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WORKSHOP REPORT

Heat stress assessment stakeholder consultation in Uganda

March 2020

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ACKNOWLEDGEMENTS

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BACKGROUND

Heat stress is a global issue constraining livestock production, and it is likely to intensify under future climate change. It has both direct and indirect impacts. Recently, the International Centre for Tropical Agriculture (CIAT) conducted heat stress risk mapping for six livestock species namely: dairy, beef, pig, sheep, goat and poultry across East Africa. The results highlight hotspot areas where heat stress in the absence of adaptation and mitigation strategies, will significantly affect livestock production. In light of the heat stress mapping study for dairy and pig, the livestock CRP planned to conduct an adaptation-planning workshop in Uganda.

The objectives of the workshop included:-

i. Present and discuss heat stress analysis (historic and future trends) for Uganda
ii. Assess the key risks and consequences across the value chains
iii. Identify on-going and potential adaptation options across the values chains
iv. Formulate high-level priority actions to support adaption to future heat stress

WORKSHOP CONTENT

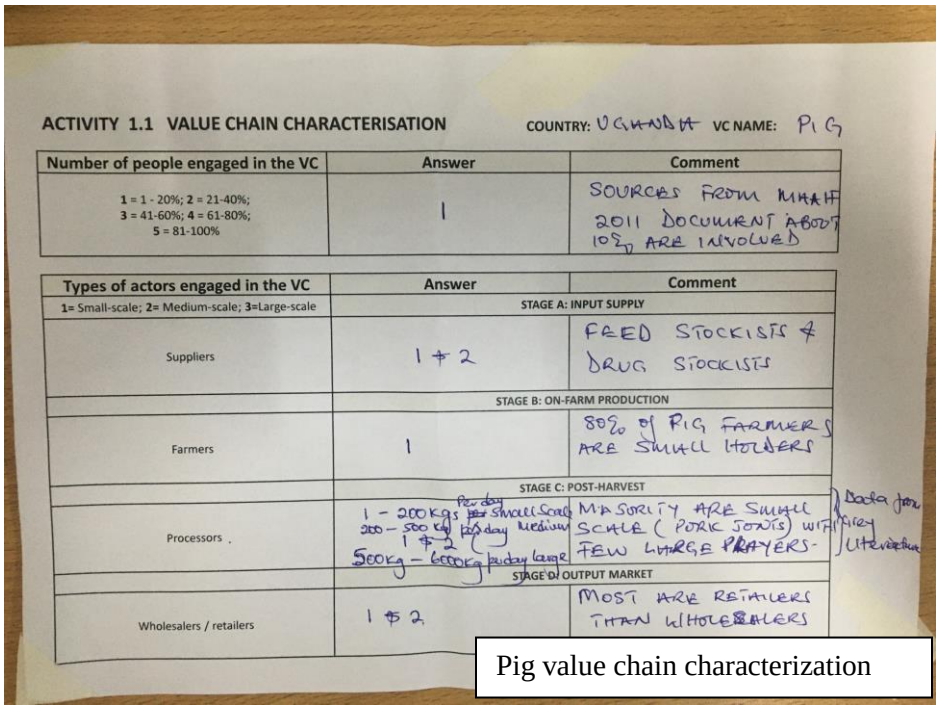
The one-day workshop (*see Annex 1*) included several sessions and topics that introduced participants to heat stress risk on pigs and dairy. First, participants were taken through the results of heat stress analysis (historic and future trends) for Uganda. The presentation is available here hdl.handle.net/10568/107764. Participants then split into two groups representing the two value chains for all group activities.

1) Value Chain Characterization

Activities in this session included:

i. Documenting key activities for the two value chains
ii. Actors for the two value chains

