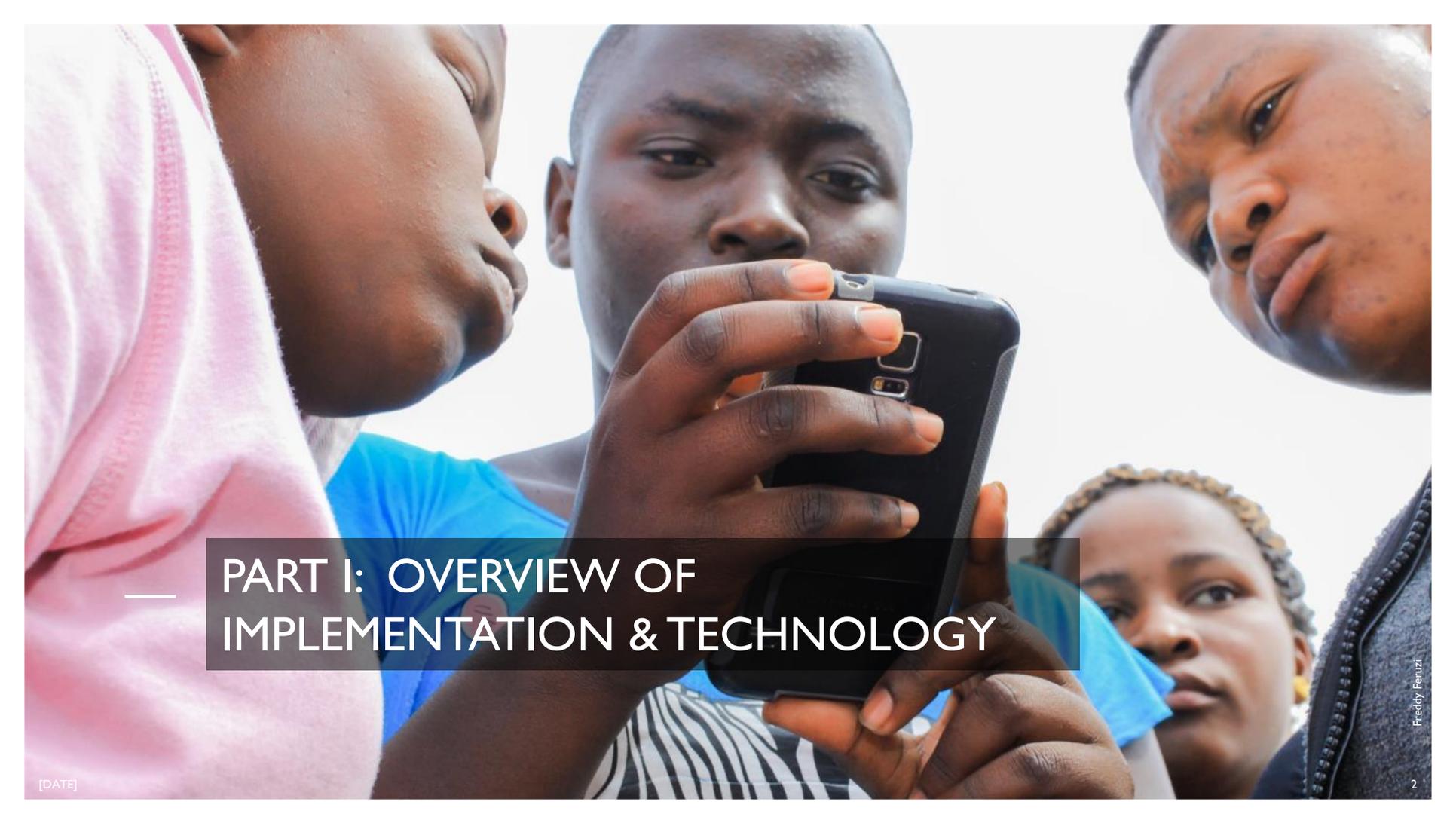




MOBILE APPLICATION TO SECURE TENURE (MAST): LESSONS LEARNED

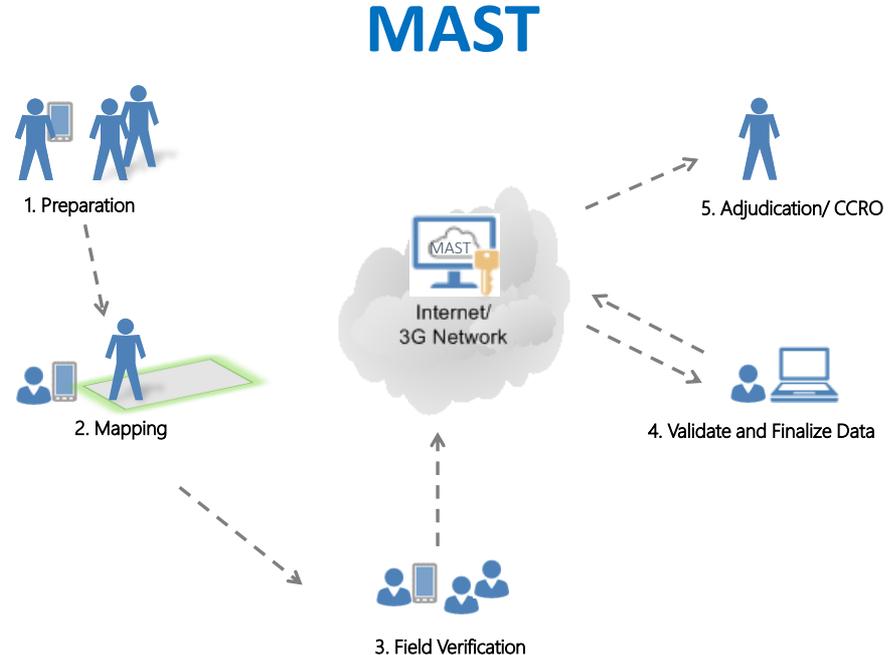
JEFFREY EUWEMA, CLOUDBURST
MUSTAPHA ISSA, CARE/TANZANIA
JUNE 3, 2016

A close-up photograph of a group of young people, likely in an African setting, gathered around a smartphone. One person in the center is holding the phone, while others look on with interest. The background is bright and slightly out of focus.

— PART I: OVERVIEW OF IMPLEMENTATION & TECHNOLOGY

WHAT IS MAST?

- MAST is a combination of a **mobile data capture application**, a **data infrastructure**, and a **participatory methodology**.
- The **technology**: captures and manages the data needed to map and document land rights – and in the case of Tanzania, is used to deliver CCROs.
- The **methodology**: crowd sources data collection, using local people called "Trusted Intermediaries" to collect the spatial and biographical data usually collected by land professionals.



ORIGINAL PILOT OBJECTIVES

- Understand how citizens and communities react to & engage with the MAST approach
- Test ways to engage land professionals in the crowdsourcing of land rights
- Understand what makes a good 'Trusted Intermediary'
- Identify what land rights information must be captured to provide 'fit for purpose' tenure security
- Test a range of technology tools to identify affordable/appropriate solutions
- Establish approaches to maintain land right information after the pilot and expanding its use
- Explore how the results from the pilot can be shared and the lessons and practical applications expanded, replicated and scaled for USAID and others

OVER TIME THE PILOT FOCUS CHANGED TO:

- Can USAID support the GOT to deliver formal documentation of land rights using MAST's technology?
- Can USAID modestly scale a “crowd-sourced” approach?

