Sustainable Cooling and Cold-Chain Foundation Course.

Training Proceedings Report

20th - 24th May, 2024

ICIPE Campus, Kasarani

Acronyms and Abbreviations

ACES	Africa Centre of Excellence for Sustainable Cooling and Cold chain.
ACTS	African Centre for Technology Studies
CCH	Community Cooling Hub
SPOKE	Specialized Outreach and Knowledge Establishment
ToT	Training of Trainers
AFNS	Agriculture, Food and Nutrition Security
GAP	Good agricultural practices

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1.0 Introduction

The Africa Centre of Excellence for Sustainable Cooling and Cold-chain (ACES) is leading the way in the development and roll-out of affordable, sustainable, resilient, and equitable cooling and cold-chain solutions in the agri-food and health sectors in Africa. Cold chain can be considered critical infrastructure for a functioning society. ACES is spearhead by the Governments of Rwanda and the United Kingdom; the United Nations Environment Program; the UK's Centre for Sustainable Cooling bringing together a consortium of leading UK and international universities (Cranfield University, London South Bank University, Heriot-Watt University, University of Birmingham, VU Amsterdam, Wageningen University and Research), and the University of Rwanda and the African Centre for Technology Studies (ACTS).

In collaboration with ACES, ACTS is rolling out the Specialized Outreach and Knowledge Establishment (SPOKE, as in country models, to showcase real-world applications of how the cold chain solutions can be deployed and providing outreach learning, training and knowledge transfer and technical assistance to support local community uptake. As part of the suite of training and capacity building programs, ACES in collaboration with ACTS developed and delivered the inaugural Cold Chain foundation course in Kenya that aimed at providing participants with a solid and comprehensive understanding of fundamental concepts, skills, and knowledge on sustainable food (and some pharmaceutical) cold chain. The course, which will be held on a rolling basis, serves as a building block, preparing interested individuals for more advanced and specialized knowledge and skills.

The course attracted a lot of interest with a total of 109 applications received; 94 were Kenyans and 15 non-Kenyans, within Africa. This was an indication of the demand for such a course across the continent. 15 participants were selected for the first cohort (5 women and 10 men). Morevover, 10 of the participants were below 35 years, thus predominantly youth. The remaining applications were retained on file for consideration in the subsequent cohorts to be offered on a rolling basis.

1.1 Training Overview

The training course had 12 modules:

- Cold-Chains – what are they?
- Cold-Chains – why are they needed?
- Cold-Chains – environmental impacts and risks.
- Cold-Chains and food/pharma – needs assessment.
- Postharvest management: biology of fresh produce.
- Postharvest management: pre-cooling.
- Cold-chain and refrigeration techniques and refrigerant choices.
- Industry training programs.
- Market connectivity: logistics including transport.
- Telemetrics and data logging.
- Measuring quality.
- Cold chain requirements for the storage and transportation of vaccines.
- Regulatory compliance and quality and safety control.

- The business model imperative.
- A site visit to Instaveg Limited; a fresh produce exporter company

1.2 Participants

The training participants were drawn from across public, private, NGOs and community-based organizations as summarized in table 1 below. The full list of participants is included in *Annex 3*. The distribution of participants is summarized in below

Category of Participant	Count
Agribusiness value chains - Processing/Value Addition /Gluten Free Organic foods	4
Aquaculture	1
Floriculture	1
Food manufacturing/safety and quality	2
Horticultural Export	2
Dairy Industry (Milk production and processing)	1
Renewable Energy, Cold Chain and Post-harvest	1
Service Industry	1
Retail Markets	1
Grand Total	**14**

Table 1. Distribution of participants

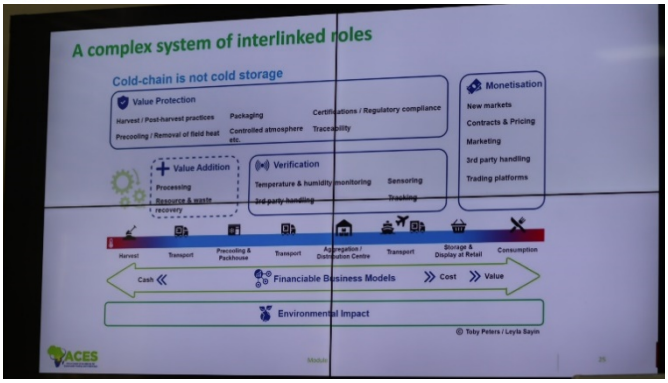
1.3 Training Approach

The training was delivered through lectures, videos and teleconferencing, panel discussions, and practical demonstrations and a site/industry visit to an export company to see how cold chain has been integrated. The training was run by a team of facilitators from ACTS complemented with guest facilitators from industry and academia. Training modules prepared by experts from ACES and contextualized by the ACTS team were used to guide the training. All the material was made available to the participants.