iii. Scale of operation for the two value chains



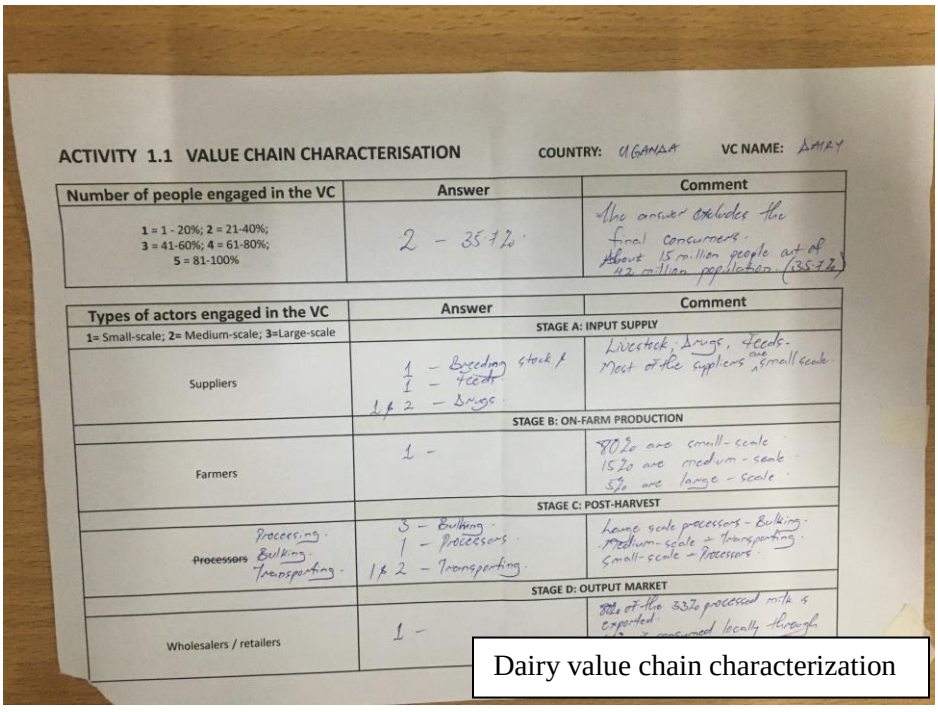
ACTIVITY 1.1 VALUE CHAIN CHARACTERISATION COUNTRY: UGANDA VC NAME: PIG

Number of people engaged in the VC	Answer	Comment
1 = 1 - 20%; 2 = 21-40%; 3 = 41-60%; 4 = 61-80%; 5 = 81-100%	1	SOURCES FROM MAAIF 2011 DOCUMENT ABOUT 10% ARE INVOLVED

Types of actors engaged in the VC	Answer	Comment
1= Small-scale; 2= Medium-scale; 3=Large-scale	STAGE A: INPUT SUPPLY	
Suppliers	1 + 2	FEED STOCKISTS & DRUG STOCKISTS
	STAGE B: ON-FARM PRODUCTION	
Farmers	1	80% of PIG FARMERS ARE SMALL HOLDERS
	STAGE C: POST-HARVEST	
Processors	1 - 200kgs per day small scale; 200 - 500 kg per day medium; 1 + 2; 500kg - 600kg per day large	MAJORITY ARE SMALL SCALE (PORK JOINTS) WITH FEW LARGE PLAYERS.
	STAGE D: OUTPUT MARKET	
Wholesalers / retailers	1 + 2	MOST ARE RETAILERS THAN WHOLESALERS

Data for dairy literature

Pig value chain characterization



ACTIVITY 1.1 VALUE CHAIN CHARACTERISATION COUNTRY: UGANDA VC NAME: DAIRY

Number of people engaged in the VC	Answer	Comment
1 = 1 - 20%; 2 = 21-40%; 3 = 41-60%; 4 = 61-80%; 5 = 81-100%	2 - 35.7%	The answer excludes the final consumers. About 15 million people out of 42 million population (35.7%)

Types of actors engaged in the VC	Answer	Comment
1= Small-scale; 2= Medium-scale; 3=Large-scale	STAGE A: INPUT SUPPLY	
Suppliers	1 - Breeding stock & 1 - feeds 1 & 2 - Drugs	Livestock, Drugs, feeds. Most of the suppliers are small scale
	STAGE B: ON-FARM PRODUCTION	
Farmers	1 -	80% are small-scale 15% are medium-scale 5% are large-scale
	STAGE C: POST-HARVEST	
~~Processors~~ Processing. Bulking. Transporting.	3 - Bulking. 1 - Processors. 1 & 2 - Transporting.	Large scale processors - Bulking. Medium-scale - Transporting. Small-scale - Processors
	STAGE D: OUTPUT MARKET	
Wholesalers / retailers	1 -	80% of the 33% processed milk is exported. consumed locally through

Dairy value chain characterization

Key highlights of value chain characterization

Pigs

- Majority of the players at the input supply stage are small to medium scale
- On-farm production is dominated by small-scale farmers
- Post-harvest is dominated by small scale pork joints with few large players
- Output market is dominated by small-scale retailers and a few wholesalers