With a key background question:

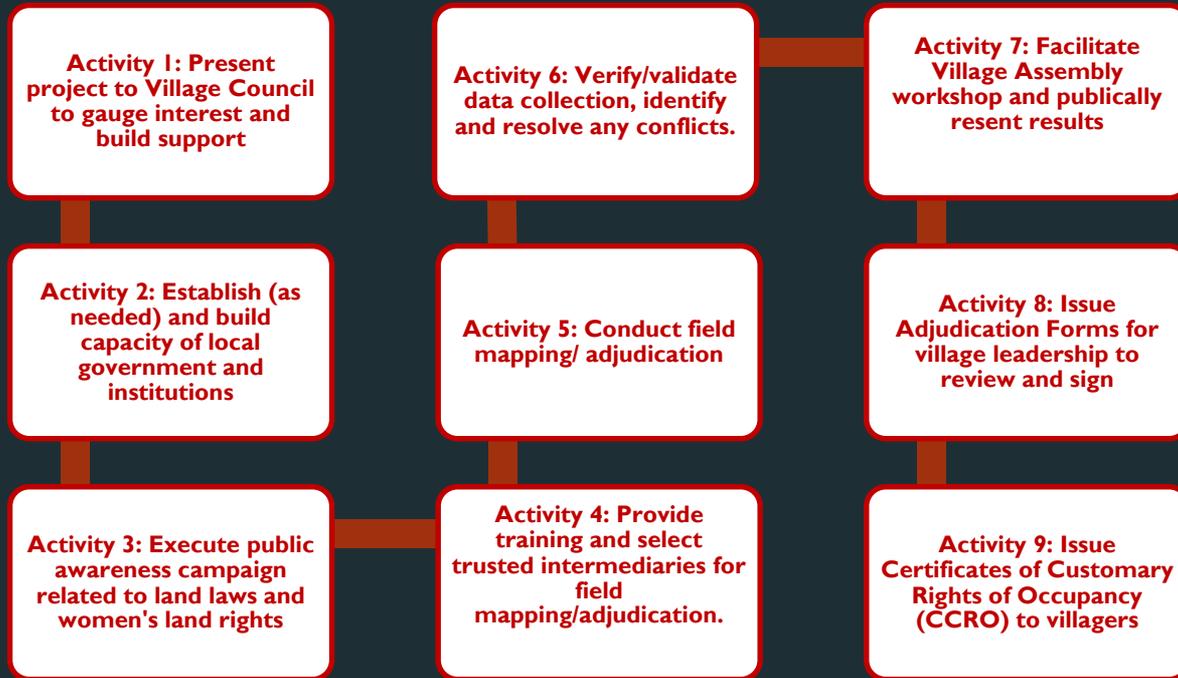
- Can these efforts help increase tenure security for local people?



WHERE MAST WORKED

- Tanzania was chosen because:
 - GOT has important commitments related to land titling
 - In partnership with USG, Tanzania is supporting critical agricultural development efforts
 - GOT was open to supporting this approach
- Pilot operated in three villages in Iringa Rural District:
 - Ilalasimba: 325 households, 910 parcels, 65 sq. kms.
 - Itagutwa: 441 households, 1,090 parcels, 75.8 sq. kms.
 - Kitayawa: 546 households, 1,878 parcels, 46 sq. kms.
 - All villages are rural, with agriculture-based livelihoods predominating, low levels of land-based conflict

OUR APPROACH: THE IMPLEMENTATION FRAMEWORK



STEP I: PRESENT PROJECT TO VILLAGE COUNCIL

- Led by Local Partners CARE & TAGRODE, along with GoT
- Meet with village leaders to introduce the project and explain project benefits
- Explore village characteristics – existence of local institutions, economic activities, etc.
- Discuss with villagers to gauge interest



STEP 2: ESTABLISH/BUILD CAPACITY FOR LOCAL INSTITUTIONS

- Identify institutional needs:
 - Is there a sitting VEO? If not, work to appoint
 - Is there Land Adjudication Committee? If not, work to establish
 - What is the gender composition of Committee? Suggest adjustments as needed
- Do Committee members understand Land Laws?
- Provide focused training to Committee members, and to Village Council

STEP 3: EXECUTE PUBLIC AWARENESS CAMPAIGN

- Outreach done by CARE/TAGRODE with DLO support
- Hold initial Village Assembly Workshop to provide overview of project and initial trainings on land laws
 - Training focus on: Village Land Act (VLA), land adjudication process, women's rights under the VLA and the Constitution,
- Develop hamlet-by-hamlet outreach and training strategy
- Support training efforts with maps to demonstrate what will happen

