



NEWSLETTER



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Ncedanani and Goboti Grazing Associations Combat Serious Lamb Diseases

Goboti and Ncedanani grazing associations situated in Ngcobo catchment were fortunate to receive veterinary support incentives this year from Meat Naturally Africa. Farmers can use these funds on their treatment of choice for prevalent animal diseases.

Meat Naturally Africa provides an incentive for veterinary support to entry level grazing associations in the Herding for Health (H4H) program. As part of a team of different specialists working in the program, Afrivet dedicates Animal Health Technicians to each catchment area to ensure healthy and productive livestock for participating farmers.

In previous years, both grazing associations had a history of high mortality rates in lambs, a problem farmers could not explain. Without the proper tools or a herd health plan, they were unable to identify the cause or implement a seasonal strategy.



As part of preventative measures to reduce the rate of lamb mortalities this year, farmers wrote a letter to Meat Naturally Africa, with the support of H4H Animal Health Technician, to request utilization of the veterinary support incentive for vaccination against pulpy kidney and for deworming of lambs. The request was approved; vaccination and deworming campaigns were carried out.

In the Goboti Grazing Association, 752 lambs were treated. The Ncedanani Grazing Association was able to protect 1047 animals.



Since lambs are still developing their immune systems, even a tolerable worm burden that causes no clinical signs can slow down their growth rate, increase the time required to reach slaughter weight, and escalate feed and medicine costs. Permanent gut damage can reduce nutrient absorption and lead to death. The combination of wireworms causing anemia in lambs and tapeworms placing added stress on nutrient availability can have dire consequences.

Clinical signs include abdominal bloating due to gas accumulation in the stomach and intestines, colic-like signs include kicking at the belly and restlessness, dullness and depression, or even sudden death.

Risk factors of pulpy kidney disease are common. Stressors such as transportation, weather changes or social disruption can impact the sheep's gut health and make them more susceptible to enterotoxemia. Young lambs are particularly vulnerable to pulpy kidney during their early weeks when transitioning from a milk-based diet to solid feed. Failure to vaccinate sheep against *Clostridium perfringens* types C & D toxins leaves them unprotected against the toxins produced by these bacteria.

Makhunga Grazing Association Thrives through Sustainable Partnerships

Makhunga Grazing Association, located in Maclear, has established itself as a beacon of sustainable farming practices. A business unit under the Tsitsa Catchment, the association has been instrumental in driving positive change within the Upper Tsitsana community. Since 2021, they have actively engaged in the Herding for Health program and rangeland restoration initiative, in partnership with Meat Naturally. This collaboration has not only fostered better sustainable farming practices but also significantly improved animal health.



The association's commitment to sustainability has yielded substantial benefits. By leveraging carbon revenue, they have generated an impressive R143 500, which has been strategically reinvested into the association's needs. A recent quote of R11,178.09 made by the association was approved by Meat Naturally and facilitated the procurement of essential veterinary medicine, including Prodose orange, Prodose Green, and Covaxin 10. This proactive approach to animal health has been instrumental in driving the association's success. The committee has expressed heartfelt gratitude to Meat Naturally and Lima RDF, acknowledging the transformative impact of their partnership on the Upper Tsitsana region.

Makhunga Association has made significant strides in enhancing their livestock management capabilities. Key achievements include revamping their dip tank, which has improved animal health and hygiene.



Furthermore, with the support of Meat Naturally, the association invested in a branding iron kit, enabling them to identify and manage their cattle more effectively.

As Makhunga Grazing Association continues to progress from the growing phase to the sustainability phase, its dedication to sustainable and regenerative livestock practices remains unwavering. The association's ability to utilise carbon funds for critical veterinary care has been a game-changer. This shining example of effective collaboration between farmers, rural communities, and organisations testifies to the power of sustainable partnerships in driving positive change within the livestock industry.

