EVIDENCE INTO DECISION MAKING FOR RESILIENCE PLANNING IN TURKANA COUNTY

TURKANA COUNTY RESILIENCE DIAGNOSTIC AND DECISION SUPPORT TOOL

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RESILIENCE DIAGNOSTIC & DECISION SUPPORT TOOL

LANDING PAGE   **1**

http://landscapeportal.org/turkanaSHARED/

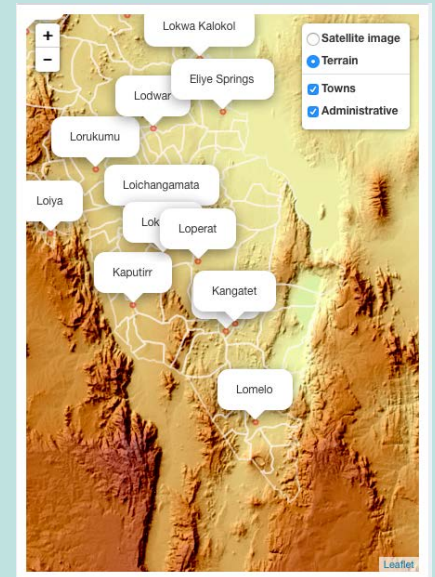
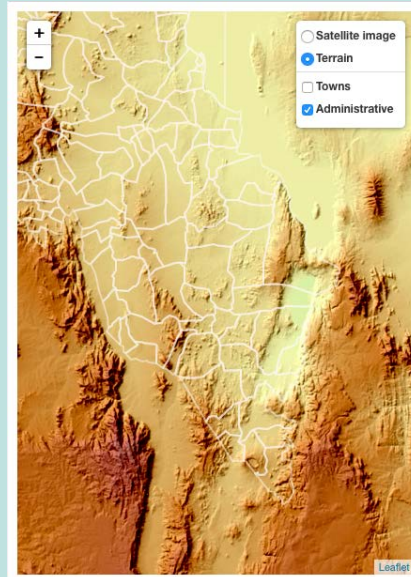
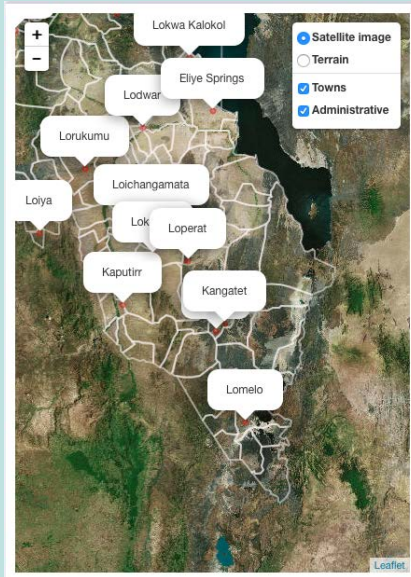
Current Modules for Turkana County. Select one by clicking here.

Click here to hide the menu and modules, and enter a full screen.

Turkana County Map

Zoom in (click +) and out (click -) of the map here. Alternatively double-click to zoom in, or use your mouse to pan (move) the map.

SHARED
The Stakeholder Approach to Risk Informed and Evidence Based Decision Making

WAYS TO VIEW THE MAP

TURKANA RESILIENCE DIAGNOSTIC AND DECISION SUPPORT TOOL

Working with the Turkana County Government and the National Drought Management Authority (NDMA) ICRAF and UNICEF Kenya have partnered to build capacity and tools for evidence based decision-making. Using the ICRAF SHARED facilitation framework, scientific evidence and the capacity and information needs of Turkana County decision makers have been fundamental to the design of the diagnostic decision support tool.

The Turkana Resilience Dashboard is custom built by integrating multiple data sources on Turkana and a number of analytical processes to make data that is at varied scales meaningful through different visual forms. Thematic modules such as land health, security and education have been built to allow for easy visualization of the data to assist with decision making and resilience planning.

The diagnostic dashboard allows for robust management of data for Turkana County with all the data storied in a safe central server. The powerful analytical 'engine' behind the dashboard allows the for the decision maker to select the desired visualizations of the data and carry out various queries and subsequent capacity to download the required information.

Turkana County Government officials were guided through an interactive demonstration session to navigate through each of the modules of the tool. A team of GIS experts and lead by the ICRAF GeoScience Head Dr Tor Vagen who has developed the dashboard facilitated this demonstration session. The demonstration workshop allowed for detailed interrogation and trialing of the dashboard amongst all the workshop participants.

Demonstration of Dashboard to Turkana County Government during Capacity Building Workshop hosted in Nairobi
August 18 - 20 2015

DATA MANAGEMENT FOR TURKANA COUNTY

Data Management and Visualisation
For Evidence Based Decision Making and
Monitoring and Evaluation

Diagnostic Dashboard
with context specific
module design

Shared Process Facilitation

Stakeholders
+
Decision Makers

Data Management System

Diagnostic Dashbaord

Data Scoping

Data Analysis

Database Storage

Site Specific Module Design

Tailored Design

NDMA EDE-MTP Pillars

CIDP Sectors

Data processing

Data analysis

Data execution

Data streams

Structured data

Unstructured data

Interactive analytics

Near-real-time structured database

Data Visualisation

Evidence Generation

RECORDS

Dashboard Process

Programming and Coding:

Integrating of Data:

Formatting:

Operational data management

Data visualization through customised modules

Evidence generation for decision making

Data processing

Data analysis

Data execution

Data streams

Near-real-time structured database

Interactive analytics

Structured data

Unstructured data

World Agroforestry Centre

GeoScience Lab
Landscapes Portal
http://landscapeportal.org

ASSEMBLING DATA SETS & MODULES

Data Gathering

Turkana Data Catalogue

Existing Data Sets

SOCIAL
- Population
- Number of households
- Disabled people
- Polygamy
- Social protection for elders
- Insecurity
- Refugees/internally displaced people
- Health facilities
- Source of drinking water

ECONOMIC
- Poverty wealth results
- Household main provider
- Roof material
- Wall material
- Food security grants
- Distribution of mPESA
- Numbers of Livestock (donkeys, camels, shoats)

BIOPHYSICAL
- Cultivated land
- Irrigation schemes
- Erosion potential
- pH
- Vegetative cover
- Vegetation condition
- Lighting fuel used

Formatting
+
Integrating
of Data
+
Programming
and Coding

Current Modules for Turkana County

Health

Health centres
- Distance to nearest health centre
- Distance to nearest hospital
- Number by sub-district

Hospitals
- Number per capita
- Number by sub-district
- Distance to nearest hospital
- Hospitals per capita

Children's health
- Child malnutrition
- Child mortality

Education

Location of schools
- Distance to population centres
- Number of schools per population
- Distance between schools

School enrolment
- Boys
- Girls
- Number of teachers

Types of schools
- Primary
- Secondary
- Advanced education

Livestock

Population
- Relative increase in population
- Changes in population

Insecurity

Security
- Police / security presence
- Number of police
- Police officers per capita

Incidents
- Ethnic clashes
- Cattle rustling

Vegetation

Vegetation condition
- Vegetative cover trends
- Vegetation distribution
- Herbaceous cover

Land Health
- pH and sanitisation
- Soil organic Carbon
- Land degradation risk
- Erosion prevalence
- Hydro-logic function
- Flood risk
- Runoff
- Infiltration capacity

Irrigation
- Small irrigation scheme
- Proposed irrigation scheme

WASH
- Open defecation records
- District public health officers

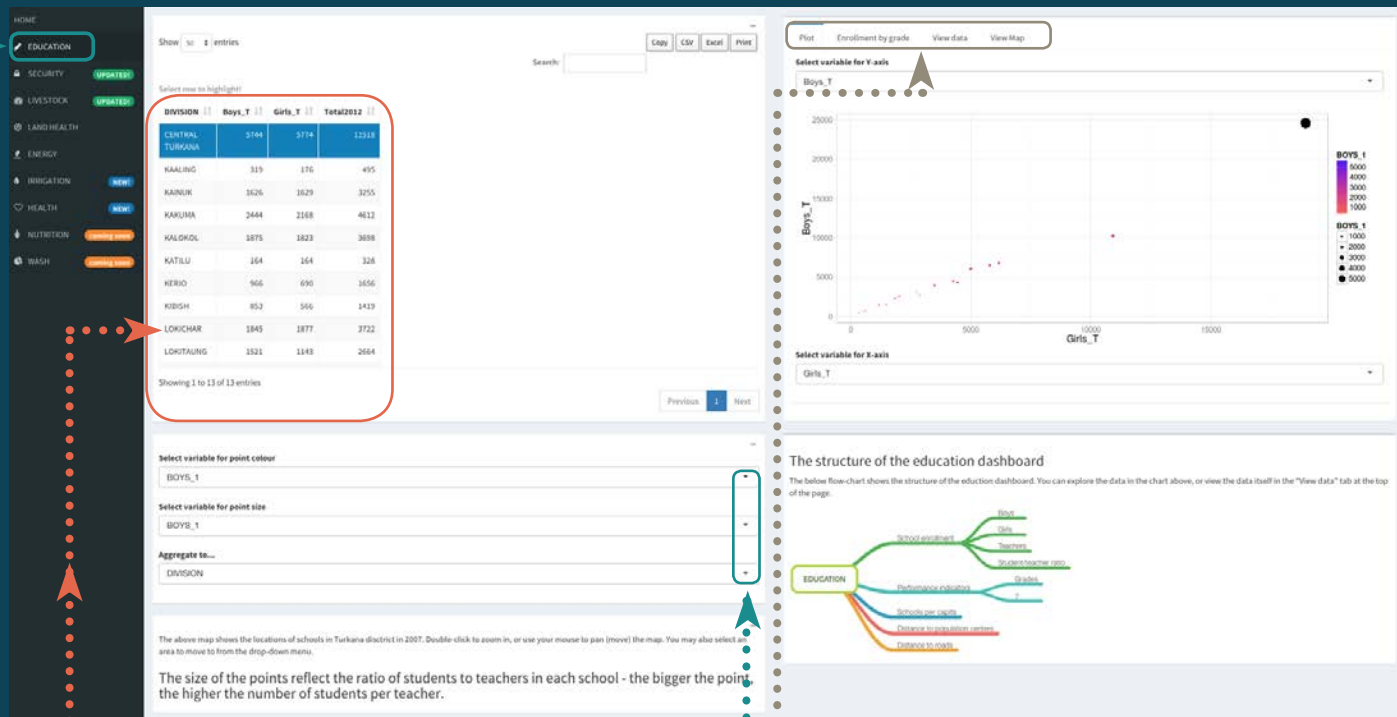
Nutrition
- GAM
- SAM
- Wasting

TURKANA COUNTY DATA CATALOGUE

TITLE	DESCRIPTION	TYPE
EDUCATION		
Location of schools	Location of schools in Turkana County · 2007	Spatial points
Enrollment 2012	Enrollment in schools in Turkana County · 2012	Spatial points
Enrollment 2014	Enrollment in schools in Turkana County · 2014	Spatial points
SECURITY		
Turkana insecurity	Georeferenced points with security incidents based mostly on media reports. Source: ACLED	Spatial points
LIVESTOCK		
Number of shoats per HH	Based on HSNP HH surveys – aggregated to village level	Spatial points / areas
Number of camels per HH	Based on HSNP HH surveys – aggregated to village level	Spatial points / areas
LAND HEALTH		
Soil erosion prevalence	Soil erosion prevalence for Turkana County at 500m resolution. Source: Vagen, T.-G., World Agroforestry Centre	Raster image
Soil organic carbon (SOC)	Soil organic carbon for Turkana County at 500m resolution. Source: Vagen, T.-G., World Agroforestry Centre	Raster image
Soil pH	Soil pH for Turkana County at 500m resolution. Source: Vagen, T.-G., World Agroforestry Centre	Raster images
Vegetation cover	Vegetation cover maps for Turkana County at 250m resolution – taken every 16 days from 2000 to current	Raster images
ENERGY		
Cooking fuel	Cooking energy sources by household, based on the HSNP HH survey for Turkana County.	Spatial points
Lighting fuel	Lighting energy sources by household, based on the HSNP HH survey for Turkana County.	Spatial points
Hydrology / water		
Rivers	Major rivers in Turkana	Spatial lines
Lakes	Major lakes in Turkana	Spatial polygons
Water Points	Water points (e.g. wells, small dams and watering holes in Turkana County)	Spatial points
Irrigation Schemes	Irrigation schemes (existing and planned) for Turkana County	Spatial points

TITLE	DESCRIPTION	TYPE
HEALTH		
Health centers	Location of health centers in Turkana County	Spatial points
HIV prevalence	HIV data by constituency – children and adults	
Treatment facilities for HIV	Treatment facilities for HIV patient by constituency in Turkana County	
NUTRITION		
Wasting	Wasting data by constituency in Turkana County. Source: UNICEF	Table
Stunting	Stunting data by constituency in Turkana County. Source: UNICEF	Table
WASH		
WASH indicators	WASH indicators by constituency in Turkana County. Source: UNICEF	Table
SOCIO-ECONOMIC		
Poverty / wealth status	Poverty / wealth status by household, based on the HSNP HH survey for Turkana County	Spatial points
Roofing material	Roofing material by household, based on the HSNP HH survey for Turkana County	Spatial points
Wall material	Wall material by household, based on the HSNP HH survey for Turkana County	Spatial points
Social protection	Social protection for older people	Spatial polygons
Refugees and IDPS	Location of refugee camps and IDPs, and their population	Spatial points
Tourist attractions	Tourist attraction areas in Turkana	Spatial points
1999 population	population in 1999	Spatial polygons
ADDITIONAL (BACKGROUND DATA USED AS SUPPORTING INFORMATION IN THE ABOVE):		
Communications and economy		
MPESA locations	Distribution and location of MPESA points in Turkana	Spatial points
1999 poverty data	Poverty data in 1999	polygon
Administrative boundaries	Administrative boundaries for 1989 / 1999 / 2009	Spatial polygons
Population census data	Population censuses 1989 / 1999 / 2009	Spatial points and polygons
Infrastructure	Roads and other general infrastructure	Spatial lines

EDUCATION MODULE 2

EDUCATION DASHBOARD

STEP 1
Select area of interest from the list here.

