

TAPP Newsletter

The voice of the Trustees of Agricultural Promotion Programme

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Livestock Value Chain

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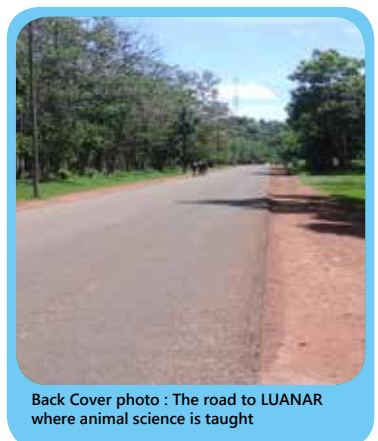
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Olav Reksen Professor of
Animal Science at Norwegian
University of Life Sciences

Overview

Capacity Building for Managing Climate Change (**CABMACC**) is a national five year programme that aims to build capacity of the University and its stakeholders through teaching training, research and outreach in climate change adaptation and mitigation.

The programme is funded by the Royal Kingdom of Norway and is being coordinated by the Programme Coordinating Office (PCO) at Lilongwe University of Agriculture and Natural Resources (LUANAR) in collaboration with the Norwegian University of Life Sciences (**NMBU**)

The overall goal of the programme is to improve livelihoods and food security through innovative responses and enhanced capacity for climate change adaptation. Specifically the programme aims to achieve the following out puts:

- Enhanced capacity by the University towards emerging local and global climate change perspectives
- Increase knowledge technologies and systems for climate change adaptation and mitigation
- Increase capacity on advocacy, outreach , networking and mainstreaming of climate change with national policies and adaptations plans



Editorial

Synergies needed in climate resilience

Challenges brought by climate change are impacting a lot on diverse farming communities. This is affecting the normal way people live, food security and more importantly sustenance of domestic animals such as the Malawi Zebu.

It does not need rocket science to know that a food insecure nation is more prone to malnutrition and flabby to make contributions to the overall national development agenda. This mean rural people other than suffering from hunger, disease and poverty as a result of climate change effect – will not impart capacity to the current crop of children to attain better education and help to make informed decisions in the future. As a result the cycle of poverty continues to spiral, generation after generation. This is a threat to both the present and future human well being.

In a move to ensure farming households build resilience to overcome shocks such as erratic rain, drought and dry spells. The Lilongwe University of Agriculture and Natural Resources under the Programmes Coordinating Office is implementing the Capacity Building for Managing Climate Change in Malawi (CABMACC) a five

year innovative programme to cushion the effects brought by climate change nationwide.

CABMACC is jointly coordinated with the Norwegian University of Life Sciences (NMBU) supported by the government of Norway. One of the current interventions being pursued is the livestock value chain research initiative to curb climate change effects through innovative ideas. The overall objective is to empower farmers with knowledge such that the dry period takes less toll in terms of mortality on the Zebu cattle. After all, a significant part of meat and milk in Malawi comes from Zebu cattle

CABMACC realizes the important role synergies with other institutions play in the fight against climate change. As such it has built partnerships with relevant non – governmental organization and government institutions such as Find Your Feet who are working with farmers to ensure crop genetic diversity is conserved through the construction of seed banks as part of resilience building.

Another partner Central Veterinary Laboratory under the Department of

Animal Health and Livestock Development will also conduct diagnostics analysis on samples collected on Zebu cattle to determine causes of diseases. In this issue we are focusing on the livestock value chain in Bolero, Rumphu.

As it can be seen there is strength in unity. It can therefore be concluded that synergies are very crucial in ensuring various institutions work together for a common cause and purpose.



It does not need rocket science to know that a food

insecure nation is more prone to malnutrition and flabby to make contributions to the overall national development agenda. This mean rural people other than suffering from hunger, disease and poverty as a result of climate change effect – will not impart capacity to the current crop of children to attain better education and help to make informed decisions in the future.


INDIGENOUS KNOWLEDGE

TOBACCO STEMS TO CONTROL TICK ATTACKS



By
sustaining
vibrant

populations of Zebu cattle using indigenous knowledge farmers are capable of overcoming cases of vulnerability and food insecurity, but also pay school fees for their children. All this is possible under the technical guidance of the TAPP under the Capacity Building for managing Climate Change in Change.