Grazing Management: a Thriving Business Tool for Frank Grazing Association



In 2021, the Frank Grazing Association, in Tsitsa, was established through a Rangeland Stewardship Agreement with Meat Naturally Africa. For the first three years, the association—like many others—received support through Meat Naturally's business investment.

Frank embarked on activities such as fire management, improving herd health, engaging in training sessions and being exposed to market access opportunities. These tools assisted Frank in building a strong foundation for working together. The true test for this association came in early 2025 when Frank was among some of the first Meat Naturally associations to transition to independence!

Through this move, Frank received its first-ever carbon revenue of R55 237, symbolising a transformative turning point in their journey. The association now funds its own activities, paying two Ecorangers a monthly stipend to ensure that grazing plans are followed and their rangelands are managed responsibly. Money is generated through monthly contributions and from charging the community for livestock vaccinations and treatments. The association still attends meetings regularly, and its business binder is up to date.

The farmers now embrace their responsibilities with dedication and unity. Frank's outstanding performance can also be attributed to the good working relationship between the committee members, who have assisted the community at large with herd health.

The Eco Rangers on the ground were reported to be very active and always available on site. Msimelelo, the Local Field Officer (LFO), sang endless praises to Jonathan, who has been an Ecoranger since 2021. The dedication of both the Ecorangers to the programme has been instrumental to its success.

The association has taken the initiative to fight against stock theft and wildfires by mobilizing men and youth across the community to conduct regular patrols. It has strict rules for rested camps. Any farmer found to be grazing their cattle on the rested camp is fined. This rule was also communicated to neighbouring communities before implementation. This level of proactiveness and transparency has improved unity not only among association members but also with non-members.



Frank has seen biodiversity improve. Once-absent grasses have since returned, including species now being harvested for roofing traditional huts. Thanks to this year's strong growing season, the quality and quantity of grass in their rangelands are rich and abundant. Seeing a business opportunity, the association has decided to sell this grass to other farmers and community members in the coming years.

Owing to Frank's amazing grazing management, the livestock is also improving. They consistently maintain a body condition score of 3- even during winter! Calves are healthier, more productive and can thrive thanks to consistent availability of quality forage. Frank's projected carbon

revenue for 2026 is nearly double this year's. Through hard work, collaboration, and the income earned from carbon credits, they are writing a new story of self-reliance and sustainability.

Owl Award to Tsawule Farmers' Association



Tsawule Farmers' Association, located in the uMzimkhulu Municipality in southern KwaZulu-Natal, is recognised by BirdLife South Africa for its remarkable contributions to sustainable agriculture, environmental stewardship and rangeland restoration, as well as an unwavering commitment to community development.

Tsawule is a rural farming community with a proud history rooted in traditional agriculture and pastoralism. For generations, people have lived closely connected to the land, relying on both farming and livestock to sustain their livelihoods. However, in the recent past, the village faced increasing challenges as a result of land degradation, climate change and diminishing rangeland productivity. In response, in 2015 visionary local farmers formed the Tsawule Farmers' Association to restore ecological balance and economic opportunity to the area. Today, from the 22 initial members the association has grown to 52 farmers. It is a beacon of hope and a catalyst for change within the villages that border Ntsikeni Nature Reserve.

The association has significantly enhanced farmer resilience through agricultural practices, and this improvement has been as a result of the Herding for Health initiative presented by BirdLife South Africa since 2022.

The community has seen an increase in livestock productivity as a consequence of restored rangeland, better extension services, herd health, and land and fire management.

Recognising the intrinsic link between ecology and agriculture, the association has prioritised conservation through rangeland restoration and grazing management that improve the grass and plant biodiversity. This has resulted in the return of bird species, such as the Southern Ground-Hornbill, and traditional medicinal herbs in the area. Invasive plants in the rivers have been eradicated, and the whole village has been involved in environmental awareness programmes.