2.0 Summary Proceedings

This report summarizes the workshop's proceedings, including an overview of the discussion points that emerged. At the onset of the training, participants were requested to share their overall expectation on the foundation course. The stated expectations were: To gain skills and practical knowledge on sustainable cold chains and network with other players in the cold chain industry
The five-day program was organized around the various modules. The program over is provide in the agenda included in Annex 2. This section captures the summary of the proceedings of the training organized by day.

2.1 Day One



2.1.1 Cold chain- what are they?

The training started with a general introduction of cold chain, outlining what they are and why we need them especially in the food systems. Cold chains are multi-dimensional, temperature-controlled networks that must maintain perishable and temperature-sensitive products at their optimum temperature and environment from point of harvest to destination. They can be static or mobile (e.g. vehicles). The important message is cold chain is not cold storage.

2.1.2 Cold-Chains – Environmental impacts and risks.

The impact of cold chain on the environment was discussed. The impacts included among others: 1. **Ozone depletion:** Ozone depleting refrigerants are released into the environment through leakages, improper handling during maintenance and disposal of old equipment 2. **Greenhouse gas emissions**: Refrigeration systems use refrigerants like hydrofluorocarbons (HFCs), which are potent greenhouse gases 3. **Energy Consumption:** Refrigeration systems (in warehouses, retails & transport) consume energy and accounts for 8% of all electrical energy use in the food industry 4. **Noise Pollution:** Large refrigeration units in cold storage facilities also generate noise 5. **Water usage & pollution:** Refrigeration systems like hydrocooling can lead to depletion of water resources especially where water is scarce.

2.1.3 Cold-Chains and food/pharma – needs assessment.

The session guided participants through the process of using data gathered through a needs assessment, which is an important step in understanding cold chain demand. This data is then used to guide the design of effective cold chain systems. The participants were also introduced to the methodology and the tools that can be used for conducting needs assessments. ACTS has recently conducted a need assessment in preparation for a pilot intervention to introduce sustainable cooling. The process and the data were used to explain and discuss with the participants on the process in a practical way. Participants were given the opportunity to provide feedback on the need assessment presentation and discuss its relevance to their current activities.

2.1.4 Postharvest management: pre-cooling.

The session was interesting to participants because of its real-life application and examples. It started off with the definition of precooling, followed by an explanation why precooling is a crucial step in the cold chain as a delay in cooling after harvest can affect the quality and marketability of fresh produce. After that different precooling methods were shown in a video and afterwards explained in detail and compared based on their efficiency and suitability for different products. The participants acknowledged that the presented methods are the industry standard which comes with a certain cost

and engaged into a discussion on what low-cost local alternatives for precooling exist. We discussed that shaded and a well-ventilated space is the easiest type of indirect cooling/prevention of further heating to implement, followed by evaporative cooling which is most suitable for hot and arid areas. As examples the charcoal cooler and clay pot cooler were mentioned.

2.2 Day Two.

2.2.1 Cold-chain and refrigeration techniques and refrigerant choices.

The basic components of a refrigeration system were presented. These are: evaporator, compressor, condenser, expansion valve and refrigerants. The landscape of refrigerant technology was also highlighted in this section; these are: 1st generation (Chlorofluorocarbons - CFC), 2nd generation (Hydrochlorofluorocarbons - HCFC), 3rd generation (Hydrofluorocarbons - HFC) and the 4th generation (Hydrofluoroolefin - HFO). While choosing refrigerants, it's recommended to consider the ones with low Global Warming Potential (GWP) and Ozone depleting potential (ODP).
The session touched on global efforts to phase out high GWP toward low GWP refrigerants that are more natural, as committed through the Montreal Protocol and the related Kigali amendment. This is what forms the sustainable cooling and cold chain agenda. However, for developing countries, the challenges to the transition relate to availability, cost and capacity for handling some of the refrigerants

