

International Livestock Research Institute

Training course report

Hands-on training on harvesting in the small ruminant
value chain in Ethiopia

December 2013





This publication is copyrighted by the International Livestock Research Institute (ILRI). It is licensed for use under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported License. To view this license, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/>. Unless otherwise noted, you are free to copy, duplicate, or reproduce, and distribute, display, or transmit any part of this publication or portions thereof without permission, and to make translations, adaptations, or other derivative works under the following conditions:

-  **ATTRIBUTION.** The work must be attributed, but not in any way that suggests endorsement by ILRI or the author(s)
-  **NON-COMMERCIAL.** This work may not be used for commercial purposes.
-  **SHARE ALIKE.** If this work is altered, transformed, or built upon, the resulting work must be distributed only under the same or similar license to this one.

NOTICE

For any reuse or distribution, the license terms of this work must be made clear to others.

Any of the above conditions can be waived if permission is obtained from the copyright holder.

Nothing in this license impairs or restricts the author's moral rights.

Fair dealing and other rights are in no way affected by the above.

The parts used must not misrepresent the meaning of the publication. ILRI would appreciate being sent a copy of any materials in which text, photos etc. have been used.

Written by Barbara Szonyi

Edited and formatted by Tezira Lore

Citation

ILRI (International Livestock Research Institute). 2013. *Hands-on training on harvesting in the small ruminant value chain in Ethiopia*. Report of a training course for meat inspectors held at Debre Zeit, Ethiopia on 25-29 November 2013. Nairobi, Kenya: ILRI.

Acknowledgement: This training course was organized with the financial support of the Federal Ministry for Economic Cooperation and Development, Germany, and the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), led by the International Food Policy Research Institute.

Contents

Project background.....	1
Training summary	1
Training curriculum.....	2
Agenda	4
Training materials	5
Training evaluation by participants.....	6
List of participants	8

Project background

Safe Food, Fair Food is a regional project in sub-Saharan Africa led by the International Livestock Research Institute (ILRI) and funded by BMZ/GIZ. It is promoting food safety in informal markets through risk-based approaches. Field studies are carried out in Ethiopia, Senegal, Tanzania and Uganda.

Training summary

Co-organizers

- Prof Dr Reinhard Fries and Dr Maximilian Baumann (Freie Universitaet Berlin)
- Dr Barbara Szonyi (ILRI)
- Dr Elias Walelign (Ministry of Agriculture)

Lecturers/facilitators

- Prof Dr Reinhard Fries, Director, Dipl. ECVPH, Institute of Meat Hygiene and Technology, Panel Veterinary Public Health, Food and Agriculture Organization of the United Nations (FAO) Reference Centre for Veterinary Public Health, Faculty of Veterinary Medicine, Free University Berlin
- Dr Maximilian Baumann, Head, FAO Reference Centre for Veterinary Public Health, Coordinator, International Animal Health, Faculty of Veterinary Medicine, Freie Universitaet Berlin
- Dr Elias Walelign, Coordinator, Veterinary Public Health case team, Ministry of Agriculture
- Dr Aklilu Feleke, Head of Department, Faculty of Veterinary Medicine, Addis Ababa University
- Ewen LeBorgne, Knowledge Sharing and Communications Specialist, ILRI
- Dr Barbara Szonyi, Researcher, ILRI

The five-day training course was given to 23 meat inspection veterinarians and meat inspectors from different regions of Ethiopia, including Tigray, Borena, Oromia, Amhara, Dire Dawa and Addis Ababa. The training was conducted by our German partners and advisors from the Faculty of Veterinary Medicine, Freie Universitaet Berlin in collaboration with the Ethiopian Ministry of Agriculture.

