

ICT4D: whose 'I', which 'T' and how to get to 'D'?

Discussing the politics of innovation from a H2020 ICT4D project.

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From Cyprus to Ukraine, Israel to the Balkans, conflicts over land have long turned bloody. But on Monday, the Netherlands and Belgium managed to settle a festering territorial problem, without firing a single bullet and with an unlikely spur: a headless corpse.

2016 was the worst year on record for deaths related to land and environment issues.

Land administration

“...processes of recording and disseminating information about the ownership, value and use of land and its associated resources.”

UNECE, 1996

Land administration x Public administration

- Only about 50 countries in the world have a LAS
- 75% of the world has no access to formal land systems
- System of “winners and losers”
- Land should serve public interests, but...

Land administration x Gender

15 countries where women do not have equal ownership rights to property

34 countries where daughters do not have equal inheritance rights

35 countries where widows do not have equal inheritance rights

90 countries where customs inhibit women's access to land



<https://www.landesia.org/resources/property-not-poverty/>

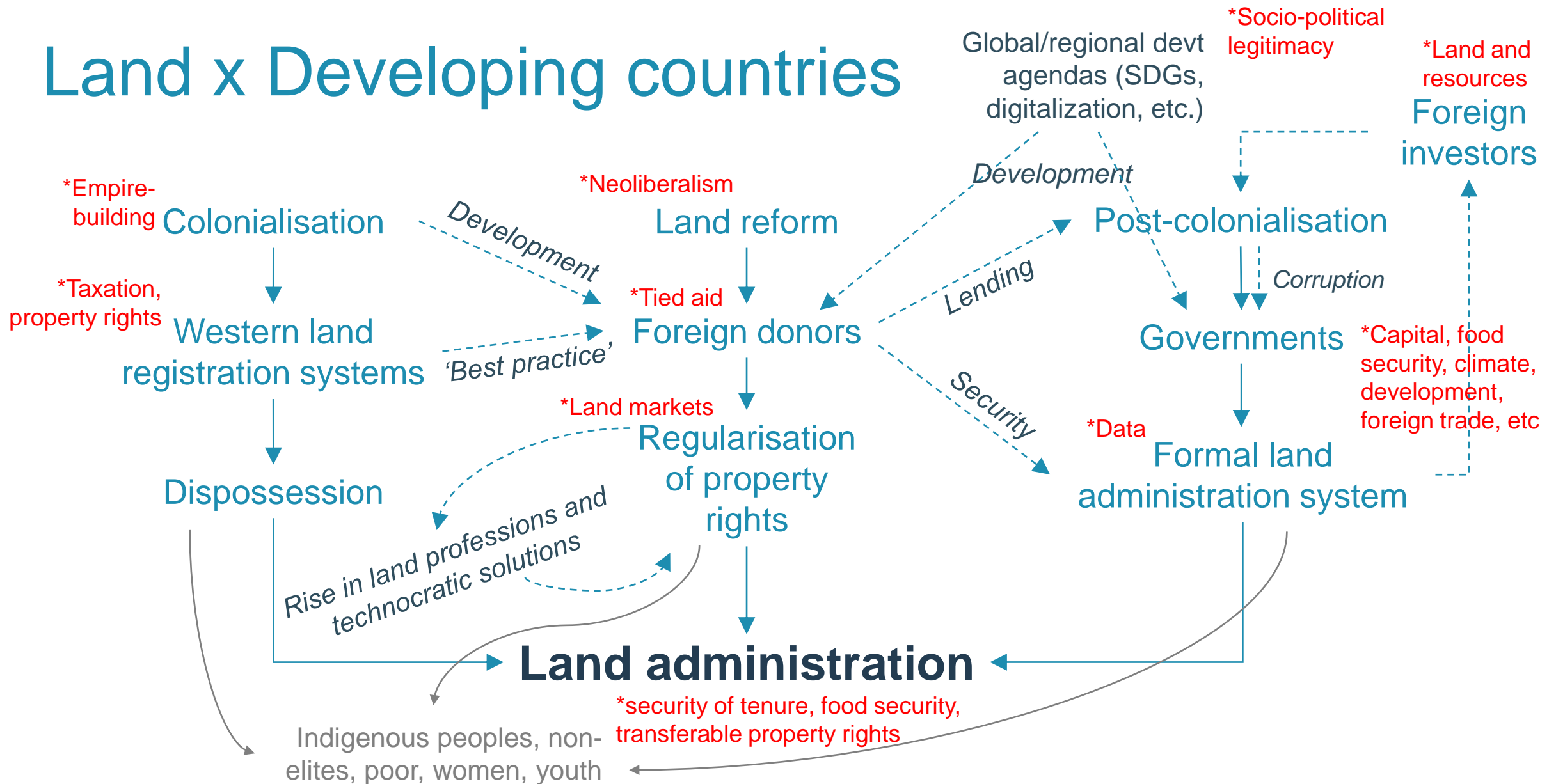
Land administration x Gender

- 1979 CEDAW
- 2012 Voluntary Guidelines on the Responsible Governance of Tenure
- 2013 UN Peacebuilding Commission

Post-2015 development agenda:

- 2015 African Union Agenda 2063
- 2016 Sustainable Development Goals
- 2016 New Urban Agenda
- 2017 Pan African Women's Charter on Land Rights

Land x Developing countries



Land x Developing countries

‘Western’ models of land admin/reform



‘Fit-for-purpose’ land administration



ICT4D

- Expensive: focus on technology and experts
- Emphasis on private/individual property rights and enabling land market
- Top-down: ignored local practices and knowledge
- Have not delivered socio-economic objectives

- Not one-size-fits-all; match resource and skill capacity
- Incremental improvement
- Participatory/bottom-up
- Pro-poor; gender-responsive