Through a combination of indigenous knowledge and the Herding for Health initiative, 1 850 hectares of degraded rangeland have been restored and, as a result, winter fodder availability has been significantly improved for more than 380 cattle, 150 sheep and 80 goats, directly benefiting 70 households. This has reduced seasonal livestock stress, improved milk and meat production, and boosted household incomes and food security during the most vulnerable months of the year.

Through unity, innovation and stewardship the Tsawule Farmers' Association transforms both land and lives, ensuring that future generations inherit a more sustainable and prosperous landscape.

Help Provide Nutrition Security

To combat malnutrition in South Africa, you can partner with Meat Naturally. For just R1000, you can supplement 150 children's meals with high-quality, sustainably sourced beef.



Your donation to Meat Naturally Kruger supports local farmers who practice regenerative agriculture, keeps money circulating within the community, and helps fight food insecurity.

Donate by emailing Meat Naturally's Ayanda Mhlonyane at ayanda.mhlonyane@meatnaturallyafrica.com or sending a Whatsapp/calling +27 078 9932596. (our paywall option is coming soon!)

Farmers Leading the Way in Rangeland Restoration

Farmers in Impendle who are working with Meat Naturally to restore their rangelands are part of the Herding for Health program, which supports livestock as a tool for ecological restoration.



After 3 years of guidance and support, they are moving from being fully supported by Meat Naturally to managing through their own associations—supported by the carbon revenue they are now generating. This marks an important step toward independence, resilience, and long-term sustainability.

During the meeting, we exchanged knowledge and experiences on restoration systems that benefit farmers, livestock, and the rangelands alike. Topics included: adaptive planned grazing, fire management, and animal health. The discussions reflected not only the technical aspects of rangeland management but also the growing confidence and capacity of farmers to take the lead in caring for their land.

As rangelands are restored, farmers gain healthier pastures, livestock thrive, and ecosystems become more resilient to climate change. Most importantly, the leadership is now in the hands of the communities themselves, ensuring that restoration is both locally driven and sustainable.

MN Staff Practice Crucial Conversations

For strong teams and thriving communities, having honest, respectful, and real conversations is essential. At Meat Naturally, a company grounded on strong collaborations, tough conversations are a constant reality and must be handled in healthy ways! These conversations can be awkward and most of us almost always avoid them, which is not healthy in a work environment! Owing to this, the Meat Naturally Middle and Senior management recently took part in a powerful course to help enable crucial conversations, known as *the Crucial Conversations Leadership Development Program*.

Over a few months, the Meat Naturally leaders engaged in online learning which involved weekly exercises and assessments covering nine key lessons of crucial conversations. These exercises were fun, important and powerful with lessons ranging from Getting Unstuck, Starting with Heart, Mastering My Story and using specific skills such as the STATE (Share facts, Tell your story, Ask, Talk tentatively, Encourage Testing) skill.

Following this incredible 9 weeks of working and getting unstuck together there was a two-day in-person workshop in Matatiele hosted by the incredible facilitator, Claudette Moore, supported by the three conversation custodians (Gloria Zitha, Phiko Siyothula and Kwanele Siyengo), where they guided the team through real life crucial conversations, practiced skills in action and unpacked what it really means to create safe spaces for dialogue.

"I now see conflict as an opportunity for collaboration and growth rather than something to avoid".

—Participant

The crucial conversations course is testament to the huge leap taken by Meat Naturally to encourage personal communication skills and to strengthen relationships internally as well as with our trusted farmers.

Activities in KwaZulu-Natal

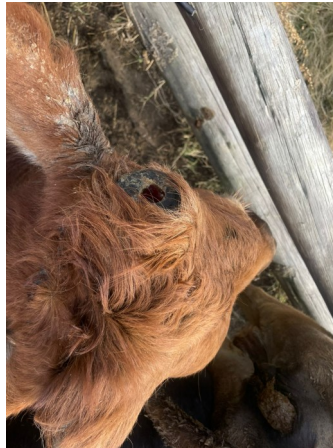
Herd Health Support

Afrivet, through the dedicated efforts of Yolisa Skeyi and Bulali Mankomo, has been working closely with KwaZulu-Natal farmer associations partnering with Meat Naturally to improve livestock health and management.