Dairy

- Majority of the suppliers of breeding stock and feeds are small-scale while drugs are supplied by small-scale to medium-scale suppliers.
- On farm production is composed of 80% small-scale, 15% are medium-scale, and 5 % large-scale farmers
- Post-harvest handling is composed of large scale bulkers, medium-scale transporters and small-scale processors
- 80% of the processed milk is sold, 67% is consumed locally through retailers

2) Risk matrix

Activities in this session included:

i. Identifying key risks for the selected value chain
ii. Heat stress consequences for the value chain activities
iii. Underlying vulnerability factors (climatic, biophysical, social, economic, and institutional) and impacts of heat stress to the selected value chains

Consequences of heat stress

Pig

- Affects the design of the structure and adds cost for appropriate structures
- Increases disease prevalence adding costs of treatment and increases mortality rates
- Changes transportation patterns (from day to night), and increases cost of transportation
- Reduces volume of trade

Dairy

- Reduced feed intake
- Affects the storage, potency and shelf life of drugs
- In availability of feeds and water
- Reduces quality of the milk and increase transportation costs (use of cooling tanks)

3) Adaptation options

Activities in this session included identifying:

i. Current ongoing adaptation options across the value chain stages
ii. Potential heat stress adaptation strategies and more specifically what is possible to do in the current CRP program and future/other programs

Farmers and other actors are already adapting to the changing heat stress by modifying animal structures for the case of pigs and changing their selection of breeds for the case of dairy. Other adaptation options include: -

On-going adaptation options for pigs

- Use of Indigenous micro-organisms (IMO) as a feeding method
- Promotion of heat stress-tolerant breeds
- Transporting animals to the market at night
- Increased establishment of pig market associations

On-going adaptation options for dairy

- Enforcement on drug storage and vending
- Increased use of fodder banks
- Increased cross breeding of Friesians and Jerseys for more adaptability
- Establishment of milk sheds for supplements and prevent direct heat stress
- Use of milk tankers that are insulated to transport milk during the day

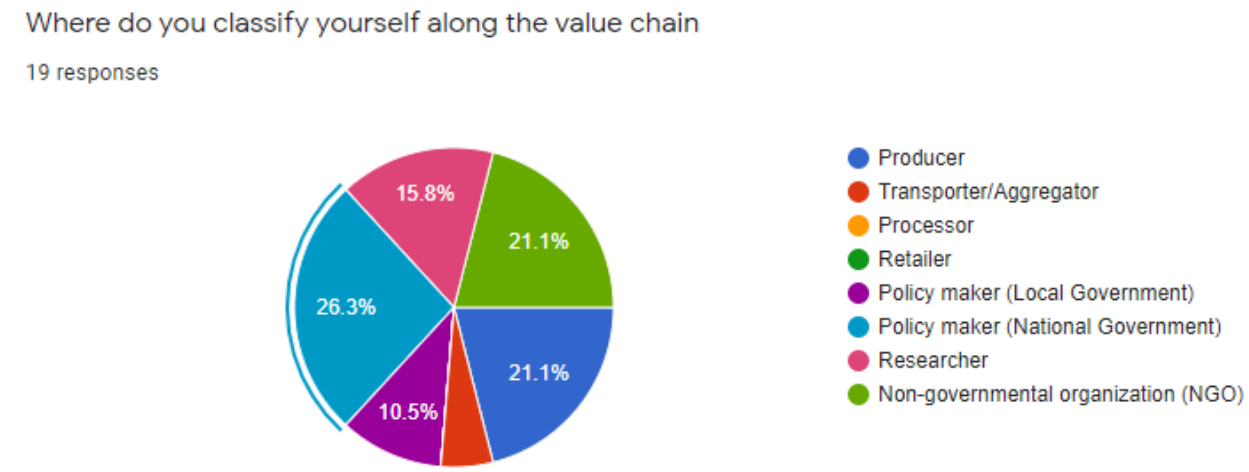
4) High-level priority actions to support heat stress adaptation