Ticks infest animals causing sores and wounds

By Charles Mkoka

Abundance of dip tanks that provide control of ticks when cattle are immersed in acaricides is negatively affecting livestock husbandry at Bolero, Rumphu. This has resulted in cattle being attacked by pests that are causing trauma leading to reduced output in milk, meat and manure. This is according to lead Farmer Joseph Gondwe who is also principal chief Bongololo explaining in an interview with this reporter.

According to the UN Food and Agriculture Organization tick infestations may cause physical damage to livestock other than diseases, paralysis, and toxicosis. They also cause unrest irritation and weight loss due to massive loss of blood due to continued feeding. The resultant effect being the drastic decline of domesticated animals through deaths.

In the absence of acaricides, farmers are now exploring the effectiveness of fluid generated from tobacco stems as a local alternative to treat ticks attacking the dermis of domestic animals. "The idea is that in the absence of available resources, farmers can use the fluid to reduce ticks attack that are tormenting our animals. We hope we can capitalize on tobacco stems as they are locally abundant and accessible. This will ensure we reduce mortality rate that result from untreated cattle," Bongololo explained.

He expressed concern that animals affected by pests and diseases have reduced output

in terms of the expected products. One of them being manure for instance, which the farmers heavily rely upon to improve soil texture as mulch in their gardens.

Chief Bongololo added that more manure from animals mean that there is a positive bearing in terms of food security. This is because fertilizer prices are so exorbitant these days, costing close to MK25, 000.00 per 50 kilograms bag, which is quite expensive for the average farmer reeling from effects of climate change.

According to another farmer Harris Msowoya of Kawazamawe village, vibrant harvest mean more fodder for the animals that will in turn provide more milk and meat – if farmers decide to sell them on market. In that way they are building resilient communities that can overcome shocks in times of climate uncertainties.

Mphatso Chipandula, Field Officer of Trustees of Agriculture Promotion Programme (TAPP) said there used to be so many Zebu cattle but today the statistics are declining. He explained that TAPP is conducting research to find out what factors are prevalent in the population that points to this decline.

By sustaining vibrant populations of Zebu cattle using indigenous knowledge farmers are capable of overcoming cases of vulnerability and food insecurity, but also pay school fees for their children. All this is possible under the technical guidance of the TAPP under



The drug Ivermectin ready to be administered on sick animals

the Capacity Building for managing Climate Change in Malawi.

CABMACC is jointly coordinated by Lilongwe University of Agriculture and Natural Resources together with Norwegian University of Life Sciences supported by the government of Norway. The livestock value chain is one of the research projects being carried out in the quest to manage climate change ills through innovative ideas and solutions.

According to the Deputy Vice Chancellor, Prof Emmanuel Kaunda, TAPP was trusted with the assignment due to their immense experience in dealing with indigenous livestock practices. It is envisaged that TAPP will assist LUANAR in unearthing indigenous ways of managing climate change effects especially when it relates to livestock and food security.

EARLY WARNING SYSTEM

Plans underway to improve climate information access

By Charles Mkoka

A better informed community is able to take timely and appropriate farming activities both in crop and animal husbandry. To better address climate change related effects, a more robust climate monitoring information system is paramount to provide accurate and up to date data to users.

In a quest to improve agricultural productivity Bolero Meteorological Weather station will be electrified so that the computerized station currently running under solar energy will be soon be connected to the national power grid. This will ensure sustained energy supply is available critical in providing information to help in agricultural decision making. "We are working with livestock as such the linkage with access to climate information is very paramount. We need to know how many rain days is the area experiencing for us to be able to make decision in as far water harvesting initiative is concerned," Chipandula said in an interview at the station. Farmers need to know when to plant crops such as soya that is a fodder to livestock. The presence of the data helps



TAPP Field Officer, Mphatso Chipandula captured at Bolero met station

to know the available residual moisture in the soil and other important updates needed by farmers.

Raphael Thomas, Bolero Meteorological Observer told a visiting electronic and print media crew covering CABMACC activities that the station boasts of a thermometer, rain gauge and wind vane that is automated.