The team recently rolled out a series of winter herd health trainings that equipped farmers with practical knowledge on how to maintain strong and productive herds during the colder months. They also supported livestock data collection to better understand herd sizes and health status and conducted baseline herd health assessments to establish starting points for long-term improvement.

These activities highlighted some key areas for improvement. Many cattle lacked proper branding certificates. Body condition scores varied widely: 2.5 to 4.5 on average, with lactating cows, older cows, and oxen often falling below 2.5. Poor dehorning practices were identified as a source of unnecessary stress, pain, and infection risk.

By identifying these challenges early, Afrivet is helping grazing associations prepare their cattle for future auctions. A follow-up meeting will track progress and ensure farmers receive the support they need to strengthen herd health and unlock new market opportunities.

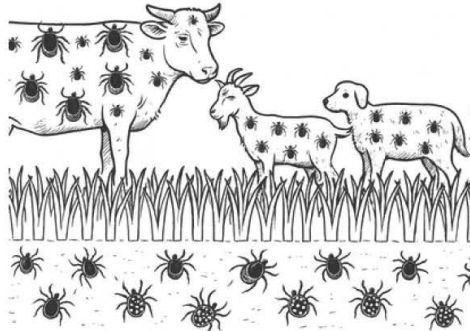


Ecoranger Numbers Increase

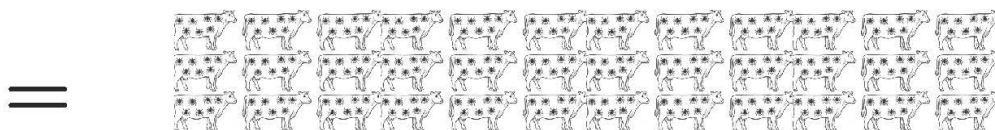
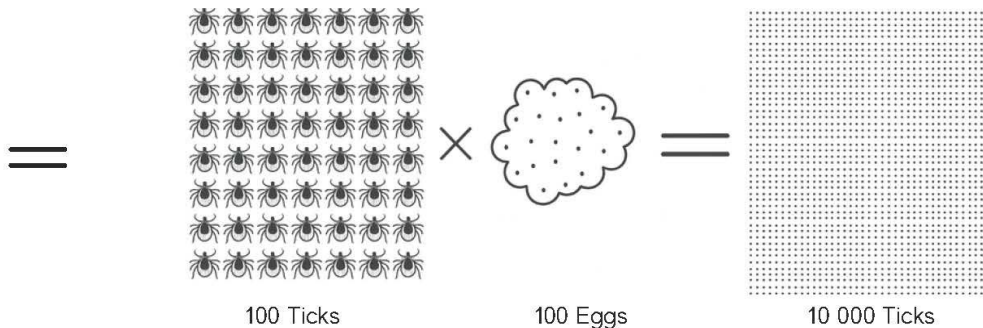
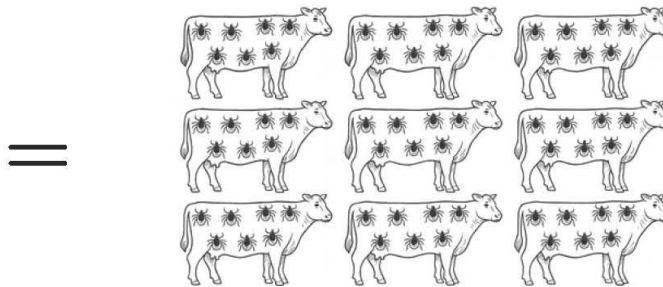
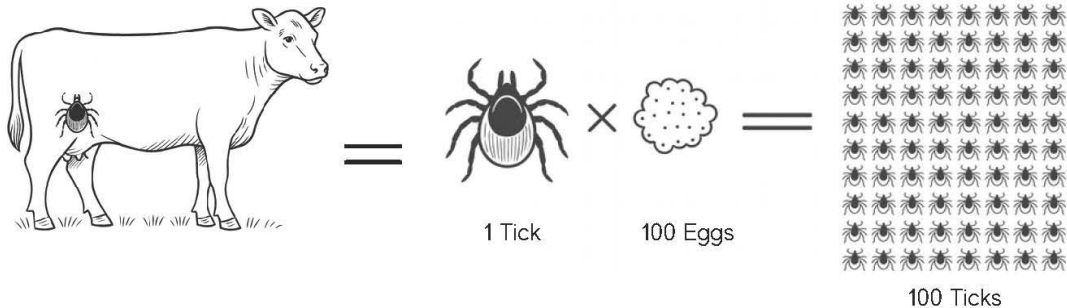
KZN North Training Team recently trained 30 new Ecorangers in essential skills for grazing management and environmental sustainability. A positive response from Ecorangers shows enthusiasm for business ownership and participation in Meat Naturally Africa business.