ICT4D

- ICT opportunities:
 - investment in telecommunications infrastructure in many countries
 - mobile penetration rates in the global south
 - public sector digitalization agendas
 - lowering costs of procurement and use
- Strong link between ICT and economic development
- ICT promoted by international organisations (e.g. UN, FAO, WB) as a poverty reduction strategy
- ICT also shown to contribute to progressing gender equality
- ICT4D 1.0 → ICT4D 2.0

ICT4D x Land

- Land administration relies on good quality administrative and geospatial data
- Significant link between good and transparent administration of land and SDG goals
- Can change dynamics of service production systems (good governance ideals)
- Help promote participatory input into land records (i.e. reduce corruption)

ICT4D x Land

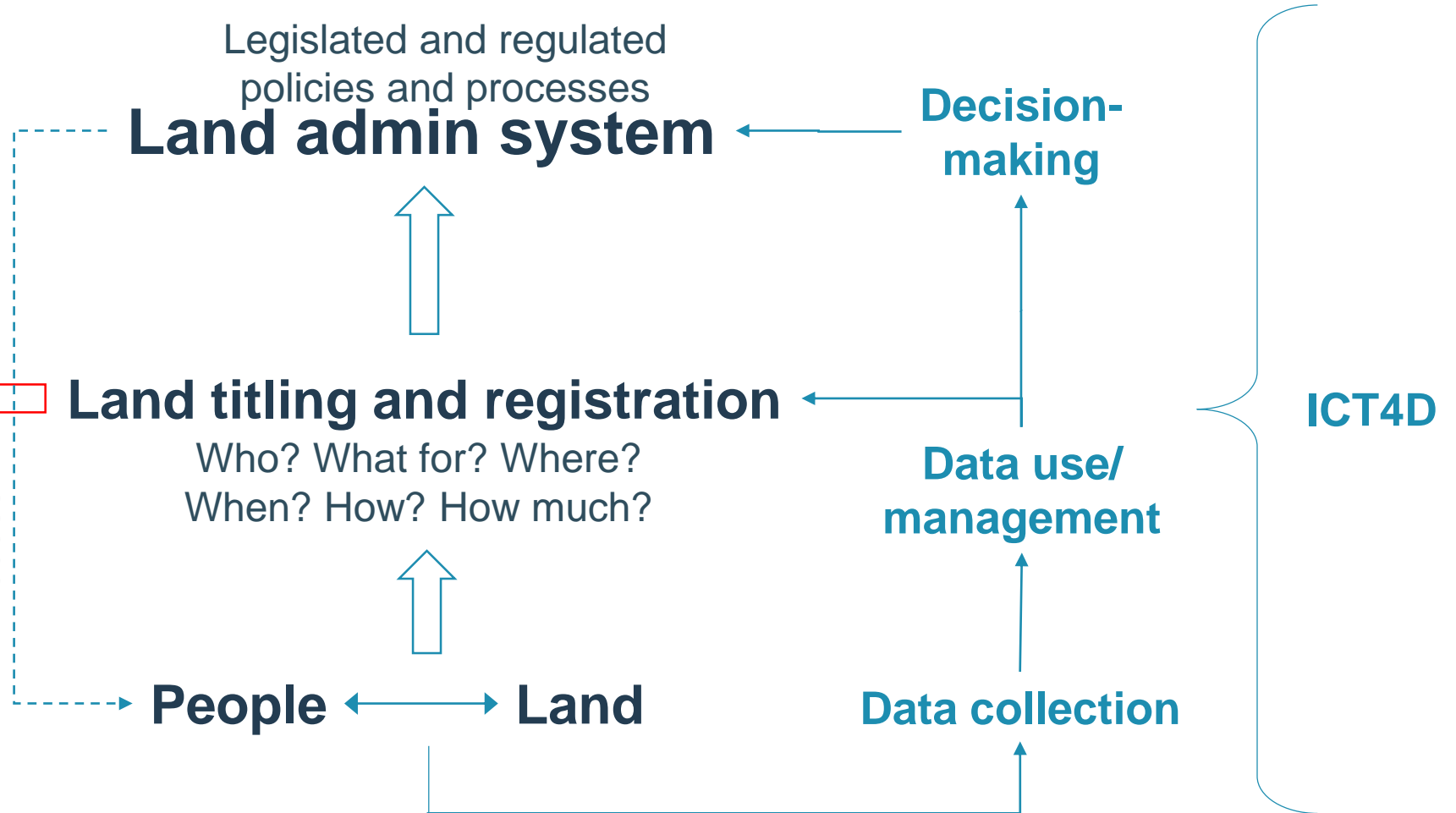
2/3 of interests in land are undocumented and lie outside of legal protection (approx. 4 billion interests)