STEP 2
Click here to **select variables** for point size and colour from the drop down menu. See information reflected in tabs on the top right.

STEP 3
Click here to select which move between various data relevant to education.

Export, copy, print save this table of data here:

Search for area here:

Arrange data in ascending/descending order.

The blue highlight indicates the area is selected. The area selected will change data displayed in PLOT, ENROLLMENT BY GRADE and VIEW DATA.

Select variable for point colour

GIRLS_3

BOYS_1
BOYS_2
BOYS_3
BOYS_4
BOYS_5
BOYS_6
BOYS_7
BOYS_8

Variable for *point colour*: Boys Grade 1 - 8 / Girls Grade 1 - 8 / Boys Total / Girls Total / Total.

Select variable for point size

BOYS_1

BOYS_5
BOYS_6
BOYS_7
BOYS_8
GIRLS_1
GIRLS_2
GIRLS_3

Variable for *point size*: Boys Grade 1 - 8 / Girls Grade 1 - 8 / Boys Total / Girls Total / Total.

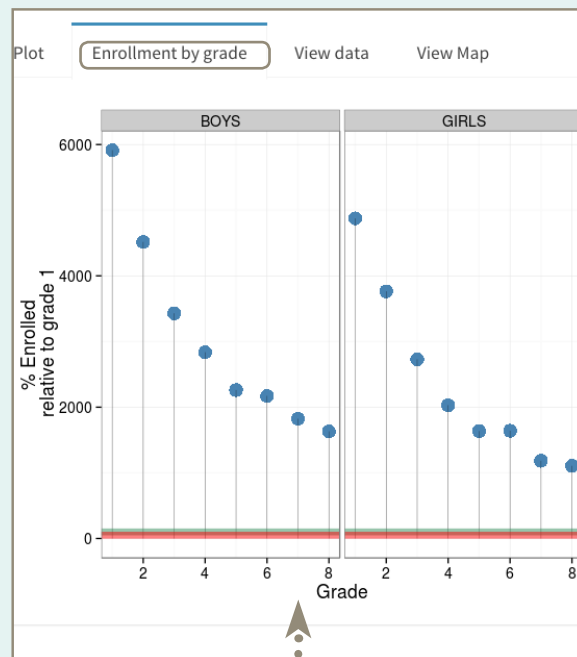
Aggregate to...

SCNAME

DIVISION
ZONE
SCNAME

Variable for *Aggregate to*: Division / Zone/ SCName.

ENROLLMENT BY GRADE IN TURKANA COUNTY

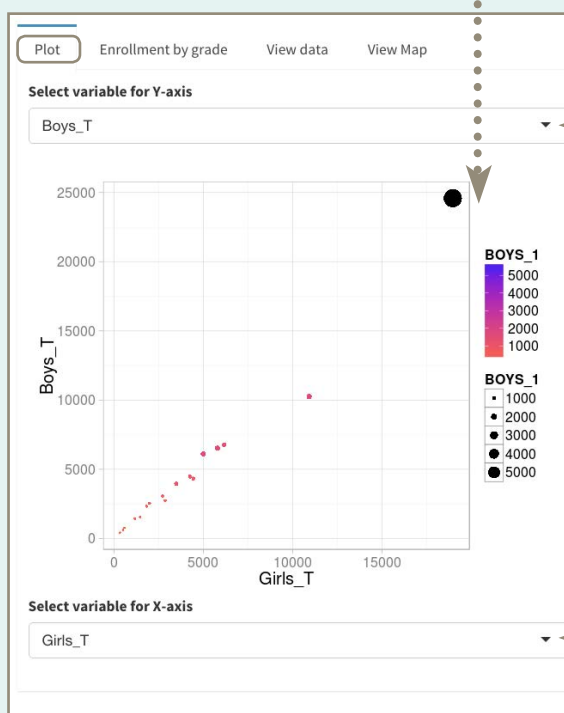
Plot | Enrollment by grade | View data | View Map

See how the *Aggregate to* variables directly affects the data displayed.

PLOT

Plot | Enrollment by grade | View data | View Map

Select variable for Y-axis

Boys_T

Select variable for X-axis

Girls_T

See how the *X-axis, Y-axis,* and *Aggregate to* variables directly affects the data displayed.

Select variable for X-axis

Girls_T

GIRLS_4
GIRLS_5
GIRLS_6
GIRLS_7
GIRLS_8
Boys_T
Girls_T

Variable for *X-axis*: Boys 1 - 8 / Girls 1 - 8 / Boys Total / Girls Total / Total.

Select variable for Y-axis

Boys_T

GIRLS_4
GIRLS_5
GIRLS_6
GIRLS_7
GIRLS_8
Boys_T
Girls_T
Total2012

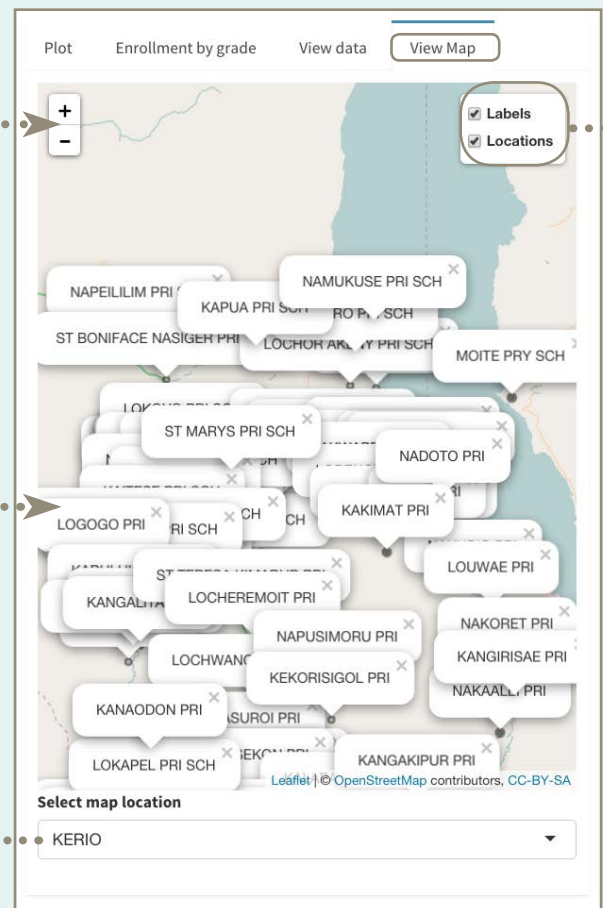
Variable for *Y-axis:* Boys 1 - 8 / Girls 1 - 8 / Boys Total / Girls Total / Total.

Export, copy, print save this table of data here:

Search for area here:

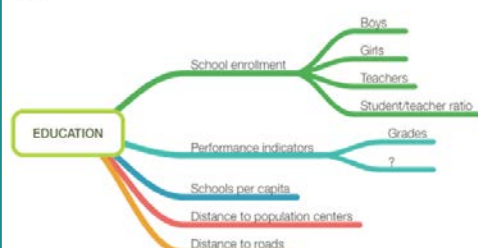
Arrange data in ascending/descending order.

The blue highlight indicates the area is selected. The area selected will change data displayed in PLOT, ENROLLMENT BY GRADE and VIEW DATA.

VIEW MAP OF TURKANA COUNTY

Zoom in (click +) and out (click ·) of the map here.

Alternatively double-click to zoom in, or use your mouse to pan (move) the map.

From the dropdown menu, select the region within Turkana County to view schools in that region.

The map shows all schools in the Turkana County.

Hide the labels (school names) by unticking here. Location correlates with the selection in the table.

FLOW CHART DESCRIBING EDUCATION DASHBOARD

PARTICIPANT FEEDBACK

A key challenge for the Ministry is capturing data for ECD centres and progression to primary and secondary schools. A consultant is under procurement to get this data.

The tool would be really useful to allow us to capture enrollment rates of ECD centres, and staffing of schools and where the gaps are and show this visually. The tool can also help show us the number of school age children not going to school.

We also need to capture data on special needs children and children with disabilities.

The tool could help us with bursary allocation and be able to monitor how many and where bursaries have been given out.

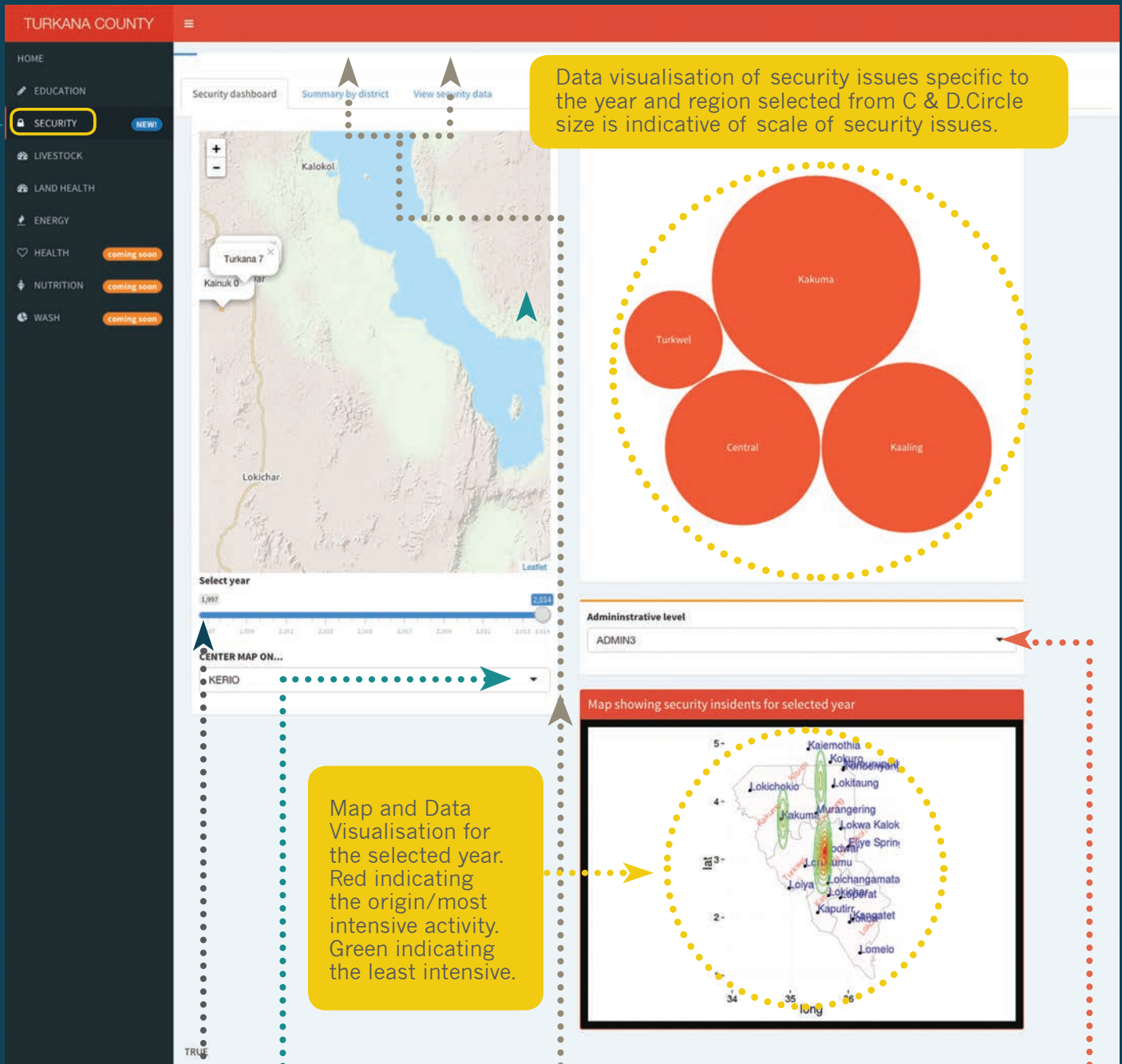
MINISTRY OF EDUCATION, CULTURE AND SOCIAL SERVICES

EDUCATION

Education is a basic human right. Like all human rights, it is universal and inalienable—everyone, regardless of gender, religion, ethnicity or economic status, is entitled to it (http://www.unicef.org/education/index_44870.html) The benefits of education—for national development, individual prosperity, health and social stability—are well known, but for these benefits to accrue children in school have to be learning. Despite commitments and progress in improving access to education at the global level, including Millennium Development Goal (MDG) 2 on universal primary education and the Education for All (EFA) Goals, levels of learning are still too low (LMTF, 2014). In Kenya, nationally there has been an overall increase in the number of children and youth accessing education – as per EMIS 2014 the Net Enrolment Rate (NER) has increased from 80.3% in 2003, to 85.2% NER in 2014. However regional disparities remain, especially in the Arid and Semi-Arid areas (ASALs) and in refugee camps. Children and adolescents from these areas have the lowest enrolment numbers, particularly for girls, high dropout rates and poor infrastructural development, high pupil teacher ratio, high pupil textbook ratio. Children, adolescents and youth are leaving school without the minimum competencies and the necessary skills and knowledge. In Turkana, the NER stands at 59% with 119,494 (57% girls) school-aged children out of school. These statistics do not take into account disparities between urban and rural areas.

