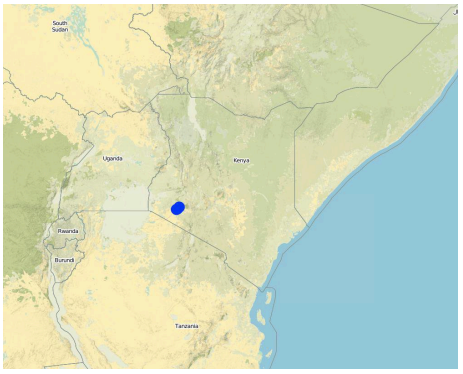
Enumerators in the field. (Ken Otieno)

Social Tenure Domain Model (STDM) ( )

STDM

The Social Tenure Domain Model (STDM) is about people and their relationships with land. The tool as applied secures tenure through the recognition of tenure diversity and social contexts. In the management of land and resources use, STDM facilitates proper land use and management to minimize practices that lead to degradation.

Technology application: The Social Tenure Domain Model is applied in order to relate natural and human environments. It is a social tool that defines the relationship of persons to natural resources such as land, their utilization of it, and sharing - for sustainable development. To realize optimal resource utilization, the tool enables the direct engagement of the resource users in a collective and participatory way. The technology allows communities to be part of a guided data collection and data entry into an STDM platform. The data includes social and economic data based on what is needed. The platform also can enable storage of information and documents such as title deeds. Names, gender, properties where the community members needs to have such information. These details can be updated and can inform planning and resource allocation by government and development partners. Main characteristics of the technology: STDM is a relational database built on an open source GIS platform called Quontum GIS (QGIS), running on Postgres SQL. This tool was built by Global Tools Land Network (GLTN). The tool captures both spatial information related to locations of land parcels, natural resources captured in points and defined in maps. Secondly, the technology captures socio-economic aspects of a resource, and allows definition of the type of relationship that exists between the resource and the person, as well as an indication of the percentage particular tenure regime in the areas including the existing rights and how they play out. The system recognizes the different level of rights thus appreciating that they are multiple and overlaid resulting to multiple uses. Therefore the technology enables the capture of bundles of rights that people have/should enjoy in a resource. The technology allows generation of reports and performs the desired analysis by the proponents and the beneficiaries of the information stored within the databases. It is open source, thus available free -hence its sustainability.The purposes/ functions of the STDM: The functions of the technology as have been piloted by RECONCILE and partners has focused around land tenure. It addresses security of tenure for vulnerable poor communities living within informal settlements, through participatory common resource identification, mapping and documentation, key resources including cattle dips, salt lick areas/fields and water points management has improved. This is due to the recognition of boundaries anticipatorily defined leading to revival of and establishment of community resources management committees especially around water and grazing lands. This in return has improved /increased production of both plants and animals. However, the technology can be customized to serve other purposes of information storage and management. The major activities/ inputs needed to establish/ maintain the technology: Major inputs are needed in empowerment of local communities through building their capacity to apply the technology through their own initiative. Building community-based resource centres and equipping them with computers installed with the software ensures that the technology is centred on the day-to-day activities of the communities and institutions. Benefits/ impacts: The technology has left better organised communities in terms of managing land and other resources. The technology has assisted local governments to manage issues of land ownership, especially within the context of customary land tenure and ownership. The county governments of Kenya, for instance, have spatial data and information that can help in planning and resources allocation. In areas where the technology has been used in the context of RECONCILE's work, better services and resources can be acquired given accurate information of Mapping land tenure, boundaries, water points and the water rights, infrastructure, different grazing lands and plans for the utilization of the grazing land and the rights of different users. It can result in improved and sustainable use of natural resources which in turn have a direct impact on production. Small-scale dairy farmers have been able to manage grazing lands, water and salt licks to improve production of animal products. Information captured and managed by the technology has enabled communities within informal settlements to negotiate with government authorities



: Kembu sub-county, Bomet county,

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- 35.33463, -0.90414
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to enable land allocation and thus security of tenure and improved livelihoods.What do land users like / dislike about the technology?Likes: The technology is flexible, it can be customized to capture information in any form desired. It is based on a GIS platform which is easy to manipulate and is open source.Dislikes: Users sometimes encounter errors that are a result of incorrect information entered, and these errors are written with the programming format: thus it requires good knowledge of the technology to remedy this.