BUT not enough land professionals



Access

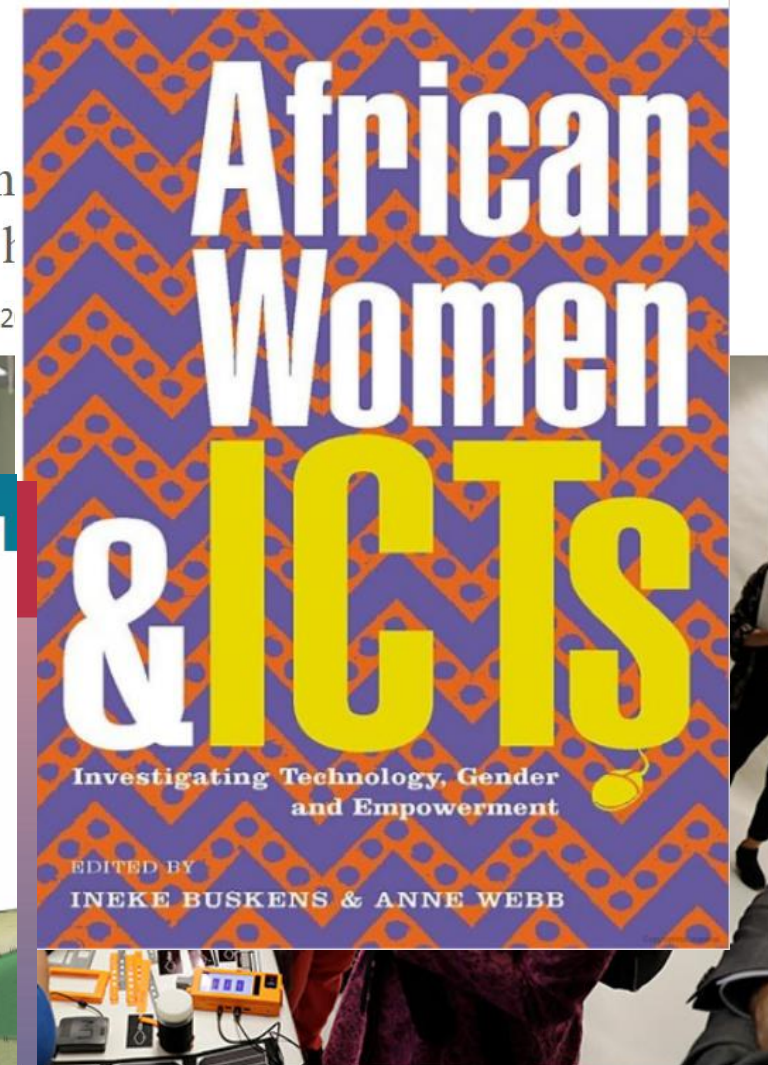
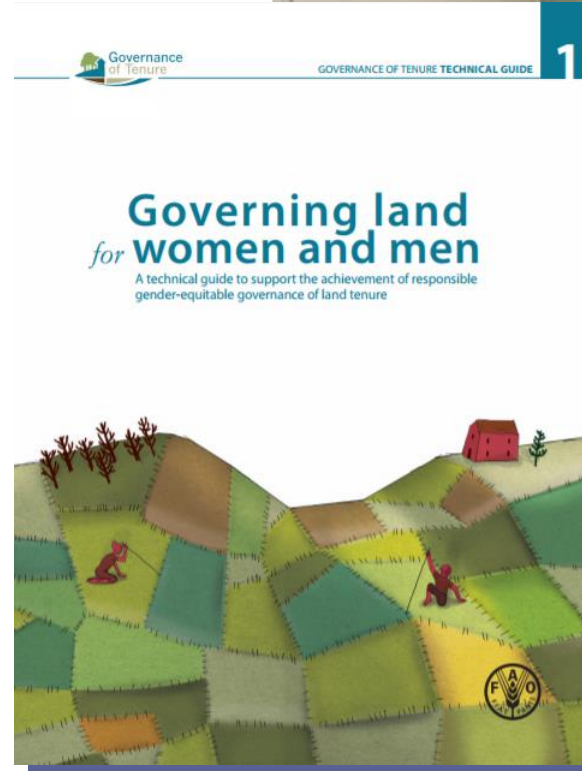


ICT4D x Gender x Land

- Increase access to information
- Increase access to economic opportunities related to digital economy
- Improve social and political participation and empowerment

