

# Epidemiology and Control of Peste des Petits Ruminants in East and West Africa (ECo-PPR)

Building capacity of African researchers on epidemiology and socio-economic impacts of PPR: ECo-PPR toolbox training report



February 2021

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# Epidemiology and Control of Peste des Petits Ruminants in East and West Africa (ECo-PPR)

Building capacity of African researchers on epidemiology and socio-economic impacts of PPR: ECo-PPR toolbox training report

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February 2021

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ILRI thanks all donors and organizations which globally support its work through their contributions to the [CGIAR Trust Fund](#)



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Editing, design and layout—ILRI Editorial and Publishing Services, Addis Ababa, Ethiopia.

Cover photo: TALIRI/Gilbert Msuta

Citation: Ilboudo, G., Kotchofa, P., Dione, M., Ochieng, L., Machuka, E., Tune, F., Rutto, E., Campbell, Z., Okoth, E., Jones, B. and Wieland, B. 2021. *Epidemiology and Control of Peste des Petits Ruminants in East and West Africa (ECo-PPR). Building capacity of African researchers on epidemiology and socio-economic impacts of PPR: ECo-PPR toolbox training report.* Workshop report. Nairobi, Kenya: ILRI.

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# Acknowledgements

The Epidemiology and Control of Peste des Petits Ruminants (ECo-PPR) research project is funded by the European Commission through the International Fund for Agricultural Development (IFAD). It is implemented by the International Livestock Research Institute (ILRI). Special thanks to the following people who not only attended the training but also served as trainers by facilitating and organizing in-country activities: Sophie Masika, Harry Oyas and Purity Kiunga from the Directorate of Veterinary Services in Kenya; Gilbert Msuta, Daniel Mdetele, Selemani Makungu and Michael Madege from the Ministry of Livestock and Fisheries in Tanzania. We also thank the partners in West Africa, namely the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), Institut Sénégalais de Recherches Agricoles (ISRA), Centre International de Recherche-Développement sur l'Élevage en Zone Subhumide (CIRDES) and Laboratoire Central Vétérinaire (LCV).

# Summary

The Epidemiology and Control of Peste des Petits Ruminants (ECo-PPR) research project contributes to ongoing global peste des petits ruminants (PPR) control and eradication efforts by focusing on existing research gaps and supporting control and eradication in six project countries in East Africa (Kenya, Tanzania and Ethiopia) and West Africa (Senegal, Mali and Burkina Faso). To harmonize data collection across these countries and among partners, we developed a toolbox of data collection instruments for qualitative and quantitative studies of PPR epidemiology and socio-economics. Sixty-seven participants representing all six partner countries attended one of two training sessions that were held between August and October 2020 in preparation for fieldwork. Most participants were veterinary professionals and paraprofessionals who will collect data in the field directly, train others, and/ or supervise fieldwork. This report summarizes how the training was carried out, the contents of the training sessions and the lessons learned. We describe two training models: a virtual training in West Africa and a hybrid training with virtual and in-person components in East Africa. The training structure was adapted from an in-person model in response to the challenges presented by the COVID-19 pandemic.

# Introduction

Small ruminants are important assets for livestock keepers in developing countries. They are a source of livelihood, provide readily available cash when needed, are rich sources of protein, and fulfill socio-cultural functions. However, the multifunctional role of small ruminants is threatened by a high burden of disease, including of peste des petits ruminants (PPR). The control of PPR in endemic settings poses a series of challenges that need to be addressed systematically. The International Livestock Research Institute (ILRI) is implementing the ECo-PPR project to support ongoing global PPR control and eradication efforts spearheaded by the PPR Secretariat of the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE) (OIE and FAO 2015). The project will generate evidence to support surveillance and control actions in selected countries with emphasis on high-risk areas that are difficult to reach with vaccination campaigns and may become pockets of infection (ILRI 2019).

Implementing the project involves working closely with partners in the study countries and coordinating data collection across all six countries. This training was designed to prepare partners to begin research activities. The training objectives were to:

- i. introduce the toolbox of data collection tools for qualitative and quantitative studies of PPR epidemiology and socio-economics to training participants,
- ii. make participants familiar with how all the research activities fit together and
- iii. support partners to develop actions plans for the implementation of the research activities.