STEP 4: TRAIN AND SELECT TRUSTED INTERMEDIARIES

- Work with village leaders to identify candidates among youth who will be TIs
 - Need to be literate
 - Need to be capable of walking fields
 - Need to be demonstrate skills at using technology
- Provide 5 days of training on how to use technology suite
 - Training is hands-on, active learning
 - In classroom & in field
- Selected based on merit, with attention to gender balance



STEP 5: CONDUCT FIELD MAPPING/ ADJUDICATION

- Identify date for mapping and work with village leaders to ensure people know when the TI team will arrive
- TAGRODE manages process of field adjudication with team of TIs
- Parcels mapped following VLA process – walk boundaries with land holders, neighbors, and Land Adjudication Committee members
 - TIs capture parcel boundaries
 - Disputes addressed with Land Adjudication Committee members
 - Required demographic/tenure information captured on MAST app
 - Photo of land holders taken with app and added to data capture form



STEP 6: VERIFY DATA COLLECTION & RESOLVE CONFLICTS

- Project leaders verify data by accessing Data Management Infrastructure
- Verification involved:
 - Verifying data
 - Identifying parcel gaps or overlaps
 - Identifying areas of potential conflict, and resolving them with help of Land Adjudication Committee officer as required
 - Resurveying as required

STEP 7: PRESENT RESULTS AT VILLAGE ASSEMBLY WORKSHOP

- After mapping and registration data is verified and conflicts addressed, arrange for public presentation
- Presentation is done by local partner TAGRODE at Village Assembly gathering
- Gathering allows villagers to ask questions & raise concerns
- Provides validation of results
- Allows process to move to next stage – validation at DLO



STEP 8: ISSUE ADJUDICATION FORMS

- DLO geospatial staff review data collected in the field
- Address concerns such as missing parcels, overlapping boundaries
 - May require re-mapping in the field
- From the MAST software, print and review Adjudication Forms
- Senior Land Officer signs Adjudication Forms
- Forms returned to village for review
- Once reviewed, validated and signed at village, Adjudication Forms return to DLO
- This allows final step to take place: printing, registration, delivery of CCROs

STEP 9: CCROs ISSUED TO VILLAGERS

- Based on approved Adjudication Forms, DLO uses MAST software to generate and print CCROs
- CCROs must be printed on crested paper
- CCROs printed in triplicate
- Returned to village to be signed by Village Chairperson, VEO, landowner
- Must be collected & returned to DLO
- Must be signed by Senior Land Officer & recorded before release/delivery
- CCROs then delivered back to Village Council for distribution



THE MAST TECHNOLOGY SUITE



THE MAST TECHNOLOGY SUITE

Key Components of MAST Application

Mobile Data
Capture
Application

Land Rights Data Infrastructure Web Application

Data Capture
Module

Mobile
Configuration
Tool

Data
Management
Infrastructure
Tool

Admin Tools

Reporting Tool

SPATIAL DATA CAPTURE



MAST Mobile Application, depicting image base map, showing land parcels bounded by a road and river.



MAST Mobile Application, showing data being captured; GPS tools used to capture boundary points of parcel

ATTRIBUTE DATA CAPTURE PROPERTY INFORMATION



Capture Attributes

Project Name : Phase1_Test

Spatial unit Id : 1

Village Name : Itagutwa

Select Person Type

Natural

Select Hamlet

Hamlet2

Select Witness 1

Adjudicator 2

Select Witness 2

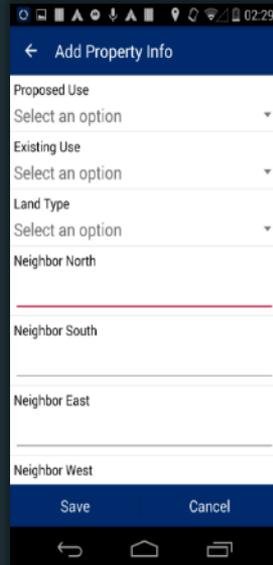
Adjudicator 1

Adjudicator 1

Adjudicator 2

Adjudicator 3

GENERAL



Add Property Info

Proposed Use

Select an option

Existing Use

Select an option

Land Type

Select an option

Neighbor North

Neighbor South

Neighbor East

Neighbor West

Save Cancel

PROPERTY



Add Social Tenure

Type of Tenure

Multiple Occupancy(Tenancy in Common)

