on actions are tested against future vision for social, economic and environmental appropriateness

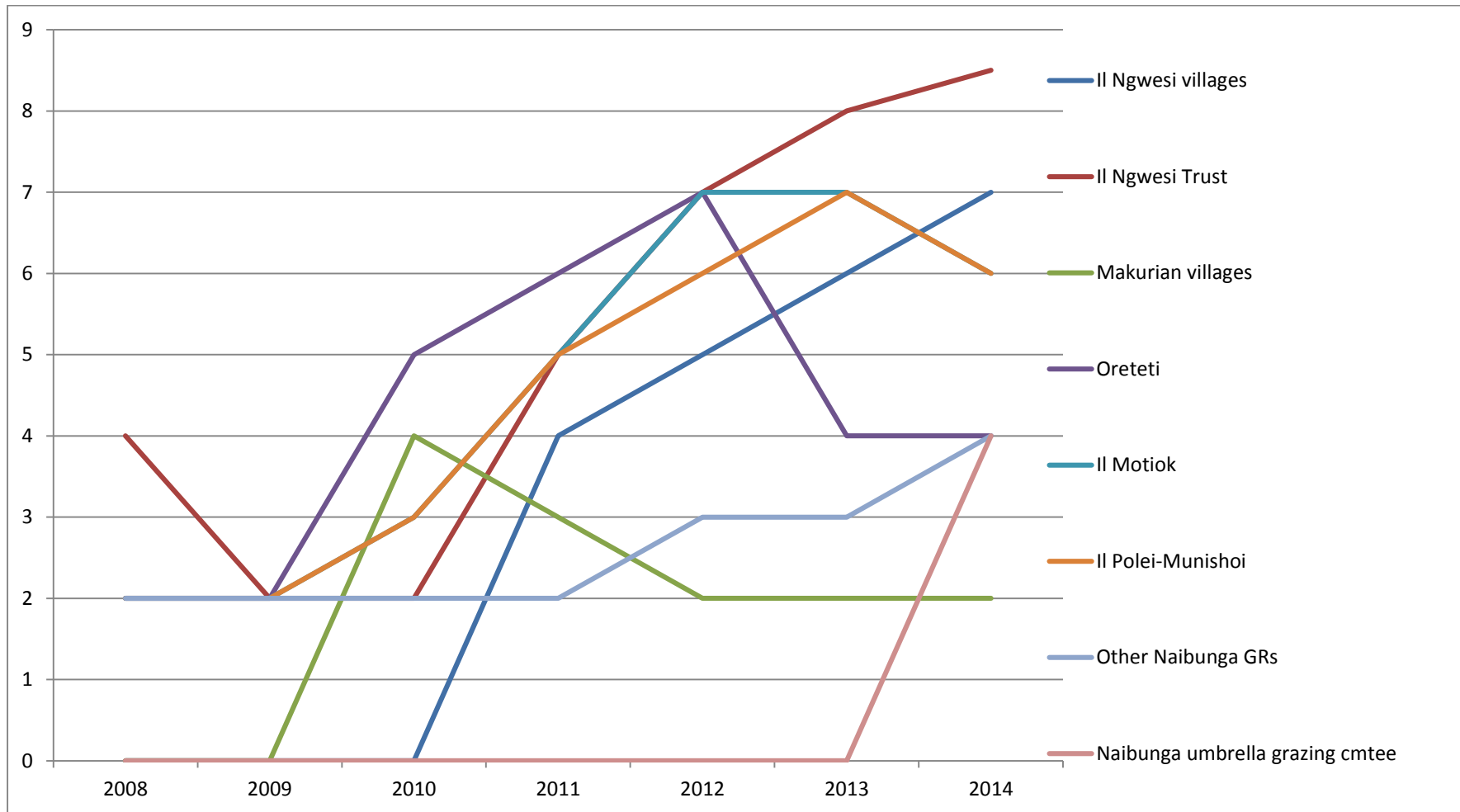
3. Assessment of management entities' capacity over time

The graphic below gives indication of the capacity / performance of management bodies' cited above under 'governance bodies' over time.

A number of points can be ascertained:

- Capacity / performance typically varies widely over time. Part of this is a reflection of (i) the young stage of governing entities (ii) combined with 'shock' events, particularly volatile forage conditions in the region triggered by poor rainfall and/or in-migration of herds.
- Capacity / performance started to generally increase from 2010 as (i) the programme and communities experimented with engagement and (ii) post 2009 drought which was severe, and resulted in huge loss of animals and displacement of people.
- Of particular note is the increase in performance from the Il Ngwesi Trust (umbrella management body), from a '2' rating in 2010 to an '8.5' rating in 2014.
- Other bodies have experienced a general rise, apart from Makurian villages and their related Oreteti conservation area. The main reason cited by the community for this is poor leadership, with the biggest issue being that the leaders do not live on Makurian, and are generally invested elsewhere.
- Il Motiok and Il Polei-Munishoi have made good gains; although they suffered in 2014 in ensuring disciplined grazing, mainly due to the excessive pressure from outside herds. Their task now is to rebuild discipline.
- Otherwise, the other Naibunga GRs and the umbrella grazing body are young, hold promise, and require further nurturing.

Capacity / Performance of governance bodies engaged with the programme



4. Photographic evidence of Best Practice results



The following are an assortment of photos that demonstrate what can be achieved. **LEFT:** Makurian Oreteti conservation area (planned grazing) left; Borana ranch right. Comparing the two, the foregrounds is

similar, as are the two hills in the middle distance, and the meadows either side of the fence up to the hill in the far distance.

Below: standing at the same place, but looking the opposite direction – Makurian village land (non-planned grazing) on the right; Borana ranch on the left.





II

Motiok group ranch (*photos same day*).

Above left: typical area without planned grazing June 2013.

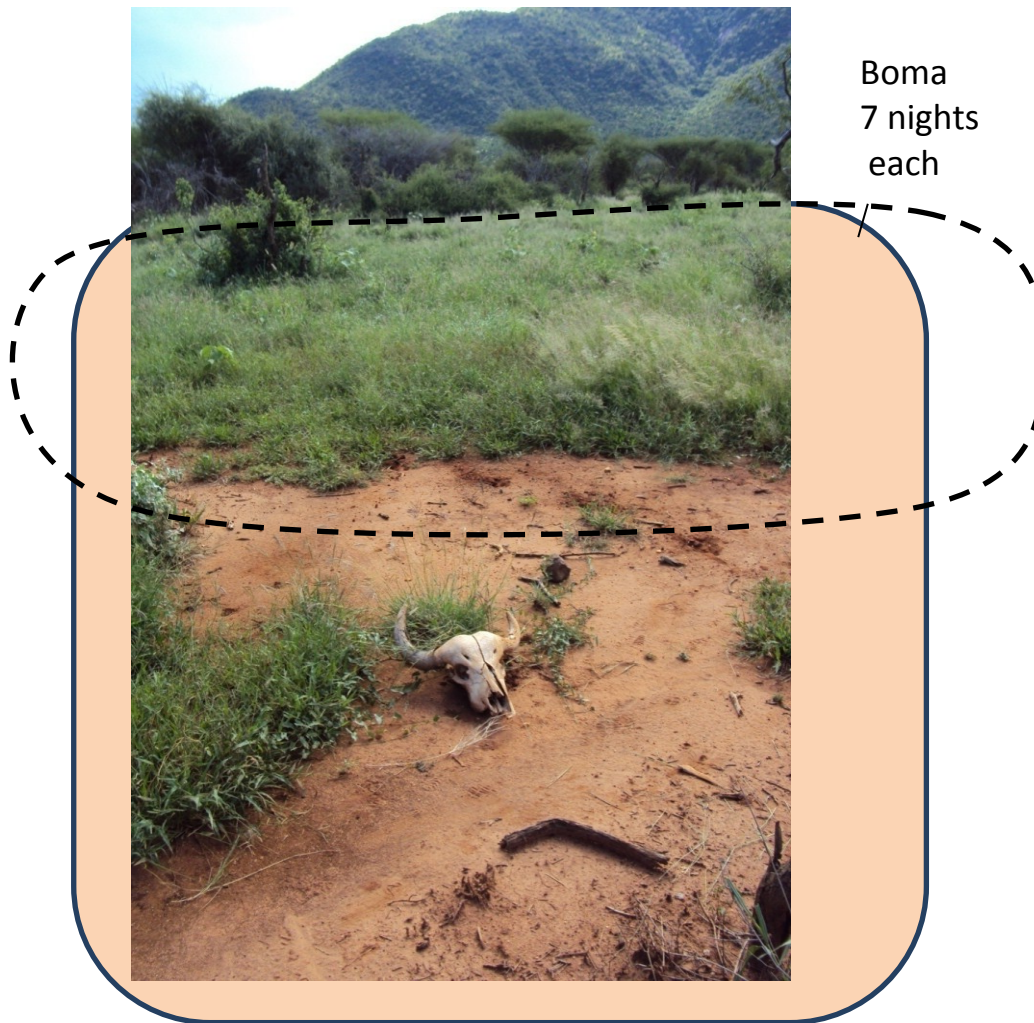
Above right: conservation area, livestock free for 5 years (i.e. rested land: note cover is better but grass mainly annuals and oxidizing from lack of grazing).

Below left: neighbouring grazing block recovering from planned and bunched grazing (note greater vigour and greenness). Below right (July 2013): community herd enjoying grass whilst neighbouring group ranches are migrating in search of pasture.



Extreme Animal Impact: night bomas

IMPACT RESULTS: All this land was bare like the foreground, as far as the trees in June 2008. A BOMA was moved every 7 days around the area until it was all impacted.



RAIN did not come till February 2010. This photo is June 2010. The foreground has stayed the same as before. The grassy area was just as bare before also. People had said this land could not grow grass....

All Bare land



Land comes back to life: Il Polei group ranch, impact of 7-night boma. The area is kept cropped by resident wildlife. This hotspot can be spread throughout their land by daytime planned and bunched grazing over multiple seasons, each round of grazing raising land fertility.

5. Formal land health & productivity results.

The table below interprets results found in Annex A, for four areas that adopted planned grazing (Il Ngwesi, Il Polei, Il Motiok, and Oreteti). The consultant's overall comments are:

Overall, the results show a 'mixed bag' of significant improvement through significant deterioration. Results suggest good practice in Il Ngwesi and Oreteti despite drought and invasion challenges; and poor practice in Il Polei and Il Motiok). This emphasises that there are "good farmers and bad farmers" in terms of application of good practice; but good results are possible.