Some of the data collection tools are administered electronically using the Open Data Kit (ODK) software (Data Software For Social Good 2020). Familiarizing participants with ODK was an important part of the first objective of the training since not all participants had experience with this software.

## Training methodology and implementation

Two training models were used:

**Virtual training:** The West Africa training was composed of daily online sessions lasting about two hours and suggested activities for participants to complete in their own time (“homework”). It was facilitated by staff from ILRI and the Royal Veterinary College. Twenty participants attended from Senegal, Burkina Faso and Mali. The training was six days in length.

Photo 1: Participants and trainers in the West Africa virtual training (photo credit: ILRI/Zoë Campbell)



**Hybrid training (in-person and virtual components):** The East Africa training was modified after observing what went well and what could be improved in the West Africa training. Participants from Tanzania and Kenya attended in-person, country-level meetings, which had 25 and 19 attendees, respectively, facilitated by national partners from each country. The trainers were a mix of in-country facilitators representing national institutions and ILRI staff. The Kenya meeting had ILRI staff attending the in-person training because it was held close to the ILRI Nairobi campus. Each day, an online session of about two hours was facilitated by ILRI staff and in-person supplemental and independent activities for participants in Kenya and Tanzania took the rest of the day. Three participants from Ethiopia and three colleagues from a partner project in Uganda joined the online sessions and completed the suggested activities in their own time. The training was five days in length.



Photo 2: Tanzania training participants (photo credit: TALIRI/Gilbert Msuta).



Table 1: Details of the training in East and West Africa

Training	Dates	Length	Format	Participant location	# Participants	# Trainers
West Africa	Aug 31-Sep 7, 2020	Six days	Virtual only	Senegal, Mali, Burkina Faso	20	6
East Africa	Oct 5-9, 2020	Five days	In-person/ virtual	Tanzania	25	16*
			In-person/ virtual	Kenya	19	
			Virtual only	Ethiopia	3	
			Virtual only	BUILD Uganda guests	3	
<b>Total</b>					<b>70</b>	

\* Some of the trainers in East Africa are cross-listed as participants at the end of the report.

## Training materials development

Preparing extensive training materials ahead of time was key to the successful execution of the training. The training materials developed by the ECo-PPR team included:

- Training videos, which presented and explained each tool with comments. For each tool there was an ‘overview’ video with a short description of the tool and a second ‘research guide’ video detailing how to use the tool. Some videos were stand-alone, such as the ‘Introduction to the toolbox’ and ‘Sample strategy’ videos. A total of 17 training videos recorded in English and French and are publicly available on the [ECo-PPR YouTube channel](#) (ILRI 2020).
- A sharing platform, which was created on CGIAR’s CGSpace. It contains other important ECo-PPR resources including the project study design and toolbox (Wieland et al. 2020a) and field researcher manual (Wieland et al. 2020b). The study design and toolbox describes the background of the project, the workshop and other activities organized as part of ECo-PPR, as well as the process development of the research methods. The field researcher manual describes all the tools in detail and contains informed consent forms, questionnaires, guides, etc. It describes all the study types and how each tool should be implemented on the field.

All materials were made available and the links were shared with participants before the training. Videos were made available temporarily to participants and facilitators to download ahead of time and access off-line in case of limited internet connectivity.

Photo 3: Kenyan participants attending the virtual session in the hybrid training (photo credit: ILRI/Eunice Machuka).