2.2.2 Market connectivity: logistics including transport.

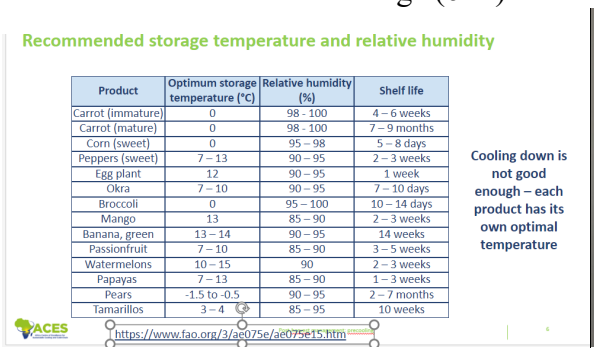
This session was organized to include watching some videos and a panel discussion. It explored several critical topics related to food loss, cold chain and market connectivity informed by the experiences of some of the participants. The issues discussed included: why food saved from post-harvest loss is important, the essence of connecting smallholder farmers to markets, what does market connectivity translate to? Some videos pulled from you tube was used to provide examples related to existing market connectivity and the integration of cold chain. The panel discussants were drawn from Fresh Produce Consortium of Kenya, Lukenya Growers, DigiChange agronomists and the World Vegetable Centre. They shared practical experiences and lessons, highlighting challenges and opportunities in aggregation, good agronomic practices in post-harvest management, highlighting the need for training, market connectivity and cold chain especially for smallholders.

2.2.3 Post-Harvest Quality Measurement Techniques

This session adopted both presentation and practical sessions on methods and tools for assessing post-harvest quality such as hygrometers, thermometers, and data loggers.

The participants were exposed to calibration and maintenance of measurement instruments and conducting quality assessments on various agricultural products, recording and analyzing data to inform cold chain management.

Some of materials used during the practical session were Ngowe mangoes, Kales, Tomatoes stored at different Conditions (Cold storage units set at 6°C & Ambient storage conditions at 25°C). The aim of the practical session was to evaluate the impact of cold storage temperature on the ripening and quality of Ngowe mangoes, kales, and tomatoes by measuring various parameters under two different conditions: cold storage (6°C) and ambient conditions (25°C).

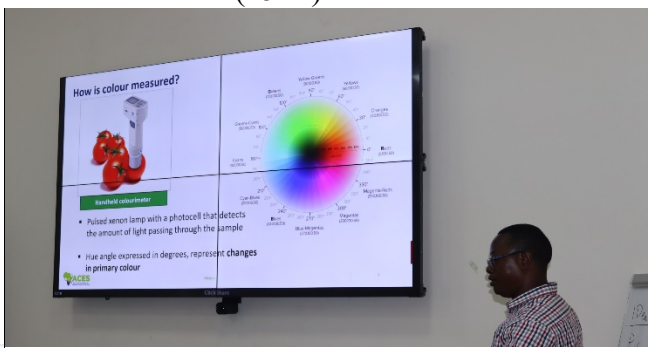


Recommended storage temperature and relative humidity

Product	Optimum storage temperature (°C)	Relative humidity (%)	Shelf life
Carrot (immature)	0	98 - 100	4 – 6 weeks
Carrot (mature)	0	98 - 100	7 – 9 months
Corn (sweet)	0	95 – 98	5 – 8 days
Peppers (sweet)	7 – 13	90 – 95	2 – 3 weeks
Egg plant	12	90 – 95	1 week
Okra	7 – 10	90 – 95	7 – 10 days
Broccoli	0	95 – 100	10 – 14 days
Mango	13	85 – 90	2 – 3 weeks
Banana, green	13 – 14	90 – 95	14 weeks
Passionfruit	7 – 10	85 – 90	3 – 5 weeks
Watermelons	10 – 15	90	2 – 3 weeks
Papayas	7 – 13	85 – 90	1 – 3 weeks
Pears	-1.5 to -0.5	90 – 95	2 – 7 months
Tamarillos	3 – 4	85 – 95	10 weeks

https://www.fao.org/3/ae075e/ae075e15.htm

Cooling down is not good enough – each product has its own optimal temperature



Practical session on Post-Harvest Quality Measurement Techniques.