Context. The results need to be interpreted in context: these lands received poor rains in 2014 and very poor rains / drought in 2015, with significant in-migration of other groups drawn by their increased forage production; followed by prolonged rains in December 2015-January 2016. Results also need to be interpreted in the context adherence to good practice (results suggest good practice in Il Ngwesi and Oreteti despite drought and invasion challenges; and poor practice in Il Polei and Il Motiok). Results overall reinforce the fact that biological monitoring is useful when continued over a long time period; conclusions drawn from 2 or 3 data sets only are dangerous.

Data issues. The results suggest a possible issue with the collection and/or classification particularly with regard to plant health ('normal' plants vs 'overgrazed' vs 'overrested' vs 'dead'); data is missing with the Il Motiok and Il Polei cases, whilst the results regarding significant die-off of plants need ground-truthing.

Photos. What is missing here is the photographic evidence that backs up the data, to confirm significant changes.

Missing data. The most significant gap in data relates to lack of forage / biomass production – from experience, these sites have generally seen a significant increase in forage production through planned grazing but this parameter was not designed for in the methodology (for example, use of a disk pasture meter; this is due to the lack of easy availability of this instrument).

Challenges with the methodology. This methodology relies heavily on consistent assessment, necessitating consistent, capable assessors. Bio-monitoring assessors were the same for both measurement periods. The second period involved group ranch residents in the methodology.

Overall assessment of results by transect (8):

Transect	Water cycle health (catching & keeping rainfall)	Nutrient cycle health (food availability & cycling to the soil)	Grazing productivity
<p>IL NGWESI CONSERVANCY BLOCK 2 Consistently following grazing plans despite invasions from the west (friendly) and east (unfriendly)</p> <p><i>(Continuous grazing light wildlife density + grazed once each year under a plan, heavy livestock density)</i></p>	<p>Significant improvement.</p> <ul style="list-style-type: none"> • Significant increase in litter (83% vs 25%) leading to: • Decrease in bare soil (4% vs 40%). • Significant increase in perennial plant density (distance to nearest 1.41 cm vs 2.94 cm) and relatively tight density. • Increase in recent capping (81% vs 43%) is a negative but understandable given prolonged rains, and easily reversible with livestock grazing impact, so no great concern. 	<p>Improvement.</p> <ul style="list-style-type: none"> • Through increased litter availability (83% vs 25%). • Needs grazing to now cycle it effectively. 	<p>Good improvement.</p> <ul style="list-style-type: none"> • Increased in plant density (distance 1.41 cm vs 0.94 cm). • Majority of plants remain healthy ('normal' 95% vs 100%) as opposed to overgrazed or undergrazed. • Grasses as % of perennial plants shows modest increase (57% vs 50%) • Significant increase in litter implies greatly increased forage production
<p>IL NGWESI CONSERVANCY CORE AREA Livestock twice introduced under planned grazing into a previously livestock-free zone</p> <p><i>(Continuous grazing light wildlife density + grazed every few years, heavy animal density)</i></p>	<p>Improvement.</p> <ul style="list-style-type: none"> • significant increase in litter (52% vs 20%) leading to: • Decrease in bare soil (36% vs 65%). • No change in perennial plant density (distance to nearest 3.95 cm vs 3.49 cm). • Remaining high level of recent & immature capping (95% vs 97%) shows no improvement but understandable given prolonged rains, and easily reversible with livestock grazing impact, so no great concern. 	<p>Improvement.</p> <ul style="list-style-type: none"> • Through increased litter availability (52% vs 20%). • Needs grazing to now cycle it effectively. 	<p>Improvement.</p> <ul style="list-style-type: none"> • Majority of plants remain healthy ('normal' 84% vs 100%) as opposed to overgrazed or under grazed. • Grasses as % of perennial plants remains steady (65% vs 67%). • No change in plant density (distance 1.41 cm vs 2.94 cm). • Significant increase in litter implies greatly increased forage production.

<p>Il Polei near dam (Previously grazed under a plan until 2014 (although enforcement not strong), plans unenforceable since due to invasions, drought)</p>	<p>Significant Deterioration.</p> <ul style="list-style-type: none"> • Either deterioration or no change for indicators. • No change in bare land. • Most alarming is increase in dead plants occurrence (32% vs 0%) plus decrease in plant density (5.25 cm vs 3.19 cm). • Only positive is increase in litter (40% vs 30%) likely due to prolonged 2015-16 rains. 	<p>Neutral.</p> <ul style="list-style-type: none"> • Increase in litter (40% vs 30%) indicates greater nutrient availability and cycling. 	<p>Neutral in short term, Significant Deterioration in longer term.</p> <ul style="list-style-type: none"> • The implication is less plants producing more forage. • Cause of negative trend (loss of plants) needs to be identified and halted through guidance. • Decrease in occurrence of overgrazing (15% vs 25%) implies increase in dead plants (32% vs 0%) is not related to overgrazing. <i>Note: however, with 'over rested' and 'normal' plants occurrence at 1% and 35% respectively, the above indicator totals only 83%, with 17% missing data. This indicates a possible issue with the data collection / classification.</i>
<p>IL POLEI BOMA SITE (Previously grazed under a plan until 2014 (although enforcement not strong), plans unenforceable since due to invasions, drought)</p>	<p>Significant deterioration.</p> <ul style="list-style-type: none"> • Similar to Il Polei dam site above. • Very significant decrease in plant density (4.4 cm vs 16.59 cm). <i>Note: however, this is not consistent with small change in bare soil occurrence 66% vs 62%), nor increase in 'plant base' occurrence (8% vs 3%).</i> • Results show increase in soil capping (3+18+35 = 56% vs 0%), decreasing infiltration. Capping 0% in 2013 due to having been a boma site; current capping indicates low grazing density, combined with prolonged rains. 	<p>Significant Deterioration.</p> <ul style="list-style-type: none"> • Increase in dead plants negative impact on nutrient availability. • No increase in litter 	<p>Significant Deterioration.</p> <ul style="list-style-type: none"> • Less plants producing same forage per plant. • Cause of negative trend (loss of plants) needs to be identified and halted through guidance. • <i>Note: however, as above, with 'over rested' and 'normal' plants occurrence at 0% and 50% respectively, the above indicator totals only 80%, with 20% missing data. This indicates a possible issue with the data collection.</i>

<p>IL MOTIOK NEAR TANK (Previous good implementation of grazing plans until 2014, plans unenforceable since due to invasions, drought)</p>	<p>Good improvement.</p> <ul style="list-style-type: none"> • Significant increase in soil cover (bare soil 41% vs 80%), due to increase in (fresh) litter 1 (36% vs 19%), increase in (decomposing) litter 2 (7% vs 0%), and increase in grass plant density occurrence (13% vs 1%). • Increase in broken soil suggests better infiltration through animal impact. 	<p>Improvement.</p> <ul style="list-style-type: none"> • Increases in litter 1 (fresh, 36% vs 19%) and litter 2 (decomposing, 7% vs 0%) suggest improvement in nutrient availability and cycling. 	<p>Neutral.</p> <ul style="list-style-type: none"> • Results show decrease in grass plant spacing i.e. increased density; however, results also show decrease in perennial plant density (3.5 cm vs 11.16 cm), suggesting above increase in overall grass plant density is accounted for by annuals (less desirable). • Apparent decrease in ‘overgrazed plants (11% vs 17%). • Significant decrease in ‘normal’ plant form (39% vs 78%) and increase in ‘dead’ plants (24% vs 0%). <i>Note: however, as above, plant health data is only reported for 74% of the sample (39+0+11+24 = 74%), suggesting an issue with data collection / classification.</i>
<p>IL MOTIOK OL BUTANY Previous good implementation of grazing plans until 2014, plans unenforceable since due to invasions, drought)</p>	<p>Neutral.</p> <ul style="list-style-type: none"> • Similar results to ‘Ol Motiok near tank’ transect above, but little decrease in bare soil and little increase in litter, but increase in broken soil (better infiltration). 	<p>Neutral.</p> <ul style="list-style-type: none"> • Little gain in litter (litter 1 21% and litter 2 12% vs 27% and 0% respectively). 	<p>Significant deterioration.</p> <ul style="list-style-type: none"> • ‘Normal’ plant health significantly decreased (50% vs 85%), with increase in ‘overgrazed plants (17% vs 0%) and ‘dead’ plants (27% vs 0%). • Significant decrease in average distance to perennial plant (15.90 cm vs 1.81 cm) reflects severe decrease in desirable plants.
<p>ORETETI BOMA 4 Previous fair implementation of grazing plans until 2014, plans unenforceable since due to invasions, drought)</p>	<p>Slight improvement.</p> <ul style="list-style-type: none"> • Results similar from 2013, except for decrease in soil capping (24+40+6 = 72% vs 96%), and increase in broken soil (30% vs 4%). 	<p>Deterioration.</p> <ul style="list-style-type: none"> • Little change in litter. • Decrease in ‘normal’ plants (50% vs 75%) suggests less nutrient production. 	<p>Neutral.</p> <ul style="list-style-type: none"> • Decrease in ‘normal’ plants (50% vs 75%), increase in ‘overgrazed plants (36% vs 15%) and slight increase in ‘dead’ plants (13% vs 10%). <i>Note: again, data missing on 11% of sample points).</i> • This is contradicted by an increase in perennial (desirable) plant density (2.52 cm vs 6.98 cm).

<p>ORETETI NEAR BORANA FENCE Previous good implementation of grazing plans until 2014, plans unenforceable since due to invasions, drought; although use of Oreteti has been more controlled than the rest of the GR</p>	<p>Improvement masked by litter consumption.</p> <ul style="list-style-type: none"> • Decrease in cover 38% vs 21%). • However, significant increase in plant occurrence (40% vs 7%). • But decrease in litter occurrence (22% vs 59+13 = 72%). This may reflect significant increase in grazing pressure due to prolonged dry seasons and/or drought 2014 through 2015, where livestock are consuming litter. 	<p>Improvement.</p> <ul style="list-style-type: none"> • Decrease in litter (22% vs 72%). • Countered by significant increase in plant occurrence (40% vs 7%). 	<p>Significant increase.</p> <ul style="list-style-type: none"> • Highly significant increase in distance to perennial (desirable) plants (0.77 cm vs 6.76 cm). • Maximum plant health maintained ('normal' plants (98% vs 100%).
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6. Capacity assessment of target communities

A capacity-gain survey was carried out in 2013 and again in 2015 for comparison. In 2013, 110 households were surveyed across the 4 group ranches adopting improved management; in 2015, 130 households were surveyed covering the original 4 group ranches plus 7 additional group ranches that had by then adopted improved management.