He explained that the past two seasons the rains were okay but last season 2014/15 precipitation was more erratic which meant less water for

the animals and inadequate food as well. Thomas added that there is a drastic decline in the vegetative cover in the area and this has altered the temperatures for the area. This development has a bearing on livestock rearing forcing them to travel long distances in search for water and fodder. Thomas called upon well wishers to help safeguard equipment at the station as it is prone to vandalism especially the solar panels. "This heavily affects the logging and saving of the data," he said in an interview.

ANALYSIS

Innovation at play in Livestock value chain

By Charles Mkoka

Bolero in Rumphi district is one of those old rural growth centers established way back by the visionary Hastings Kamuzu Banda. It boost of feeder bitumen network roads at the trading centre, an agricultural training centre opened on 29 July, 1966 as part of the Turkish Tobacco Development Scheme financed by the Federal Republic of Germany. There is also a fully fledged meteorological station to monitor short and long term trends and feed the local farming community with up to date data.

The agro-ecology has one of the species that is associated with fertile soils. This is a leguminous nitrogen fixing acacia like species *Faidherbia albida*. However, like any other place locally climate effects have not spared local communities.

One of the major challenges is water access which is not only affecting people but also livestock especially cattle that has to travel long distance hence impacting on productivity such as milk, meat and manure. Water and fodder for animals ranks high as great challenges to sustain livelihoods according to the residents.

There is a ray of hope now to ensure resilience building as part of adaptation among the local communities. Capacity Building for Managing Climate Change (CABMACC) is jointly coordinated by the Lilongwe University of Agriculture and Natural Resources and Norwegian University of Life Sciences with support from the government of Norway.

So far scientists have

instituted studies on the effect of distance to water on the parameters; milk yield, calves growth, reproductive function, milk composition and many more. This way researchers will be able to give the farmers scientific based advice on the best approaches to rear Zebu cattle, and add to the body of knowledge within the scientific community. Also of importance is the fact that research supply policy makers with knowledge on the production and health limits of these animals, such that water dams are being restored and leguminous trees are being planted on the right sites and with adequate capacity.

The general idea is to empower farmers with knowledge such that the dry period characterized with water shortage takes minimal toll on Zebu cattle. This is because a significant part of meat and milk locally comes from Zebu cattle. Farmers are encouraged to use community based resources

such as leaves from leguminous trees and maize bran for feeding Zebu cows during the drier months. Additional feeding will help maintaining body condition and thereby production of the cows during a prolonged dry period.

Currently, farmers are being provided with seedlings to upscale fodder for animals. Some purchased dried leaves from leguminous trees are being used during training so that farmers use them as feed additive. Already this is some level of mitigation as part of resilience building from climate effects. Thanks to Professor Leoanrd Kamwanja who has taken a lead role in this fight.

Other initiatives include bio-ethanol, diary breeding, biomass, aquaculture, conservation agriculture and gender. Overall, CABMACC goal is to enhance innovative response and capacity for adaptation to climate change at national level.



Domestic animals and people share a borehole due to water scarcity at Bolero

INTERVIEW

Olav Reksen Professor of Animal Science at Norwegian University of Life Sciences

Lilongwe University of Agriculture and Natural Resources (LUANAR) partnered with the Norwegian University of Life Sciences (NMBU) through the Capacity Building for Managing Climate Change (CABMACC) that aims to strengthen knowledge and research to enhance resilience building as part of adaptation and mitigation to climate effects. CHARLES MKOKA, a communication consultant had a chat with Professor Olav Reksen from NMBU to explain more on the exchange programme. Excerpts:



Olav Reksen from NMBU

Can you explain the LUANAR and NMBU collaboration?

Currently, the main collaboration is centered on student exchange and research within the CABMACC Program. Student exchange is facilitated through our School of Business and Economics, whereas CABMACC encompass seven different projects at the Norwegian University of Life Sciences. I am involved in a project on Livestock value chain, food security, and environmental quality that is headed by Professor Leonard Kamwanja, Director of Trustees of Agricultural Promotion Programme in Malawi.

Why should knowledge enhancement of this nature need to be nurtured?

Human brainpower has brought us to the state we are today, both on the positive and negative side. The current climatic challenges must also be solved – through innovative and research based

approaches – which is the primary objective of higher educational institutions. In order to solve global encounters of today, we need to build partnerships for exchange of knowledge and ideas. This way, enabling technologies in one part of the world may be made available for a larger scientific community to combat food shortage and climate change worldwide.