2.3 Day Three.

2.3.1 Cold-Chain - vehicle demonstration/customer testimony

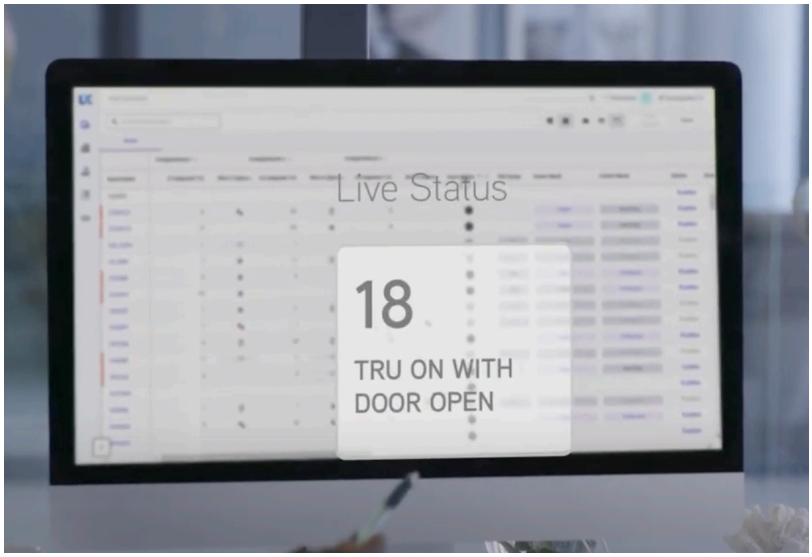
The session was a practical demonstration that was organized by Carrier, one of the industry partners of ACEs that specializes in various components of the cold chain including transportation on refrigerated trucks as a lifeline for industries that rely on the transportation of perishable goods. Cold trucks are increasingly deployed in the market as the dynamics of food markets shift, with more demand for quality and safety of food by market players such as supermarkets, specialized groceries and institutional buyers (e.g. hotels). Refrigerated trucks play a crucial role in the transportation and distribution of temperature-sensitive goods. The participants were taken through the basic operations, maintenance and challenges while using a refrigerated truck.

Vehicle demonstration by carrier.

The key component of a refrigerated truck trained on include: **1. Refrigeration Unit:** The heart of a refrigerated truck is its refrigeration unit. This unit is typically mounted on the front or the roof of the truck and contains the compressor, condenser, and evaporator. The unit is responsible for maintaining the desired temperature inside the truck's cargo area. **2. Insulation:** The cargo area of a refrigerated truck is insulated to minimize heat exchange with the external environment. This helps keep the temperature stable and prevents cold air from escaping. **3. Temperature monitoring-control system (telematics):** Modern refrigerated trucks are equipped with advanced monitoring systems that can control the desired conditions inside the cargo area.

Operating a refrigerated truck efficiently and effectively comes with its challenges. These challenges include: **1. Temperature Monitoring:** Accurate temperature monitoring is crucial to ensure that the cargo remains at the desired temperature throughout the journey. Any deviation can lead to spoilage or damage to the goods. **2. Maintenance:** Regular maintenance of the refrigeration unit is essential to prevent breakdowns and ensure it operates optimally. This includes checking for refrigerant leaks, cleaning coils, and replacing worn-out components. **3. Power Source:** Refrigerated trucks typically require a separate power source, either from the vehicle's engine or an external power supply when parked. Ensuring a consistent power source is critical to maintaining the cold chain.

In addition to the refrigerated truck demonstration, the Carrier team in France walked us through their Lynx system a fleet telematics platform that monitors connected refrigeration systems (mobile and static) from anywhere in the world, providing vital information that enables remote monitoring of their cold chain systems.



In the afternoon, the Danfoss Team had a chance to take the participants through the Danfoss Learning Academy which is a free online learning platform designed to help engineers, installers, service technicians, and students better understand the products, industry topics, and trends that will help them do their jobs better. This platform is a valuable resource that will contribute to closing the capacity gap related to refrigeration engineering technology which is continually evolving.

2.4 Day Four

2.4.1 Learning visit to Instaveg Ltd

Day four was an industry visit to Instaveg Ltd. Instaveg is a horticultural company in Kenya that aggregates and packs a range of horticultural produce for export companies, as well as for the local retail market. The company works on a contract farming model through which it engages with around 300 smallholder farmers, both in groups and as individuals. The company works with cooperatives through which it offers logistics, extension services and quality assurance. They are currently collecting produce from 12 farmers who can meet their standards.