The method focused on questions designed to assess 5 aspects of capacity (the ADKAR method):

A – Awareness of the need for change.

D – Desire for change.

K – Knowledge and skills gained to effect change.

A – Action for change.

R – Reinforcement of action for change.

The 2015 study was assisted by KMT (Kenya Markets Trust). The results are documented separately in the joint LWF-KMT document 'Holistic Resource Management (HRM) impact assessment Laikipia' dated November 20 2015. Pages 16-22 contain a comparison of findings between 2013 and 2015. Overall, the results show that the positive impact of the HM approach on capacity was maintained through 2015 with the increase in participating group ranches; this despite the wind-down of the programme by end of 2014.

7. Assessment of focus group discussions (FDGs) in learning sites

Focus group discussions were conducted in early 2016 in order to (a) reinforce – or contradict – the household capacity-gain results and (b) ascertain dynamics behind the results. The results reflect their positivity for the HM approach as a long-term initiative. The following are the highlights presented by the interview team:

1. Through the HM practices, the overall community is claiming that they have not increased the size of their land but through sound management increased land yield in form of forage production and, as a result, increased livestock population and improved livelihood.
2. The community believes that Holistic management persuades community into working together.
3. And this promotes the proper implementation of grazing plans, with grass regeneration from within which attracts neighbours and that generates conflict, as the external forces fight for access.
4. The FGD respondents recommend for LWF to assist them in training their neighbours (Samburu) from the north (warriors, women and elders) on better resource management.
5. Through the HM effort, the community is claiming that they have managed reduce livestock deaths by generating forage availability, by the means of grazing plans; but have experienced loss of human lives as herders from other places coming to fight over for access of the enhanced resources (water and grass).
6. According to respondents, there are significant ways of assessing the increase in livestock value:
 - Health of the livestock
 - Body Size
 - Season variations in markets
 - Demand
 - Breeds Strong business networks/skills

7. All the contacted persons during FGDs meeting expressed that LWF rangeland management team deserted the community at some point; lowering continuity and practice of the HM ideas they have nicely initiated it.
8. Community revealed that cultural erosion continues to undermine the practical application of HM, since the community leaders are expressing self-interested greed, along with the politics.
9. Poor settlement has also been hindrance to planned grazing and undermining grazing by-laws enforcement (households spread too far and wide).
10. Respondents believe that the application of HM within and externally promotes availability of grass, which would eventually addresses insecurity/ drought-associated forage access conflicts.
11. According to respondents the following aspects with respect to the HM approach are of the greatest interest:
 - Using livestock as a tool to bring back land health (grass and water); sustainable livelihoods (household economy) and the general environmental improvements.
12. The following are communities' main alternative grazing areas outside the group ranches:
 - Lewa conservancy
 - Borana conservancy
 - Olenaisho conservancy
 - Loldaiga conservancy
 - Lolmarek ranch
 - Mt. Kenya forest
 - Trust Lands Isiolo County.
 - Chololo Ranch
 - Oljogi ranch
 - Male ranch
 - Mugwooni ranch
 - Impala ranch
 - Karisia Safaris (Kerry Glen)
 - Mokogodo forest
 - Nkare Ndare forest
13. Communities revealed that for the last two years 2013-2015, drought has been the predominant factor that has undermined the practical application of HM, including loss of markets, leading to livestock poor prices and consequently depressed livelihoods.
14. The following are how community/FGD respondents wants the County Government to get involvement in HM at different levels:
 - That the county government to adapt a serious commitment into assisting the pastoral communities with the application of holistic management to improve the rangelands health.
 - The above commitment be channelled towards the Ministry of Livestock and also involving the local leaders on holistic management practices, both at community and at the county level.
 - They continued by recommending that County government facilitate the implementation process by facilitating the most necessary financial and technical supports as necessary.
 - That the county government to continue building a collaboration approach, for example, representatives from county government to sit in grazing committee meetings.

- The County government should plan ways of establishing HM information-sharing, in order to expand its application within and externally.
15. The Naibung'a group ranches untimely and political based elections interests have undermined communities' sustainable internal relationships. In this process of electing group ranch leaders, opposing teams clash for winning the elections; consequently communities' relations 'crack' and even after election continue widening hate; and as a result, impacts misunderstanding and loss of unity amongst community members / families; and leads to poor governance, unshared management efforts and insecure livelihoods.
 16. The FGD respondents believe that causes of human and livestock diseases results from:
 - Degradation of the land.
 - Weak and reluctant government veterinary departments.
 17. Paying for HM services: The community comments that most of time people seems to trust outsiders more than their own members. Hence, payments for joint efforts would not last (lack of unity of purpose).
 18. Regarding combining herds for bunching to improve the land health, the following are what FGD respondents believe hinders that effort:
 - Many and poor bull breeds segregates herds.
 - Fear of witchcraft.
 - Unshared desirable management goals.
 - Irresponsible herders and lack of professional herding in general.

8. Il Ngwesi: a specific example of programme-influenced Outcomes

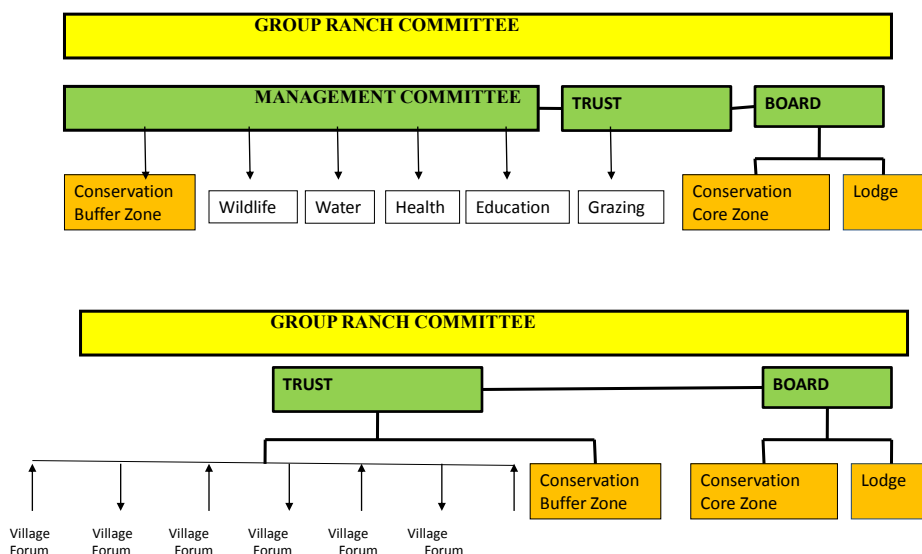
Results at site level can be organised along a spectrum, ranging from straightforward outcomes from activities which are largely under the control of the programme at one end, to outcomes several stages removed from the activities, influenced but not controlled by the programme. This 'results chain' comprised 5 types of outcome:

	Stage in results chain	Associated outcomes
'Simple' ↓ Complex	Outputs	Goods and services produced by the programme
	Immediate outcomes	Stage 1 changes: actions and behaviour
	Intermediate outcomes	Stage 1 impacts: benefits
	Tertiary outcomes	Stage 2 changes: actions and behaviour
	End outcomes	Stage 2 impacts: long-term consequences

The table below summarises major significant outcomes either attributable to or influenced by the programme. The stages of the results chain appear across the middle in black. Detail below this highlight activities and broad desired outcomes in each stage. Detail above this highlights significant actual outcomes associated with each stage.

IL NGWESI GROUP RANCH RESULTS CHAIN & OUTCOME MAP 2008-2014	All sections of GR:		Community discussion stimulated	No cows lost to starvation with planned grazing	'Stop-change-start' phase	GR has realised their capacity to reverse degradation and create wealth with existing resources
		Situation analysis	2 initial learning sites established		Redesign leaders - community shared roles & responsibilities	
		Root cause analysis	Core HM team established	Healed land plots as evidence		
		Future Vision ('constitution')	Planned grazing (PG) uptake	Devolution of mgmt leaves a vacuum at village level	Capacity bldg of pilot village forums with GR mgmt (Trust)	Building of confidence and commitment 2012-15 across community as a whole
	Root causes & change needs	Bunched grazing practice				
	Leaders buy-in	Consn area PG successful	Lack of mgmt accountability within GR	Continued success in consn area + new success in L Sanga build confidence in planning, control of internal & visiting herds, new respect gained	Respect from other communities	
	Cmmtly mobilisation strategy by leaders for buy-in	Community rejection in learning sites	Culture validated		Strong sense of unity	
	Adding knowledge & clarity: <ul style="list-style-type: none"> Whats being managed Know what you want Bare land public enemy No. 1 Time not numbers Animals as farmers Testing decisions Grazing planning Biological monitoring 	GR mgmt structure & performance self review	Commty dialogue increased		Can expect less financial pressure on lodge to produce funds	
		GR mgmt merger (reorganisation)	Focus on community as a whole	PG & village governance continuous roll out in all GR sections 2011-14.	Family unity enhanced due to less migration	
		Establishment of Village Forums	Livestock owners & herders joint planning in consn area building unity			
		GR constitution amended		Increased forage driving mgmt & commitment in each site	Herding culture being validated & valued	
		Adoption of Hgoal as future direction for cmmtly	Herders enjoying combined herding – friends staying together, enough milk			
		Mobilisation of whole community around the vision		Trainings increasingly being led by HM resource people	Investment accruing into existing assets rather than common theme of disinvestment	
		2 GR HM resource people for training	Long-term future vision providing direction for dialogue	Leaders leading but not dominating		
	Lodge enterprise engagement (not sustained)				Self planning for development	
		Inclusion of youth in management & decision-making		Complex mgmt of large herd influxes, friendly & hostile.		
		L Sanga adopted as 1 st village learning site		Community is hosting and teaching groups from inside & outside Kenya	End Outcomes [Stage 2 Impacts: benefits]	
			Intermediate Outcomes [Stage 1 Impacts: benefits]		"Sustainable Development" evidenced by improvements in community holistic context	
	Outputs [goods & services produced]	Immediate Outcomes [Stage 1 Changes: action/behavr]	EGs improved land EGs improved governance	Community-led 5-yr Neighbourhoods Strategic & Implementation Plan 2015-19	• BE: Quality of Life	
Core Activities (the programme's work)	Building the case for change	• worldview	EGs improved livelihoods EGs improved management	Tertiary Outcomes [Stage 2 Changes: action/behavr]	• HAVE: Future Resource Base • DO: Forms of Production	
	Establishing opportunities	• organisational culture				
Preparation	Generating demand	• structure				
Mobilisation	Designing the change package:	• skills, knowledge, competence		"Built-in knowledge and the power to use it"		
Trainings		• adaptive strategies		• Awareness for change		
Cross visits		• material resources		• Desire for change		
M&E		• links		• Knowledge for change		
Communication		□		• Action for change		
				• Reinforcement of change		
				Coherent strategy for sustainable development		