What is the significance given the two countries different climates?

When it comes to climatic change, Norway also experiences unwelcomed alterations. The weather continues to get wait, specifically along the coast. The winters are getting milder and the summers colder. So, there is no doubt that we have a common problem. An important aspect of bringing Norwegian students to Malawi is to present for them the opportunity of working outside Norway. These are very capable young people that would make a difference wherever they may go, so why



A farmer feeds a healthy cow in expectation for better returns

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The current climatic challenges must also be solved –

through innovative and research based approaches – which is the primary objective of higher educational institutions. In order to solve global encounters of today, we need to build partnerships for exchange of knowledge and ideas. This way, enabling technologies in one part of the world may be made available for a larger scientific community to combat food shortage and climate change worldwide.

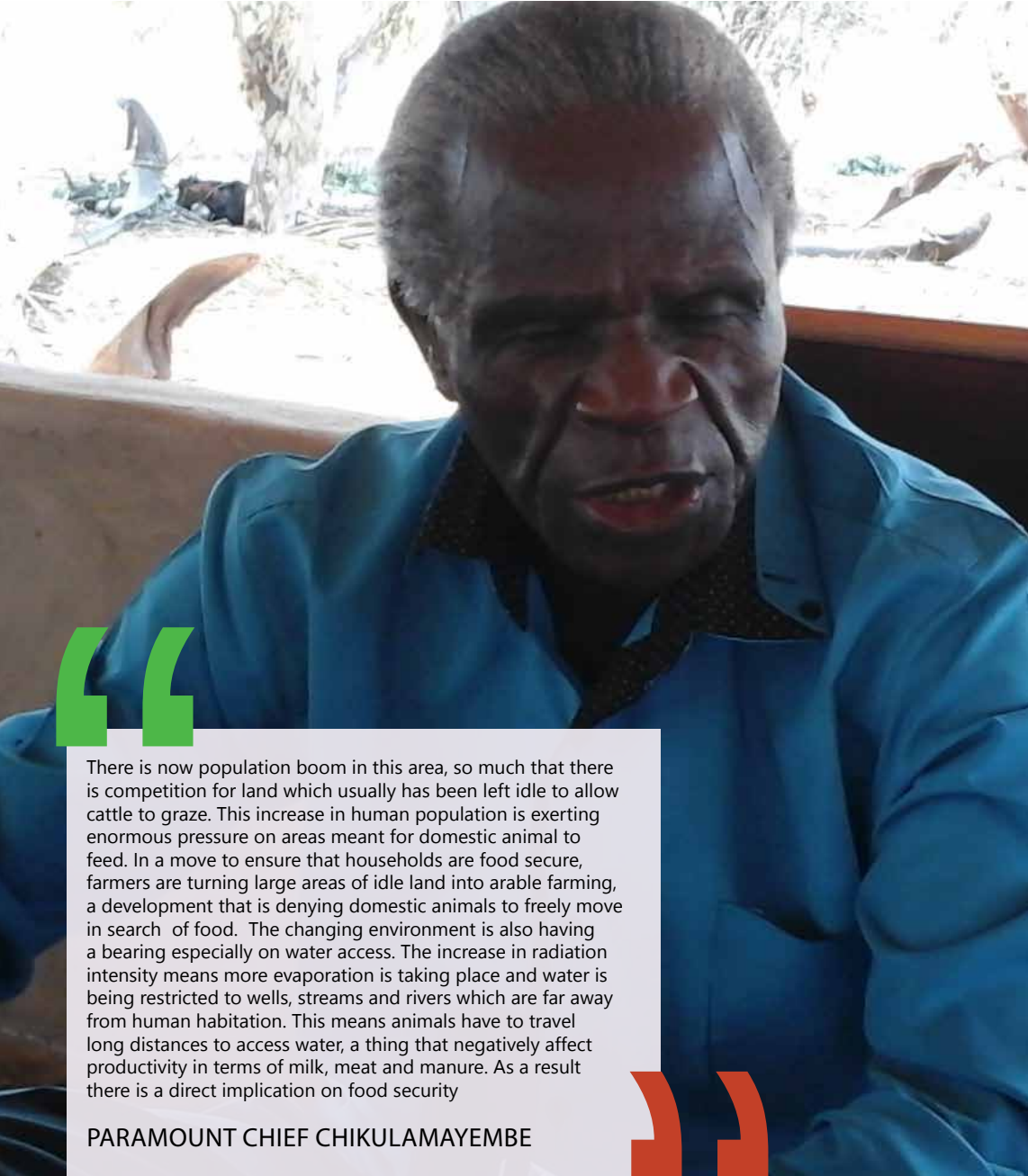
not try to influence the direction?