SECURITY DASHBOARD

Data visualisation of security issues specific to the year and region selected from C & D.Circle size is indicative of scale of security issues.

Map and Data Visualisation for the selected year. Red indicating the origin/most intensive activity. Green indicating the least intensive.

STEP 1

Click and drag the slider to **select the year** of interest.

STEP 2

Click here to **select location** from the dropdown menu.

STEP 3

Click here to view data by district as a **graph** or to view **all data pertaining to security** from 1997 - 2014.

STEP 4

Click here to select your **administrative level** from the dropdown menu

CENTER MAP ON...

KERIO

KIBISH
LOKICHAR
LOKICHOGGIO
LOKITAUNG
LOKORI
LOMELO
OROPOI

Variable for *area* where you would like the map to center on

Refine data by entering key words in here

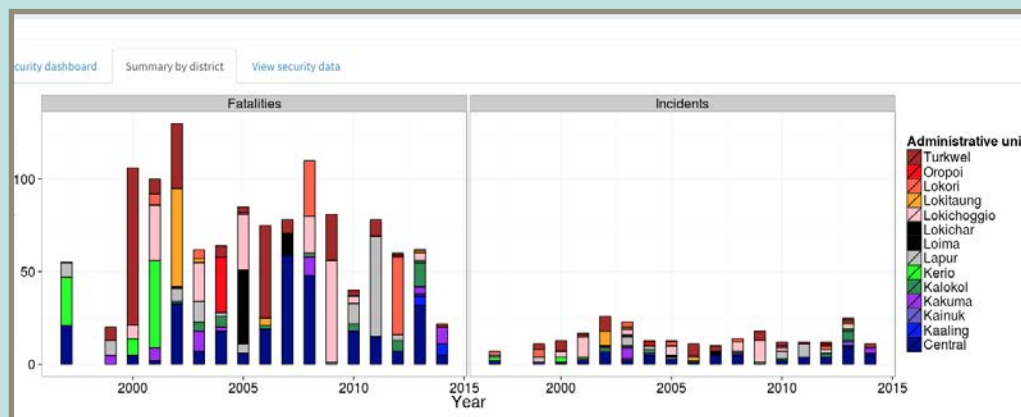
VIEW SECURITY DATA FOR TURKANA COUNTY

Security dashboard   Summary by district   View security data

Show 50 ⇕ entries   Search: [   ]

Security incidences in Turkana district. Source: ACLED (http://www.acleddata.com)

EVENT_DATE	YEAR	EVENT_TYPE	ACTOR1	ACTOR2	ADMIN3	LOCATION	SOURCE	FATALITIES
10/1/1997	1997	Violence against civilians	Police Forces of Kenya (1978-2002)	Civilians (Kenya)	Lokori	Suguta Valley	BBC Monitoring Service: Africa	0
10/1/1997	1997	Violence against civilians	Police Forces of Kenya (1978-2002)	Civilians (Kenya)	Lokori	Suguta Valley	BBC Monitoring Service: Africa	0
18/02/1997	1997	Violence against civilians	Unidentified Armed Group (Ethiopia)	Civilians (Kenya)	Lapur	Todenyang	BBC Monitoring Service: Africa	8
5/5/1997	1997	Battle-No change of territory	Pokot Ethnic Militia (Kenya)	Marakwet Ethnic Militia (Kenya)	Kerio	Kerio	Reuters News	19
5/5/1997	1997	Battle-No change of territory	Unidentified Armed Group (Kenya)	Police Forces of Kenya (1978-2002)	Kerio	Kerio	Reuters News	7
19/09/1997	1997	Violence against civilians	Unidentified Armed Group (Uganda)	Civilians (Kenya)	Central	Turkana	BBC Monitoring Service: Africa (25/09/1997)	10
20/09/1997	1997	Violence against civilians	Unidentified Armed Group (Uganda)	Civilians (Kenya)	Central	Turkana	BBC Monitoring Service: Africa (25/09/1997)	11

SUMMARY BY TURKANA COUNTY DISTRICT (ALL DATA)

The tool is based from an online source, therefore allowing for real-time updates of the data. The tool is programmed to automatically update itself.

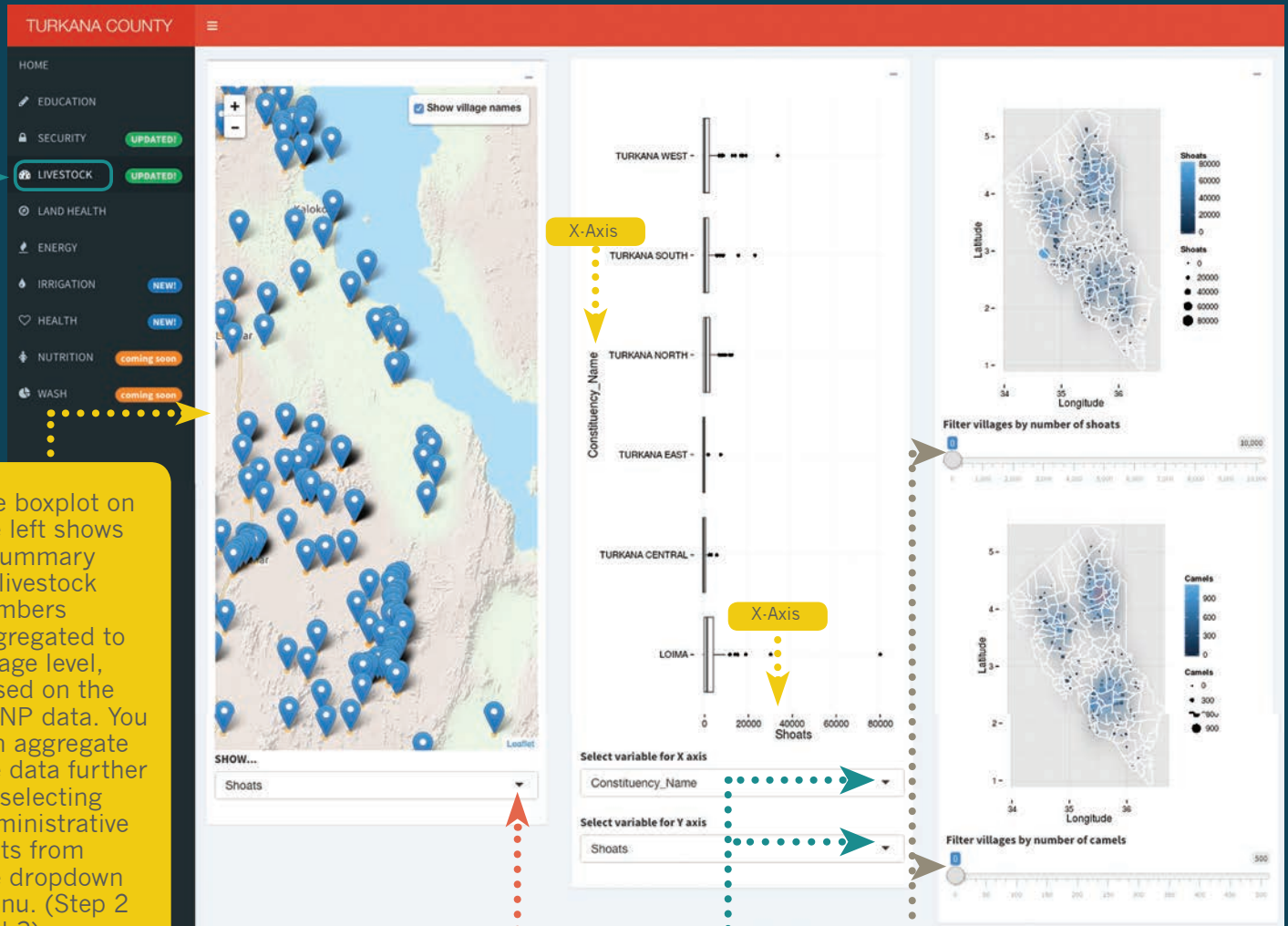
Admininstrative level

ADMIN3

ADMIN3
LOCATION

Variable for *Administrative level*: ADMIN2/LOCATION.

LIVESTOCK DASHBOARD

The boxplot on the left shows a summary of livestock numbers aggregated to village level, based on the HSNP data. You can aggregate the data further by selecting administrative units from the dropdown menu. (Step 2 and 3)

X-Axis

X-Axis

STEP 1

Click here to **select livestock** type from the drop down menu. See it reflected on the map above.

STEP 2

Click here to select variable from the dropdown menu for X-Axis and Y-Axis

STEP 3

Click and slide here to select **filter villages by animal numbers** from the dropdown menu.

SHOW...

Camels ▲
Shoats
Camels

Variable for *Map*: Shoats / Camels.

Select variable for X axis

Constituency_Name ▲

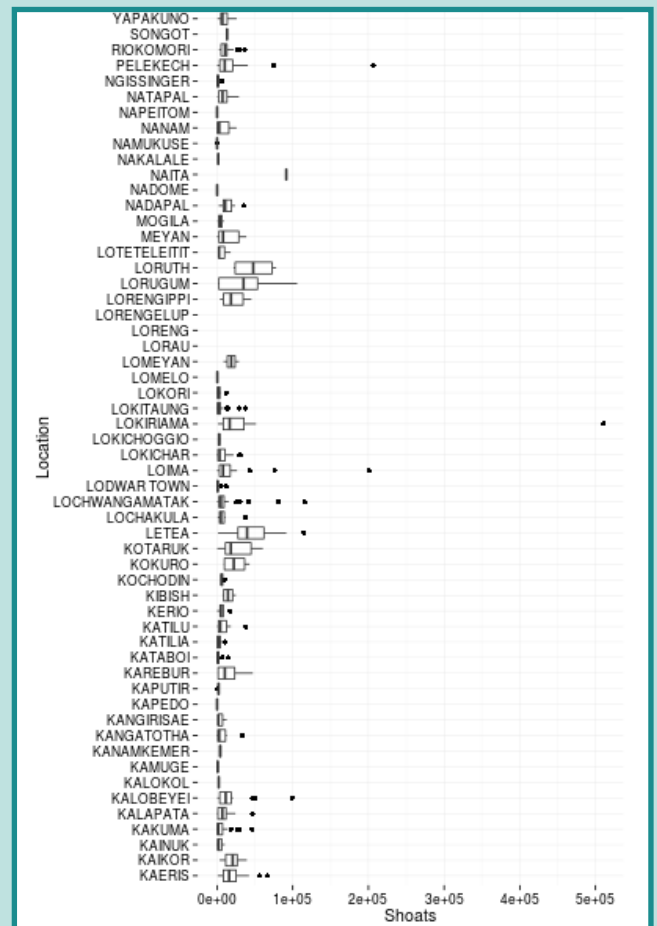
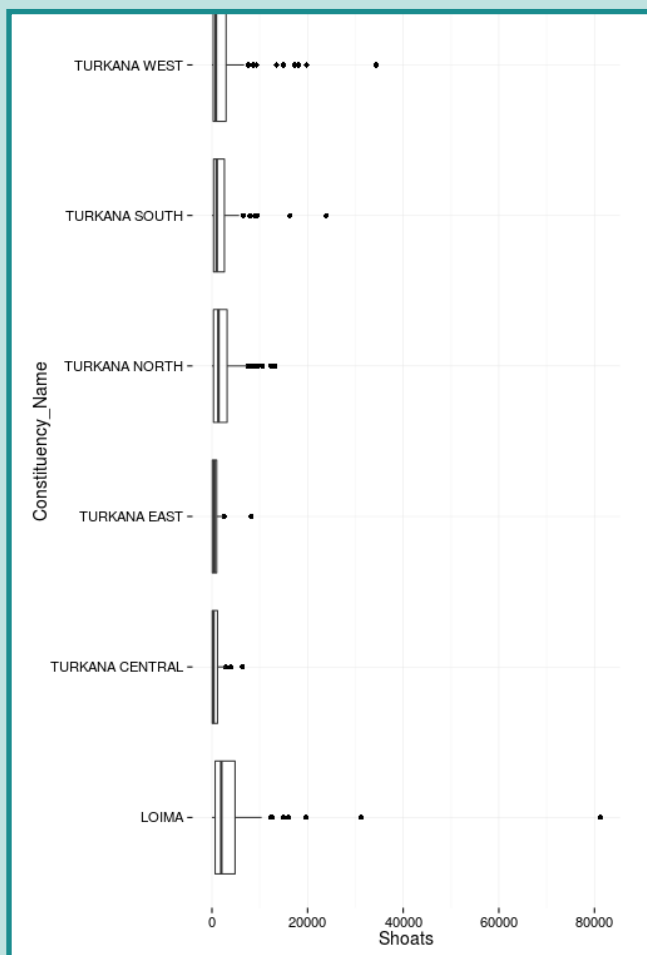
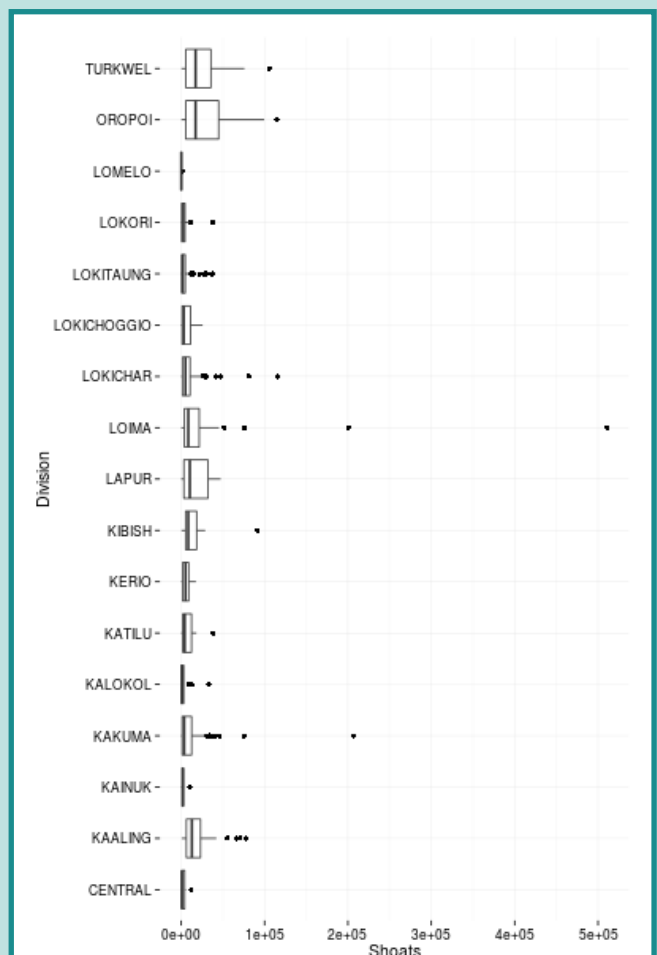
Constituency_Name
Division_Name
Location_Name

Variable for *X-Axis*: Constituency Name / Division Name / Location Name.