## West Africa virtual training

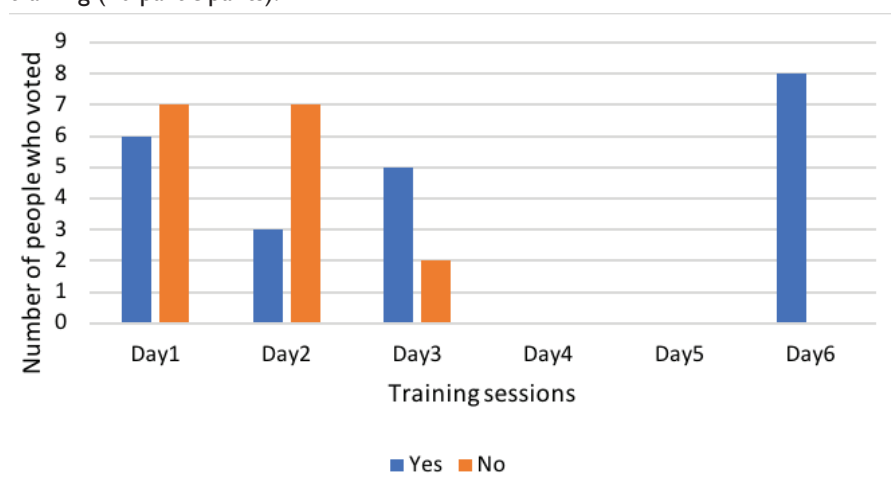
The agenda of the online sessions in the West Africa virtual training is presented in Annex 1. Six sessions were organized during the six days of training using the Zoom video conferencing program. Each session consisted of (i) an overall presentation of the tools including aim and online location, (ii) a discussion of the tools that participants had looked at in their own time, (iii) a question and answer session, as well as (iv) an evaluation of the session and a final overall training evaluation. The evaluation of the sessions and the final training evaluation were done using Mentimeter, an interactive presentation software, to test the participants' understanding, know whether the homework was effective and stimulate discussions [mentimeter.com]. The online sessions were led by the trainers from ILRI and the Royal Veterinary College (listed in Annex 2) and lasted a maximum of two hours per session.

The participants were requested to engage with the tools and other resources before the following session. The resource consultation using the links shared by the trainers was carried out by the participants in their own time. The participants could contact the team of trainers for any questions/suggestions at any time through Microsoft Teams, email, text messages and/or calls.

### Lessons learned – West Africa

Before each session, the participants were asked if they were able to download and use the ODK forms on their tablets. The results are presented in Figure 1. At the beginning of the training, most of the participants had not used ODK, due to lack of time and access issues. Over the course of the week, they tried to use software, and by the final day, all the voting participants reported having downloaded and used ODK. One challenge to interpreting these results was computer sharing by colleagues located in the same lab or office, meaning that although there were 20 participants, not everyone voted individually with their own device.

Figure 1: 'Have you been able to download and use ODK?' – Response from the West African ECo-PPR toolbox training (20 participants).



At the end of the training, each participant was asked to give one thing they liked about the training and one thing that needed to be improved. The results are shown in Table 2.

Table 2: Results of West Africa ECo-PPR toolbox training evaluation

Liked	Disliked/needs to be improved
Training materials (document, videos)	Too much break
Trainers team flexibility	Too much time spent on Mentimeter polls
Multidisciplinary research tools	Too many evaluations
Clarity of the tools and explanations	Slowness of participants to respond
Use of Mentimeter polls	Sessions sometimes exceed the planned time
Discussions	Duration of the training time
Experience sharing	Meeting in person is better
Trainers availability outside of the virtual sessions	
Informative tools	

The trainers were pleased with the quality of feedback, which they used to make some minor adjustments to the tools and protocols. One challenge was the inability of participants to fully engage with the supplementary materials because of ongoing work responsibilities. This realization in conjunction with concerns about internet access for some participants encouraged us to modify the East Africa training to include some in-person activities at the country level.

## East Africa hybrid training

The agenda of the hybrid training in Tanzania and Kenya was based on the virtual training schedule in West Africa with the addition of in-person activities for participants in the two countries. The Tanzania training agenda is presented in Annex 4 as an example. Some of the additional activities made possible by the in-person format included:

- Expanded opening remarks by Harry Oyas and Purity Kiunga of the Directorate of Veterinary Services (Kenya) and Hezron Nonga of the Director of Veterinary Services (Tanzania).
- Ice-breaker games for participants to get to know each other.
- Role-playing research activities such as participatory disease surveillance and household surveys.
- Group discussions about bias in research (Kenya) and sample size in market surveys (Tanzania).
- Daily recap sessions led by participants (Tanzania).
- Mood meter to check the mood of participants each day (Tanzania).
- Technical support for ODK in-person (Kenya).
- More detailed, country-level planning meetings to discuss resources needed and identify next steps to begin field work.

Photo 4: Mood meter chart used by participants in Tanzania training (photo credit: TALIRI/Gilbert Msuta).



The mood meter in Tanzania was used to understand mood of the participants at the end of each day's training. Most participants felt happy with the training sessions on days one and two. Unfortunately, for the rest of the days, participants did not remember to fill in the mood meter because the sessions for days three, four and five ended quite late.

Photo 5: Participant leading a recap session in Tanzania (photo credit: TALIRI/Gilbert Msuta).