Change in Il Ngwesi governance structure:
before and after adopting the HM approach

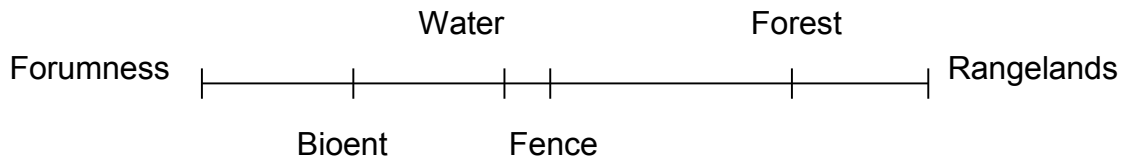


These changes arose from a 2-day workshop with and called by Il Ngwesi leaders, to assess their roles and achievements, in the light of pilot villages refusing to comply with their directives re adoption of planned grazing. The main changes were:

1. Realization that management and decision-making power needed to be devolved to village level, hence formation of Village Forums, to be enshrined in the GR constitution.
2. A need to streamline umbrella bodies.
3. Realization that division of responsibilities into different sectors (water, wildlife etc) was creating disunity of purpose and inadvertent undermining of efforts, prompting amalgamation of these under a single management body (Village Forum at village level, Trust at GR level – with the exception of the Board which is responsible for the lodge management).

PROGRAMMING COMPONENTS & AREAS NEEDING IMPROVED DELIVERY OR FOCUS / RECOMMENDATIONS

Context: revisiting programme complexity. As mentioned earlier, Rangelands is deemed the most complex LWF programme: LWF programme complexity scale 0 (left extreme) – 5 (right extreme):



Elements identified which contribute to explaining complexity (LWF secretariat 2011):

- Level of “directness” of the problem / interest (e.g. uptake is easier if the impact is high on people, direct threats- water more direct than forest- threats to life. It was noted that in the case of rangelands although the impact of the issue is direct, people have the option to move or feel they have the option to graze elsewhere).
- Level of support from other organisations (e.g in the rangeland - only LWF and recently other NGOs are driving the process. The level of support of the WRMA to WRUAs is much higher than level of support from KFS to CFAs, this helps uptake and chances of success).
- Development level of policy and legal frameworks - it is the law to establish WRUA/CFA, there is little choice whereas no laws about whether pastures are there or not. Probably land policy will become a framework for people to have productive land but this will take time.
- People’s level of understanding of issues affect their willingness or not to take up/their interest (the feeling that the water issue is well understood, whereas forest and rangelands less so).
- Number of people who have to be involved for the programme to be successful and their spread.
- Ownership (of the assets, in the case of the fence).
- Level of benefit diffusion (in the enterprise very direct individual benefits, in others, benefits more diffuse at the community level, communally owned resources).
- Level of control (e.g in the bioenterprise programme the groups and the LWF have a large control over the whole process, there is much less control in other programmes, they are affected by external factors such as climate, other people, etc).

And assuming the programme ambitions remain: to redress the negative impacts of decades of social, economic and environmental dynamics, through simultaneous engagement in social, environmental and economic realms:

- 1. Change of emphasis from structural /system engineering to approach to social learning approach.** The main contribution of the programme has been to demonstrate existence of a practical, effective and sustainable approach to transforming rangeland management; centred on ‘social learning’, ‘systems thinking’ and eco-literacy’. The next stage needs to emphasise on structured application of the approach developed, with a long-term commitment (with an institutional ‘home’ within Laikipia County).

- 2. Clarity on programme scope.** A future programme should ideally focus on the whole county, encompassing 3 main 'blocks' or rangeland contexts: (A) the GRs (focus of this effort); (B) private ranches & conservancies; and (C) abandoned lands.
- 3. Programme staff capacity.** More technical input is required, especially in (i) application of grazing plans (ii) evidence gathering. The current programme found that field officers, whilst having local knowledge crucial to success, struggled with oversight of technical needs - for example, challenging communities and/or suggesting changes. It was found that the 2 Master Trainers (i.e. highest level staff) were best suited to oversight / quality control, however, the programme lacked the resources during the last 3 years to employ them to a greater extent. We would suggest full-time 2-3 Master Trainers-level staff leading the effort, particularly if the abandoned lands are included; potentially organised into teams, one for each context.
- 4. Training of communities and trainers.** Training / mentoring in communities needs to be a continuous process, involving skilled trainers, who are based within communities. We would recommend that in future, trainers be assessed and certified by appropriate specialists, and formal TOT programme be incorporated for staff.
- 5. A social focus on neighbouring Isiolo & southern Samburu counties.** The dynamics within these areas are having an increasingly significant effect on the welfare of Laikipia's rangelands. A concerted effort is needed to improve land in these areas. Assessment by this programme and others suggests that one key to changing the situation lies in being able to bring Samburu youth back into their communities psychologically: they have become disconnected and a sizeable number have become, in a sense, 'exiled renegades' together with their animals. Thus application of an informed social initiative will be key. The same dynamic may need to be addressed in the future for Baringo County, whose residents are also moving into the western part of Laikipia.
- 6. Funding commitment.** As alluded to above, the past programme lacked necessary resources during its last 3 years to carry out the work to its best abilities. It is crucial that sufficient levels of funding are committed to support such an ambitious and complex programme. We would suggest a minimum of \$300,000 per year, perhaps in the order of \$500,000 if the abandoned lands will be included.
- 7. Institutional commitment.** Equally important is the need for LWF to be committed whatever programme it chooses to implement: the current programme had a 10-year commitment, however, as mentioned earlier, this commitment became diluted due to changes in LWF leadership; steps need to be taken to safeguard continuity of investments.

ANNEX A: Land Health Results 2016 vs 2013

This annex compares results for a set of land health indicators for December 2013 (end of wet season) and March 2016 (end of a wet season after extended rains). Analysis of the results is contained in Section 6 of the 'Detailed Results and Impacts of the Programme' in the main document. Transects monitored had been established in four group ranches/conservancies namely: Il Ngwesi, Il Polei, Il Motiok and Oreteti/Makurian). Details of the bio-monitoring findings for each transect across the four sites are as follows:

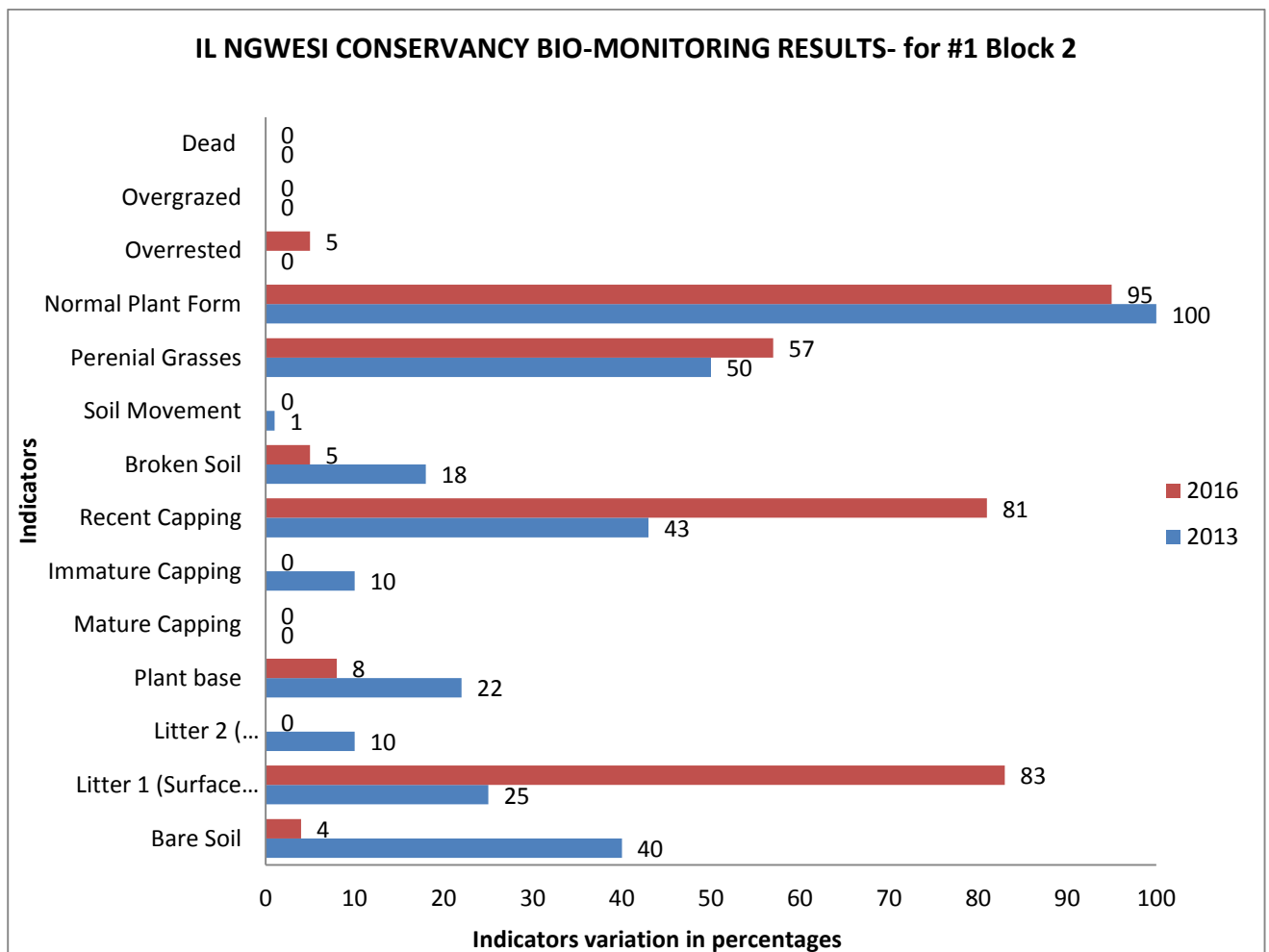


Fig: 1.1 Comparison of 2013/2016 results for Il Ngwesi #1 Block 2

Highlights for transect 1 block 2 (under generally Good grazing regime):