Type of Right of occupancy

Customary Right of Occupancy

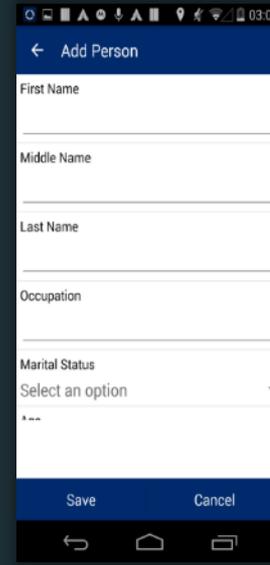
Select an option

Customary Right of Occupancy

Derivative Right

Save Cancel

TENURE



Add Person

First Name

Middle Name

Last Name

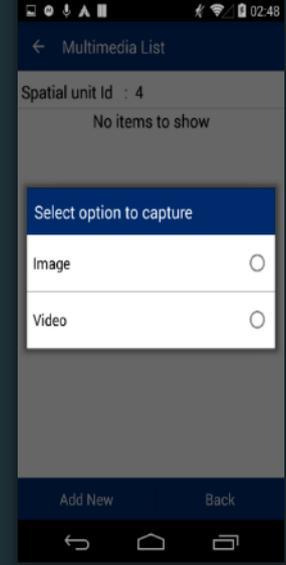
Occupation

Marital Status

Select an option

Save Cancel

PERSONS



Multimedia List

Spatial unit Id : 4

No items to show

Select option to capture

Image

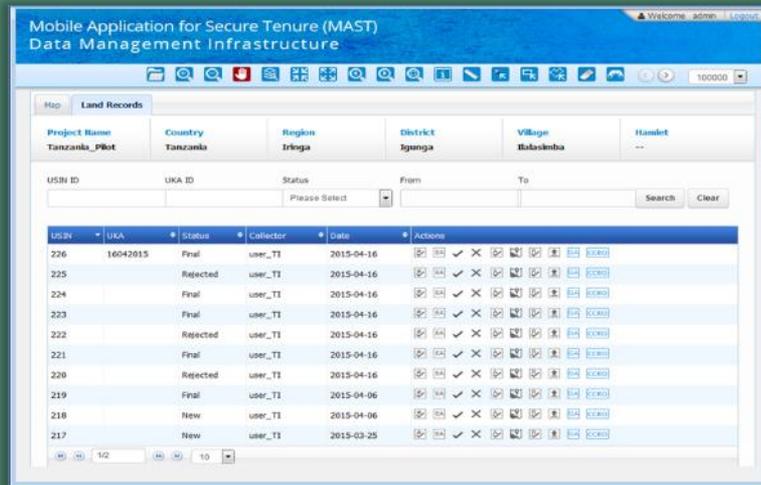
Video

Add New Back

MULTIMEDIA

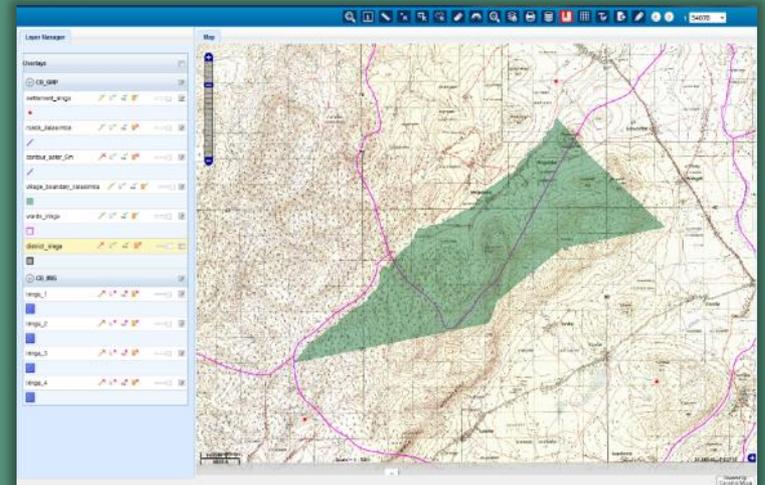
DATA MANAGEMENT INFRASTRUCTURE: DATA REVIEW AND EDITING

Dashboard provides a consolidated view of the land rights data collected in the field



USN ID	UKA	Status	Collector	Date	Actions
226	16042015	Final	user_T1	2015-04-16	[Icons]
225		Rejected	user_T1	2015-04-16	[Icons]
224		Final	user_T1	2015-04-16	[Icons]
223		Final	user_T1	2015-04-16	[Icons]
222		Rejected	user_T1	2015-04-16	[Icons]
221		Final	user_T1	2015-04-16	[Icons]
220		Rejected	user_T1	2015-04-16	[Icons]
219		Final	user_T1	2015-04-06	[Icons]
218		New	user_T1	2015-04-06	[Icons]
217		New	user_T1	2015-03-25	[Icons]

Mapping tools provides functionality to view and review data of spatial units on map



DATA MANAGEMENT INFRASTRUCTURE: REPORTING

Adjudication Form/Application is generated by the application for each specific property, for signature by occupants and neighboring occupants.

5/31/2016 MAST

SHIRAZI YA VOZI NA 5, 1000