Select variable for Y axis

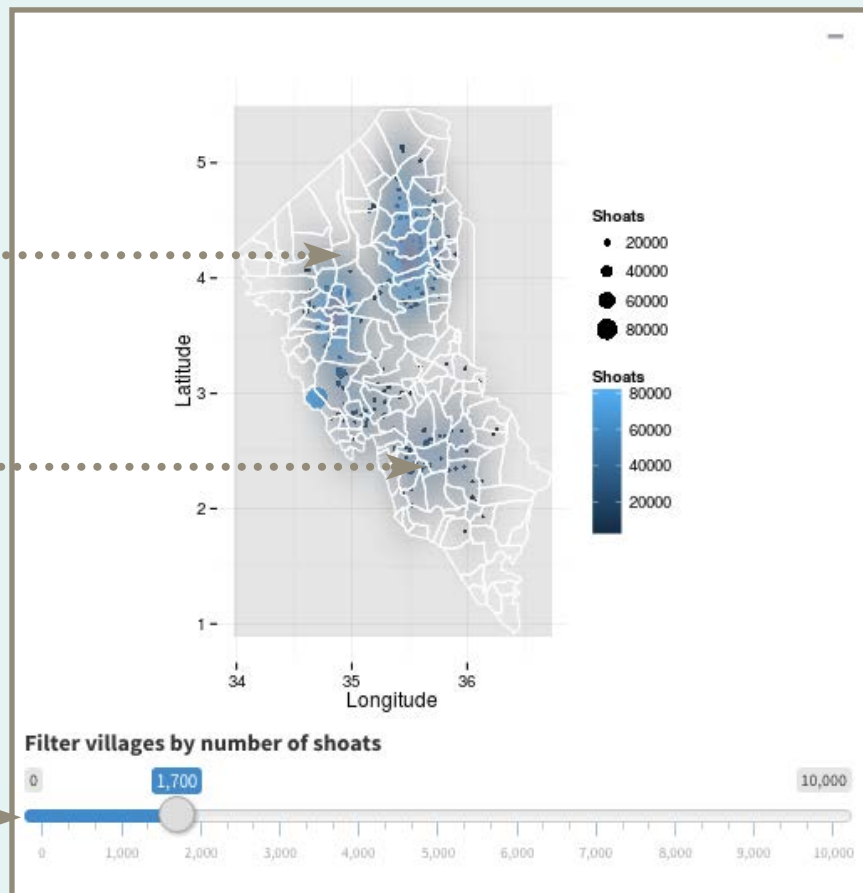
Shoats ▲

Camels
Shoats

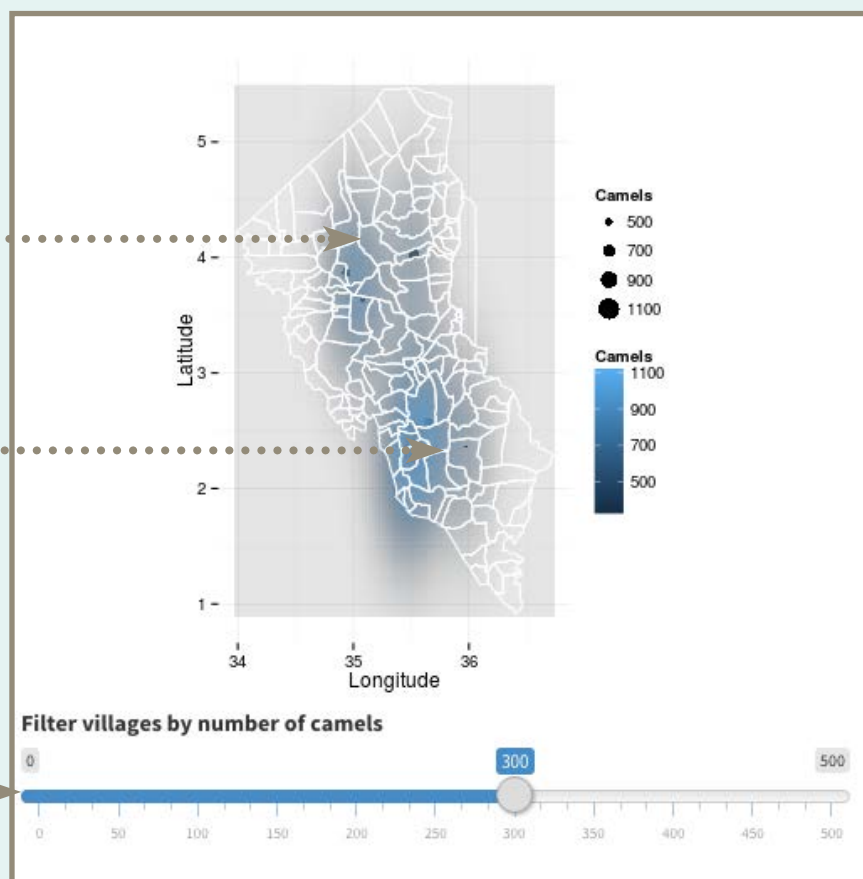
Variable for *Y-Axis*: Camels / Shoats

Data Visualisation for Location Name

Data Visualisation for Constituency Name

Data Visualisation for Division Name

The lighter the blue the more dense the number of shoats.

The larger the point the more dense the number of shoats.

Click and drag on the slider to select the number of shoats.

The lighter the blue the more dense the number of camels.

The larger the point the more dense the number of camels.

Click and drag on the slider to select the number of camels.

PARTICIPANT FEEDBACK

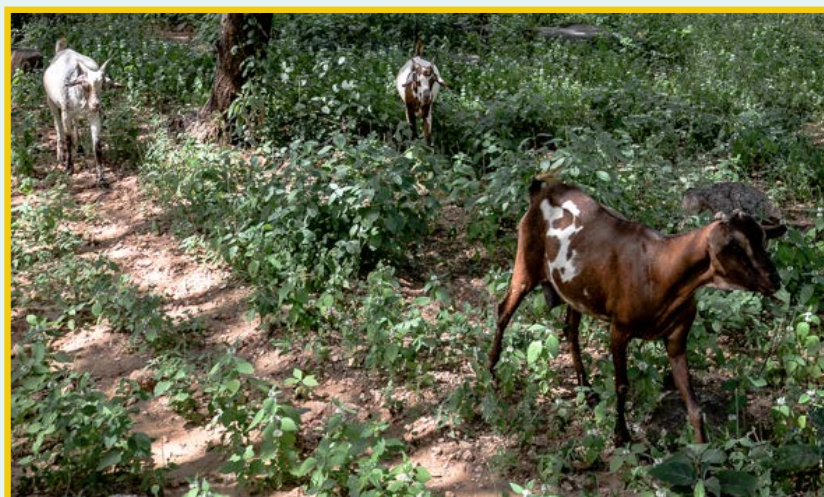
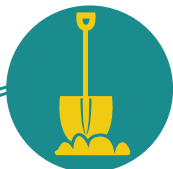
The concept of the tool is impressive it can be very good for planning and deciding the feasibility of an action to be implemented that will reduce vulnerability to drought and climate change.

72% of Turkana is dependent on livestock – this needs to be factored into the livestock module. Data needs to be sourced and integrated into module.

MINISTRY OF PASTORAL ECONOMIES AND FISHERIES

(iii) Fishing folk : 8%
(iv) Peri-urban : 16%
ALTITUDE: 400-2100M A.S.L
RAINFALL PATTERN: BI MODAL
LONG RAIN SEASON: MARCH-MAY
SHORT RAIN SEASON: OCT-DECEMBER
TEMPERATURE RANGE: 24-41°C
NUMBER OF HOUSEHOLDS: 139,067

LIVESTOCK POPULATION — TURKANA DISTRICT

Year/Livestock Species	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Cattle	200,000	200,000	234,420	175,815	175,815	193,600	193,600	197,900	197,900	197,900	197,900	43,640	1,534,612
Goats	2,600,000	2,750,000	3,252,150	1,626,000	1,626,000	1,951,200	1,951,200	2,021,000	2,021,000	2,021,000	2,021,000	410,000	5,994,881
Sheep	916,667	916,667	1,084,050	813,027	813,027	975,600	975,600	1,054,400	1,054,400	1,054,400	1,054,400	214,190	3,517,174
Camels	115,000	115,000	144,960	138,000	138,000	140,760	140,760	172,400	172,400	172,400	172,400	34,440	852,462
Donkeys	33,000	33,400	42,830	32,000	32,000	32,640	32,640	35,160	35,160	35,160	35,160	7,570	558,189
Poultry	9760	9851	9856	10,030	10,030	12056	11,651		12,200	12,835	114,15	10,515	180,792
Hives	727	727	8,964	9,407	9,472	10,114	10,132	10,134	10,201	10,393	10,623		3,633

LANDHEALTH DASHBOARD

TURKANA COUNTY ≡

HOME

✏ EDUCATION

🔒 SECURITY **UPDATED!**

🐏 LIVESTOCK **UPDATED!**

◎ LAND HEALTH

⚡ ENERGY

💧 IRRIGATION **NEW!**

♡ HEALTH **NEW!**

🍴 NUTRITION **coming soon**

💧 WASH **coming soon**

Lokwa Kalokol

Eliye Springs

Lodwar

Lorukumu

Loichangamata

○ Satellite image
○ Terrain and infrastructure
☑ Towns
☑ Administrative

Leaflet

You can tailor how you view the map by checking and unchecking the options here.

Click on the interactive map (top) to display maps of land health indicators and vegetation performance diagnostics. Shift+drag a window in the map to zoom into your area of interest. Click and drag on the map to pan/move to a different location.

Once you click on the map, a set of indicators are extracted for a 25 square km area around where you clicked. You can explore these indicators below.

Land health status | Erosion | pH | Soil organic carbon (SOC) | Vegetation condition

STEP 1

Click on area of interest on the map to get **specific information on land health** of that location

STEP 2

Once you've selected an area of interest on the map, you can see an **overview of indicators** specific to the soil in the selected area

STEP 3

For specific information on the **Erosion, pH levels, soil organic carbon and vegetation condition**, select the relevant tab here

LAND HEALTH STATUS

Land health status | Erosion | pH | Soil organic carbon (SOC) | Vegetation condition

7.6 Soil pH

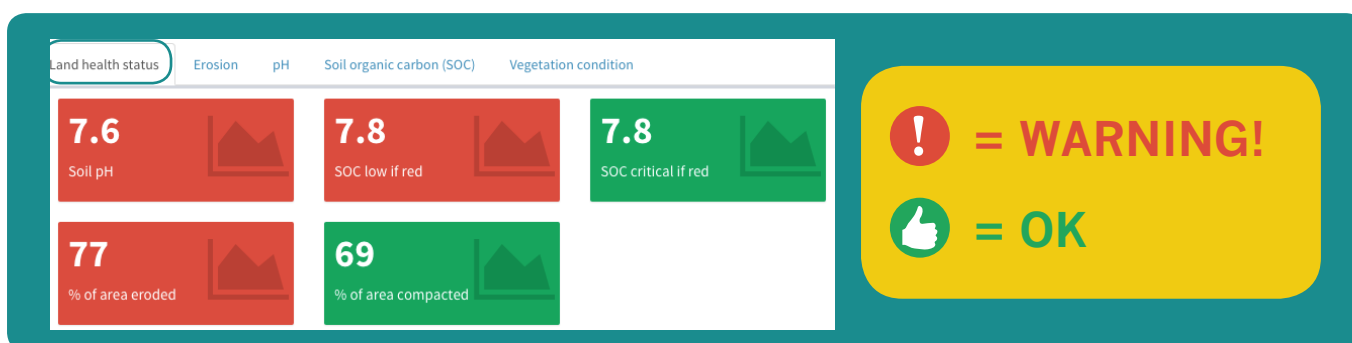
7.8 SOC low if red

7.8 SOC critical if red

77 % of area eroded

69 % of area compacted

⚠ **= WARNING!**

👍 **= OK**

EROSION - GRAPH AND VISUALISATION OF DATA SPECIFIC TO SELECTED AREA

Soil erosion is an important indicator of land health. It can be the result of a number of processes, including:

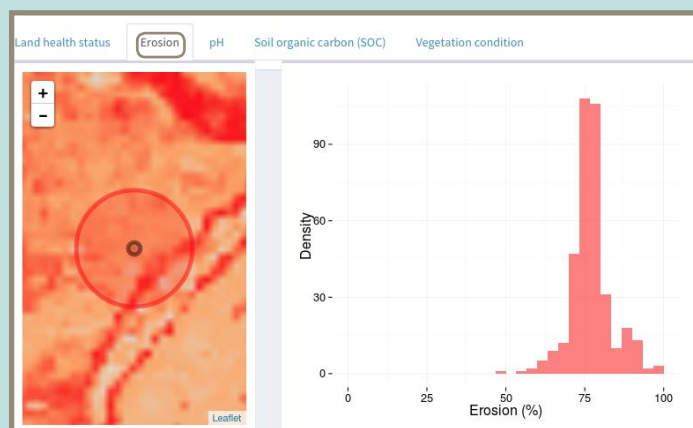
- cultivation
- over-grazing
- invasive species
- inherent soil properties (e.g. high pH)
- poor drainage or infiltration capacity

When erosion is severe, it leads to the loss of productive topsoil and also the loss of seed stocks in the soil, especially for grasses. The result is that the grasses do not grow back even when there are good rains.