UN Women and
technology in land

Date: Friday, February 2, 2018

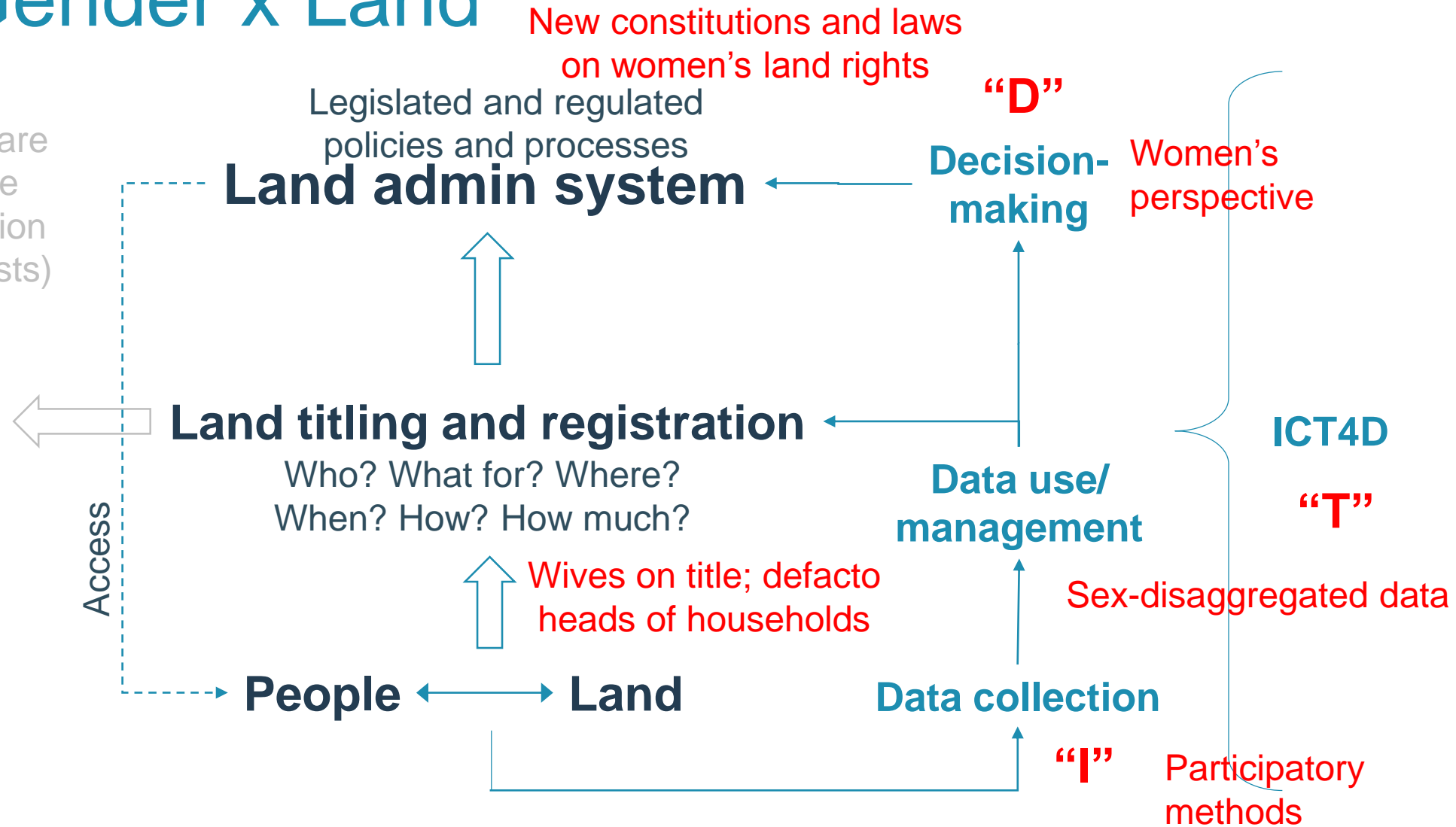


ICT4D x Gender x Land

2/3 of interests in land are undocumented and lie outside of legal protection (approx. 4 billion interests)



BUT not enough land professionals



ICT4D in H2020

Example Topic 39: Partnership building with middle-low income countries

- 2 rounds of funding targeting sub-Saharan Africa and ASEAN countries
- Gender as cross-cutting issue
- Y1: Research and Innovation (4 yrs) - 45 proposals received, 4 funded* (total €11.5m)
- Y2: Innovation (2 yrs): (total €13m) – 71 proposals received

Geospatial technology innovations for land tenure security in East Africa



its4land overview



Program: H2020-ICT-2015

Type of Action: Research and Innovation (RIA)

Topic: International partnership building in low and middle income countries

Duration: 2016-2020

Consortium: 8 partners (transcontinental, multidisciplinary, multi-sectoral)

Budget: 3.9m EU

Aim: To develop an innovative suite of geospatial land tenure recording tools that responds to end-user needs and market opportunities in sub Saharan Africa

its4land overview

Phase 1: Contextualise



Get Needs

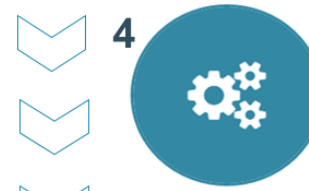


Phase 2: Design

Draw and
Make



Fly and
Create



Automate
it



Publish
and Share



Phase 3: Transform



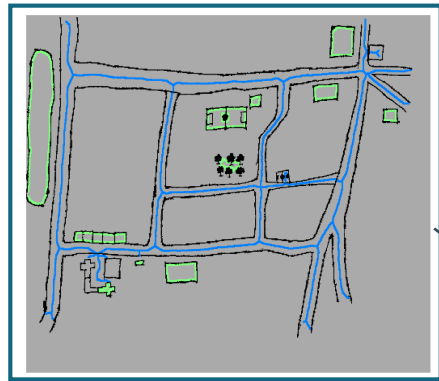
Govern
and Grow



Capitalize

its4land technologies

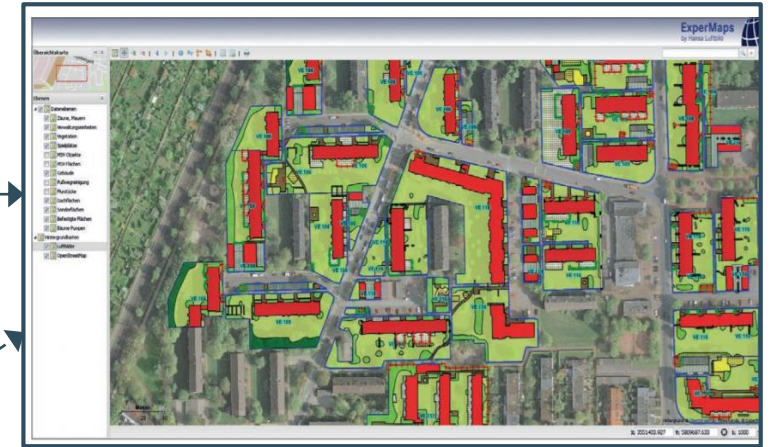
Data collection → **Data processing** → **Data use and sharing**