FOHU YA SHIRAZI WA MASHAHI KWA MPANGILIO
Jina la Mharamba/Vachamani na Saina

Formu na 18 A 40

MASHAHI

Jina la Kijiji: Kibayam	1. _____	4. _____	Ulimo wa Milihi: _____
Jina la Kitongoji: IGILIA_B	2. _____	5. _____	Tarehe ya Maombi: _____
Namba ya UKA: KY/1/12/168	3. _____		Tarehe ya M/Kijiji: _____
Aina ya Ulimi: Mili ya panga (Mie na Nume)	Hali ya Masungira : Tambarane Eneo kwa Ekaari : 0.126		Matumizi ya Ardhi: Ya asasi: _____ Makut: _____

Yaliyopendelewa:
Makut _____

UMWOKI

Jina La Kwanza	Jina La Pili	Jina La Uko	Mwali	Majumizi	Miezi	Jinsia	Umri	Ndoa	Urala	Anzani	Mkazi	Simu
Saina	Makio	Malinga	Ndye			Kume	41	ndoa	Pitanzania		Ndye	015094323
Maria	Amani	Mgayawani	Ndye			Kike	33	ndoa	Pitanzania		Ndye	015617956

Majirani	Jina	Saina	Jina la Shahidi (Kamati ya Uamuzi)	Saina	Mchoro:
Kakadiri	Mirido Sanga		1. PANUSA MALINGA		
Kuani	Makio Malinga		2. AGATHA MULELA		
Mashariki	Makio Malinga				
Magharibi	Eddy Nyanda				
Hali ya njia na matumizi mengine :					

Mtu/Watu wenye maslahi	Jina
Mtu mwenye Mabahili	Sulehna Sakoni Malinga
Mtu mwenye Mabahili	Sereta Sakoni Malinga
Mtu mwenye Mabahili	Nwaha Sakoni Malinga
Mtu mwenye Mabahili	Sulehna Sakoni Malinga
Mtu mwenye Mabahili	Silvestra Sakoni Malinga
Marehemu	Jina

Mnamuzi/Mwali wa Ardhi Jina :Salloni Makio Malinga(Mwali)	Saini _____	Tarehe _____	Jina:
Mnamuzi/Mwali wa Ardhi Jina :Maria Amani Mgayawani(Mwali)	Saini _____	Tarehe _____	Mashariki: 806795.570
			Kakacachi: 9120214.824