The team successfully recruited 80 new Ecorangers from various sites: MNA (27), KwaNalu (13), Upper Thukela Bergville (36) and Qwaqwa (4). Upcoming training in October/November will prepare the new Ecorangers to assist with grazing management practices.

TICKS ARE EVERYWHERE. TICKS ARE EVERYONE'S PROBLEM.



HOW TICKS MULTIPLY



ALL VILLAGE ANIMALS (CATTLE, GOATS, SHEEP, DOGS)

We Act Together or We Lose Together - No One Wins Alone.

STEP 1: UNITY

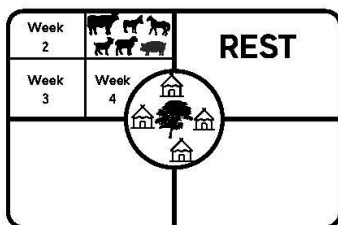
Plan grazing together.



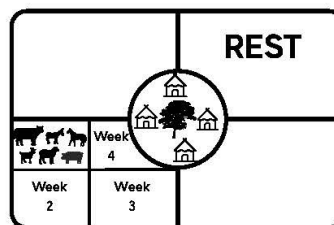
STEP 2: REST THE LAND TOGETHER

Leave grazing areas to rest for at least 90 days.

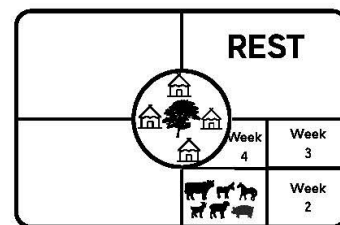
NOVEMBER



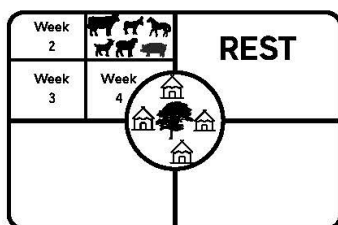
DECEMBER



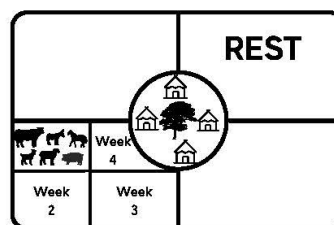
JANUARY



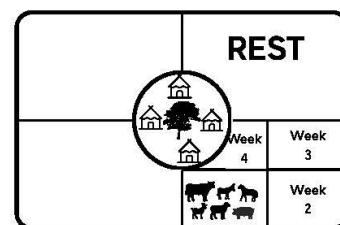
FEBRUARY



MARCH



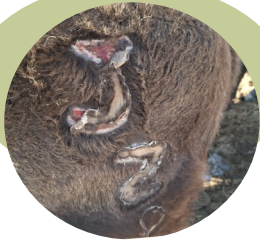
APRIL



STEP 3: TREAT TOGETHER

Dip all the animals on time - together.