Sketchmapping



Digital maps



Web-based platform



UAVs

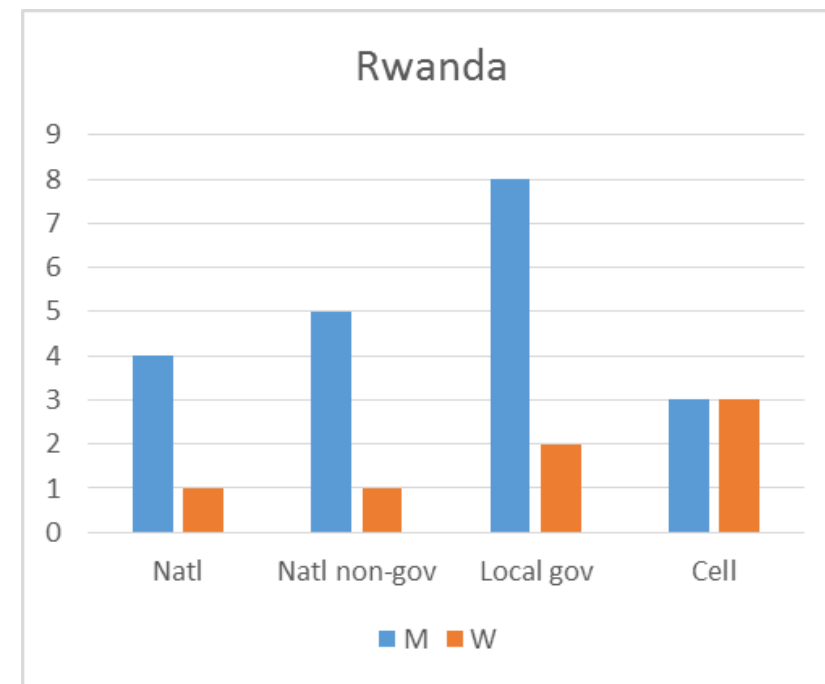
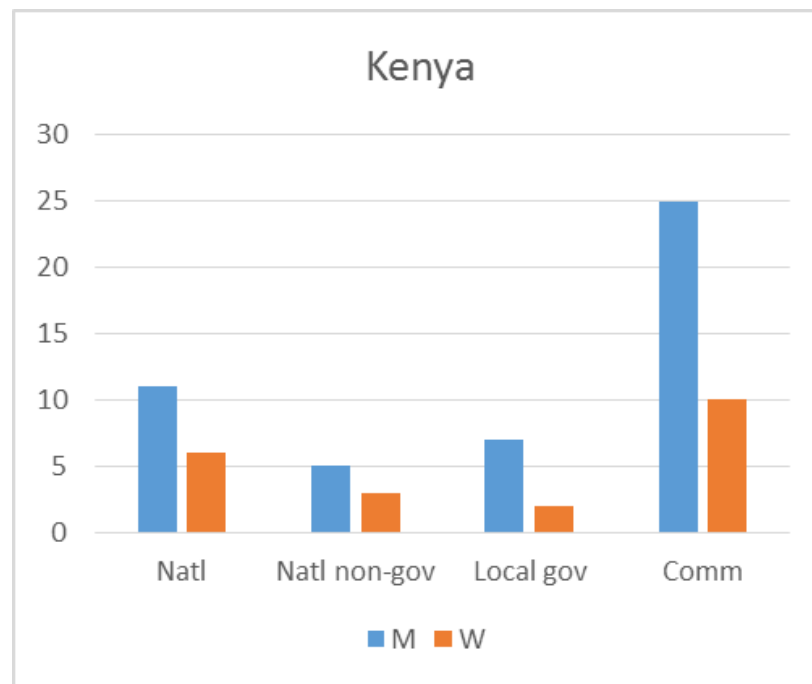
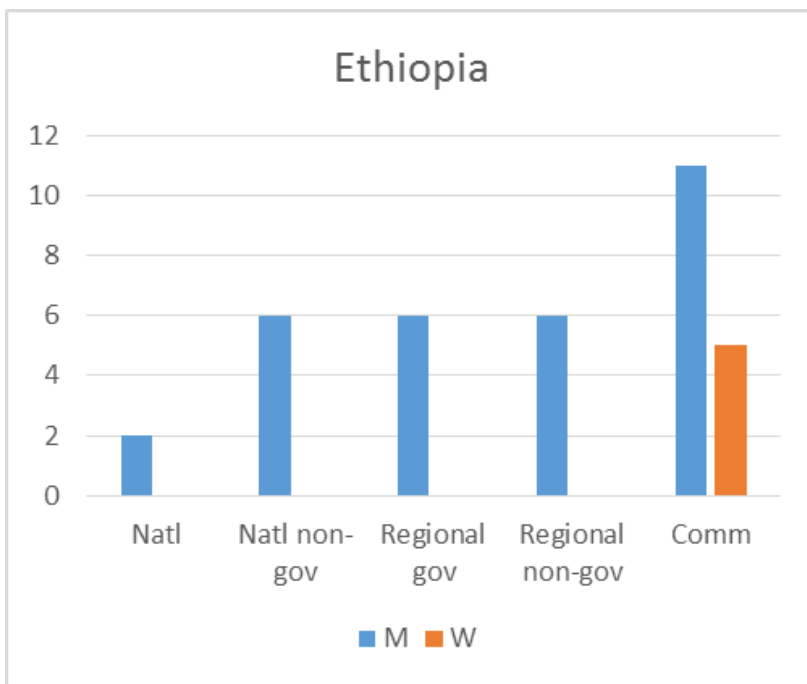


Automated boundary object extraction

Needs assessment



Needs assessment



N = 132 (cf. 57 grps/orgs)

Response rate: 58%

Land administration in Kenya

- Agricultural economy but only 15% of land is productive
- 2/3 country falls under communal land tenure - unregistered
- Huge levels of land-related fraud and corruption
- Significant land-related conflict
- Government has little control over land for urban development – unplanned, unauthorised development



Land administration in Kenya

Drivers of change

- Constitutional guarantee of equal access to land
- Security of rights
- Productive management
- Transparency and cost effectiveness
- Focus on local adjudication and arbitration