- 83% surface litter observed in 2016 compared to 25% surface litter availability in 2013
- 4% bare soil noted in 2016 compared to the 40% bare soil noted in 2013
- 50% plus perennial grass noted in both 2013 and 2016
- 90% plus normal plant form observed for both 2013 and 2016
- 81% recent capping noted in 2016 as compared to the 43% recent capping in 2013
- Increased basal cover -1.41 cm average distance to nearest perennial in 2016 as compared to 2.94 cm average distance to perennial in 2013

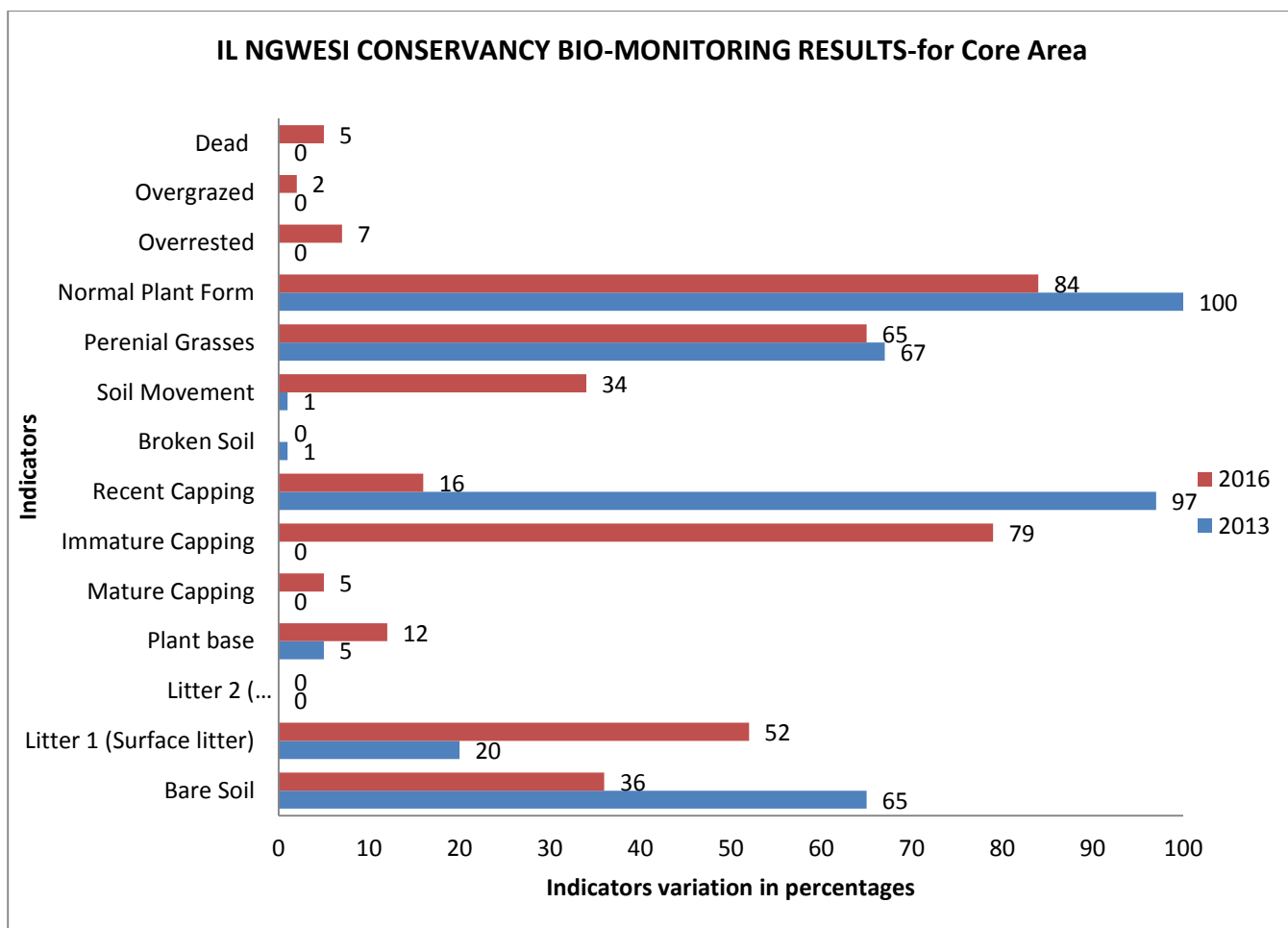


Fig: 1.2 Comparison of 2013/2016 results for Il Ngwesi - Core Area

Highlights for Core Area (under generally Good grazing regime):

- 52% surface litter observed in 2016 compared to 20% surface litter availability in 2013
- 36% bare soil noted in 2016 compared to the 65% bare soil noted in 2013
- 60% plus perennial grass noted in both 2013 and 2016
- 90% plus normal plant form observed for both 2013 and 2016
- 16% recent capping noted in 2016 as compared to the 97% recent capping in 2013
- Average distance to perennial plant is 3.49 cm in 2013 versus 3.95 cm in 2016.

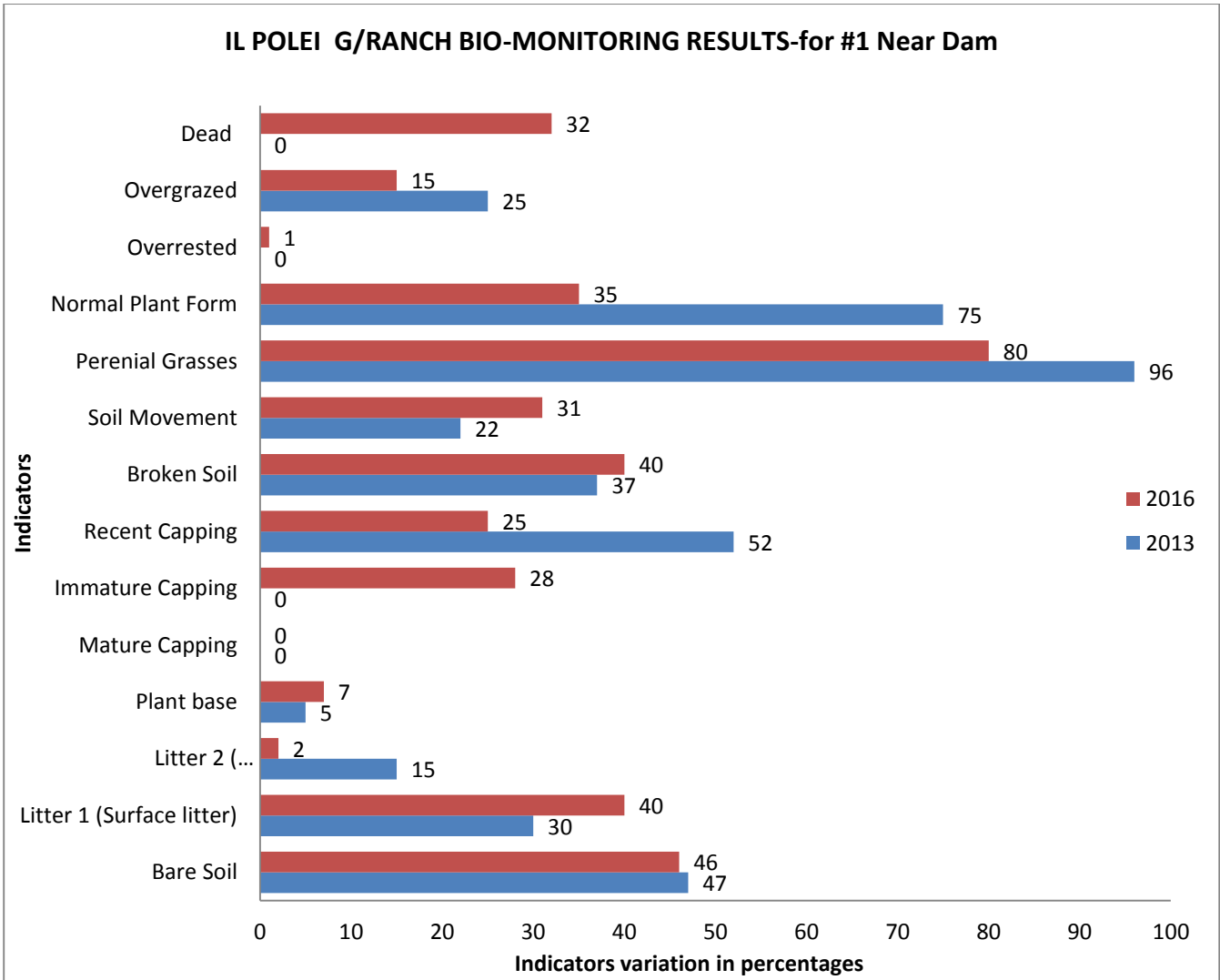


Fig: 1.3 Comparison of 2013/2016 results for Il Polei #1 Near Dam

Highlights for transect 1 Near Dam (under generally Poor grazing regime):

- 40% surface litter observed in 2016 compared to 30% surface litter availability in 2013
- 31% soil movement noted in 2016 compared to the 22% soil movement noted in 2013
- 80% perennial grass noted in 2016 as compared to 96% perennial grass noted 2016
- 25% recent capping noted in 2016 as compared to the 52% recent capping in 2013
- Average distance to perennial plant is 3.19 cm in 2013 versus 5.25 cm in 2016