Branding Cattle : A Simple Step that Protects Herds and Opens Market Doors



In South Africa, branding cattle is not just a legal requirement—it's a powerful tool for protecting livestock, accessing formal red meat markets, and supporting disease control. Whether you're farming in communal areas or running a commercial operation, branding is one of the most important steps in safeguarding your investment.

A Shield Against Stock Theft — A registered brand provides visible proof of ownership, making it harder for stolen animals to be sold or moved undetected. In fact, branding is a key requirement for reporting stolen animals to authorities and pursuing legal action. Without a registered brand, recovery rates drop dramatically.



Legal Compliance and Market Access — Under the Animal Identification Act (Act 6 of 2002), all cattle must be branded with a registered identification mark. This mark must be approved and recorded with the Registrar of Animal Identification, and applied to animals by six months of age or when the first permanent incisors appear. Compliance with branding laws is not only about avoiding penalties—it's also essential for accessing formal red meat markets. Feedlots, abattoirs, and buyers increasingly require branded animals to ensure traceability and legal ownership. Branding helps build trust in the supply chain and opens

doors to higher-value markets, including certified beef programs and prevention of disease transmission at farm, feedlot and abattoirs.

Supporting Disease Control and Traceability — Branding also plays a vital role in animal health management. In the event of a disease outbreak, branded animals can be traced back to their origin, helping veterinary services contain and manage the spread. This is especially important in communal grazing systems, where animals from multiple owners mix freely. By linking each animal to a specific owner and location, branding supports better record-keeping, vaccination tracking, and movement control. It's a simple but effective way to contribute to herd health and national biosecurity.

Best Practices for Effective Branding

- Register your brand with the Department of Agriculture, Land Reform and Rural Development.
- Use approved methods such as hot iron, freeze branding, or tattooing.
- Apply brands in the correct sequence: first owner on the left hind leg, second on the left shoulder, third on the right hind leg, and fourth on the right shoulder.
- Ensure characters are between 40mm and 100mm in height for visibility.
- Treat branding wounds with antiseptic spray to prevent infection.

Branding is more than a mark—it's a commitment to responsible farming. It protects your animals, strengthens your business, and supports the health and safety of the entire livestock sector. Let's work together to build more resilient livestock sector for the benefit of all farmers.

Certification Achievements

From June up to date approximately 80 farmers have received branding certificates through MNA. The turnaround time of branding certificates to return (2 to 3 weeks) have increased numbers of applicants through MNA. This will enhance livestock traceability in rural/ communal area thus contributing to a reduction of livestock theft. The certification also allow farmers to be able to sell in formal markets.



Ncedanani Grazing Association Expresses Thanks

On May 27, 2025, the Ncedanani Grazing Association invited the Ngcobo team for a visit, as they had prepared something special for them. Upon arriving at the venue, the team was called into a house and was warmly welcomed by the chairperson, who then explained the purpose of the meeting.

The chairperson, along with several women from the grazing association and some ecoranger trainees, met to discuss how they

could show their appreciation to the Meat Naturally Team for their support. The chairperson went on to explain that they called the meeting to show appreciation to Meat Naturally, because, prior to MNA arriving in the community, there were so many difficulties in managing both their livestock and rangelands, but after entering into an agreement with MNA, they have observed a remarkable improvement in their livestock, in terms of body condition, conception rate and calving percentage as a result of improved nutrition after implementation of the H4H program.

The Ecoranger trainees also gave few words of appreciation on how MNA has improved their livelihoods in terms of trainings, supply of uniforms and the stipend that has improved their position at home where they can now meet all their household needs. The association slaughtered a fat sheep for the team as a token of appreciation, which they cannot just show with words only; the association said they can only show this through slaughtering the sheep and giving it to the team.

Preparing for a Successful Growing Season!

The Training Team has been hard at work gearing up for the upcoming growing season training sessions, which promise to be bigger and more impactful than ever before. This season will see new sites, new Ecorangers, and a stronger focus on empowering farmers to take the lead in sustainable land and livestock management.