The training started with a world café style discussion focused on the trainees' experience in meat inspection. The discussion helped identify gaps in implementing key disease control measures in abattoirs in Ethiopia. Theoretical sessions covered topics such as diagnosis and prevention of transboundary and parasitic animal diseases relevant to the sheep and goat population in Ethiopia, technical procedures of ante mortem and post mortem inspection and elements of hygiene. The training included two half-day practical sessions in abattoirs around the Debre Zeit area and a visit to local butcher shops.

The training concluded with a short progress control. All trainees who successfully completed the training received a certificate and a CD-ROM with the lecture presentations and several additional resources.

Training curriculum

Unit 1

The scope: The situation of the complete sheep/mutton and goat value chain (3 hours)

Content

- The technical lines (vertical: the animal in its environment) from the place of origin via transport to slaughter, processing and consumption
- Hazards and risks identified and allocated to each of these stages
- Techniques for verification of presence or absence of the identified risks
- Options for intervention (treatment, vaccination, separation, stamping out, condemnation)
- Organization models (personnel, position of detection, private, public, internal, external)

Presentations

1400 Technical lines from primary production to consumption (Fries)

1500 Hazards and risks in sheep and goat value chains (Fries)

1630 The Ethiopian situation (Elias)

Unit 2

The risks: Diseases, metabolic disorders and technopathies (4 hours)

Content

- The challenge: Transboundary animal diseases and prevailing diseases of economic importance for the Ethiopian small ruminant population
- Detection, verification of presence or absence of diseases
- Surveillance, control and intervention
- Preventive measures (e.g. early warning), control (e.g. stamping out in heavy cases, condemnation (parts or total) after post mortem, safe destruction of unsafe materials)

Presentations

1400 Transboundary animal diseases in the Ethiopian sheep and goat populations (Baumann)
Individual and flock-based diagnosis (clinical signs, pathology)
Surveillance and regional information sources

1500 Detection, verification, intervention (Baumann)

1630 Diseases of non-epidemic nature in the sheep and goat population (parasitic cycles, bacterial and viral diseases, metabolic disorders) (Szonyi)
Individual and flock-based diagnosis (clinical signs, pathology)

1730 Detection, verification, intervention (Szonyi)

Unit 3: Methods and techniques: Elements of inspection (3 hours)

Content

- Information from the living animal
- Information from the life history of the animal or flock (e.g. health status from the region)
- Ante mortem inspection: Individual and/or flock-based clinical examination
- Information from the animal post mortem
- Post mortem inspection: necropsy, laboratory-based examination according to the case (further analysis if needed/desired)

Presentations

1400 Technical procedures of ante mortem (Fries and Elias)

1500 Technical procedures of individual morphological post mortem (Fries and Baumann)

1630 Sampling: Positions for different purposes (in case of doubt) and type of testing (Fries and Aklilu)

Unit 4: Elements of hygiene (1 hour)

Content

- The challenge: Shelf stability and food safety as a basis for food security (zoonotic and spoilage agents in animals and animal products)
- Prevention: Good practices (biosecurity) along the chain (living and slaughtered animals)
 - Verification of hygiene by 'testing'
 - Microbiological methods (sampling, sample transport and laboratory testing)
 - Observation using checklists (recording on a daily basis)
 - For residues: Biological testing and chemistry
- Interventions
 - Change of technical steps along the line
 - Check previous steps, e.g. check on incoming goods

Presentation

1730 Hygiene: Practical procedures and verification measures (Fries)

Unit 5: Case studies (2 hours)

Content

Examples from daily hands-on work in the abattoir

- What was observed? (slides)
- How to assess (options for further examination needed?)
- Options of intervention (prevention, treatment or condemnation)