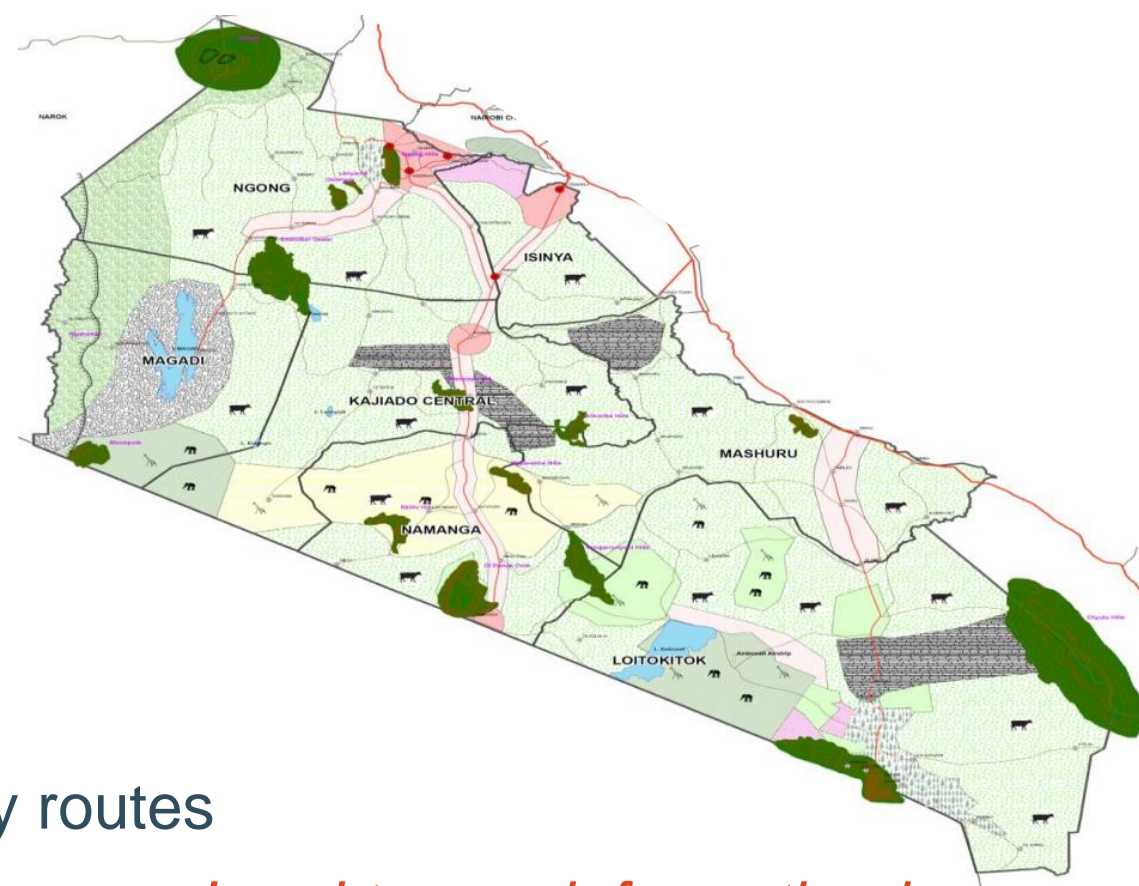
Yet...

- Titling challenges
- Sustainable pastoralism
- Land as cultural inheritance and artefact
- Mechanism to enforce customary law?
- Lack of access (W, Y)
- Trust and participation

Needs assessment

Example: Maasai, Kajiado County

- Rapid unplanned urbanisation
- High rate of land disposal and land fragmentation
- Unplanned land sales → blocked migratory routes
- Enroachment on protected areas
- Worsening Maasai land issues
- Almost 50% of residents live below poverty line



Land tenure information is fundamental but land registry map has significant errors and communal tenure information is limited.

Needs assessment

Example: Maasai, Kajiado County

- Rapid unplanned
- High rate of fragmentation
- Unplanned
- Enroachment
- Worsening
- Almost 50%

Land registrar in court over fraud

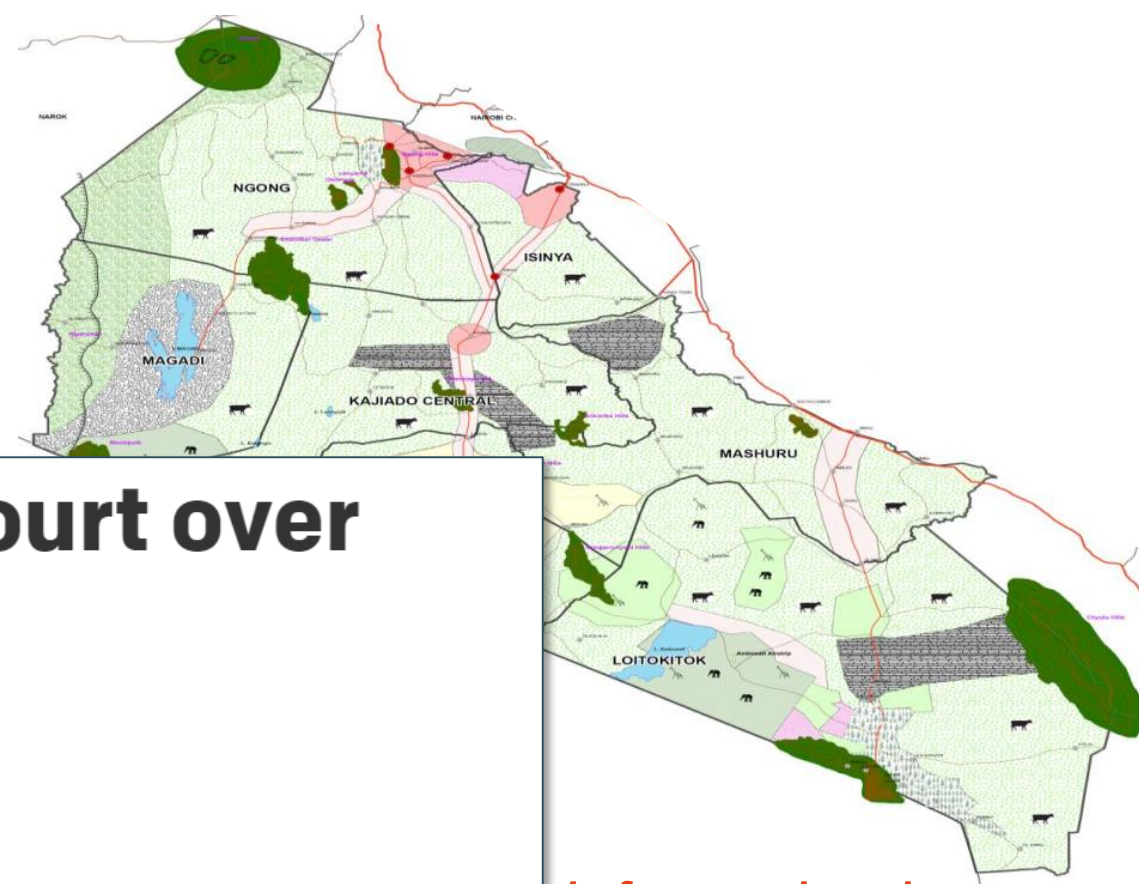
MONDAY DECEMBER 2 2013



By RICHARD MUNGUTI
[More by this Author](#)

A land registrar has been charged with double allocation of land in Kajido District seven years ago.