Expanding Our Reach

Exciting growth is on the horizon as we welcome fifty new sites across two provinces into the programme. The Eastern Cape (EC) will start twenty-two new sites. There will be eighty-five Ecorangers trained to support their communities. KwaZulu-Natal (KZN) welcomes twenty-eight prospective sites. There will be ninety Ecorangers trained and deployed.

For the first time, one farmer group will receive dedicated training to pilot a Farmer-Led Approach, putting farmers at the forefront of implementing the GRASS programme. This expansion reflects our commitment to building resilience in rural communities while protecting and restoring our rangelands.



Training Focus: Key Topics for Growth

The upcoming trainings will cover critical topics designed to address current challenges faced by farmers and land managers: Invasive alien species management, Soil erosion control and prevention, Herd health and livestock management and Regenerative planned grazing.



By equipping Ecorangers with knowledge and skills in these areas, we aim to strengthen community-led conservation efforts and improve overall farm productivity.

Investing in Our Ecotrainers

Behind every successful training season are dedicated Ecotrainers who serve as the link between the programme and the communities we serve. In preparation, our Ecotrainers have been working closely with MNA Director Edmore and the Livestock Production Team to explore key livestock management practices, including: Body condition scoring, Age classification, Determining weight class using teeth, Identifying unproductive or sick animals.

This upskilling ensures that Ecotrainers are better equipped to support farmers in making informed decisions about their herds.

Looking Ahead

With the training plans finalized and the team prepared, this growing season promises to bring transformative action across the Eastern Cape and KwaZulu-Natal. Together, we are building stronger communities, healthier herds, and more sustainable rangelands, step by step, one training at a time.

New MNA team addition: Local Field Officers

As the Meat Naturally Africa Team continues to grow, we are thrilled to add Local Field Officers (LFOs) to the GRASS program. They will serve as links between associations, researchers, communities, and the Meat Naturally Team.

LFOs will be key as long-term eyes, ears, and minds on the ground. They will document stories of change, capture key lessons and, while doing so, bridge the gap between researchers and the communities we work with. The work done through our research partnerships will be important to deepen our understanding of the priorities, histories, and context of all community groups, better inform the design of our activities, and lead to even better implementation!

The LFOs will be embedded within communities and deeply involved with the process to prioritise community needs and elevate their voices to the centre of the decision-making process so that they grow stronger not just economically but also socially!



In the week of July 20, our new LFOs had the opportunity to attend the Grasslands Society of Southern Africa Congress at in Howick and participate in workshops and training with our key research partner, REPAiR (<https://repairproject.org/>). The REPAiR research project seeks to better understand whether and how context-sensitive, equitable, and community-led approaches to Nature-based Solutions (NbS) can support adaptability and resilience in Southern Africa's communal rangelands and extensive livestock systems. These LFOs will be based on the ground as co-researchers.

Research Report

In his piece "*Developers and communities must advance together to benefit from carbon projects*" written for **Sustainable Views**, Carl Belger argues that carbon projects must deliver more than just carbon credits. The true test of a project is whether communities can see and trust the benefits in their everyday lives.

Drawing on TASC's Grassland Restoration And Stewardship project in South Africa (GRASS), he explores how: 1) Over 250,000 hectares of degraded land have shifted to regenerative grazing, 2) More than 100 communities are gaining productivity and resilience, 3) Ecorangers are creating local jobs and skills development, and 4) Restored rangelands are strengthening both biodiversity and livelihoods.

As carbon markets evolve, only projects that balance global ambition with local impact will endure. Job creation, healthier ecosystems, and trusted community engagement are not "nice-to-haves", they are essential for credibility and long-term success.

You can read the full article here <https://lnkd.in/dW9WEEnAR>



Greenlands Abattoir Joins MNK for New Market Access

MN Kruger Meats (trading as MNK) has marked an exciting milestone with its first purchase and meat production in partnership with Greenlands Abattoir in Kokstad, KwaZulu-Natal.