Presentations

1400 Case studies: Session 1 (Fries, Baumann and Elias)

1500 Case studies: Session 2 (Fries, Baumann and Elias)

Agenda

	Monday 25 Nov	Tuesday 26 Nov	Wednesday 27 Nov	Thursday 28 Nov	Friday 29 Nov
Morning	Theory		Practical: Abattoirs		Practical: Retail outlets
			Abattoir 1	Abattoir 2	Meat shops, supermarkets, restaurants
	Introduction, objectives, background Focus-group discussions Setting the scene Background Experiences, Expectations Ex ante knowledge assessment	Unit 2 The disease risks along the food chain Detection and control options along the chain	Observation and application of lessons learned <ul style="list-style-type: none"> • Ante mortem Demonstration by trainers; Application by trainees	Observation and application of lessons learned <ul style="list-style-type: none"> • Post mortem Demonstration by trainers; Application by trainees	Observation and application of lessons learned <ul style="list-style-type: none"> • Good hygiene practices Discussion between trainers and trainees
LUNCH BREAK					
Afternoon	Theory				
	All along the food chain: Unit 1 The given situation	Methods and techniques Unit 3a: Elements of inspection <ul style="list-style-type: none"> • Ante mortem 	Methods and techniques Unit 3b: Elements of inspection <ul style="list-style-type: none"> • Post mortem 	Methods and techniques Unit 4: Elements of hygiene	Unit 5: Case studies Progress control Evaluation Handing over of certificates
				Dinner: Mutton and goat meat is inspected by trainees	

Training materials

All trainees received a CD-ROM with the lecture presentations and several additional resources including:

- Atlas of transboundary animal diseases by Fernandez and White
- Control of hazards of public health and animal health importance through ante and post mortem
- Meat inspection information document prepared by the World Organization for Animal Health working group on animal production food safety
- Foreign animal diseases by the United States Animal Health Association (“Gray Book”)
- Good practices for the meat industry by FAO
- Guide to good farming practices for animal production food safety by FAO
- Publications by the Ministry of Agriculture and Rural Development, Animal and Plant Health Regulatory Directorate, Ethiopia

Training evaluation by participants

According to the evaluation of the training course by the participants, more than 86% of them considered their learning success as very high (50%) or high (36.4%), indicating that overall the workshop was a success.

The participants highly appreciated the teaching methods and the approach chosen (practical sessions linked to the lectures and presentations given in the afternoon); more than 90% found the two abattoir visits very useful.

Most of the participants (60-84%) rated the level of the lectures as “OK” while none rated them as “hard”. However, the amount of the lectures was rated “too much” by 40-50% of the respondents.

Most of the comments were positive and encouraging for another workshop to be carried out by the project. Some participants complained that no print-outs were given during the workshop. However, as stated earlier in this report, all participants who successfully completed the training received the presentations on a CD-ROM.

Results of the training evaluation

Teaching methods

Session	n	Rating		
		Too little	About right	Too much
Lectures	21	-	16 (76.2%)	5 (23.8%)
Practicals	22	2 (9.1%)	14 (63.6%)	6 (27.3%)
Outside visits	22	3 (13.6%)	13 (59.1%)	6 (27.3%)

Logistics

Item	n	Rating		
		Problem	OK	Good
Travel arrangements	22	-	4 (18.2%)	18 (81.8%)
Accommodation	21	-	5 (23.8%)	16 (76.2%)
Teaching facilities	22	-	6 (27.3%)	16 (72.7%)

Practicals and visits

Place visited	Rating		
	Very useful	OK	Not useful
Modjo Modern Abattoir: Ante mortem	21(95.5%)	1(4.5%)	-
Modjo Organic Abattoir: Post mortem	20 (90.9%)	2 (9.1%)	-
Butcher shops in Dukam: Hygiene	11(50%)	8(36.4%)	3 (13.6%)