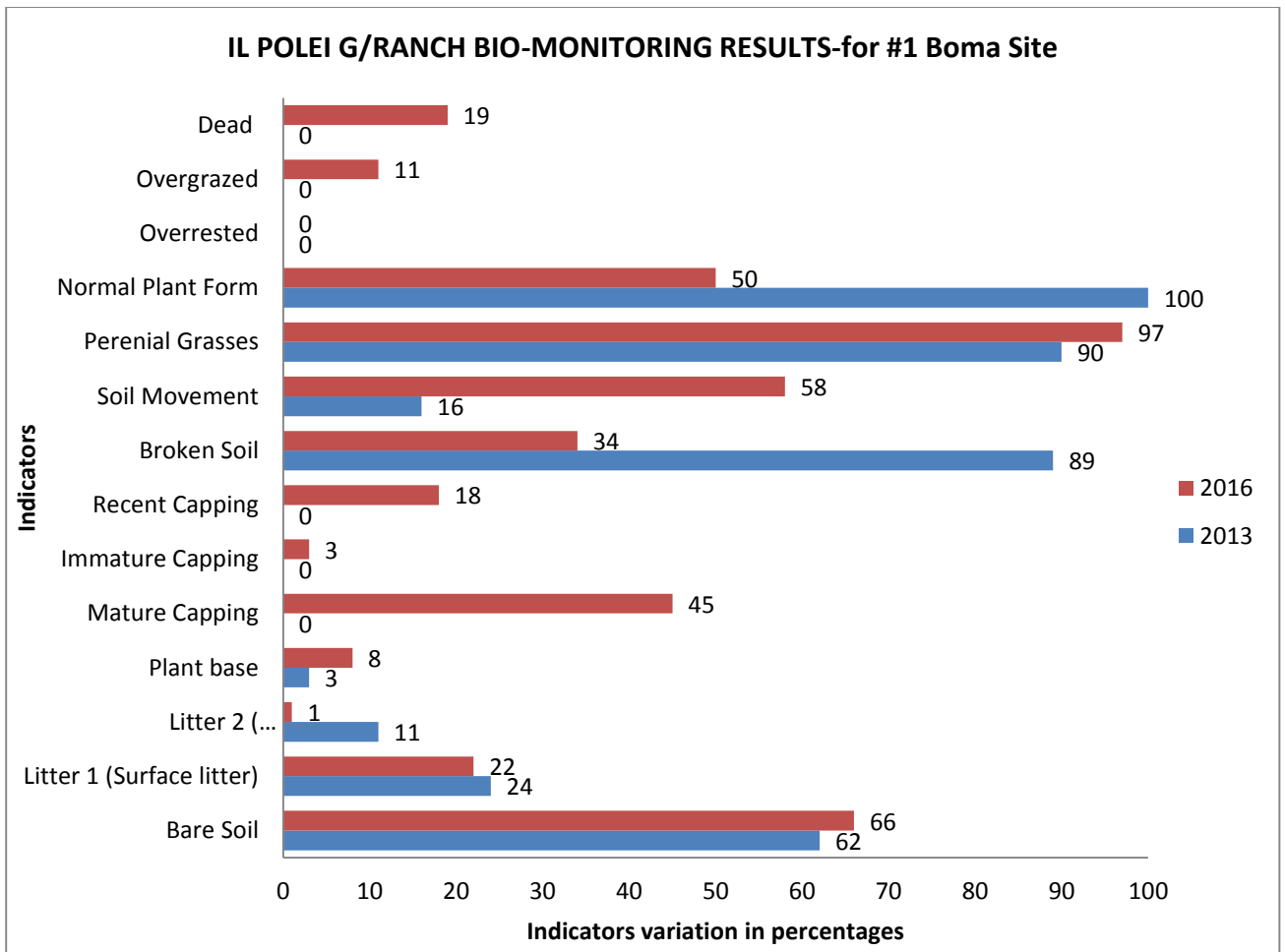


Fig: 1.4 Comparison of 2013/2016 results for Il Polei #1 Boma Site

Highlights for transect 1 Boma site (under generally Poor grazing regime):

- 66% bare soil noted in 2016 compared to the 62% bare soil noted in 2013
- 90% plus perennial grass noted in both 2013 and 2016
- 34% broken soil noted in 2016 as compared to the 89% broken soil in 2013
- Average distance to perennial plant is 4.40 cm in 2013 versus 16.59 cm in 2016.

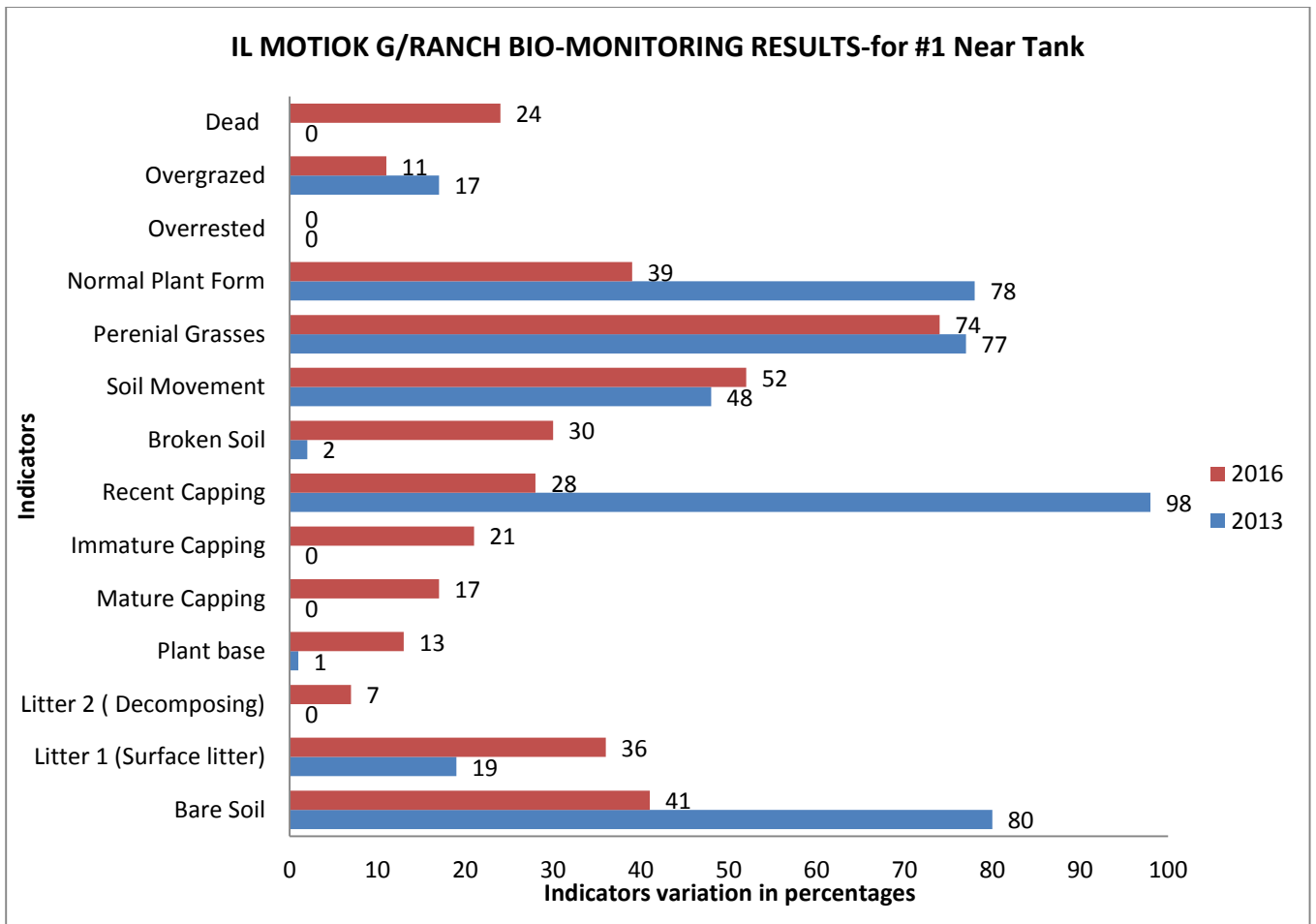


Fig: 1.5 Comparison of 2013/2016 results for Il Motiok#1 Near Tank

Highlights for transect 1 near tank (under previously Good implementation unable to withstand the drought and invasions from beginning 2014):

- 36% surface litter observed in 2016 compared to 19% surface litter availability in 2013
- 41% bare soil noted in 2016 compared to the 80% bare soil noted in 2013
- 70% plus perennial grass noted in both 2013 and 2016
- 39% normal plant form observed in 2016 as compared to 78% normal plant form observed 2013
- 28% recent capping noted in 2016 as compared to the 98% recent capping in 2013
- Average distance to perennial plant is 3.50 cm in 2013 versus 11.16 cm in 2016