One of the students already holds a Doctor in Veterinary Medicine but is taking an additional degree in animal science, and the three other students are in their last year of veterinary education. All students use results from this project in their thesis. When it comes to specific contributions by the students it must be seen in the context of our profession.

What parameters are you actively involved in?

We are working on the optimization of health and production in cows, and the underlying mechanisms are quite similar both in Norway and Malawi. The objectives relate to improving milk yield, calves growth, reproductive function and milk composition. The students have participated in obtaining blood samples to determine disease situation in the population. There is a need to build a robust population of Zebu to encounter prolonged periods of drought, and a healthy animal is a prerequisite for robustness.

EXPERIENCE SHARING



“

There is now population boom in this area, so much that there is competition for land which usually has been left idle to allow cattle to graze. This increase in human population is exerting enormous pressure on areas meant for domestic animal to feed. In a move to ensure that households are food secure, farmers are turning large areas of idle land into arable farming, a development that is denying domestic animals to freely move in search of food. The changing environment is also having a bearing especially on water access. The increase in radiation intensity means more evaporation is taking place and water is being restricted to wells, streams and rivers which are far away from human habitation. This means animals have to travel long distances to access water, a thing that negatively affect productivity in terms of milk, meat and manure. As a result there is a direct implication on food security

PARAMOUNT CHIEF CHIKULAMAYEMBE

”

Uvwili wa Luanar ku Bolero

Pala tikudumba vya kulima nga ndi bizinesi, iyi ndiyo nthowa mulongozgi wakale Ngwazi Dr. Hastings Kamuzu Banda wakakhumbanga apo wakajulilanga malo ya masambiro ya vya ulimi pa 29 July, 1966 in Lilongwe district.

Malo aya yakawa nthowa imoza yakukwezgera ulimi wa hona uyo wakalimikanga na bazungu bakuchalo cha Turkey na owili bakufumira ku Germany. Kalimilo aka kakawa kakovwila chomene ku ulimi wa mbuto zakupeleka ndalama kwa alimi, chomenechomene hona. Chilato chinyake chikawa kovwila wanthu wanandi kuti wasange mwabi wa ntchito na kulutiska pambere chuma cha chalo chino chifukwa cha ndalama za vyalo na vyalo izo zikwiza chifukwa cha malonda nga ndi agha (foreign earnings)

Bolero ndi malo ghakusangika mu boma la Rumphu, ma kilomita yakuneng'enera 15 kumpoto cha kumanjililo kwa dazi mphepeti mwa msewu wa chuvu uwo ukulazga ku Hewe na ku malo ya vinyama vya muthondo ya Nyika National Park.

Malo agha ghakumanyikwa chomene chifukwa cha msangu makuni ayo ghakuwegzela nitrogen mu dongo ivyo vikovwila chalu kuwa na nyata. Makuni ya chilengiwa agha ghakulakata mahamba, kuwegzelamo nyata mu dongo.

Kusazgilapo pa makuni agha, ku Bolero kukasangikaso utheka wakubiliwila na maji yanandi, ivyo vikawovwilanga balimi kuti babe na vakulya na vibeto vinandi. Ng'ombe zikaba na chakulya chakukwanila chaka chose. Malo agha yakamanyikwaso chomene na vipaso vyachilengiwa ivyo vikawovwilanga wanthu kukula makola.

Muhanya uno, vinandi ivyo vikawako kale vili kuzgoka chomene. Vikusoba.

Mu mazgo ya Themba la Mathemba Chikulamayembe, "kale lili kuluta nakuti sono moyo ukusuzga chomene."