Enumerators practicing the on how to use a GPS. (Ken Otieno)

The enuerators get instructions from the GIS expert on the use of the GPS. (Ken Otieno)

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/ - Agro-pastoralism ( )

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SLM

- (pastoralism)

SLM

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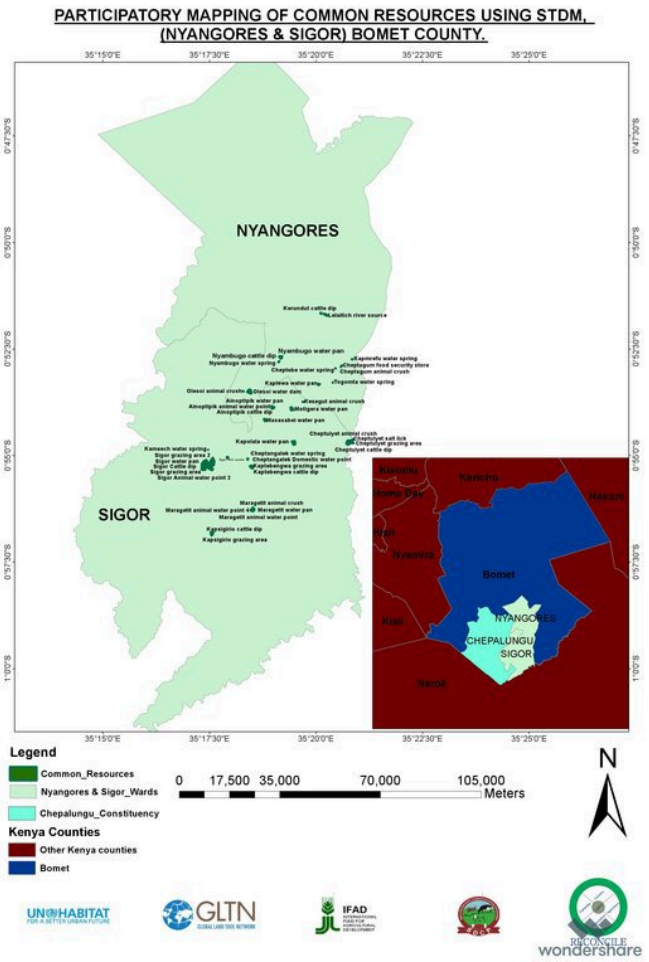
The overall space or measurements for the project areas were within the range of 25 to 75 square kilometres.



Author: RECONCILE

- (**Each project area 25 km2 (Project areas of three Sub-Counties 75 km2)**)
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- ( ) 1 USD = 101.0
- between Ksh. 2000 to 3000 depending on the kind of labour required and can go down to a compromised rate of ksh. 1000.

The technology costs are dependent on the size and number of resources targeted by the process. It will therefore define the costs accordingly.

1. Enumeration of at least 1000 farmers (/ : 9 months)
2. Mapping of communal resources water points, salt lick areas, cattle dips etc (/ : 9 months)
3. Mapping of private resources water points within the private areas (/ : 9 months)
4. Data Management (/ : 3 months)
5. Preparation of data collection including testing of the tools (/ : 1 month)
6. Dialogue sessions with community leaders (/ : 2 months)
7. Negotiations on the methodology for data collection and the kind of information to be collected/asked (/ : 1 month)
8. Technical reviews and reflection with project team and partners (/ : 1 month)

			( )	( )	%
Enumerators	persons	90,0	50,0	4500,0	
Consultants	Persons	6,0	1000,0	6000,0	
Technical Staff contribution and time	persons	5,0	750,0	3750,0	
Data processing and management	persons	24,0	60,0	1440,0	
Data entry and analysis	persons	20,0	40,0	800,0	
GPS hiring		120,0	55,0	6600,0	
GPS purchase		5,0	320,0	1600,0	