Photo 6: Participant leading a recap session in Tanzania (photo credit: TALIRI/Gilbert Msuta).

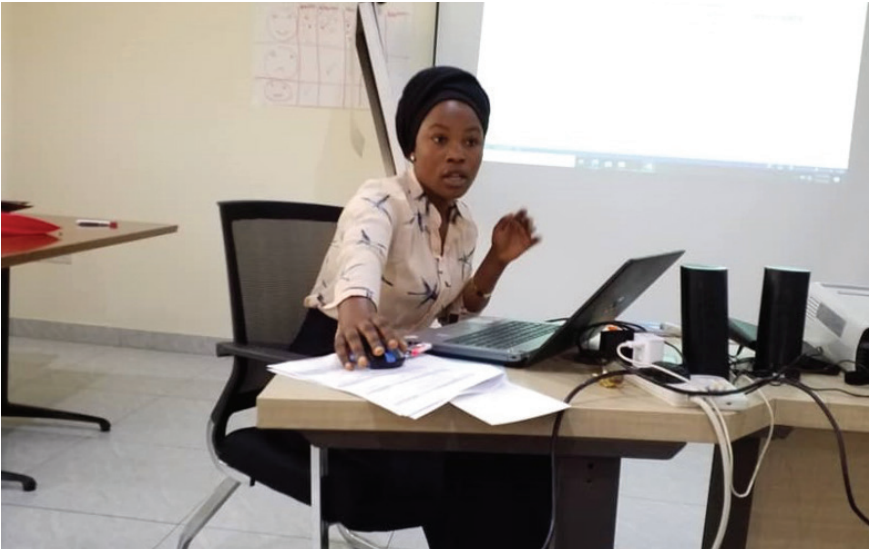


Photo 7: Participants role-playing the use of market survey and flock dynamics tools in Tanzania (photo credit: TALIRI/Gilbert Msuta).





On the final day of the training, the East Africa training participants were asked what they liked and what they disliked/needs to be improved for future training events. Their responses are in Table 3.

Table 3: Results of East African ECo-PPR Toolbox training evaluation

Liked	Disliked/needs to be improved
1. Approach to disease surveillance	1. Insufficient time to cover all material
2. Efficient moderation	2. Too much material to cover
3. Focus on research in different communities	3. No practice for virtual participants
4. Superb videos	4. Did not like the virtual sessions
5. 'Humble and charming' in-country facilitators	5. Could be more practical
6. Hands-on, sufficient time to discuss all the tools	6. Practice participatory disease surveillance in the field
7. Independence to do activities in own time	7. Add evaluation of filled ODK form



## Conclusion

The West Africa and East Africa training was designed to prepare ECo-PPR project partners to collect data in the field using the project's toolbox of data collection tools. In response to the COVID-19 pandemic, the ECo-PPR team developed two training models that allowed for training without the need for international travel by participants or trainers. Participants in the training with an in-person component reported using ODK earlier in the training than participants attending the virtual training only, probably because of increased technical support and the benefit of learning in a group at a designated time.

The next step for the project team is finalizing field work planning, including timelines, logistical issues, and structure of field staff teams; and to begin baseline studies. This training also identified additional training needs, such as participatory disease surveillance (PDS), which will be incorporated into future training.

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# Annexes

## Annex I :West Africa training agenda

Date	Time (GMT)	Activity	Responsible
Monday 31 August	10:00 – 11:30	Training opening words	Barbara Wieland (project PI)
		Training agenda presentation	Michel
		Introduction to ECo-PPR project	
		Online localization and access to training material (CGSPACE, ODK, YouTube channel)	
		Tool presentation: 1. Introduction to toolbox; 2. Key informant interviews; 3. Community meeting; How to download ODK et connect to server	Guy and Michel
		Questions & Answers	Pacem
Tuesday 1 September	10:00 – 11:30	Training evaluation et discussions on yesterday's material. Access to ODK	Guy, Michel and Bryony
		Tool presentation: 4. Household surveys	Pacem
Wednesday 2 September	10:00 – 11:30	Training evaluation et discussions on yesterday's material.	Pacem and Zoë
		Tool presentation: 5. Market surveys; 6. Flock dynamics	Guy and Pacem
Thursday 3 September	10:00 – 11:30	Training evaluation et discussions on yesterday's material	Guy, Pacem and Bryony
		Tool presentation: 7. Participatory disease surveillance; 8. Outbreak investigation	Michel and Bryony
Friday 4 September	10:00 – 11:30	Training evaluation et discussions on yesterday's material.	Michel and Bryony
		Tool presentation: 9. Study site selection, Sampling strategy and samples and sites numbering; 10. Qualitative research method	Michel and Bryony
Monday 7 September	10:00-11:30	Discussions and conclusion; Training evaluation; Identification of next steps.	Michel and Guy
		Closing words of the training	Barbara Wieland (project PI)