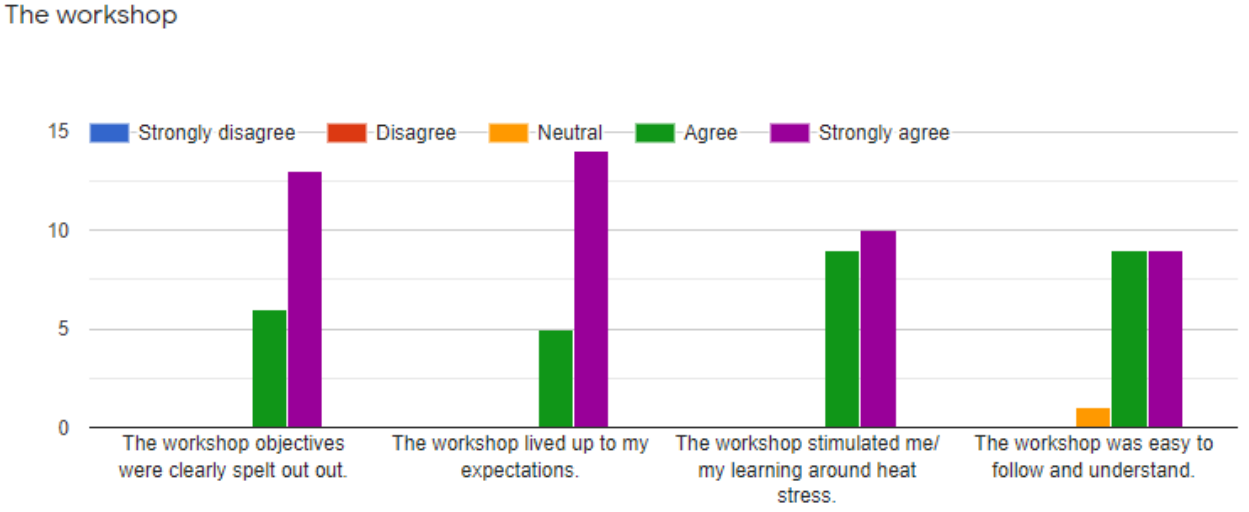
Heat stress impacts cut across the value chain. In the end several high-level priority actions to support heat stress adaption were formulated. See table below:-

Stakeholder	Action
Donors	• Knowledge and information sharing on how to access funding • Catalyzing smart innovations • Increase investments and funding
Research	• More research on animal welfare • Research on tree species for pastures and silvopastoral systems • Research on climate resilient livestock breeds • Research on climate resilient forages/pastures
NGO/ Civil society	• Promotion of climate adaptation technologies • Work closely with research • More Advocacy • Gender mainstreaming of heat stress • More mobilization of communities and coordination of work on the ground
Private sector	• Re-investment of profit into resilience (CSR) • Be involved in research and collaborate • Sharing experiences from elsewhere • Mainstreaming climate change into extension
Policy	• Re-alignment of policies • Actionable guidelines to roll out adaptation • Enforcement of standards (quality and transport), should be easily understandable, dissemination • Stakeholder's coordination • Develop data sharing portal • Mainstreaming adaptation into extension • Gender mainstreaming
Producer organizations	• Linkage to other stakeholders including financial institutions • Self-regulations (aggregators) • Mainstreaming heat stress adaptation into extension • Self-organization of producer associations

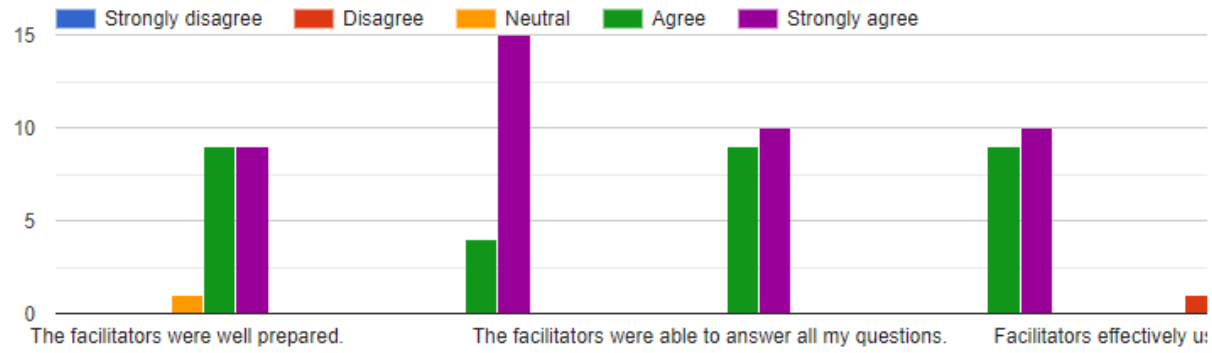
WORKSHOP EVALUATION

Nineteen participants (*see Annex 2*) representing actors in the value chain i.e. producers, transporters/aggregators; processor, retailers, policymakers (Local Government), policymakers (National Government), researchers and non-governmental organization (NGO) participated in the evaluation. Participants were provided with an opportunity to give feedback on the workshop (form responses are anonymous). Here are some of the responses:



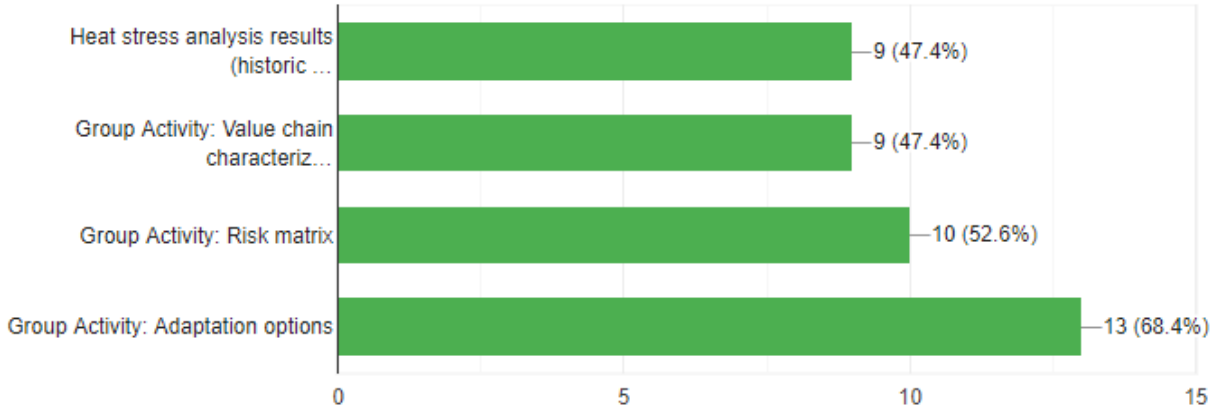


Skill and responsiveness of facilitators



My favorite sessions

19 responses



CONCLUSIONS AND RECOMMENDATIONS

According to the participants, all aspects of the workshop were very useful and the workshop lived up to their expectations. The content contained good insights on the effects of heat stress on dairy and pigs. Participants saw a need to develop programs on heat stress adaptation and capacity building of farmers/ processors on heat stress. In addition, the participants requested for more consultation workshops/ stakeholder engagements in the future towards creating awareness on climate change/ heat stress effects on livestock.

ANNEX 1: Workshop Program

HEAT STRESS ASSESSMENT STAKEHOLDER CONSULTATION WORKSHOP
21 February 2020, Kampala, Uganda

Objectives:
1. Present and discuss heat stress analysis (historic and future trends) for Uganda
2. Assess the key risks and consequences across the value chains
3. Identify on-going and potential adaptation options across the values chains
4. Formulate high-level priority actions to support adaption to future heat stress

TIME	**ACTIVITY**	**RESPONSIBLE**
08:30 - 09:00	Welcome remarks and Introductions	Birthe
09:00 - 09:45	Present and discuss heat stress analysis results (historic and future trends) for Uganda	John
09:45 - 10:30	**Group Activity**: Value chain characterization - Key activities, actors, scale of operation	John
10:30 - 11:00	**COFFEE BREAK**	
11:00 - 11:30	Group presentation on VC characterization and key insights	Paul
11:30 - 12:30	**Group Activity**: Risk matrix Identify key risks for the selected value chain - Heat stress consequences for the value chain activities - What are underlying vulnerability factors (Climatic, Biophysical, Social, Economic, and Institutional) and impacts of heat stress to the selected value chains	John
12:30 - 13:30	**LUNCH**	
13:30 - 14:00	Group presentation on risks and key insights	Paul

14:00 - 15:00	**Group Activity**: Adaptation options - Identify current ongoing adaptation options across the value chain stages - What are proposed/potential heat stress adaptation strategies (what is possible to do in the current CRP program and future/other programs)	John
15:00 - 15:30	Group presentation on adaptation options and key insights	Paul
15:30 - 16:00	**COFFEE BREAK**	
16:00 - 16:30	**Plenary**: Formulate high-level priority actions to support adaption to future heat stress	Birthe
16:30 - 17:00	Next steps and evaluation	Birthe

ANNEX 2: Participants List

S/N	Name	Organization	Email Address
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