THE MAP

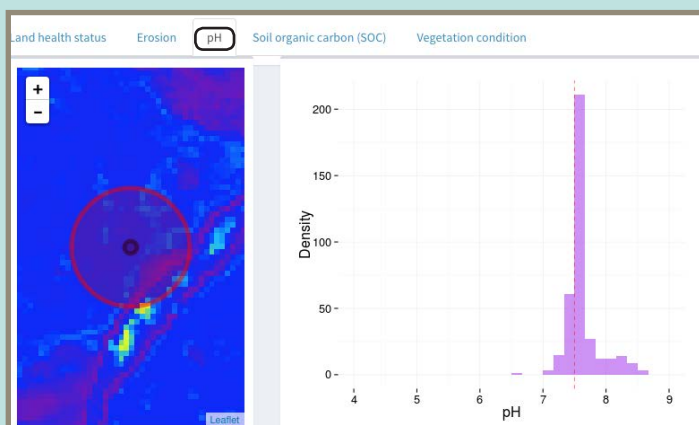
Shows predictions of erosion for an area around the point you clicked on in the map (TOP). Red indicates erosion >75%, which is very high. Black indicates no/low erosion.

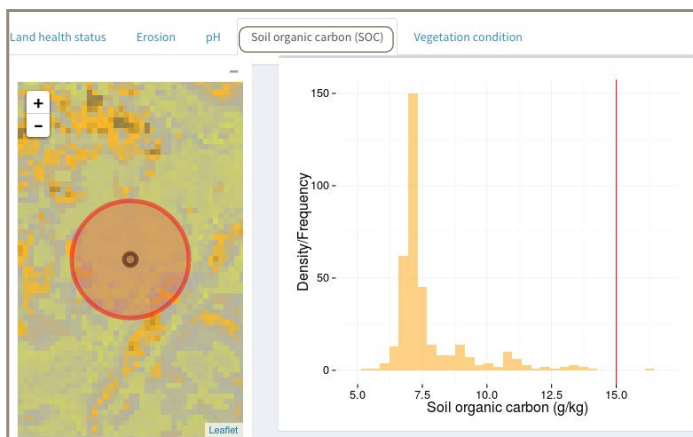
THE GRAPH

Shows the distribution of erosion values within the circle on the erosion map.

PH - GRAPH AND VISUALISATION OF DATA SPECIFIC TO SELECTED AREA

Soil pH is an important indicator of soil health. In the case of Turkana, soils have inherently high pH values. When pH values are higher than 7.5, the soil is generally considered alkaline. At values higher than 8 there is considerable risk of salinisation.

THE MAP

Shows predictions of pH for an area around the point you clicked on in the map (TOP). Red indicates low erosion (<5); green-blue between 5 and 7.5; purple higher than 7.5.

SOIL ORGANIC CARBON - GRAPH AND VISUALISATION OF DATA SPECIFIC TO SELECTED AREA

Soil organic carbon (SOC) is an important indicator of soil health, but also regulates a number of other ecosystem functions. These include hydrology (e.g. infiltration capacity). When SOC values are lower than 15 g/kg, this is generally considered low SOC, however it is when values drop below 5 g/kg that we have critically low SOC in the soil.

THE MAP

Shows predictions of SOC for an area around the point you clicked on in the map (TOP). Yellow indicates low SOC (<5) while brown shows higher SOC.

THE GRAPH

Shows the distribution of SOC values within the circle on the SOC map. The vertical red line shows the 15 g/kg threshold.

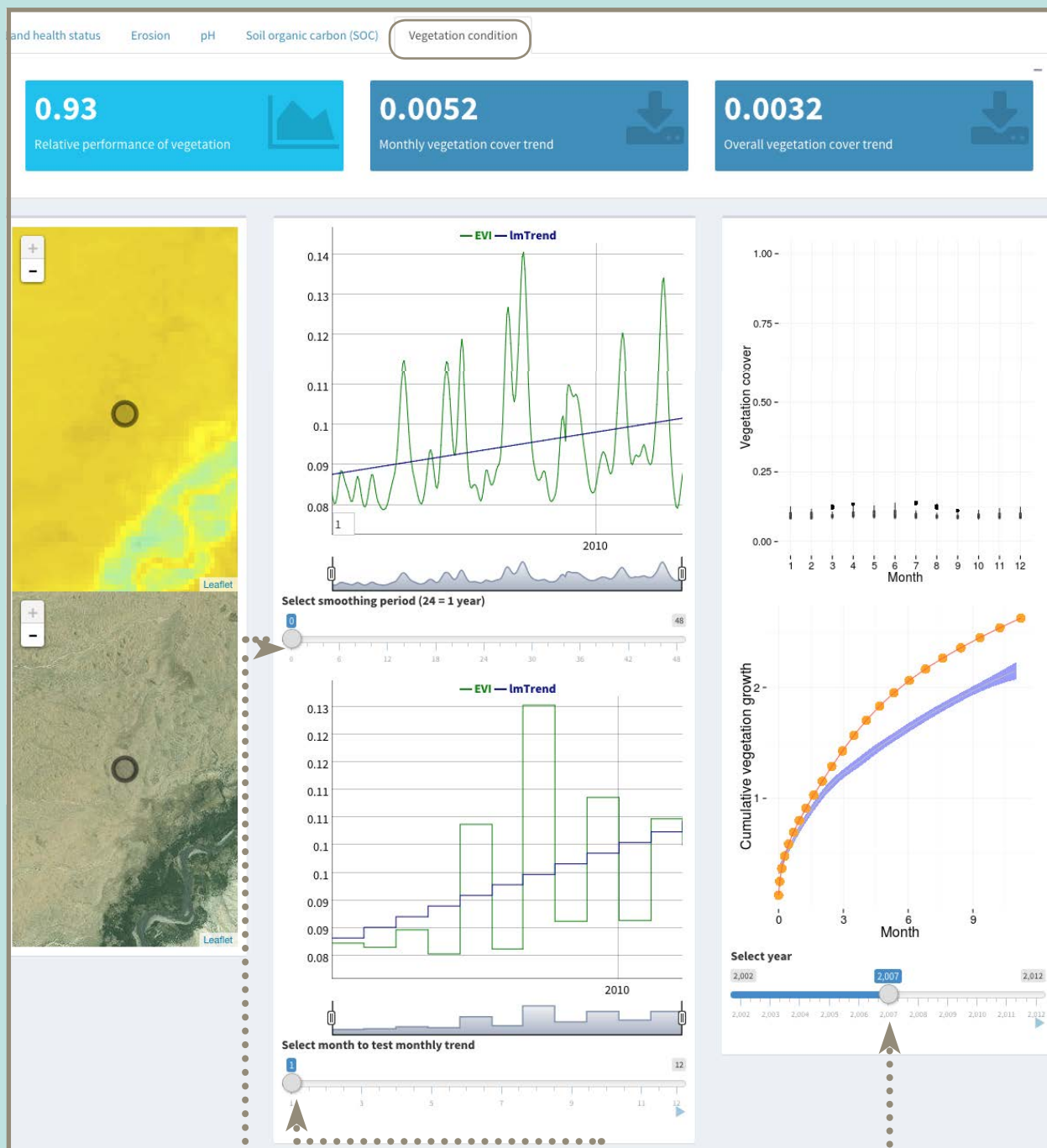
PARTICIPANT FEEDBACK

The Ministry has the responsibility to ensure Turkana is water and food secure, the tool has showed how important a knowledge of soils and water is in the region

The main concern is management, as GIS projects in the past (e.g. FAO, OXFAM) have failed to capitalize on a huge investment. Need to be clear from the outset who is the custodian of the database and training and access on who has the right to enter into the system and upload information.

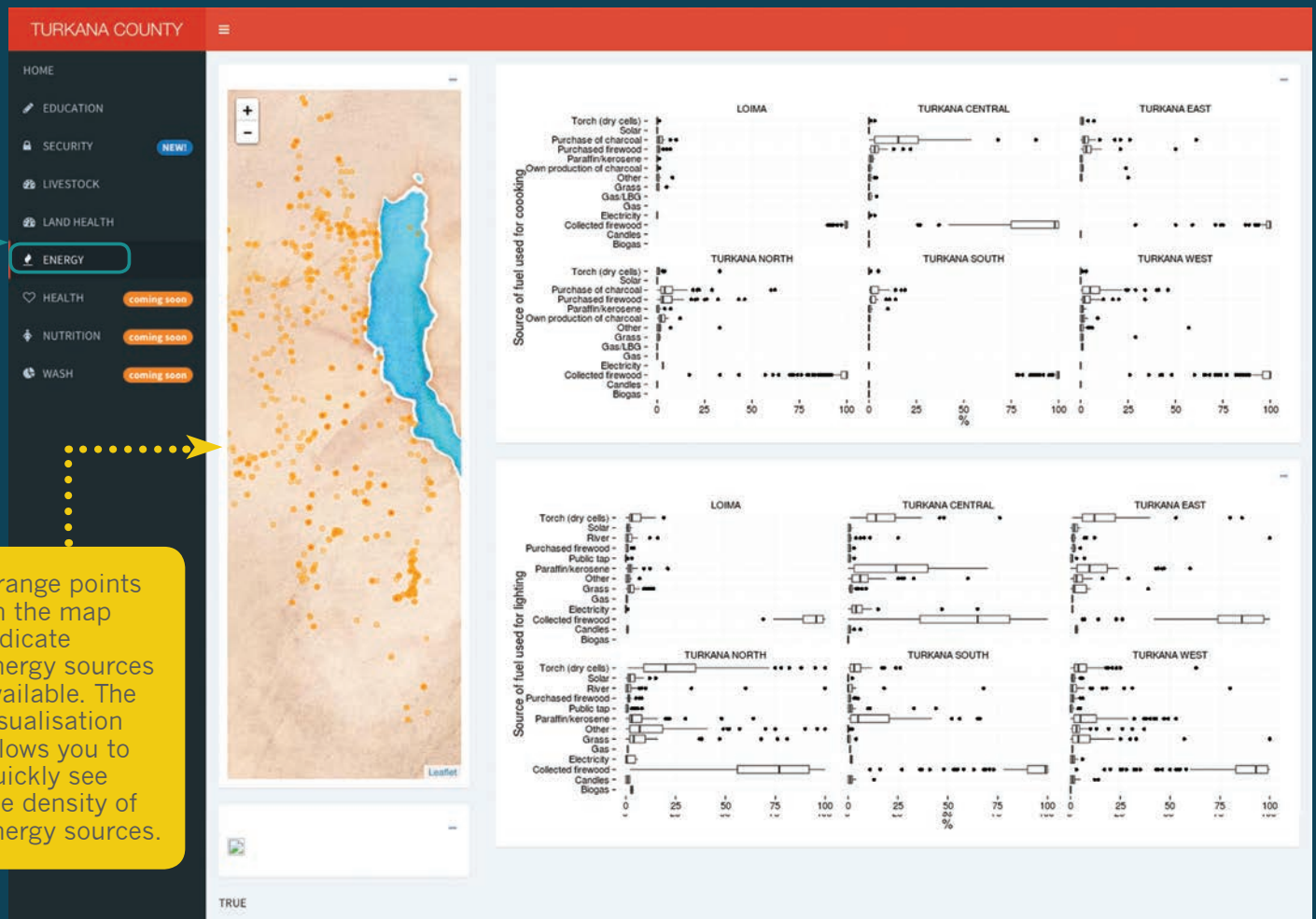
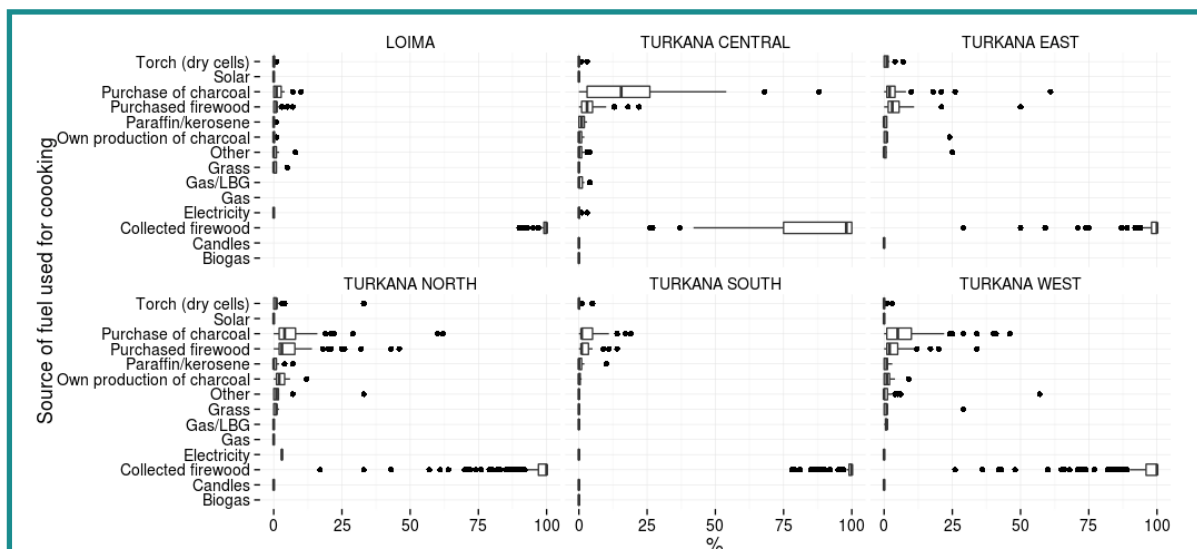
The tool is valuable to give evidence when trying to co-ordinate as this is such a big factor. One hundred plus NGOs operate in Turkana with low sustainability of projects as things such as water points are placed in locations not advised by evidence. The tool could help co-ordinate where there are missing water pints and be able to help co-ordinate the water sector.

