

A state-of-the-art biorepository: Challenges and opportunities

Absolomon Kihara and Steve Kemp

Presented at the 3rd Medical and Veterinary Virus Research Symposium (MVVR-3)

Nairobi, Kenya

17 October 2014



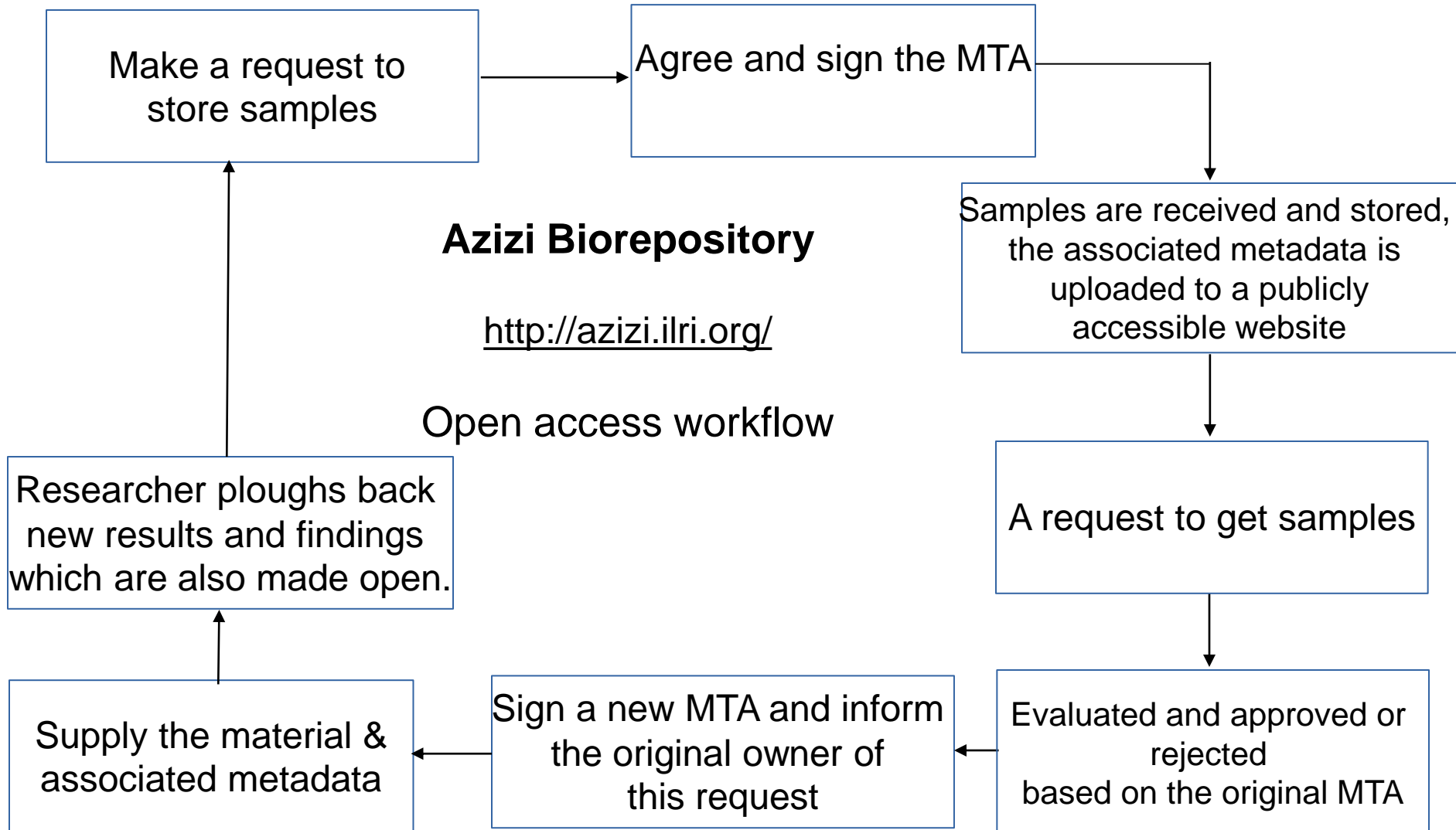
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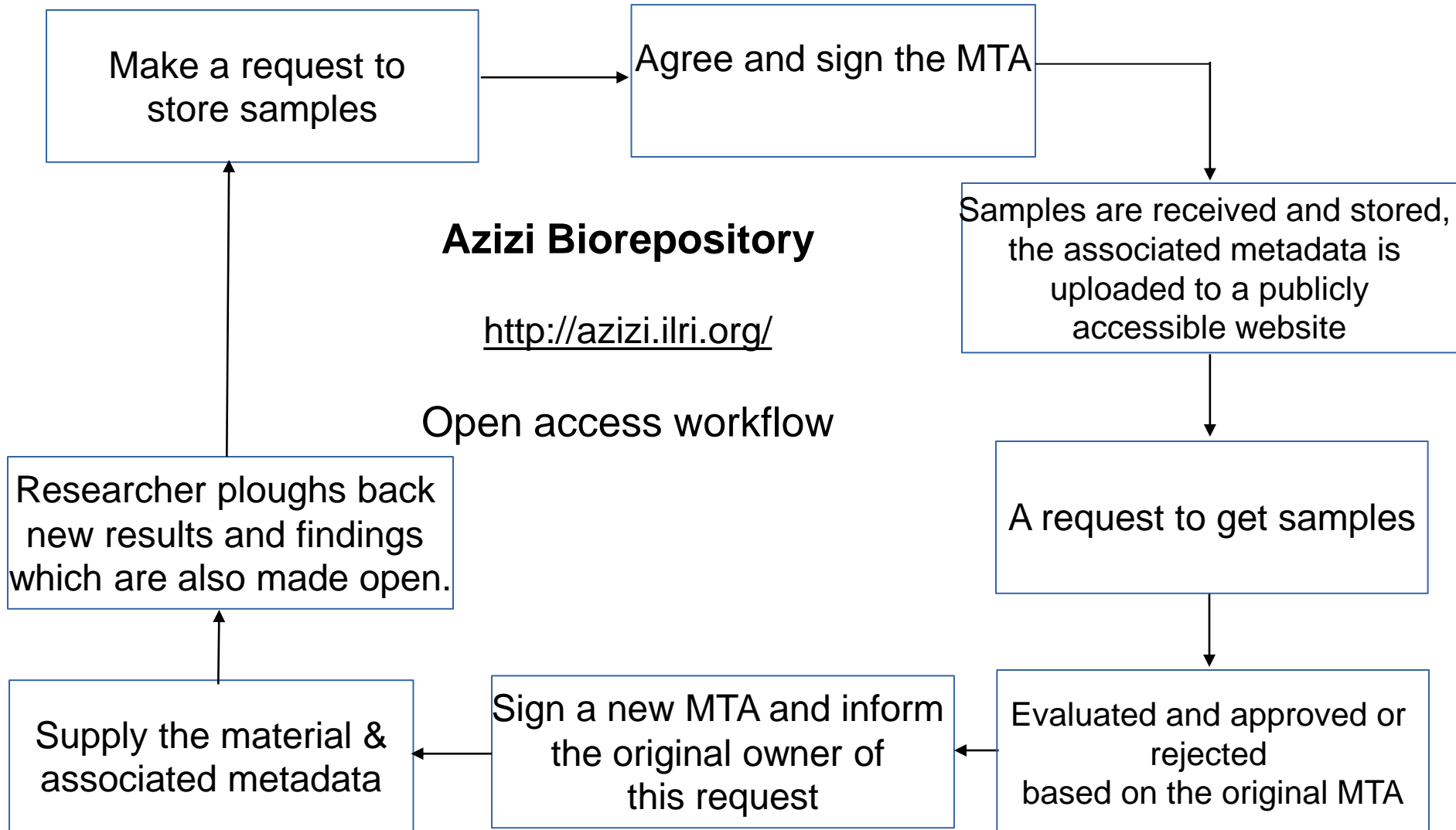
Making a case for biobanking and biopreservation