Industry visit to Instaveg limited company.

The Instaveg visit offered an opportunity for participants to practically learn about cold pre-cooling facilities, packhouse operations, cold storage systems, transportation systems, distribution centers, processing facilities and broader issues related to dynamics of accessing export markets.
Instaveg Ltd operates an efficient cold room (6 MT capacity), a pack-house with cold chain transport and storage facilities. Instaveg is currently processing 40 to 50MT of fresh produce per month, operating 3 or 4 days a week. The new packhouse has a maximum practical processing capacity of around 120MT per month, with 70 people operating on two shifts. Instaveg's modular cold storage, pre-cooling and processing facility was developed as turnkey by InspiraFarms. This as part of the cold chain has enabled it to maintain quality standards and lower running costs and has enabled them to access higher value markets by meeting food safety standards, and reducing post-harvest losses and recalls from the market. The efficient processing and cold chain facilities enabled them increase their revenues and due

2.5 Day Five.

2.5.1 Cold chain requirements for the storage and transportation of vaccines.

This session briefly introduced aspects of cold chain in relation to pharmaceuticals, highlighting how like food produce, pharmaceutical products such as vaccine and other temperature sensitive medicines are lost due to gaps in cold chain. A major difference is with some of the high temperatures that are required to store and transport certain vaccines. The gaps are also noted for animal health vaccines, where lack of cold chain has contributed to high loss of vaccines and related burden of animal diseases, especially related to last mile delivery.

2.5.2 Cold regulatory compliance quality and safety.

This session addressed the cold-chain requirements essential for the storage and transportation of vaccines, along with the associated challenges. One of the primary issues is climate change; in warmer climates, vaccines can lose their potency due to exposure to heat and sunlight. Additionally, uncertainty in electrical power supply poses a significant challenge, with frequent power cuts disrupting the necessary refrigeration for vaccines. Flooding of roads further complicates transportation, and the high cost of electricity adds to the difficulty of maintaining cold chain equipment**.** In the last mile, off-grid storage and delivery are particularly problematic due to unreliable electricity. There is also a shortage of cold chain equipment in remote areas, coupled with poor

transportation infrastructure, making timely delivery challenging. These factors collectively lead to increased delivery costs and delays.

2.5.3 Business models

The session introduced the business model concept, covering several key areas: definitions, the introduction of the business model concept, its differences from a business plan, an illustration of the TBYB business model, and an interactive feedback session. Participants were tasked with developing or reviewing their organizational business model as a takeaway exercises. The session was highly interactive as it allowed participants to share examples of their business models. They also provided inputs on additional factors to consider in the TBYB model, such as tax payment schemes, including the newly introduced KRA etims for farmer organization taxation.

3.0 Evaluation and Feedback

During the final session of the course, participants were given a chance to assess training by providing their views, opinions, and recommendations for future capacity-building activities. Generally, all participants noted that their training objectives had been met, however, they provided some useful feedback captured in the next section that will be used to improve subsequent training sessions.

The assessment was conducted using the Mentimeter survey tool. < https://www.menti.com>. Evaluation questions covered various aspects, including the training content, facilitators, design, outcomes, and participants' intended application of the knowledge and skills acquired during the training. Open-ended questionnaires and Likert scales were used to evaluate the participants' feedback. (*Annex 2*). Results of the evaluations completed by the 14 training participants are summarized below:

3.1 Participants feedback

The participants were asked to evaluate the training in terms of the content, design and facilitators. Ratings on relevance of topics covered in the cold chain foundation course were as follows (1) Strongly Disagree; (2) Disagree; (3) Neither Agree nor Disagree; (4) Agree; (5) strongly Agree.

Participants feedback on training content.

Training Content	Mean	Scale
I was well informed about the objectives of the training.	4.6	Agree
The training lived up to my expectations.	4.6	Agree
The topics covered were relevant to me and my job.	4.6	Agree
The contents were organized and easy to follow.	4.5	Agree

The analysis of the feedback indicates a positive response, with participants reporting a clear understanding of the training objectives, fulfillment of their expectations, and that the topics were well-organized, easy to follow, and relevant to their job functions (mean score > 4).