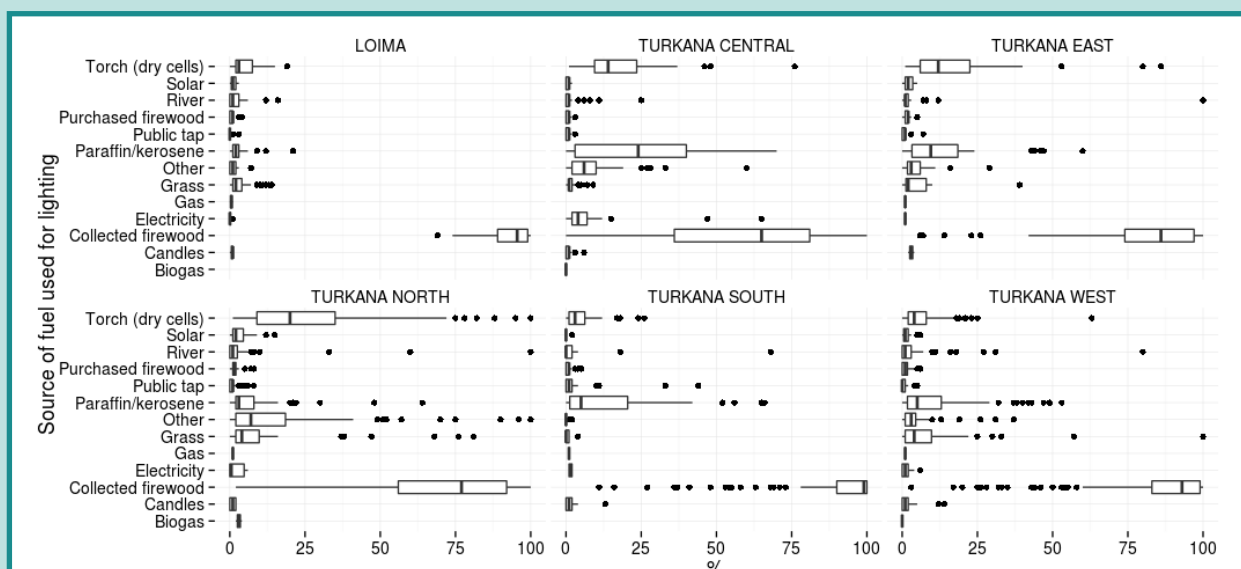
MINISTRY OF WATER, IRRIGATION AND AGRICULTURE

VEGETATION CONDITION - GRAPH AND VISUALISATION OF DATA SPECIFIC TO SELECTED AREA

Turkana Government Sector feedback on Diagnostic Dashboard Facilitated by Philip Aemun UNICEF

ENERGY MODULE 6

ENERGY DASHBOARD

Orange points on the map indicate energy sources available. The visualisation allows you to quickly see the density of energy sources.

DATA VISUALISATION FOR FUEL SOURCE USED FOR COOKING

View the breakdown of various energy sources in various Turkana districts for **COOKING PURPOSES**. This graph will help identify the energy sources that is most prevalent to a specific area within Turkana County, and compare energy sources to other areas.

DATA VISUALISATION FOR FUEL SOURCE USED FOR LIGHTING

View the breakdown of various energy sources in various Turkana districts for LIGHTing PURPOSES. This graph will help identify the energy sources that is most prevelant to a specific area within Turkana County, and compare energy sources to other areas.

PARTICIPANT FEEDBACK

It would also allow us to map where access to energy is inadequate, and levels and locations of access to green energy and electricity

The tool has great potential to reduce conflict between each Ministry and grow a spirit of solidarity and integration

The ratio of girls and boys able to access education through lighting systems maybe one correlation we could perform with the tool

An issue is prosopis and how to use it to produce more sustainable energy, it would be very useful to map tree cover and location of prosopis

Turkana has an active extractive industry with the discovery of crude oil. If we as the government could know how many wells have been drilled and our potential for crude oil production we could plan ahead of time. We have no mapping of minerals.

'Sexy' way to show our data – we as the people of the Ministry have had our interest cultivated

MINISTRY OF ENVIRONMENT, ENERGY AND NATURAL RESOURCES

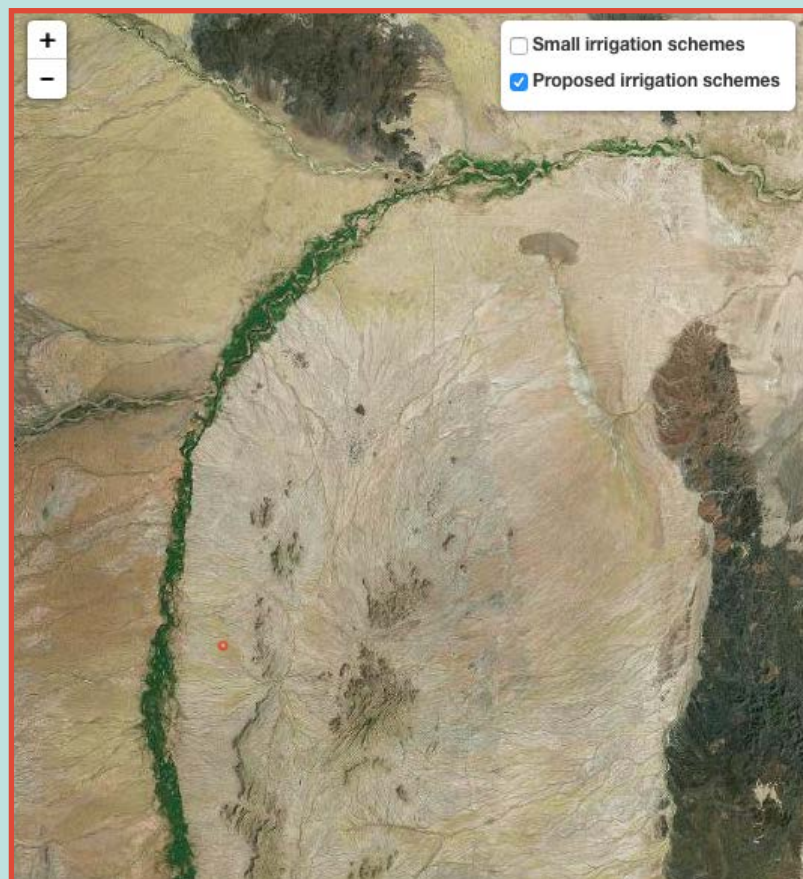
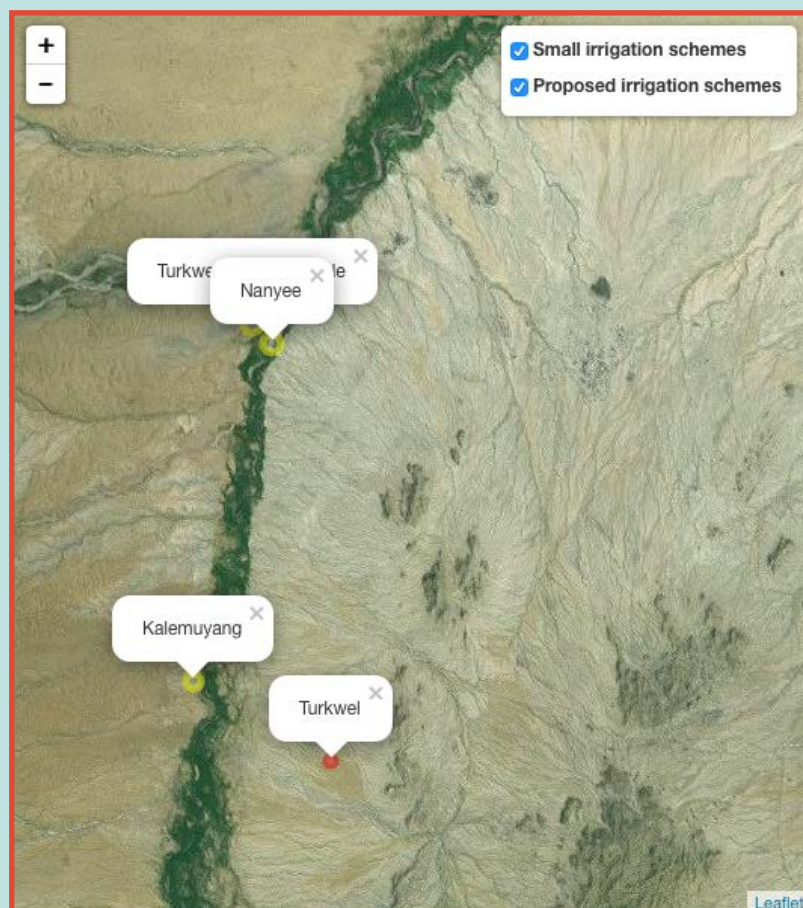
IRRIGATION DASHBOARD

Export, copy, print save this table of data here:

Search for area here:

Arrange data in ascending / descending order.

The blue highlight indicates the area is selected. The area selected will change data displayed in PLOT, ENROLLMENT BY GRADE and VIEW DATA.

VIEW THE TURKANA COUNTY MAP WITHOUT THE SMALL IRRIGATION SCHEMES LABELS

VIEW THE TURKANA COUNTY MAP WITH THE SMALL IRRIGATION SCHEMES LABELS

HEALTH MODULE 8

HEALTH DASHBOARD

TURKANA COUNTY ≡

- HOME
- ✏ EDUCATION
- 🔒 SECURITY `UPDATED!`
- 🐄 LIVESTOCK `UPDATED!`
- ⊚ LAND HEALTH
- ⚡ ENERGY
- 💧 IRRIGATION `NEW!`
- ♡ HEALTH `NEW!`
- 🚶 NUTRITION `coming soon`
- 🌓 WASH `coming soon`

○ ESRI Street Map
○ Stamen background
☑ HIV

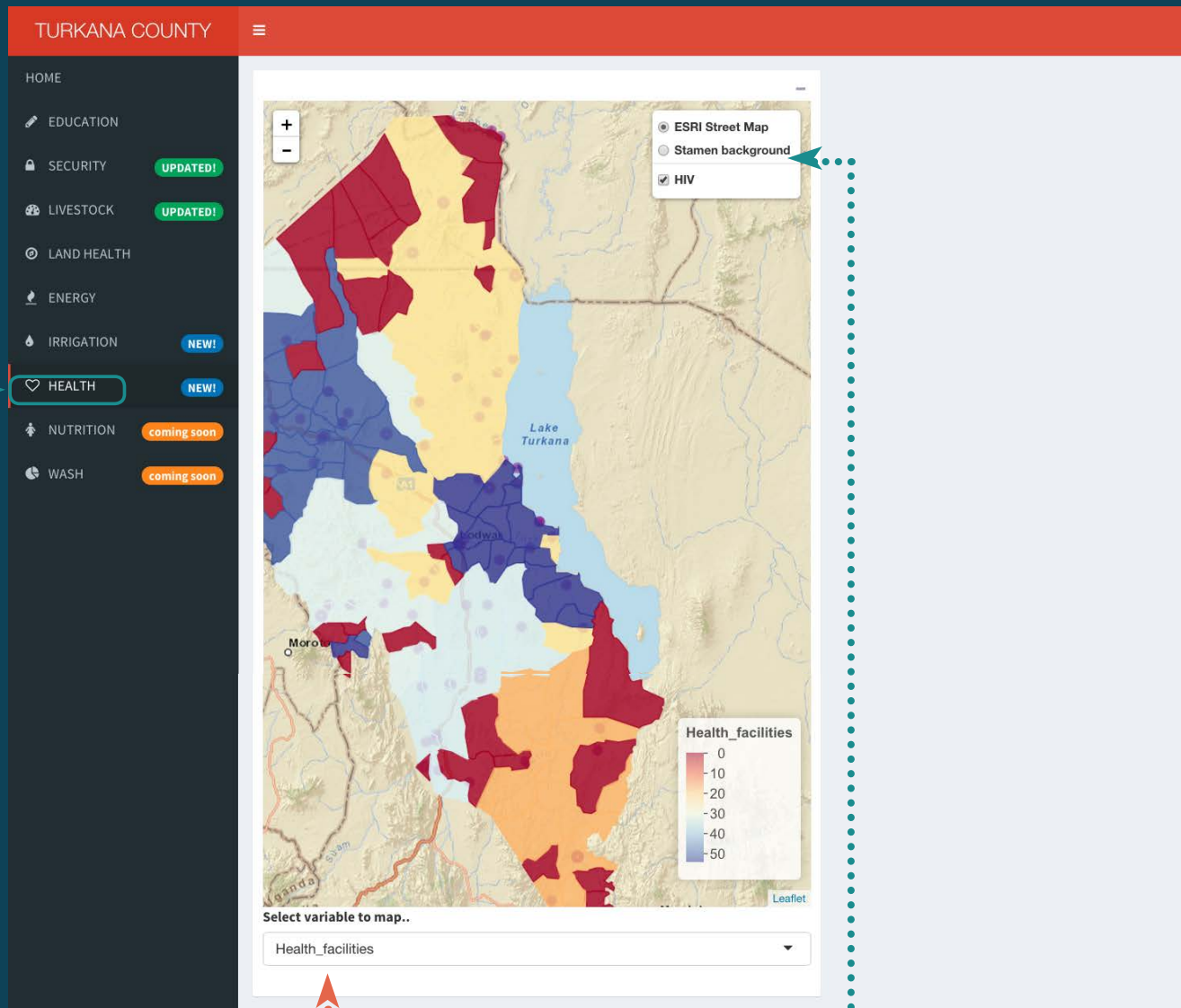
Lake Turkana

Moroto

Health_facilities
- 0
- 10
- 20
- 30
- 40
- 50

Leaflet

Select variable to map..