## Annex 2 : List of West Africa trainers

Name	Specialty	Institute	Gender
Michel Dione	Epidemiology	ILRI	M
Zoë Campbell	Gender	ILRI	F
Pacem Kotchofa	Socio-economics	ILRI	F
Barbara Wieland	Epidemiology	ILRI	F
Bryony Jones	Epidemiology	Royal Veterinary College	F
Guy Ilboudo	Epidemiology	ILRI	M

## Annex 3: List of West Africa participants

No	Name	Country	Institution	Gender
1	Biguezeton Abel	Burkina Faso	CIRDES <sup>1</sup>	M
2	Belem Adama	Burkina Faso	CIRDES	M
3	Ouedraogo Adoul Salam	Burkina Faso	Chef de Service Protection Sanitaire (intérim)	M
4	Delabougli Alexis	France	CIRAD <sup>2</sup>	F
5	Sery Amadou	Mali	LCV	M
6	Ba Aminata	Sénégal	ISRA/LNERV <sup>3</sup>	F
7	Marion Border	Dakar	CIRAD	F
8	Ouedraogo Brice	Burkina Faso	Agent au service Epidémiologie	M
9	Squarzoni Cécile	France	CIRAD	F
10	Sidibe Cheick Abou Kounta	Mali	LCV	M
11	Kassie Daouda	Burkina Faso	CIRAD	M
12	Cheick O. Fomba	Mali	DNSV <sup>4</sup>	M
13	Diop Gaye Laye	Sénégal	ISRA/LNERV	F
14	Zangre Hamidou	Burkina Faso	Agent au Service Protection Sanitaire	M
15	Yameogo Hélène	Burkina Faso	Agent au service Epidémiologie	F
16	Papa Abdoulaye Kane	Sénégal	ISRA/BAME <sup>5</sup>	M
17	Boubacar Kanouté	Mali	DNSV	M
18	Kone Mamadou	Mali	Laboratoire Central Vétérinaire (LCV)	M
19	Ndiaye Mbengué	Sénégal	ISRA/LNERV	F
20	Sall Moussa	Sénégal	ISRA/BAME	M
21	Lo Moustapha	Sénégal	ISRA/LNERV	M
22	Illy P. Dieudonné	Burkina Faso	Chef de service Epidémiologie (intérim)	M
23	Guigma W.V. Yacinthe	Burkina Faso	Directeur de la Santé Animale	M
24	Bengaly Zakaria	Burkina Faso	CIRDES	M