Participant feedback on training design

Training Design	Mean	Scale
The objectives of the training were well defined	4.6	Agree
Training activities stimulated my learning.	4.5	Agree

Activities in this training gave me sufficient practice & feedback.	4.4	Agree
The pace of this training was appropriate.	4.7	Agree
Practical examples used were relevant to content and local context	4.4	Agree

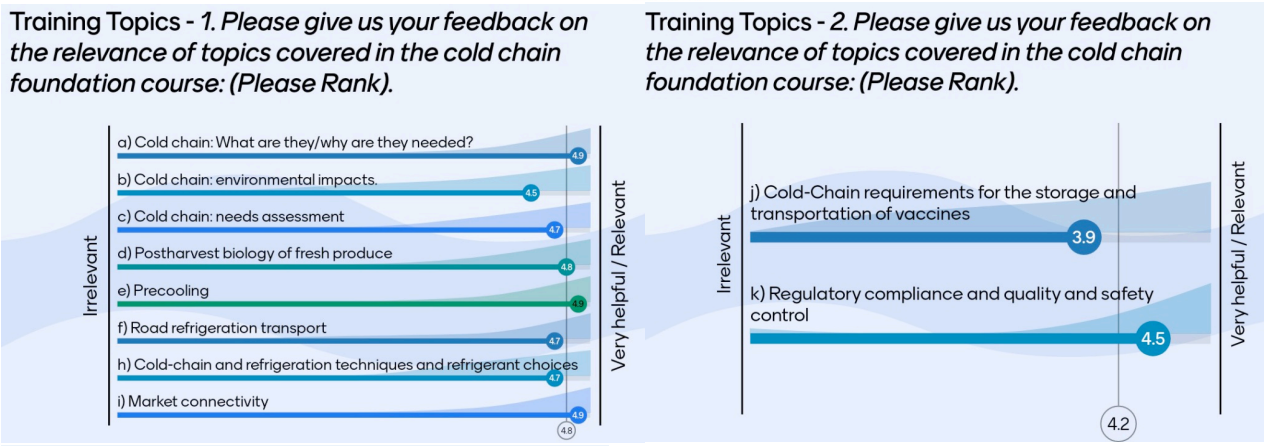
The feedback indicates a high level of satisfaction with the training design. The well-defined objectives, stimulating activities, adequate practice and feedback, appropriate pace, and relevant practical examples contributed to the positive feedback of the training program. These results suggest that the training design effectively met the participants' needs and expectation.

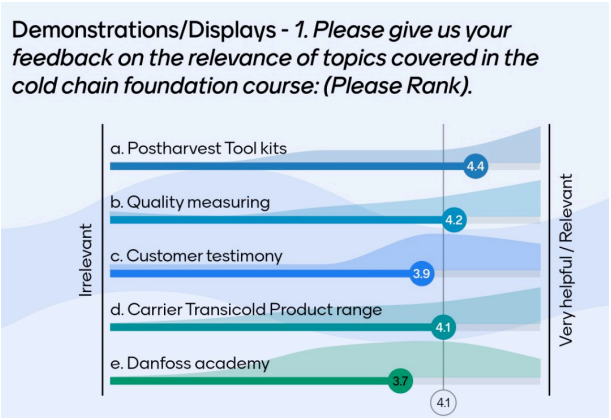
Participant feedback on training facilitators		
Training facilitators	Mean	Scale
The facilitator was well prepared	4.4	Agree
Facilitators demonstrated in-depth knowledge of the subject.	4.8	Agree
Facilitators stimulated my interest in the subject.	4.6	Agree
The facilitators were helpful	4.7	Agree

Overall, the feedback indicates strong satisfaction with the facilitators' preparation, knowledge, ability to engage participants, and helpfulness.