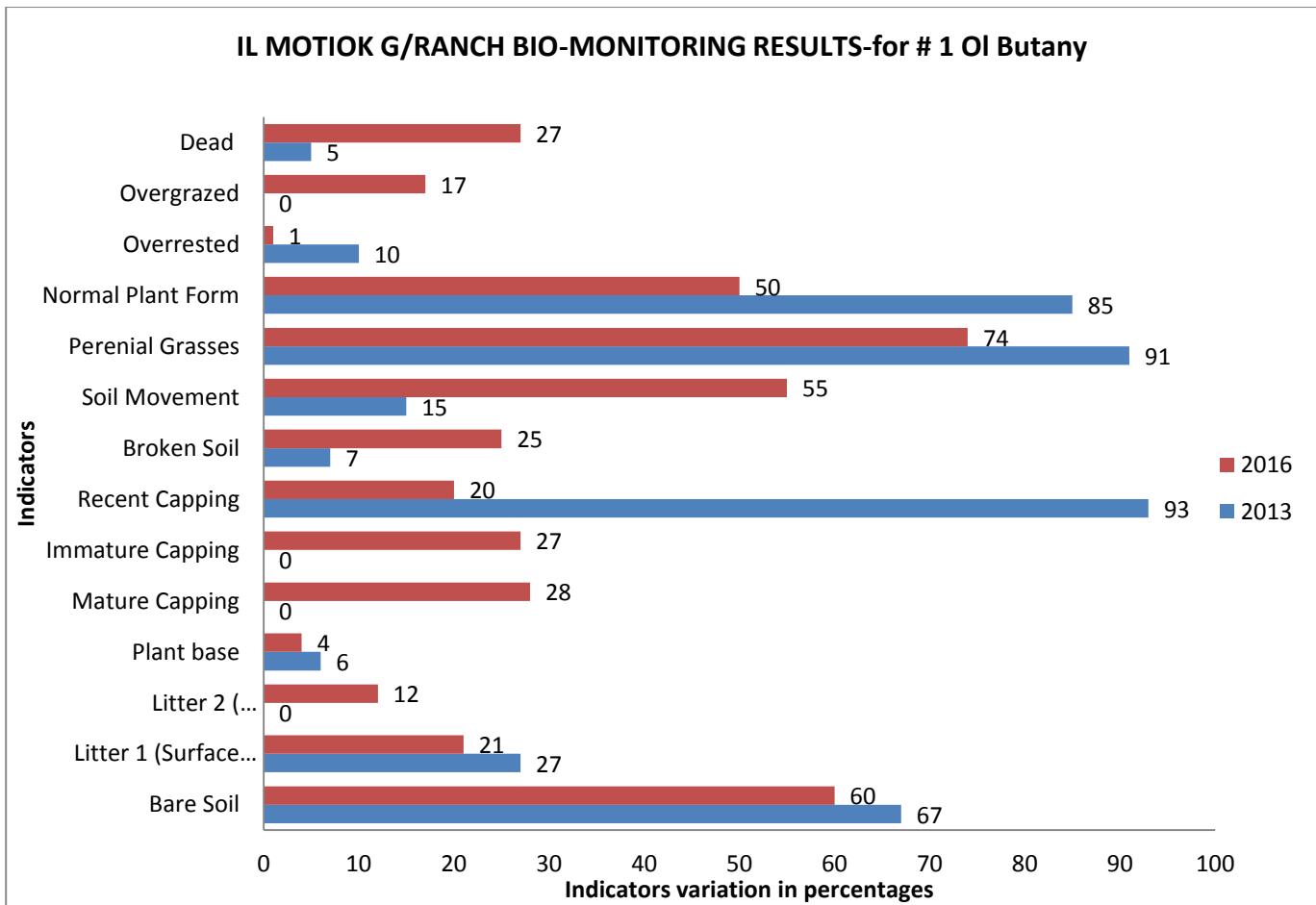


Fig: 1.6 Comparison of 2013/2016 results for Il Motiok #1 OI Butany

Highlights for transect 1 OI Butany (under previously Good implementation unable to withstand the drought and invasions from beginning 2014)::

- 55% soil movement noted in 2016 as compared to 15% soil movement in 2013, 60% bare soil noted in 2016 compared to the 67% bare soil noted in 2013
- 70% plus perennial grass noted in both 2013 and 2016
- 50% normal plant form observed for both 2016 compared to 85% normal plant form in 2013
- 20% recent capping noted in 2016 as compared to the 93% recent capping in 2013
- 25% broken soil noted in 2016 as compared to 7% broken soil in 2013
- Average distance to perennial plant is 1.81 cm in 2013 versus 15.90 cm in 2016

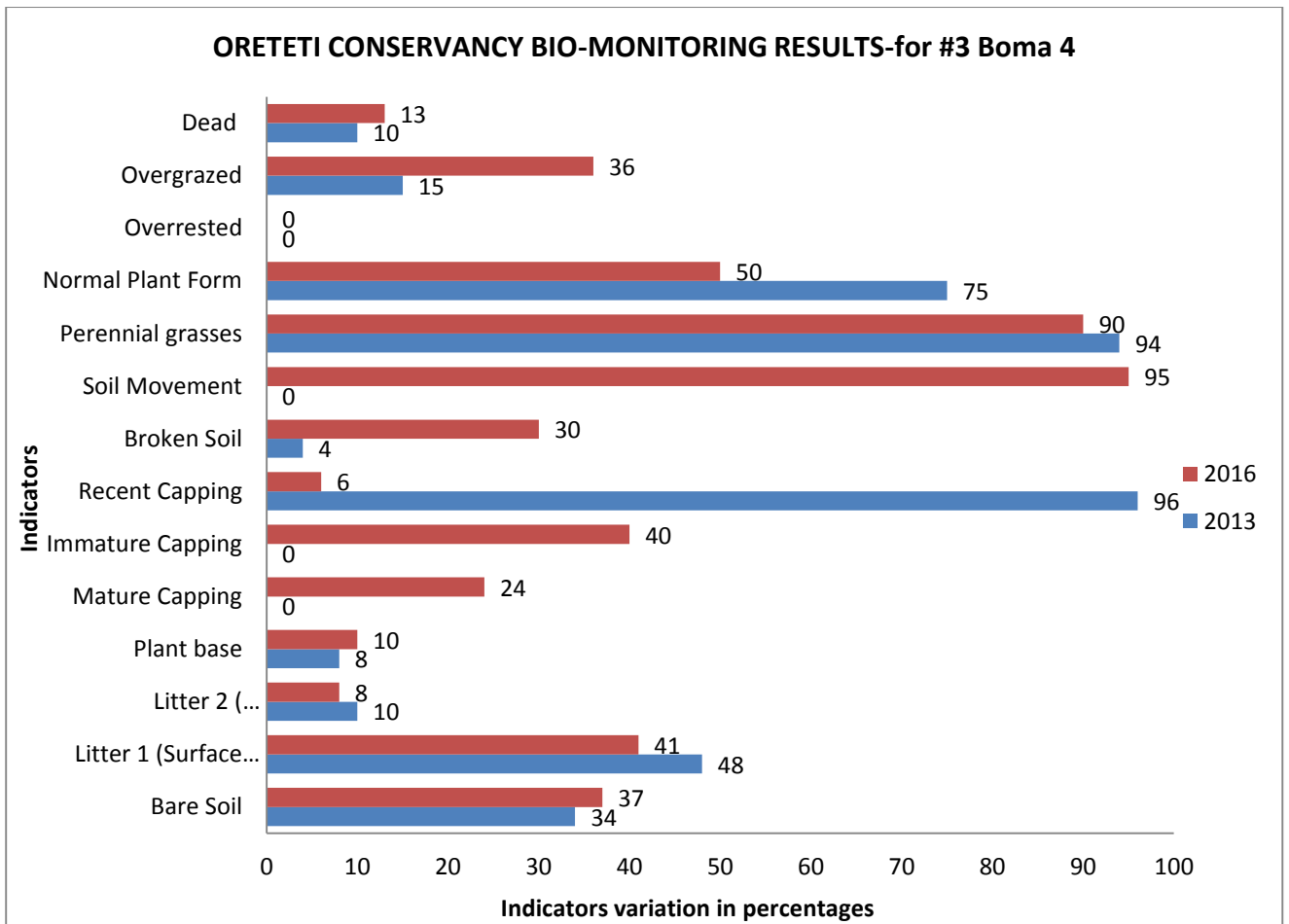


Fig: 1.7 Comparison of 2013/2016 results for Oreteti #3 Boma 4

Highlights for transect 3 Boma 4 (under previously Good implementation impacted by the drought and invasions from beginning 2014, but with some level of control):

- 40% plus surface litter observed in both 2013 and 2016, 30% broken soil noted in 2016 as compared to 4% broken soil in 2016
- 37% bare soil noted in 2016 compared to the 34% bare soil noted in 2013
- 90% plus perennial grass noted in both 2013 and 2016
- 90% plus normal plant form observed for both 2013 and 2016
- 24% mature capping noted in 2016 as compared to the 0% mature capping in 2013 and 40% immature capping in 2016 as compared to 0% immature capping in 2013
- Average distance to perennial plant is 6.98 cm in 2013 versus 2.52 cm in 2016.