Computers		4,0	750,0	3000,0	
Conferences		9,0	1500,0	13500,0	
Administrative costs	9 months	9,0	1400,0	12600,0	
Logistical support		36,0	600,0	21600,0	
Preliminary activities including targeted dialogue etc	Travels and associated costs	5,0	300,0	1500,0	
Documentation of the project (to be finalized)	Video documentary	2,0	3000,0	6000,0	
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				820.69	

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2. NA (/ : None)
3. NA (/ : None)

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251-500
501-750
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1,501-2,000
2,001-3,000
3,001-4,000
> 4,000

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✓

The area is sub-humid.
Kenya Meteorological department
The average temperature in Bomet is 17.5 °C. Precipitation averages 1247 mm.

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(3-5%)
(6-10%)
(11-15%)
✓ (16-30%)
(31-60%)
(>60%)

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3,001-4,000
> 4,000

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SLM

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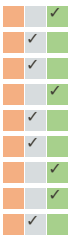
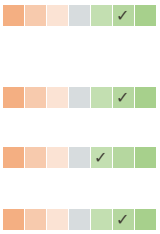
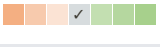




The production in the farms increased for milk

The size of fodder producers also increased. the production trend is stable based on the number of farmers involved.

Resulting from the proper land use and increased milk production based on more pasture, costs increased.



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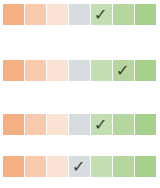

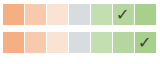

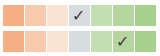

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The technology covered around 500 individual farmers.

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The technology was more of the urban oriented tool but had to be modified to adopt to the local demands.

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- Ability to define spatial space and common and private resources including those resources associated with milk production such as milk coolers, water points, cattle dips, food stores, grazing areas, salt licks, crushes, animal corridors, forest etc.Establishes the carrying capacity of communal shared resources.
- Establishment of the land tenure system of shared communal resources and issues arising.Status (management) of private resources within the rangelands.Production and income generated against household size.

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- The nature of the problem required innovative use in the mapping of the land and natural resources.The technology addressed immediate needs and provided a foundation for future updates and demands.The technology benefited from the existing data and improved delivery of output without any impediments.
- The technology bridged the gap through skills transfer and capacity building and in facilitating dialogue on issues affecting the community (Maps, reports). Ability to adapt the technology in a simple manner that the users can relate to, and find value in their use contributed immensely to successIntroduced even a more user-friendly use of mobile and smart-phones. The “quick win” could be seen in the transformation of mobile phones into data collection tools and the data can be seen, verified and shared, replacing the tedious manual process which many were struggling with.
- STDM databases accommodate the inclusion of social, economic and spatial data that can be maintained, accessed and updated by the communities anytime.Provided visual representation of available resources and their distribution and people can relate to spatial information on the map.
- Ownership of technology by local people who are now leading on data collection, customizing the template, developing reports and innovating on its use.

/ / :

- The design of the tool was more urban oriented and it took time to be adapted for rural use especially where land is communal and customary rights are key. Created more awareness.

/ / :

- Difficult to set-up the server environment where no internet is available.Engaging other service providers may be difficult and takes time (Internet service provider need to authorize setting up additional server).Appropriate devices for capturing data may require an additional budget. The internet component remains a challenge Technology is evolving and needs systematic information channels between the community members.The process requires proper funding in order not to have a break in between.

Editors

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: 13 2017 : 7 2019

Ken Otieno - SLM

https://qcat.wocat.net/km/wocat/technologies/view/technologies_3318/

SLM

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- Book project: Guidelines to Rangeland Management in Sub-Saharan Africa (Rangeland Management)

- RECONCILE end of project report and other progress reports are available for sharing: None
- Food security in Bomet county: awsc.uonbi.ac.ke/sites/default/files/chss/arts/.../Bomet-final.doc