3.3 Participant feedback on relevance.

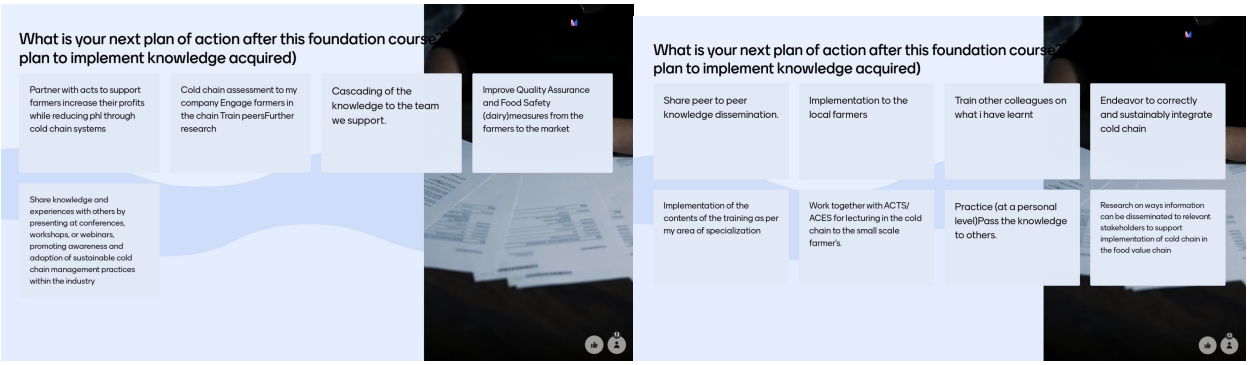
We used a 5-point Likert scale to rate the relevance of topics covered in the course (1 – Irrelevant, 2 - Not very helpful, 3 – Neutral, 4 – Helpful, 5 - Very helpful/very relevant.).





3.4 What is your next plan of action after this foundation course?

Participants were asked to share their way forward on how they intended to use the skills and knowledge gained in advancing the concept of cold chain in their respective industries, fields and institutions. Below are the insights of their next plan of action.



3.5 Intended application of skills learned

Participants suggested ways they are going to apply the knowledge and skills gained, these include

- Share peer-peer knowledge dissemination on cold chain.
- Cascading the knowledge to the team/Knowledge sharing.
- Improve quality assurance and food safety measures from the farmers to market.

3.6 Suggestions for improvement

Participants suggested the following areas that can be improved in future trainings

- Include more local, innovative and affordable solutions.
- Training should focus on both Livestock and Horticulture.
- More practical sessions.
- Data sharing on cold chain demand and supply and potential investment opportunities.

5. Annexes

Annex 1. Training Program

FOUNDATION TRAINING COURSE
DATE: 20TH MAY - 24TH MAY 2024
VENUE: ICIPE CAMPUS, NAIROBI

TIME	ACTIVITY	LEAD AND FACILITATOR (S)
20th May 2024 (Monday)		
08:00 - 09:00	Registration	Margaret Mwalughu
09:00 - 10:00	Introduction and welcome	Prof. Tom Ogada & Dr. Catherine Kilelu
10:00 - 11:00	Cold-Chains – what are they?	Isaiah Omolo
11:00 - 12:00	Cold-Chains – why are they needed?	Isaiah Omolo
12:00 – 12:15	**Break**	
12:15 – 13:15	Cold-Chains – environmental impacts and risks	Josphat Musyoki
13:15 - 14:15	**Lunch break**	
14:15 - 15:15	Cold-Chains and food/pharma – needs assessment	Dr.Catherine Kilelu /Daniel Musyoka
15:15 – 16:15	Postharvest management: biology of fresh produce	Dr. Dorcas kalele
16:15 - 16:30	**Break**	
16:30 - 17:30	Postharvest management: pre-cooling	Sonja Mettenleitter

TIME	ACTIVITY	LEAD
21st May 2024 (Tuesday)		
08:30 - 09:00	Day 1 Review and Q&A	Josphat Musyoki
09:00 - 10:00	Cold-chain and refrigeration techniques and refrigerant choices	Isaiah Omolo/Rahab Wanjiku
10:00 - 10:15	**Break**	
10:15 - 11:15	Cold-chain and refrigeration techniques and refrigerant choices	Isaiah Omolo/Rahab Wanjiku
11:15 - 11:30	**Break**	
11:30 - 12:30	Market connectivity: logistics including transport	Dr.Catherine Kilelu/Collins Kirui
12:30 - 13:30	**Lunch**	
13:30 - 14:30	Market connectivity: logistics including transport	Dr.Catherine Kilelu/Collins Kirui
14:30 - 15:00	Break	
15:00 - 17:30	Measuring quality session	Dr. Dorcas Kalele