Kwa Matumizi ya Ofisi:

Mara ya Halmashauri ya Kiji _____

Uamuzi wa Mkuu wa Kiji _____

Jina la Puanjaji: OHARI JOSEPH KINDOLE	Saini _____	Tarehe _____
Jina la Kaku : HOA ENOCK KABINDA	Saini _____	Tarehe _____
Jina la Hukumi: God Mvanda	Saini _____	Tarehe _____

DATA MANAGEMENT INFRASTRUCTURE: REPORTING

MAST will generate CCRO certificate for a selected property based on a predefined template.

SHERIA YA ARDHI YA VIJILI 1999
(Na. 5 ya 1999)
HATI YA HAKIMILIKI YA KIMILA
(CHINI YA FUNGU LA 25)

Leo tarehemwazi..... mwaka.....
Hii ni kuthibitisha kovamba Halmashauri ya Kijiji cha **Ibagutwa, S.L.P. 108** imetoa kwa **Sailoni Maiko Malinga** na **Maria Ansoni Mgayavanu** kwa umiliki wa pamoja "Mke na Mume"(humu ndani wakirejewa kama "Wakazi") hakimiliki ya kimila (Itaitwa "hakimiliki") juu ya ardhi iliyofanulwa katika Jedwali (humu ndani itaitwa "ardhi") kwa kipindi kisicho na kikamo tangu tarehe.....mwazi..... mwaka..... kwa maudhui na tafsiri halisi ya Sheria ya Ardhi ya Vijiji na kwa kuzingatia vipengele vyake na kanuni zozote zinazotungwa chini ya sheria hiyo au sheria mbadala au marekebisho yake na kwa mujibu wa masharti yafuatayo:

- i. Wakazi watalipa kodi ya mwaka ya Shs..... kabla ya tarehe.....ya mwazi.....kila mwaka (kama inahusika).
- ii. Ardhi itatumika kwa ajili ya **Makazi**.
- iii. Wakazi watawajibika kuhifadhi mazingira (ardhi na maji).
- iv. Wakazi watahakikisha kovamba mipaka ya ardhi inalindeva na kutanzwa na idumu kuwa bayana kwa kipindi chote cha hakimiliki.
- v. Wakazi wataheshimu na kuhifadhi haki za njia zilizopo.
- vi. Uhakikishi wa hakimiliki kwa mtu yeyote au kikundi chochote cha watu ambao kwa kawaida si wakazi wa kijiji lazima uidhinishwe na Halmashauri ya Kijiji.

Saini:.....
Anuari S.L.P: **108,Iringa**
Wadhifa: **Mwenyekiti wa Kijiji**

Jina kamili:**NOA ENOCK KABINDA**

Saini:.....
Anuari S.L.P: **108,Iringa**
Wadhifa: **Afisa Mtendaji wa Kijiji**

2.Wamiliki(Wakazi)

Jina Saini/dole gumba

Sailoni Maiko Malinga

Jina Saini/dole gumba

Maria Ansoni Mgayavanu

3.Imegongwa Lakiri ya Halmashauri ya Wilaya ya Iringa na kusainiwa leo Tarehe.....
Mwazi.....Mwaka 2016
Jina: **GEOFREY REUBEN KALUWA**
Saini:.....
Wadhifa: **Afisa Ardhi Mteule wa Wilaya**

JEDWALI
(Maelezo kamili ya eneo na mipaka yake)

Ardhi hii yenye eneo lenye ukubwa wa **ekari 0.126** Iliyoko katika Kitongoji cha **IGULA_B**.

Mipaka:
Kaskazini imepakana na Mtindo Banga.
Kusini imepakana na Maiko Malinga.
Mashariki imepakana na Maiko Malinga.
Magharibi imepakana Eddy Myovela.
Kama inavyoonyeshwa katika inchoro/ramari hapa kulia.





— MAST DEMONSTRATION