- ❑ Maximise the return on expensive sampling trips – use the same sample to ask multiple questions now and in the future.
- ❑ Maximise the understanding of the biology – different pieces of information about identical samples.
- ❑ Maximise the value for *your* study from *your* sample - the requirements for biobanking force improvements on *your* sampling methods
- ❑ Build a collection of well characterized samples to foster collaboration and good science

Open access workflow



Open access workflow



opportunities

a robust infrastructure

The infrastructure



Azizi Biorepository



Azizi Biorepository is the long term storage system and associated informatics tools that comprise the biorepository at International Livestock Research Institute (ILRI).

The system supports a number of activities and projects including IDEAL, AVID, PAZ, DDDAC, African Bovine Trypanosomiasis, the ILRI livestock diversity collection and ILRI's unique collection of pathogen isolates. The core collection is approximately 450,000 samples in vapour-phase liquid nitrogen with uniquely robust, secure and well monitored ultra-cold conditions for long term storage.

This page provides links to resources and real-time monitoring of critical systems.

[Biorepository LIMS](#)
[ILRI's Research Computing Cluster](#)
[Documentation](#)
[Latest weather satellite images](#)
[AVID's photo gallery](#)

System status at : [LN2 Monitoring](#) [SMS Alerts](#) [Cluster Status](#)

LN₂ Refrigerators more

Unit	Temp	level	ld	fill	alarms	last report
1	-184	normal	shut	off	none	09:52
2	-185	normal	shut	off	none	09:52
3	-182	normal	shut	off	none	09:52
4	-187	normal	shut	off	none	09:52
6	-180	normal	shut	off	none	09:52
7	-183	normal	shut	off	none	09:52

Ancillary LN₂ systems

Bulk Tank	Room	LN Supply	Others
Centerra	Pressure	Dy	LN Plant
85%	2.7 bar	30.8 %	stopped
			10:17

The LN plant ran for 28% of the time in the last 10 days. It has logged a total of **22,370** hours since 2013-02-16 (71% duty).
The external fill point was used for 3 hours in the last 30 days. Since 2011-03-16 it has been in use for 504.4 hours.

GS FLX lab fridges & freezers more

id	Location	Description	Temp	Last Report
41	4-10	twin 80 chest freezer	-17.9	09:56
42	4-11	freezer fridge - freezer	-17.9	09:56
43	4-10	upright -20	-17.9	09:56
46	4-03	twin 80 chest freezer	-15.8	09:56
48	4-11	Fridge	5.2	09:56
42	virus lab	fridge fridge-freezer	0.2	10:16

GS FLX equipment and rooms more

id	Location	Description	Temp	CO2	O2	Last Report
11	embryo lab	Galaxy 145	39	6	3.9	10:15
14	embryo lab	Galaxy 170L	36.8	0.7		10:12
40	4-00	GS FLX cluster	19			10:18
48	4-03	ambient	21			09:56
50	virus lab	ambient	22.4			09:56
63	virus lab	incubator	38.3			09:56
90	LN2 room	ambient	22		20.9	10:17
95	LN Room (e12050 Probe)	e12050 probe	24.1			10:17
96	Generator Room	Water jacket	23.4			09:56
97	Generator Room	Ambient	26.2			09:56



why azizi?

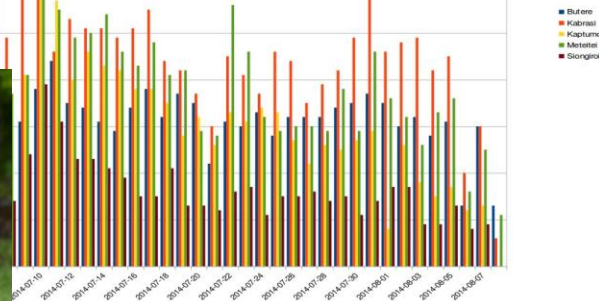
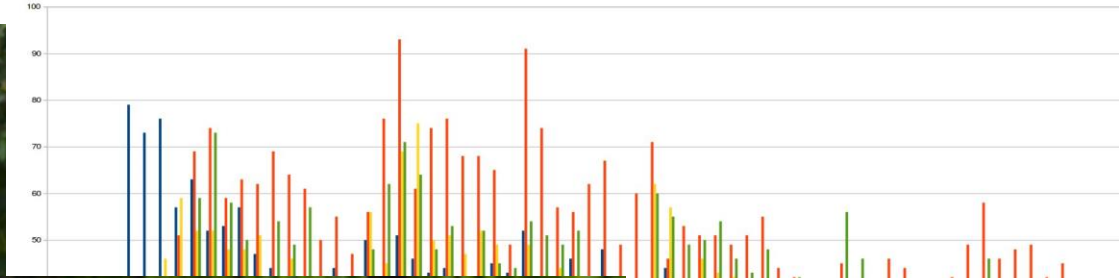
Data management systems

- ❑ A robust laboratory information management system for managing the samples and data, <http://azizi.ilri.org/labcollector>
- ❑ An online portal with access to open source samples and their metadata, <http://azizi.ilri.org>
- ❑ An online process for managing sample requests and approval, <http://azizi.ilri.org/repository>

access to cutting edge data
collection tools...