Fumu yikulu ya ba Tumbuka ikuti Bolero wali pa masugzo yakulu chomene chifukwa cha kwandana kwa wanthu. Banthu wakupenja malo

yakukhalapo na kulima ni banandi, kweni yakasungilapo vilengiwa sono yali kuzgoka minda. Malo ayo vibeto, chomene ng'ombe, vikwenela kuti vikaliskikengeko yakumala pachoko na pachoko. Ili ni sugzo likulu chomene ku vibeto.

Ntchakuzizwisya chala kuti sugzo la maji lakhwaska chomene vibeto ivyo vikukhala na kovwila banthu panyumba. Viweto sono vikwenda ulendo utali chomene kuti vikasange maji yakumwa--suzgo ilo liziska kuchepa kwa mkaka, nyama, ngwata na vinyakhe ivo balimi bakusanga ku vibeto nga ni ng'ombe.

Fumbo likulu ndakuti ka pali nthowa uli izo zilikuwika kuti towile kumazga sugzo ilo balimi wakukwa nga ndi awa wakusangana nalo?

*Winnie Chirambo,
a farmer at
Kayiwaile
village, TA
Chikulamayembe
in Rumphu*



Ivyo vyachitikapo

Ba CABMACC bakupa balimi mahamba yakomira ya makuni yakukwezgera nyata mudongo kuti bavune chakurya chinandi. Bakubasambizgaso umo bangasazgira mahamba aya ku chakurya cha viweto.

a bangagwiliskira ntchito mahamba aya Ng'ombe zikutemwa chomene chakulya chakupangika mu nthowa iyi ndipo balimi banweka na kuyamba kupanda makuni yawo na yawo.

Pakumazga suzgo la vibungu, bakupeleka nyelete ya Ivermectin iyo ikuchizga matenda ya mpholozzi za mu matumbo, za m'maso na za m'mapapo kweniso ba kabali na nyinda ku ng'ombe za makilogilamu yapakati pa 50 na 250.

Bantchito ba bungwe ili bakugwilaso ntchito na mabungwe yanyakhe kuoneseska kuti pali wene na wene Pakumazga suzgo la kusintha kwa nyengo. Limoza mwa mabungwe agha ni la Find Your Feet ilo ndi la boma chala. Bungwe la kuyima palekha ili likovwira balimi kuzenga nthamba zakusungilamo mbuto za mbeu izo zikucha makola kwakuyana mmadera umo bakugwiramo ntchito iyi. Ivi viwilenge balimi kupanda mbuto izo zikuzizipizga na kupambika makola na kusinthisintha kwa kawilo ka vula mu madera yakupambanapambana.

Wupu wa Trustees of Agriculture Promotion Programme (TAPP), ilo chilato chakhe ni kulutiska pambele ulimi wa vibeto, likupanga kafukufuku ku Bolero kuti lisange nthowa zakuchepeska masuzgo ayo banthu bakukumana nayo chifukwa cha kusintha kwa nyengo.

Professor Leonard Kamwanja, awo ni mulala wa bungwe la TAPP ilo ndaboma



Prof. Leonard Kamwanja

chala, bakayowoyapo za umo bungwe lawo likugwilira ntchito kuvwila kawilo ka vinthu na za jando la mahala ya bungwe lawo umo lifiskilenge chilato cha kafukufuku uyu.

A Kamwanja bakuti pa ntchito yakumazga masuzgo yakusangika chifukwa cha kusintha kwa nyengo, na owiri wa kufuma kwa mwimilili wa chalo cha Norway, wali kovwila nkhwantha za masambilo ku Lilongwe University of Agriculture and Natural Resources (LUANAR) pa mahala ayo ghangasangika pakuchita kafukufuku nga ndi imoza mwa nthowa zakumazgila masuzgo nga ndi agha.

Nkhwantha izi ndizo zikachema mabungwe kuti yalembe umo yangawilira kumazga suzgo la kusintha kwa nyengo, icho ndi ntchito ikulu chomene ya boma.

TAPP ikawa imoza mwa mabungwe ayo yali kupokela owwili kufuma ku Capacity Building for Managing Climate Change In Malawi(CABMACC).