1 Centre International de Recherche-Développement sur l'Élevage en zone Subhumide

2 Centre de coopération internationale en recherche agronomique pour le développement

3 Institut Sénégalais de Recherches Agricoles / Laboratoire National d'Élevage et de Recherches Vétérinaires

4 Direction Nationale des Services Vétérinaire

5 Bureau d'analyse macro-économique

## Annex 4: East Africa training agenda

Date	Time (EAT)	Activity	Responsible
Monday 5 October	9:00 – 10:30	Registration, introductions	Daniel/ Gilbert
		Remarks from DVS – official opening	DVS
		Introduction activity (Bingo)	
		Watch (1) Introduction to toolbox	
	10:30-10:45	Tea break	
	10:45-11:00	Login to Zoom meeting	Daniel/ Gilbert
	11:00 – 12:30	Presentation of ECo-PPR project	Barbara Wieland
		Presentation of the training agenda	Edward Okoth
		Online location and access to training material (CGSPACE, Eco-PPR website, YouTube channel)	Zoë Campbell
		Introduce Mentimeter	
	Explain afternoon activities.	Bryony Jones	
12:30-13:30	Lunch		
13:30-16:30	Watch the videos (2) Key informant interview, (3) Community meeting, (10) Qualitative research methods.  Role play activities.  Download ODK and access the server to download research tools.  Formulation of four working groups	Gilbert/Madege  Daniel/Makungu	
Tuesday 6 October	8:30 – 10:30	Recap the previous presentation.	All
		Presentation on community approach and procedures to follow during interviews and after.	Daniel
	10:30-10:45	Tea break	
	10:45-11:00	Login to Zoom meeting	Daniel/ Gilbert
	11:00 – 12:30	Evaluation of training and discussions on material of the previous day.	Zoë and Bryony
		Capturing stories	
		Accessing ODK demonstration.	Zoë
		Explain afternoon activities.	Edward and Fiona
12:30-13:30	Lunch		
13:30-16:30	Watch 'Gender and livestock development' by Henry Kiara (link below) as an example of capturing a good story. Watch the video for (4) Household survey. Practice administering the household survey and flock examination in ODK in small groups.	Gilbert/Madege  Daniel/Makungu	
Wednesday 7 October	8:30 – 10:30	Recap on using of ODK,	Gilbert/Daniel
		Group presentations – on learned things and what can be improved	All
	10:30-10:45	Tea break	
	10:45-11:00	Login to Zoom meeting	Daniel/ Gilbert
	11:00 – 12:30	Discussions on material of the previous day	Bryony and Zoë
		Explain afternoon activities.	Fiona and Edward
	12:30-13:30	Lunch	
13:30-16:30	Watch the videos for (5) Market survey, (6) Flock dynamics. Practice administering the tools in ODK in small groups.	Gilbert/Madege  Daniel/Makungu	

Date	Time (EAT)	Activity	Responsible
Thursday 8 October	8:30 – 10:30	Recap on day 3 activities. Group presentations – learned things and what to be improved	All
	10:30-10:45	Tea break	
	10.45-11.00	Login to Zoom meeting	Daniel/ Gilbert
	11:00 – 12:30	Evaluation of training and discussions on material of the previous day	Edward, Bryony, Zoë
		Explain afternoon activities.	Edward and Zoë
	12:30-13:30	Lunch	
	13:30-16:30	Watch the videos for (7) Participatory disease surveillance; (8) Outbreak investigation, (9) Site selection, sampling strategy and numbering systems and complete the activities suggested.	Gilbert/Madege Daniel/Makungu
Friday 9 October	8:30 – 10:30	Recap on day four activities. Group work presentations – series of activities during project activities implementation	All All
	10:30-10:45	Tea break	
	10.45-11.00	Login to Zoom meeting	Daniel/ Gilbert
	11:00 – 13:00	Discussions on material of the previous day. Present next steps (by steps)	Edward, Bryony, Zoë
		Evaluation of training. Identify next steps for conducting baseline studies.	Edward
		Closing remarks	Barbara
	13:00 – 14:00	Lunch	
	14:00 – 16:30	Zone and district plans and preparations on project implementations – Presentation and discussions. Importance of preparation of field work reports and submission on time. Closing remarks	All Daniel DVS

\*Schedule note: Grey is virtual meeting with other East African project partners, white is in-person activities in Tanzania.

## Annex 5: List of East Africa trainers

\*In-country facilitator

No.	Name	Specialty	Institute	Gender
1	Edward Okoth*	Epidemiology	ILRI	M
2	Sophie Masika*	Veterinary	DVS <sup>1</sup>	F
3	Harry Oyas*	Veterinary	DVS	M
4	Purity Kiunga*	Veterinary	DVS	F
5	Lawrence Ochieng*	Research	ILRI	M
6	Eunice Machuka*	Laboratory	ILRI	F
7	Fiona Machuka*	Research	ILRI	F
8	Rosekellen Njiru*	Project administration	ILRI	F
9	Gilbert Msuta*	Veterinary	Ministry/ TALIRI2	M
10	Daniel Mdetele*	Veterinary	Ministry/ TALIRI2	M
11	Selemani Makungu*	Veterinary	Ministry/ TALIRI2	M
12	Michael Madege*	Veterinary	Ministry/ TALIRI2	M
13	Erick Rutto*	Computer programming	ILRI	M
14	Zoë Campbell	Gender	ILRI	F
15	Bryony Jones	Epidemiology	ILRI	F
16	Barbara Wieland	Epidemiology	ILRI	F