Health_facilities ▼

STEP 1

Select Turkana County **health variable** from the drop down menu here.

STEP 2

Select your **prefered view** of the Turkana County Health Map (see opposite page).

STEP 3

View graphs and tables to view health data relating to your selected variable (see overleaf).

Select variable to map..

Health_facilities

Health_facilities

Health_facilities_HIV

Children_HIV

Children_HIV_Care

Children_HIV_ART

Adults_HIV

Adults_HIV_Care

Adults_HIV_ART

Variable for *Map*: Health facilities / Health facilities HIV / Children HIV / Children HIV Care / Children HIV ART / Adults HIV / Adults HIV Care / Adults HIV ART.

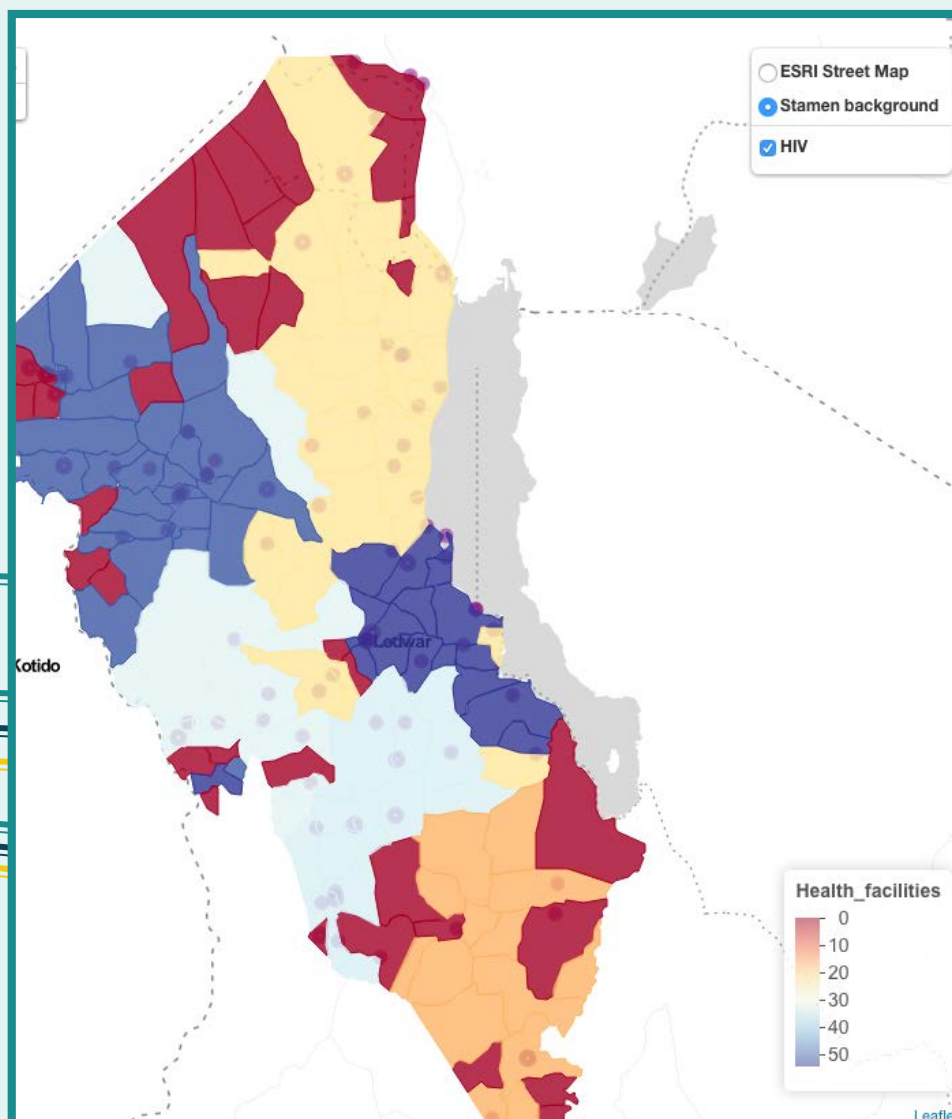
VIEW THE TURKANA COUNTY HEALTH MAP WITH STAMEN BACKGROUND

ESRI Street Map
Stamen background
HIV

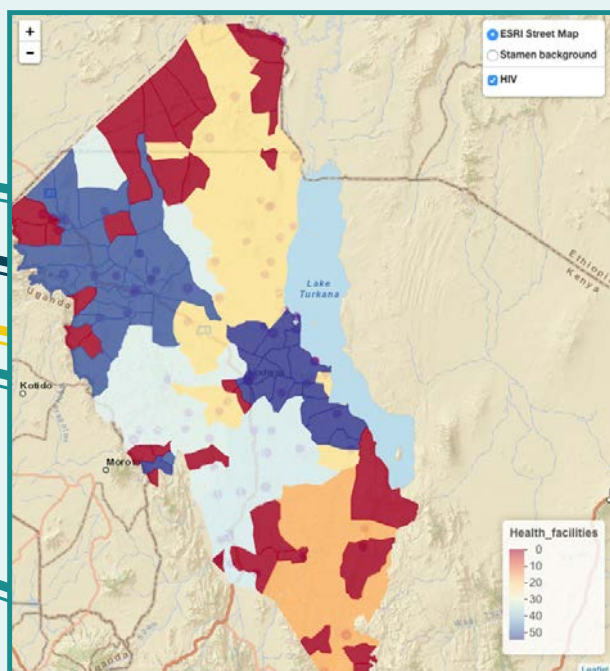
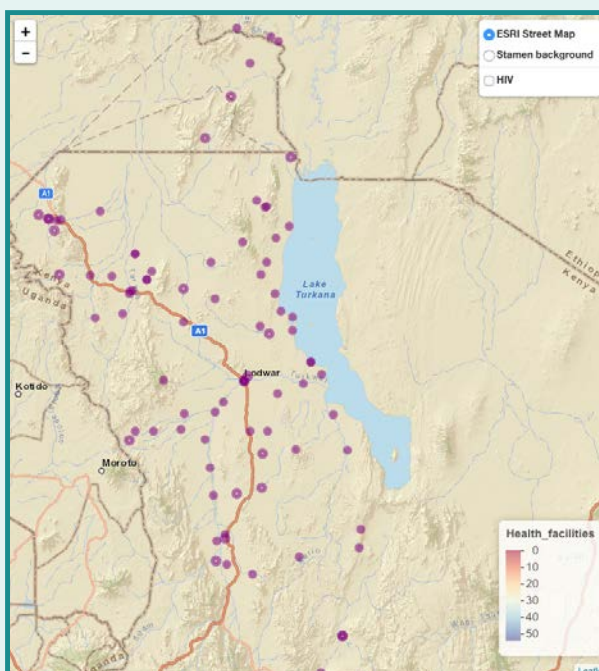
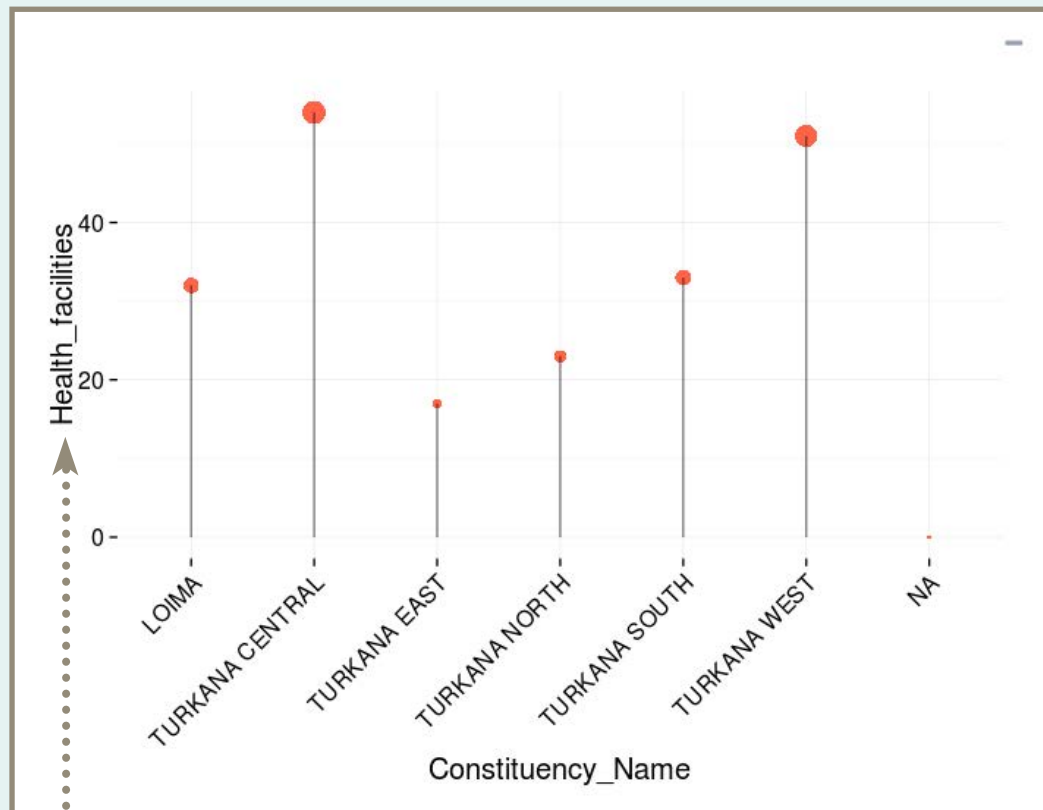
Kotido

Lodwar

Health_facilities
- 0
- 10
- 20
- 30
- 40
- 50

Leaflet

HIV / AIDS

The risk of becoming infected is disproportionately higher for girls and young women. In Kenya, HIV prevalence among young women aged 20 to 24 years is 4.6 percent, which is more than three times higher than among men of the same age (1.3%). Adequate information can change attitudes and behaviours related to HIV markedly. Evidence shows that adolescents and young people are less likely to be vulnerable to HIV when they are offered relevant gender-sensitive prevention information, skills and services in an enabling and protective environment. The lower HIV prevalence in girls 15-19 years (1.1% girls and 0.9% for boys) is a promising sign for prevention efforts. This age group provides a 'window of opportunity' for halting the spread of HIV infection if younger girls are empowered with life skills, HIV and other health services and provided with a protective family and community environment. The proportion of young people aged 15 to 19 years with comprehensive knowledge of HIV prevention, however, is still low and stands according to the 2014 KDHS at 57.7 percent for young men and 49 percent for young women 15-19 years Drawn from text at http://www.unicef.org/esaro/5482_HIV_prevention.html; KDHS 2014

VIEW THE TURKANA COUNTY HEALTH MAP AS ESRI STREET MAP

VIEW THE TURKANA COUNTY HEALTH MAP WITH HIV INDICATORS

VIEW THE DATA OF YOUR SELECTED VARIABLE RELEVANT TO CONSTITUENCY.

Your variable selected from the drop down list will appear here.

VIEW DATA OF ALL VARIABLES IN TABLE FORMAT.

Show 10 ⇕ entries

Copy | CSV | Excel | Print

Search:

HIV data by constituency

Constituency_Name	Health_facilities	Health_facilities_HIV	Children_HIV	Children_HIV_Care	Children_HIV_ART	Adults_HIV	Adults_HIV_Care
LOIMA	32	5	722	39	29	5580	150
TURKANA CENTRAL	54	10	811	302	289	6266	2597
TURKANA EAST	17	4	545	24	20	4209	179
TURKANA NORTH	23	6	414	88	60	3198	279
TURKANA SOUTH	33	8	818	62	54	6324	425
TURKANA WEST	51	10	1477	137	132	11415	1499
	0	0	0	0	0	0	0

Showing 1 to 7 of 7 entries

Previous | 1 | Next

Arrange data in ascending / descending order.

Search for area here:

Export, copy, print save this table of data here:

WATER SANITATION AND HYGIENE MODULE

TURKANA COUNTY ≡

HOME

EDUCATION **UPDATED!**

SECURITY **UPDATED!**

LIVESTOCK **UPDATED!**

LAND HEALTH

ENERGY

IRRIGATION **NEW!**

HEALTH **NEW!**

NUTRITION **NEW!**

WASH **BETA!**

Show 50 entries

Copy | CSV | Excel | Print

Search:

UNICEF WASH

VILLAGES_N	DIVISION	CLTS.Facilitators	CHEW.Facilitators	Trained.Facilitators	Triggere
21	NANAM	1	1	1	
25	OROPOI	2	2	1	
12	LOKICHOGGIO	1	2	1	
60	KAKUMA	3	3	1	
73	LOKITAUNG	3	3	3	
16	KATABOI	1	1	1	
76	KAALENG	2	2	2	
143	TURKWEL	6	6	6	
132	LOIMA	2	1	2	
9	LAPUR	1	1	1	
23	KAIKOR	1	1	1	

Showing 1 to 20 of 20 entries

Previous | 1 | Next

STEP 1

Find your **division of interest** by scrolling through the list here.