Lectures

Lecture & lecturer	Rating of level of lectures				Rating of amount of lectures			
	n	Easy	OK	Hard	n	Little	OK	Too much
World Café (LeBorgne)	18	6 (33.3%)	12 (66.7%)	-	19	2 (10.5%)	10 (52.6%)	7 (36.8%)
Introductory lecture (Fries)	18	5 (27.8%)	13 (72.2%)	-	15	-	8 (53.3%)	7 (46.7%)
Ethiopian small ruminant value chain (Elias)	18	4 (22.2%)	14 (77.8%)	-	18	-	10 (55.6%)	8 (44.4%)
Transboundary Animal Diseases (TAD) in the Ethiopian small ruminant chain (Baumann)	19	3 (15.8%)	16 (84.2%)	-	18	2 (11.1%)	9 (50%)	7 (38.9%)
SFFF2 Project presentation & Selected parasitic, metabolic & production diseases of sheep & goat (Szonyi)	20	5 (25%)	15 (75%)	-	19	3 (15.8%)	10 (52.6%)	6 (31.6%)
Technical procedures of ante mortem (Fries)	18	6 (33.3%)	12 (66.7%)	-	18	1 (5.6%)	8 (44.4%)	9 (50%)
Technical procedures of post mortem (Fries)	20	8 (40%)	12 (60%)	-	20	1 (5%)	10 (50%)	9 (45%)
Elements of hygiene (Fries)	19	6 (31.6%)	13 (68.4%)	-	19	1 (5.3%)	11 (57.9%)	7 (36.8%)
Bacteriological techniques (Aklilu)	21	6 (28.6%)	15 (71.4%)	-	19	1 (5.3%)	13 (68.4%)	5 (26.3%)
Application of hygiene techniques (Fries)	19	8 (42.1%)	11 (57.9%)	-	20	1 (5%)	9 (45%)	10 (50%)

Rating of personal learning success (n = 22)

Very high	11 (50%)
High	8 (36.4%)
Medium	3 (13.6%)

List of participants

Name	Sex	Institution	Country of origin	Country classification	Education level/designation
Gedion Yilma	M	Coordinator, Export abattoirs case team, Ministry of Agriculture	Ethiopia	Developing	Masters
Tizita Bekele	F	Addis Ababa University	Ethiopia	Developing	Veterinarian
Deneke Tadesse	M	Dire Dawa	Ethiopia	Developing	Veterinarian
Girma Tulu	M	Dire Dawa	Ethiopia	Developing	Animal Health Assistant (AHA)
Teshome Aynamesa	M	Addis Ababa	Ethiopia	Developing	AHA
Yeshidagne Belayehun	M	Addis Ababa	Ethiopia	Developing	AHA
Mekonnen Jima	M	Legetafo (Oromia)	Ethiopia	Developing	AHA
Befikadu Assefa	M	Sululta (Oromia)	Ethiopia	Developing	AHA
Lidet Wome	M	Bule Hora (Borana)	Ethiopia	Developing	Veterinarian
Amerach Abebe	F	Yabello (Borana)	Ethiopia	Developing	AHA
Biniam Aberha	M	Kuha (Tigray)	Ethiopia	Developing	Veterinarian
Teklebirhan Desta	M	Mekelle (Tigray)	Ethiopia	Developing	AHA
Melkamu Kassa	M	Abergelle export slaughterhouse	Ethiopia	Developing	AHA
Abera Bitew	M	Asharaf export slaughterhouse	Ethiopia	Developing	AHA
Gezahegn Bekele	M	Luna export slaughterhouse	Ethiopia	Developing	AHA
Gadisse Sarbessa	M	Organic export slaughterhouse	Ethiopia	Developing	AHA
Alemnesh Desta	F	Modern export slaughterhouse	Ethiopia	Developing	AHA
Seifu Telila	M	Elfora export slaughterhouse	Ethiopia	Developing	AHA
Kebenesh Kitaw	F	Hashim Nuru export slaughterhouse	Ethiopia	Developing	AHA
Tiru Alem	M	Bahirdar (Amhara)	Ethiopia	Developing	AHA
Asnake Mengeste	M	Gondar (Amhara)	Ethiopia	Developing	AHA
Girma Teshome	M	Dessie (Amhara)	Ethiopia	Developing	Veterinarian
Betiso Tuko	M	Awassa, Debub	Ethiopia	Developing	AHA