<sup>1</sup> Directorate of Veterinary Services, Kenya

## Annex 6: List of East Africa participants

No	Name	Country	Institution/ Position	Gender
1	Justinian Silialis Lutatina	Tanzania	ZVC <sup>1</sup>	M
2	Irene S. Haule	Tanzania	TVLA <sup>2</sup>	F
3	Innocent Giles Mrope	Tanzania	DVO <sup>3</sup>	M
4	Samwel Mngumi	Tanzania	ZVC <sup>1</sup>	M
5	Oliver Ngonyani	Tanzania	ZVC <sup>1</sup>	F
6	Michael Ziwa	Tanzania	DVO <sup>3</sup>	M
7	Jerome Majaliwa	Tanzania	ZVC <sup>1</sup>	M
8	Rosamystica M. Sambu	Tanzania	ZVC <sup>1</sup>	F
9	All Said Ngimbwa	Tanzania	DVO <sup>3</sup>	M
10	Solomon Wilson Nong'ona	Tanzania	ZVC <sup>1</sup>	M
11	Neema Masuka	Tanzania	ZVC <sup>1</sup>	F
12	Nasibu Nyagawa -	Tanzania	DVO <sup>3</sup>	M
13	Henry Donart Kissinga	Tanzania	ZVC <sup>1</sup>	M
14	Haika Isaya Senkunde	Tanzania	ZVC <sup>1</sup>	F
15	Saad Shem Nyagawa	Tanzania	DVO <sup>3</sup>	M
16	Raphael Mwampashi	Tanzania	ZVC <sup>1</sup>	M
17	Violeth Charles Ndonde	Tanzania	ZVC <sup>1</sup>	F
18	Juma O. Kapilima	Tanzania	DVO <sup>3</sup>	M
19	Michael Madege*	Tanzania	Ministry/ TALIRI <sup>4</sup>	M
20	Makungu Luka Selemani*	Tanzania	Ministry/ TALIRI <sup>4</sup>	M
21	Daniel Mdetele*	Tanzania	Ministry/ TALIRI <sup>4</sup>	M
22	Gibert Msuta*	Tanzania	Ministry/ TALIRI <sup>4</sup>	M
23	Hezron Nonga	Tanzania	Ministry/ TALIRI <sup>4</sup>	M
24	John Edward Miligwa	Tanzania	Ministry	M
25	Veronica	Tanzania	IITA <sup>5</sup>	F
26	Sophie Masika*	Kenya	DVS <sup>6</sup>	F
27	Harry Oyas*	Kenya	DVS <sup>6</sup>	M
28	Purity Kiunga*	Kenya	DVS <sup>6</sup>	F
29	Bernard Chege	Kenya	County representative	M
30	Michael Baariu	Kenya	County representative	M
31	Diba Denge	Kenya	County representative	M
32	Josphat Muema	Kenya	County representative	M
33	Patrick Muthui	Kenya	County representative	M
34	Dennis Mwongela	Kenya	County representative	M
35	Ruth Origa	Kenya	County representative	F
36	George Rabah	Kenya	County representative	M
37	William Omolo	Kenya	County representative	M
38	Evans Kemboi	Kenya	County representative	M
39	Benard Waweru	Kenya	County representative	M
40	Augusta Kivunzya	Kenya	County representative	M
41	Mark Melita	Kenya	County representative	M
42	Moreno Kitesho	Kenya	County representative	M
43	Willy Mutinda	Kenya	County representative	M



No	Name	Country	Institution/ Position	Gender
44	Kenneth Ketter	Kenya	DVS <sup>6</sup>	M
45	Tsega Berhe	Ethiopia	ILRI	F
46	Gezahegn Alemayehu	Ethiopia	ILRI	M
47	Mesfin Mekonnen	Ethiopia	ILRI	M
48	Jane Namatovu	Uganda	BUILD Uganda project <sup>7</sup>	F
49	Marsy Asindu	Uganda	BUILD Uganda project <sup>7</sup>	M
50	Peter Lule	Uganda	BUILD Uganda project <sup>7</sup>	M

\*Cross-listed as an in-country facilitator/trainer

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- 1 Zonal Veterinary Center
  - 2 Tanzania Veterinary Laboratory Agency
  - 3 District Veterinary Officer
  - 4 Ministry of Livestock and Fisheries / Tanzania Livestock Research Institute
  - 5 International Institute of Tropical Agriculture
  - 6 Directorate of Veterinary Services
  - 7 Boosting Uganda's Investments in Livestock Development