STEP 2

Find the **relevant data** to that division here.

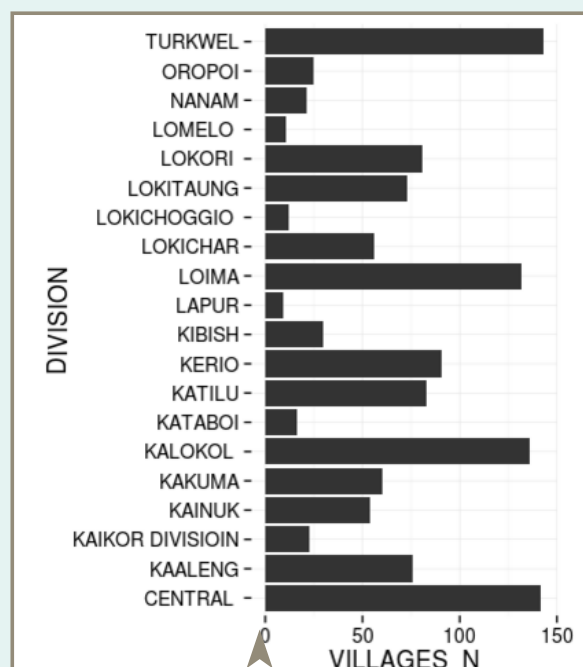
STEP 3

Select Variable from the graph on the right (see opposite.

Select variable

VILLAGES_N

- VILLAGES_N
- CLTS.Facilitators
- CHEW.Facilitators
- Trained.Facilitators
- Triggered
- ODF.Claimed
- DPHO.Verified
- Certified

Variable for **Division**: VILLAGES_N/ CLTS. Facilitators / CHEW. Facilitators / Trained Facilitators / Triggered / ODF Claimed / DPHO Verified/ Certified

Export, copy, print save this table of data here:

See the **relevant data for your selected variable** reflected in the gaph in relation to Turkana County Division

Search for area here:

Arrange data in ascending / descending order.

Show 50 entries

Copy CSV Excel Print

Search:

UNICEF WASH

VILLAGES_N	DIVISION	CLTS.Facilitators	CHEW.Facilitators	Trained.Facilitators	Triggered	ODF.Claimed	DPHO.Verified
23	KAIKOR DIVISIOIN	1	1	1	0	0	
30	KIBISH	1	1	1	0	0	
91	KERIO	1	1	1	0	0	
136	KALOKOL	4	4	4	6	0	
142	CENTRAL	4	4	4	22	1	
81	LOKORI	4	4	2	21	4	
11	LOMELO	2	2	1	7	0	
83	KATILU	3	3	2	24	5	
54	KAINUK	3	3	3	4	2	
56	LOKICHAR	6	6	8	24	4	

WASH

Inadequate and unsafe water, poor sanitation, and unsafe hygiene practices are the main causes of diarrhoea, and lead to 361,000 under-5 child deaths annually. Poor sanitation, water and hygiene have many other serious repercussions. Children – and particularly girls – are denied their right to education because their schools lack private and decent sanitation facilities. Women are forced to spend large parts of their day fetching water. In Kenya access to improved drinking water in 2015 is 63% but with marked disparities between rural and urban populations; many counties in the Arid and Semi-Arid Areas having significantly lower access than the national average. The sanitation situation is considerably worse with just 30% of the population having access to improved sanitation, and with limited progress made during the MDG era[i]. However, following the introduction of the new constitution has established the right of all citizens to sanitation and safe water and set a target of universal access by 2030. The process of devolution provides an exciting opportunity to address many of the sector challenges by bringing decision-making closer to the users. UNICEF has played a key role in supporting counties through the development of micro plans for Community Led Total Sanitation, which facilitate the incorporation of equity analysis into planning and realization of targets. UNICEF has also been working closely with county governments to develop models for sustainable rural drinking water supply services, and making the case for increased budget allocation towards operation and maintenance costs. (http://www.unicef.org/wash/)

[1] WHO/UNICEF Progress on Sanitation and Drinking Water – 2015 Update and MDG Assessment

UNICEF nutrition data by year.

Constituency_Name	Year	Wasting_N	Stunting_N	GAM_mean	SAM_mean
Turkana Central	2015	744	749	20.9	4.8
Turkana South	2015	824	802	24.5	6.1
Turkana North	2015	781	743	22.9	3.8
Turkana West	2015	628	617	16.7	4.6
Turkana Central	2014	666	625	28.7	6.8
Turkana South	2014	788	750	24.5	6.1
Turkana North	2014	633	589	27.2	5.2
Turkana West	2014	701	682	17.4	4.6
Turkana Central	2013	583	583	17.2	3.9
Turkana South	2013	733	733	16.5	2.7
Turkana West	2013	795	795	9.7	2.0

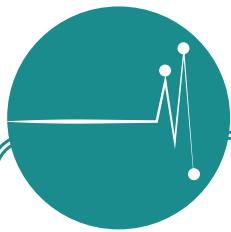
Showing 1 to 19 of 19 entries

Arrange data in ascending / descending order.

Search for area here:

Export, copy, print save this table of data here:

NUTRITION

Proper nutrition is every child's right: well-nourished children are generally healthier, more active, learn better in school and have a greater chance of fulfilling their potential. The nutrition sector in Kenya has realised key achievements especially in terms of improved nutrition indicators in recent years with data from the most recent Kenya Demographic Health Survey (KDHS) 2014 indicate an overall improvement in the nutritional status of children in Kenya over the last 5 years[1]. Between 2008 and 2014, stunting has decreased from 35% to 26%, wasting from 7% to 4%, and the proportion of underweight children declined from 16% to 11% as shown in the graph below. Kenya has also attained the Millennium Development Goal, 2015 target for proportion of underweight children which stands at 11%. The 2014 KDHS has shown a significant increase in exclusive breastfeeding rates for children up to 6 months from 32% in 2008 to 61% in 2014. According to the latest Global Nutrition Report 2015, out of the 74 countries for which data exist, Kenya is the only country that is on course to meet all five of the World Health Assembly maternal and child nutrition targets. This is based on the improved rates of exclusive breastfeeding, declining rates of stunting, wasting, underweight, and overweight and anemia in women 15-49 years. This breadth of performance is good news. However alot more needs to be done as the national levels figures mask the large inequities across the country, most noted in the arid and semi-arid lands where nutrition and health outcomes for children are far below the national average. Efforts are ongoing at national and county levels led by the MoH and supported by the UN, Development Partner and CSO, which focus on creating an enabling policy environment for good nutrition; scaling up evidence based nutrition specific interventions at community and facility level; strengthening coordination within and outside the nutrition sector; increasing collaboration with Agriculture, Health, Livestock, Education WASH and Trade; increasing responsiveness to crisis, supporting enhanced supply chain management and monitoring of the nutrition situation and subsequent programme response

MOVING FORWARD WITH THE TOOL

RESILIENCE DIAGNOSTIC & DECISION SUPPORT TOOL

DATA SOURCES IDENTIFIED TO INPUT INTO THE TOOL AT THE WORKSHOP

SOURCE	DESCRIPTION
OCHA	Investment mapping tool for ASALs
DEVELOPMENT PARTNER MAPPING	ASAL Stakeholder forum
POPULATION DATA	Sex, age, cohorts
OXFAM	Water points data
IEBC	County & sub-counties admin and political
MOBILE DATA EMS	Head teachers update on enrollment and dropouts and transition
NDMA	Long and short rains assessment
TURKANA COUNTY INCIDENCE DATA	Security Directorate

PARTICIPANT FEEDBACK

As planners population data needs to be a baseline. Our work is based on demography so we want to see age cohorts etc. so when we do an intervention we know who we are reaching and where

The tool has very good visual demonstration.

A big concern in the County is the need to establish baselines to measure the impact of large economic activities – if we can do the baseline before oil exploration, quarries and sand harvesting begins we have a spatial baseline to track and quantify these activities.

A lot of training and technical support is needed for the Planning unit so we can assist the other departments. We need to have the confidence in dealing with the tool – we have to be able to answer questions to help the roll out and data analysis.

Data management and security are a key issue, the levels of access and how to manage storage and analysis are also key areas for training and capacity.

For the roll out we can pilot one or two departments and how to feed data to them, and gather data as well as identify gaps.

MINISTRY OF FINANCE AND PLANNING – DATA MANAGEMENT UNIT

SUGGESTIONS FOR ADDITIONAL MODULES

Fisheries

Trade

PARTICIPANT FEEDBACK

The concept behind the tool is very sound, its useful for us at home. The data is very useful for planning aspects and allow us as a government across the sectors to be able to use data and plan more effectively.

Data integrity and accuracy is critical, to allow better-informed decisions and to roll out something beneficial in the long term.

Module on roads is currently missing

The tool allows us to enjoy the synergies that are supposed to be there in a government between departments.

MINISTRY OF ROADS, TRANSPORT AND INFRASTRUCTURE

DATA GAPS FOR THE DASHBOARD

Incidence of cattle rustling

Pastoralist migratory patterns; where are the kraals and where do they settle per season

Sanitation coverage and rates of ODF

Number of latrines available

Precipitation predictions

Public institutions e.g. schools able to access solar and green energy

In the education module – enrollment and retention – this would be very powerful to show a governor there is a drop in enrollment and tie it to a shock like a drought by tying it back to the Land Health Module

Seasonal rainfall and malnutritio

Children with disabilities

School bursaries

Livestock

Economic extraction activities (quarry, sand harvesting, oil exploration)

Number of ECDs and location

Access to green energy

Migratory patterns of pastoralists

The dream is to have Turkana as one of the model counties. We are moving to that direction, as a County government we are engaging with many partners, for example a UN partnership on performance management and revenue collection gaps.

If a trade module could be added to the tool it would be very useful, so we can visualize trade volume, livestock sales, milk production etc., and have access to a monthly figure.

The tool is so informative and its just the beginning, we can put data, we can correct data and various areas, Turkana has a map that the national government has, doesn't show the extreme end of Turkana.

We will share with the Governor and show him how to move with the map which is very interactive 'be assured you have an agent here'

There is a 12% dependence on fisheries by Turkana, a module on this to allow us to plan ahead for 100 years and ensure sustainability of the lake would be great.

ECONOMIC ADVISOR TO THE GOVERNOR

NDMA's role is to co-ordinate stakeholders with drought information. Many people come asking for background information to direct investments, which can be timeous on staff. We now have a tool to direct people to get a background on the area.

The beauty of the tool is factual information and recent real time data for future planning especially for drought e.g. soil pH and soil erosion.

The tool can assist with the Hunger Safety Net establishment. We now have good information to upscale (vegetation cover index) and a Kenya resource to make our decisions. During a recent drought we were challenged by the community – why pick Kibish to assist – we now would have a way to get evidence as a justification to show the map what the situation is like, so we are not challenged.

Security is one of key disasters in the county. The tool shows the type of aggression and the trends and is a very strong source of information for advocacy with national government to put investments in specific areas

We need to innovate on the way we collect data for example the monthly report bulletins currently done on paper.

This tool will replace so many paper notebooks and diaries we carry – e.g. a notebook on health and education that is kept on the shelves making it difficult to share and store information. We now have one notebook for Turkana county and its up to us to make a good use it and to update information.

Future development of the tool to look at interventions, to understand what investments are happening and what are the results e.g. food security assessment, what has happened since the intervention and progress overtime.

The use of information is what is important to better our situation in the county. We propose we need a focal point person to demand information from all the stakeholders to update 'the diary' and they can lead in looking at trends and plan ahead of times. Part of their ToR would be leading planning sectors with different sectors and pushing us to implement – this person will be given due respect.

FUTURE IDEAS FOR THE DASHBOARD AND ADDITIONAL FEEDBACK

- Technical ward – water and agriculture for mobile information (could be other themes / sectors)

- Farm census

- Issue of synergy of planning and seeing the effects of that – significant different dimension to the tool to develop in a second phase. To help understand and explore the expected results of the investment and importantly integration and inter-departmental investments and their impact on the landscape

- Being able to print and export a summary of working session

- Change the data displays as some of the scatter plots are too complicated to interpret and other options such as a histogram would be easier

- Integrate with the NDMA Management Information System for comprehensive and accurate for data collection

His Excellency Honarable Josphat Nanok, Governor of Turkana County reviews the SHARED materials

PARTICIPANT FEEDBACK

The support we are already witnessing, thank you to the team for the energy and knowledge and the kind of organization that has been put into the too. Yes this will be our baby – so be it!

The Health Ministry needs to think of the linkages with the Health MIS, to understand where future investments are needed and where surveillance is required.

The budget circular is start of the budget cycle and preparation for the Annual Development Plan (ADP) needs to be informed by the tool. We will organize and fund a two-week workshop for users in making those decisions. Then further the tool can assist with the County budget and outlook paper.

We need to prepare ourselves and engage in evidence-based information. During the last Budget estimate review it took a lot of time to convince the committee on allocations as we did not have facts or data and we just based argument on supply. If we had data it would have been the correct way to make the decision.

The Ministry has funds and resources to put into the tool and capacity development.

TURKANA COUNTY GOVERNMENT

MINISTRY OF FINANCE AND ECONOMICPLANNING

The Ministry has been grappling with budget ceilings. If these can be factual by using evidence based arguments to the budget and appropriation committee this is a good way to make this presentation to put out argument across and the key priorities we need to achieve. This is our tool!

A key issue is integration for example between health, pastoral economies and education, instead of criticizing why there is less investment into pastoral economies in comparison to the education and health sectors the evidence needs to show us how they are integrated. This is the type of discussion we need to have.