Ba Kamwanja bakati: "Ntchito yithu ku Bolero tikuyezgeska kuti itivwire kumanya umo vinthu vili kusintha, chomene

umo kabetero ka vibeto kawila pa vyaka ivyo vili kujumpha chifukwa cha kusintha kwa nyengo. Tikuhumbiskaskaso kuti tisange nthowa za lokolo izo banthu wakukaya wakugwilisya ntchito."

Iwo bakadumbapo vya ntchito ya wupu wawo apo bana ba sukulu kufumila ku Norwegian University of Life Sciences (NMBU) bakawa kuti wali ku Bolero kukatola ndopa na mavi gha ng'ombe za lokolo kuti wakaviyezge ku malo ya boma yakupimilako vinandi vya vibeto ya Central Veterinary Laboratory.

Ivyo vyachitikapo

Ba CABMACC bakupa balimi mahamba yakomira ya makuni yakukwezgera nyata mudongo kuti bavune chakurya chinandi. Bakubasambizgaso umo bangasazgira mahamba aya ku chakurya cha viweto.

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ENVIRONMENT

Climate change

10 Terrifying Facts From the UN's New Climate Report. It's getting hotter. We're causing it. And we have to act now. We particularly find point seven to conform to the rationale and objective of this issue's theme; "Livestock value chain".

The Inter-governmental Panel on Climate Change.

1. We humans really, truly are responsible for climate change, and ignoring that fact doesn't make it less true. "Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history," the report states. The atmospheric concentration of key greenhouse gases—carbon dioxide, methane, and nitrous oxide—is "unprecedented in at least the last 800,000 years," the report warns, and our fossil-fuel driven economies and ever-increasing population are to blame.
2. Climate change is already happening. Each of the past three decades has been warmer than the last, and warmer than any decade since we started keeping records. Sea levels are rising. Arctic ice cover is shrinking. Crop yields are changing—more often than not, getting smaller. It has been getting wetter, and storms and heat waves are getting more intense.
3. ...and it is going to get far worse: "Heat waves will occur more often and last longer...extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level to rise," the report states. If we stick to our current path, we could see 3.7 to 4.8 degrees Celsius of warming—or even more—by the end of the century.
4. Much of recent warming has been in the ocean. About 90 percent of the energy that has gone into the climate system since 1971 went into the ocean. That means a warmer, expanding ocean, which fuels stronger storms. It also means rising sea levels and eroding coastlines.
5. The ocean is also becoming more acidic. By taking in so much of the carbon dioxide that humans have been spitting out since the industrial revolution, the ocean has become 26 percent more acidic and its pH level is falling. Scientists think this could have widespread and severe effects on marine life—increasingly, ocean acidification is being referred to as the "other CO2 problem."
6. Climate change will hit developing nations particularly hard, but we are all vulnerable. Climate change will make food systems more volatile, exacerbate health problems, displace people, weaken countries' infrastructures, and fuel conflict. It will touch every area of life. Economic growth will slow as temperatures warm, new poverty traps will be created, and we'll find that poverty cannot be eliminated without first tackling climate change.
7. Plants and animals are even more vulnerable than we are. As climates shift, entire ecosystems will be forced to move, colliding with one another. Many plants and small animals won't be able to move quickly enough to keep up, if global warming marches forward unabated, and will go extinct.
8. We must switch mostly to renewables by 2050, and phase out fossil fuels by 2100. To avoid the most damaging and potentially irreversible impacts of climate change (e.g., from the report: "substantial species extinction, global and regional food insecurity, consequential constraints on common human activities, and limited potential for adaptation"), we'll need to make sure our greenhouse gas emissions are cut severely by the middle of this century. We should aim for "near zero emissions of CO2 and other long-lived GHGs by the end of the century."
9. We already have the answers we need to tackle climate change. We have the necessary technologies available, and economic growth will not be strongly affected if we take action, the report argues. As the cliché goes, all it takes is the will to act. But we must act in unison, the report states: "Effective mitigation will not be achieved if individual agents advance their own interests independently. Cooperative responses, including international cooperation, are therefore required to effectively mitigate GHG emissions and address other climate change issues."
10. This dire report is decidedly conservative. The effects of climate change could be much worse than what this report presents.



The road
to LUANAR
where animal
science is
taught