TIME	ACTIVITY	LEAD
22nd May 2024 (Wednesday)		
09:00 - 09:30	Recap of Day 1 & 2	Josphat Musyoki
09:30 – 10:30	Cold-Chain - vehicle demonstration/customer testimony	Isaiah Omolo/Josphat Musyoki/Carrier
10:30 - 10:45	**Break**	
10:45 - 11:45	Road refrigeration transport	Isaiah/Josphat/Carrier
11:45 - 12:45	Telemetrics and data logging I	Isaiah/Josphat/Carrier (online)
12:45 - 13:45	**Lunch**	
13.45 – 14.45	Telemetrics and data logging II	Isaiah Omolo/Josphat Musyoki/Carrier (online)
14.45 – 15:15 (including 15 min break)	Danfoss Academy: what is it? how to access?	Isaiah Omolo/Josphat Musyoki/Danfoss
15:15 - 15:30	**Break**	
15:30 – 17:30	Danfoss time to access platform and work online; support from Danfoss and LSBU	Isaiah Omolo/Josphat Musyoki/Danfoss
23rd May 2024 (Thursday)		
TIME	**ACTIVITY**	**LEAD**
08:00 - 16:00	Cold chain visit (Pre-cooling facilities, packhouse, cold storage systems, transport facilities, distribution centres, processing facilities, markets)	Isaiah Omolo/Josphat Musyoki
16:00 - 17:30	Debrief (Participants share their observations, lessons learned, and insights from the visits)	
24th May 2024 (Friday)		
TIME	**ACTIVITY**	**LEAD**
08:30 - 09:00	Day 1-2-3-4 Review and Q&A	Josphat Musyoki
09:00 - 10:00	Cold-Chain requirements for the storage and transportation of vaccines	Isaiah Omolo/Josphat Musyoki
10:00 - 10:15	**Break**	
10:15 - 11:15	Regulatory compliance and quality and safety control	Dr. Dorcas kalele
11:15 - 11:30	**Break**	
11:30 - 12:30	The business model imperative	Daniel Musyoka/Michael Malenya
12:30 - 13:30	**Lunch**	
13:30 - 15:00	The business model imperative	Daniel Musyoka/Michael Malenya
15:00 - 15:15	Break	
15:15 - 16:45	Post-evaluation/assessment	Collins Kirui
16.45 - 17:30	Wrap-up/final questions	All

Annex 2. Post Training Evaluation Questionnaire

1. Please provide your feedback on our training content, design, facilitation and areas for improvement.

	Likert Scale
Training Content	*(1) Strongly Disagree; (2) Disagree; (3) Neutral (4) Agree; (5) Strongly Agree*
I was well informed about the objectives of the training.	
The training lived up to my expectations.	
The topics covered were relevant to me and my job.	
The contents were organized and easy to follow.	
Training Design	
The objectives of the training were well defined	
Training activities stimulated my learning.	
Activities in this training gave me sufficient practice & feedback.	
The pace of this training was appropriate.	
Practical Examples used were relevant to content and local context	
Training facilitators	
The facilitator was well prepared	
Facilitators demonstrated in-depth knowledge of the subject.	
Facilitators stimulated my interest in the subject.	
The facilitators were helpful	

2. Please give us your feedback on the relevance of topics covered in the cold chain foundation course (Please Rank). (*1 – Irrelevant, 2 - Not very helpful, 3 – Neutral, 4 – Helpful, 5 - Very helpful/very relevant*).

3. (a) Would you recommend this foundation course to others? _____ *[0=No, 1=Yes]*

(b). If yes, please give reasons.

(c). If no, please give reasons.

4. How are you intending to apply what you have learnt from this training?

5. What are the training gaps that should be addressed?

6. Do you have any suggestion on how we can improve the future foundation course program?

7. What is your next plan of action after this foundation course?

Annex 3. Participants list

Participant	Contact email	Gender of the applicant	Field/industry
Kennedy Kwithya	Kenkqithya@gmail.com	Male	Agri-enterprise
Millicent Ngaru	ngarumillicent@gmail.com	Female	Food safety and quality consultant
ANDREW EGALA	andrewegala@gmail.com	Male	Processing/value Addition Gluten Free Or enterprise
Zipporah Maina	zmaina@gmail.com	Female	Retail Service Industry
SIMON THEURI THAIRU	simon.theuri@worldveg.org	Male	Agribusiness support
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