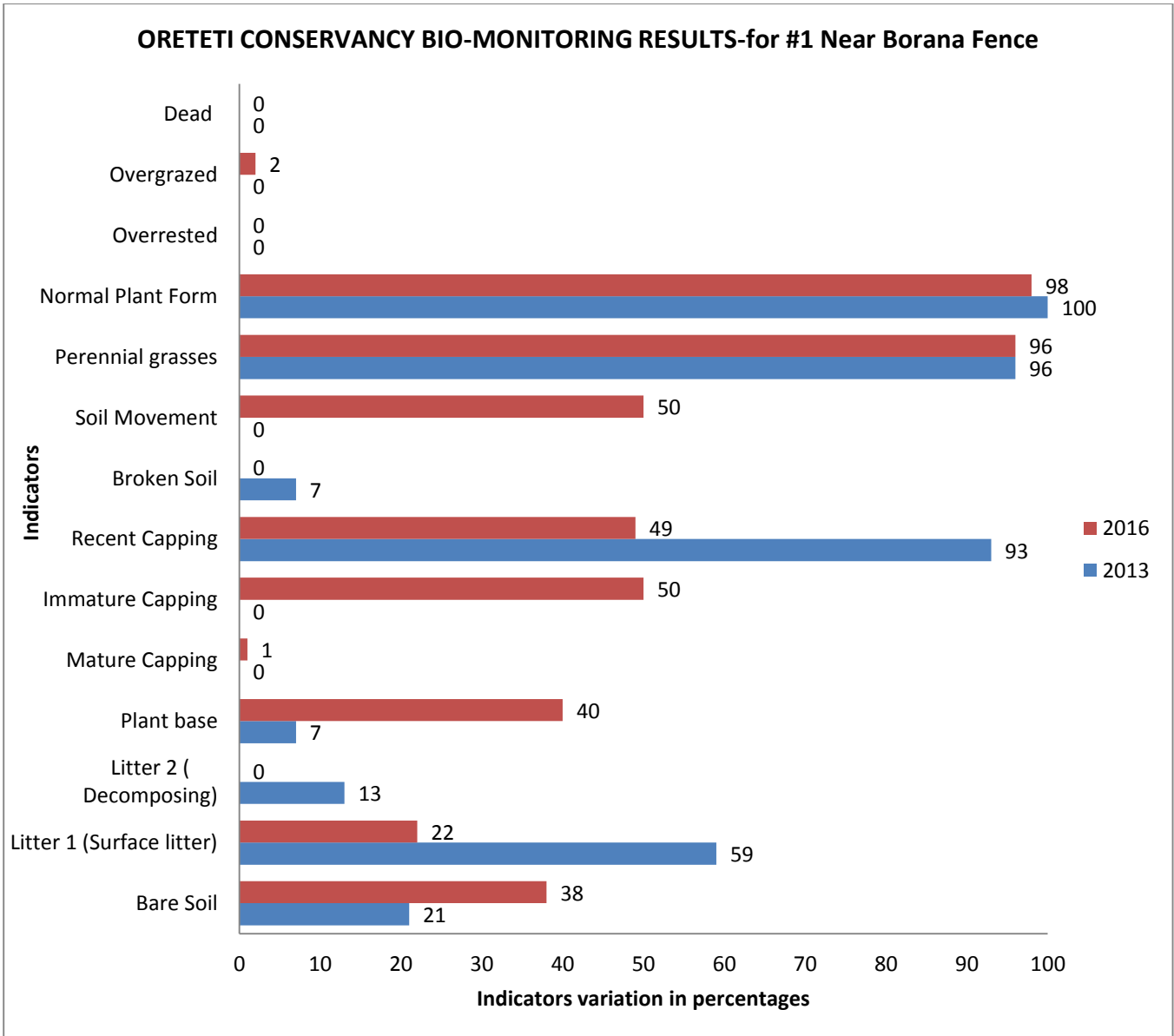


Fig: 1.8 Comparison of 2013/2016 results for Oreteti #1 Near Borana Fence

Highlights for transect 1 Near Borana fence (under previously Good implementation impacted by the drought and invasions from beginning 2014, but with some level of control):

- 50% soil movement observed in 2016 compared to 0% in 2013
- 38% bare soil noted in 2016 compared to the 21% bare soil noted in 2013
- 90% plus perennial grass noted in both 2013 and 2016
- 40% plant bases observed in 2016 as compared to 7% plant bases noted in 2013, average distance to perennial plant 0.77 cm in 2016 compared to 6.76 cm in 2013
- 50% immature capping noted in 2016 as compared to the 0% immature capping in 2013
- Average distance to perennial plant is 6.76 cm in 2013 versus 0.77 cm in 2016.

ANNEX B: List of LWF Rangeland Programme quarterly report annexes Oct 2009-June 2013

Oct '09 – Feb '10

- Annex A - SWOT analysis for each learning site
- Annex B - Activities added under USAID Oct 15 2009 – Jan 31 2010
- Annex C – Site activity/milestone summary
- Annex D - Programme 2010 Work Plan
- Annex E - Programme Impact Assessment full report

March – April '10

- Annex 1 - LWF Rangeland Strategy core *strategic activities* & implementation timeline
- Annex 2 - LWF Rangeland Strategy *tasks* under core strategic activities & timeline
- Annex 3 - Sanga situation analysis and way forward
- Annex 4 - Kijabe-Nkiloriti-Narupa-Nalare: training outline & present state, root causes and desired state
- Annex 5 - LWF-NRT-GZT: training outline & strategic questions and considerations on adopting HM

May – June '10

- Annex 1 - LWF Rangeland Strategy core *strategic activities* & implementation timeline
- Annex 2 - LWF Rangeland Strategy *tasks* under core strategic activities & timeline
- Annex 3: LWF Rangeland Programme Officer's field report on the 10-day Il Ngwesi community meetings
- Annex 4: Quarterly Workplan for Specific Tasks for the period *Jan - March 2010* with completion status

July – Sept '10

- Annex 1 - LWF Rangeland Strategy core *strategic activities* & implementation timeline
- Annex 2 - LWF Rangeland Strategy *tasks* under core strategic activities & timeline

Oct – Dec '10

- Annex 1: LWF Rangeland Strategy core *strategic activities* & implementation timeline (2010-2012)
- Annex 2: Report & Outcomes – LWF staff training in the Community Action Cycle (CAC)
- Annex 3: Desired Outcomes for the LWF Rangeland Programme
- Annex 4: Il Ngwesi leaders training on programme and leadership
- Annex 5: Makurian/Oreteti field day images and programme

Jan – March '11

- Annex 1: Desired Outcomes for the LWF Rangeland Programme
- Annex 2: LWF Rangeland Strategy core *strategic activities* & implementation timeline (2010-12)
- Annex 3: Makurian group ranch – Oreteti grazing trial summary field report Nov 2010-March 2011

April – June '11

- Annex 1: Desired Outcomes for the LWF Rangeland Programme
- Annex 2: LWF Rangeland Strategy core *strategic activities* & implementation timeline (2010-12)
- Annex 3: Makurian group ranch – rangeland management summary field report April-July 2011

- Annex 4: Materials distributed at exposure meetings introducing the concept of carbon and potential carbon trading
- Annex 5: Field reports on Naibunga training / community meetings July 4-13 2011

July – Sept ‘11

- Annex 1: Desired Outcomes for the LWF Rangeland Programme
- Annex 2: LWF Rangeland Strategy core *strategic activities* & implementation timeline (2010-12)
- Annex 3: LWF Eastern Unit joint grazing initiative update report

Oct – Dec ‘11

- Annex 1: Desired Outcomes for the LWF Rangeland Programme (10 year outcomes)
- Annex 2: LWF Rangeland Strategy core strategic activities & implementation timeline (2010-2012)
- Annex 3: Planned grazing criteria (see report for actual example)
- Annex 4: Community ‘readiness’ criteria
- Annex 5: Makurian group Ranch mapped grazing areas according to villages
- Annex 6: Makurian Group Ranch Grazing Committee (GGC) - Grazing Rules
- Annex 7: Lower Makurian village sketch map grazing plan Nov 2011 – April 2012
- Annex 8: Katunga village sketch map grazing plan Nov 2011 – Jan 2012
- Annex 9: Lariak Orok - Sepeiyo village sketch map grazing plan Nov 2011 – April 2012
- Annex 10: Arjijo village sketch map grazing plan Nov 2011 – April 2012
- Annex 11: Kantana village sketch map grazing plan Nov 2011 – April 2012
- Annex 12: Ol Kinyei village sketch map grazing plan Nov 2011 – April 2012
- Annex 13: Sanga village, Il Ngwesi, Grazing Plan end Wet & Dry Season (Jan 1 – May 31 2012)
- Annex 14: Il Polei group ranch sketch map grazing plan Nov 2011 – April 2012

Jan – March ‘12

- Annex 1: Desired Outcomes for the LWF Rangeland Programme (10 year outcomes)
- Annex 2: LWF Rangeland Strategy core strategic activities & implementation timeline (2010-2012)
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- Annex 10: Arjijo village sketch map grazing plan Nov 2011 – April 2012
- Annex 11: Kantana village sketch map grazing plan Nov 2011 – April 2012
- Annex 12: Ol Kinyei village sketch map grazing plan Nov 2011 – April 2012
- Annex 13: Sanga village, Il Ngwesi, Grazing Plan end Wet & Dry Season (Jan 1 – May 31 2012)
- Annex 14: Il Polei group ranch sketch map grazing plan Nov 2011 – April 2012
- Annex 15: Il Motiok group ranch sketch map grazing plan Nov 2011 – April 2012
- Annex 16: Il Polei field progress report October 2011-January 2012

April – June ‘12

- Annex 1: Desired Outcomes for the LWF Rangeland Programme (10 year outcomes)
- Annex 2: LWF Rangeland Strategy core strategic activities & implementation timeline (2010-2012)
- Annex 3: Planned grazing criteria
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- Annex 5: Makurian group Ranch mapped grazing areas according to villages
- Annex 6: Makurian Group Ranch Grazing Committee (GGC) - Grazing Rules
- Annex 7: ‘9 steps of Planned Grazing’ poster used for awareness-raising
- Annex 8: Makurian group ranch Evolving GR Grazing Plan poster for awareness-raising
- Annex 9: Input into IGAD Horn of Africa ‘Ending Drought Related Emergencies’
- Annex 10: Climate Smart Pastoralism FAO case study – experiences & lessons from Laikipia, Kenya
- Annex 11: Lower Sanga village, Il Ngwesi wet and dry-season grazing plan April-November 2012
- Annex 12: : LWF Rangeland Programme planned activities in partnership with World Vision in Naibunga Conservancy June-September 2012

July – Sept ‘12

- Annex 1: LWF Rangeland Strategy core strategic activities & implementation timeline (2010-2012)
- Annex 2: Planned grazing criteria
- Annex 3: Community ‘readiness’ criteria
- Annex 4: ‘9 steps of Planned Grazing’ poster used for awareness-raising
- Annex 5: Makurian Group Ranch Grazing Committee (GGC) - Grazing Rules
- Annex 6: Makurian group ranch Evolving GR Grazing Plan poster for awareness-raising

Oct – Dec ‘12

- Annex 1: LWF 10-year Rangeland Intentional Design
- Annex 2: Il Motiok GR current grazing results and status (photos)
- Annex 3: Il Polei GR protected grass banks whilst grazing in Ol Jogi ranch (photos)
- Annex 4: Il Polei GR ‘boma’ impacts on land regeneration (photos)
- Annex 5: Sanga Il Ngwesi grazing map and plan
- Annex 6: Ol Chorrai Il Ngwesi grazing map and plan
- Annex 7: Example of forage & grazing days assessment, Ol Chorrai Il Ngwesi
- Annex 8: Il Motiok grazing map and plan
- Annex 9: Il Polei grazing map and plan

Jan – March ‘13

- Annex 1: LWF 10-year Rangeland Intentional Design
- Annex 2: Ol Chorrai village, Il Ngwesi, 3-part Holistic Goal (Desired Context) December 2012
- Annex 3: Il Polei Group Ranch 3-part Holistic Goal (Desired Context) December 2012

April '13

- Annex 1: 'Intentional Design' for the programme (what it intends to achieve)
- Annex 2: Selected photos II Motiok GR grazing status June 30 2013
- Annex 3: What's the point of grazing maps? It's all grass isn't it?
- Annex 4: Results of the LWF Rangeland Programme Capacity Assessment survey
- Annex 5: NRT training report (conducted Sera Conservancy March 28-April 2)
- Annex 6: Example transect data for Biological Monitoring

Note: from July 2013 onwards, Rangeland program adopted the standard LWF quarterly reporting template, which did not include Annexes.