Penwell Nyangweso Nyamweya who was charged alongside the chairman of Mailua Group Ranch Masikonde ole Keuwa Laisa denied three counts of abuse of office and conspiracy to defraud Mzee Korouni Meoli Supati of 60 hectares of land valued at Sh15 million.



*information is
but land registry
significant errors
nal tenure
is limited.*

Needs assessment

Example: Maasai, Kajiado County

Maasai men:

- Land: cows e.g. grazing, water points, cow sheds, calf sheds; but also houses, small farms (scale: many kms)
- Strengths: communal reciprocity
- Threats: 'outsiders', wild animals, legal structures, subdivision (sons)
- Needs: migratory corridors, fertile grazing areas, special flora

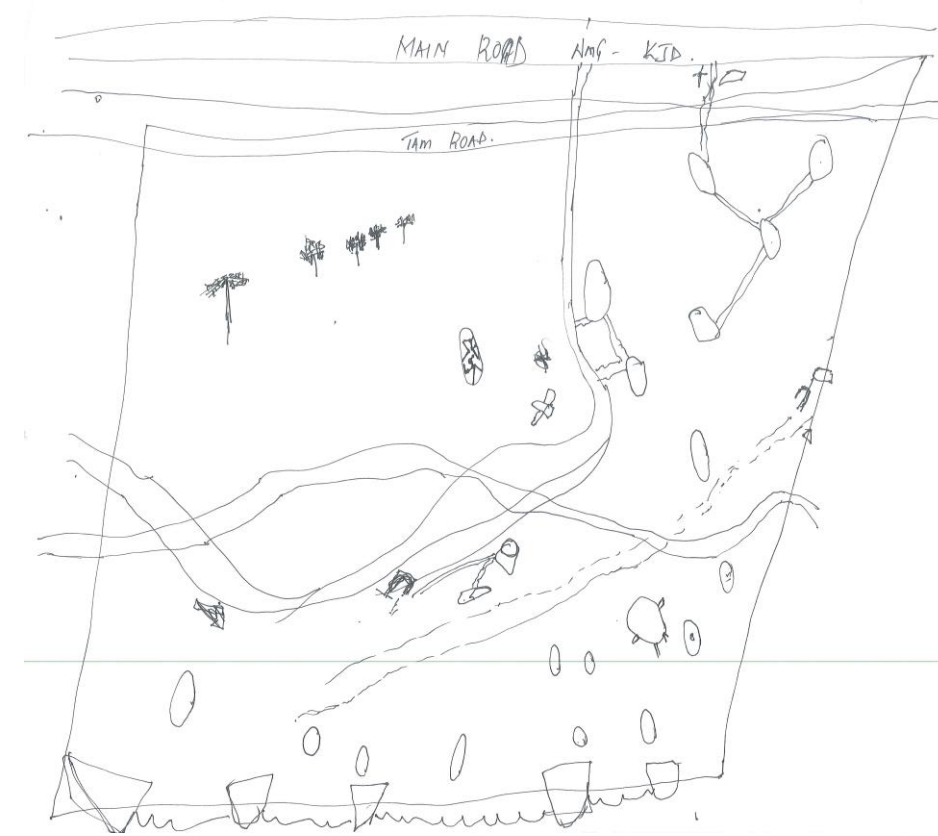
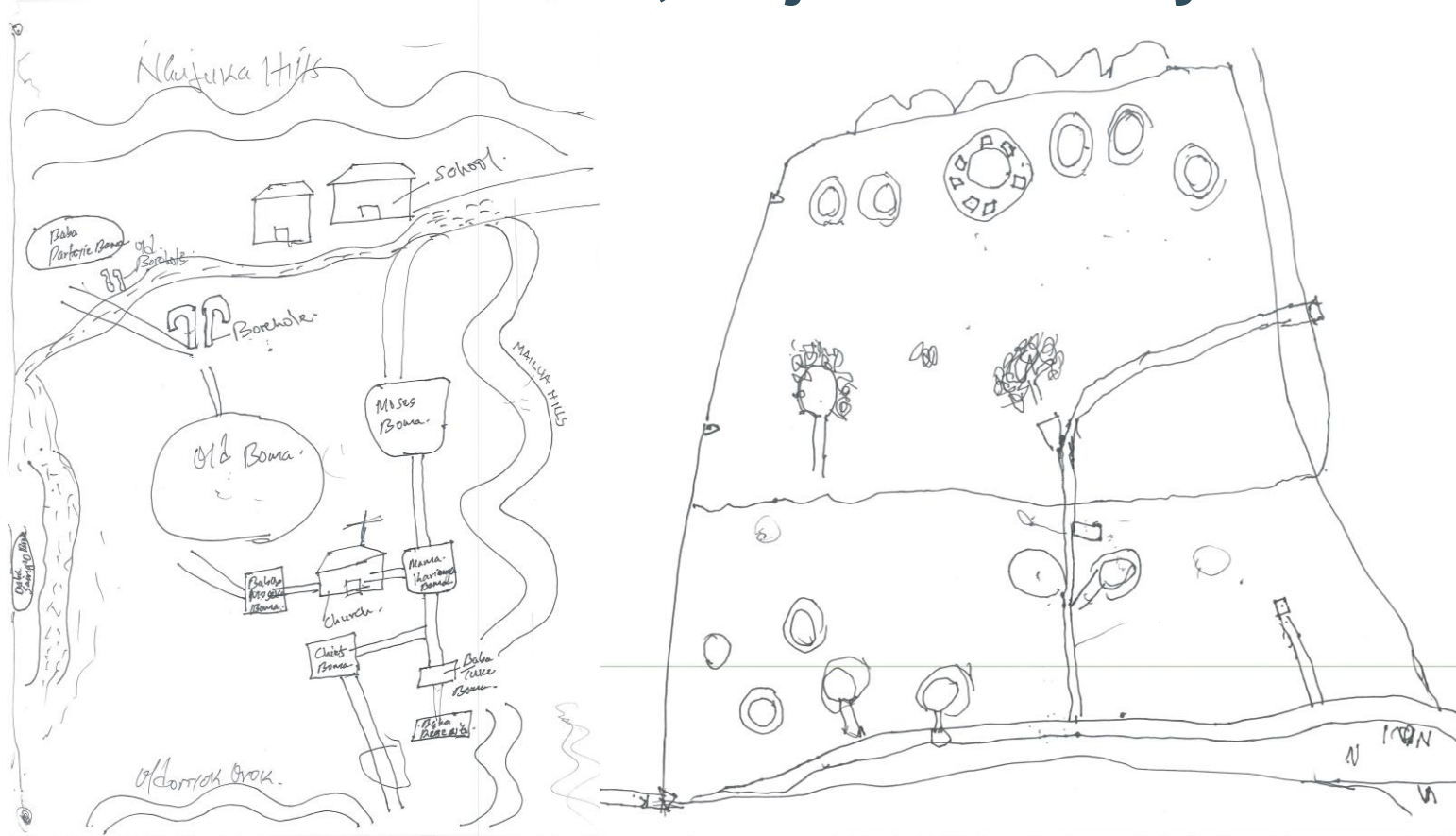
Maasai women:

- Land: goats/sheep, food/cooking, building (scale: up to 3 kms)
- Women inherit land in communities they marry into; decision-making role as administrators (for sons)
- Could not provide detailed information needs; focused on sons
- Uncertainty over legal entitlements

Land tenure/ Land information need	Frequency of vote	Strength of consensus	*Ranked Priority	**Relative importance
Georeferenced property information connected to registry index map	0.75	30	#1	25
County spatial plan	0.88	24	#2	20
Clearly marked ecologically fragile areas)	0.63	15	#3	12.5
Community involvement (sensitisation, etc.)	0.5	13	#4	10.8
Resurvey of adjudicated areas of public utilities	0.38	7	#5	5.8
Number of properties (and its attributes) in the county	0.25	7	#5	5.8
Overlaying minimum use threshold of land with other data	0.5	6	#6	5
Land fragmentation not properly controlled (subdivision too small)	0.38	5	#7	4.2
Proper documentation of utilities for protection (gazetting)	0.25	5	#7	4.2
Relationship of land laws especially around property transactions	0.25	4	#8	3.3
Improving data management for multi-purpose use	0.13	3	#9	2.5
Good practices related to surveying and mapping	0.13	1	#10	0.8

Tech development: smart sketchmaps

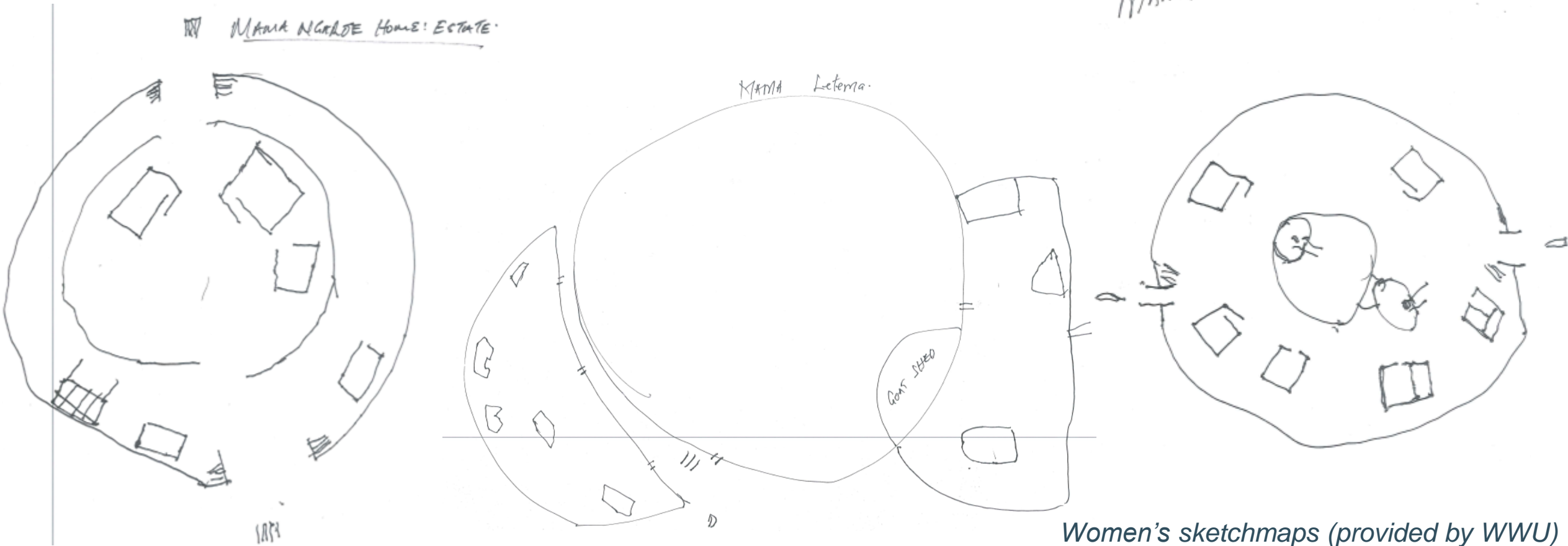
Example: Maasai, Kajiado County



Men's sketchmaps (provided by WWU)

Tech development: smart sketchmaps

Example: Maasai, Kajiado County



Women's sketchmaps (provided by WWU)

Tech development: smart sketchmaps

Example: Maasai, Kajiado County

Men:

- Task: showing which Bomas are present in their respective ranches
- Sketches are problematic because they lack sufficient context for proper interpretation
- Men struggled symbology on individual sketches
- Group sketches more detailed

Women:

- Task: showing the structure of their own Bomas
- More detailed (translator?)
- Yet to produce integrated map
- Women took task “more seriously”

Discussion

Whose 'I'?
Which 'T'?
How to get to 'D'?