Ng'ombe Planner

a farmer centric data collection system



Recording of:

- Production data
- Reproduction events
- Sickness
- Events
- Sickness

Farmer Feedback System:

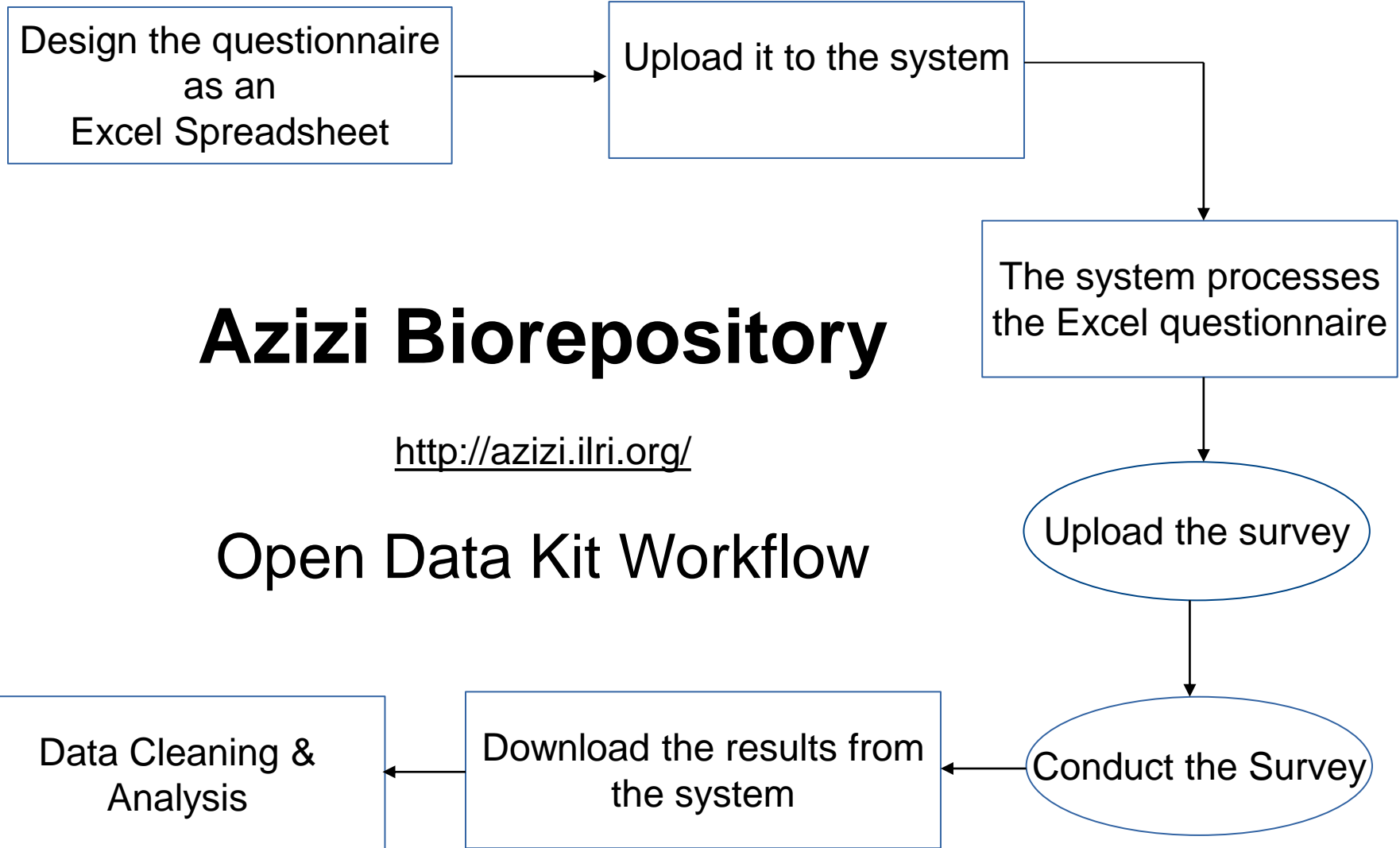
- Animal husbandry tips
- Farm management tips
- Reminders
- Notifications
- Retrieval of recorded data

Available on all phones:

- Low end phones via USSD
- Mid tier phones using Java
- High end phones - Android

Open Data Kit

a versatile suite of data collection tools



an open platform for research in the
region

...how it works...

Acknowledgements

The team

- Steve Kemp – Animal Biosciences team leader
- George Michuki
- Cecilia Rumberia
- Jason Rogena
- Moses Ogugo
- Alan Orth

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ILRI is a member of the CGIAR Consortium

Box 30709, Nairobi 00100 Kenya

Phone +254 20 422 3000

Fax +254 20 4223001

Email ilri-kenya@cgiar.org

ILRI has offices in:

- Central America • East Africa
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- Southern Africa • West Africa



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