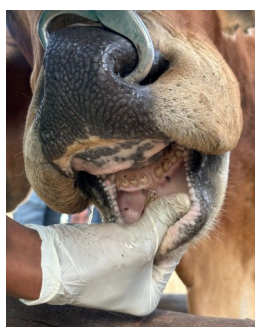
In this groundbreaking trial, seven animals were purchased from five farmers in the Nkonkobe Association in the Eastern Cape. The farmers collectively earned R54,365, demonstrating the potential of this new market access channel for communal producers.

The initiative provided valuable learning for both MNK and Greenlands as they refine a model designed to bring more opportunities to smaller farmer associations. Traditionally, MNK has facilitated access to markets through mobile auctions, which require a minimum of 100 animals to make the logistics viable. For many smaller communities, reaching that scale is a significant barrier.

This new approach changes that. With just 16 animals, MNK can now facilitate direct sales, creating a flexible and accessible option for communities working to improve rangeland health through regenerative fire and grazing management. Importantly, all the same legal and compliance requirements apply, ensuring that sales remain transparent and farmer benefits are protected.

"This is a big step forward," said an MNK representative. "By working with partners like Greenlands Abattoir, we're creating more inclusive pathways for farmers to benefit from sustainable livestock production, no matter the size of their herds."

AGE OF CATTLE - TEETH, CALVING, MEAT GRADES



	BABY TEETH Less than 1 years	FIRST 2 PERMANENT 1 ½ – 2 years	4 PERMANENT 2 – 2 ½ years	6 PERMANENT 3 – 3 ½ years	8 PERMANENT 4 years	WORN / BROKEN Older than 5 years
	MALE CALVES Castrate between 6 months to 1 ½ years.	HEIFER Give her to the BULL (not related).	COW Gives you her FIRST calf.	COW Gives you her SECOND calf.	COW Gives you her THIRD calf.	COW Gives you a calf every year – if she skips 2 years SELL .
Meat Grade:	VEAL	A GRADE	B GRADE	C GRADE	C GRADE	C GRADE
Auction (Selling):	WEANERS	SUPERS	PRIME B	C GRADE COWS / BULLS	C GRADE COWS / BULLS	C GRADE COWS / BULLS
Meat Roller Mark Colour:						

How Wildfire Mapping Fuels Regenerative Livestock Farming in South Africa

An example of a burn scar mapped using Sentinel-2 imagery.

Wildfires are a growing threat across southern Africa. Hotter, drier conditions driven by climate change are extending fire seasons, while invasive plants and degraded landscapes add fuel to the flames. For the communities the Meat Naturally's GRASS programme works with, the consequences can be severe: grazing lost overnight, livestock at risk, and years of rangeland recovery undone.

Yet, while fire danger is mounting, so is the determination to address it. Researchers have highlighted that well-managed grazing can reduce the risk and severity of catastrophic wildfires by thinning out the very vegetation that feeds the flames. This insight sits at the heart of an innovative response emerging in South Africa, where sustainable grazing practices and cutting-edge geospatial technology are converging to protect both people and nature from uncontrolled fires.

Since 2021, Meat Naturally has partnered with M.A.P. Scientific Services (MAPSS) – a South African scientific team that builds custom tech solutions for conservation and sustainability challenges. The result was the MAPSS Wildfire Solution, a powerful blend of satellite remote sensing, data analytics and user-friendly design.

What can this wildfire solution do? In short, quite a lot:

- **Real-Time Fire Detection:** Using feeds from orbiting satellites, the system flags new fire hotspots in near real-time and pins them on an interactive map. Within hours of a blaze igniting, Meat Naturally's team can see its location, helping local farmers and firefighters respond in time.
- **High-Resolution Burn Scar Mapping:** Satellites don't just see active fires – they also capture the aftermath. Every few days, the platform updates with high-resolution imagery (from sources like Sentinel-2 10-20m resolution) to map exactly which areas have burned. The charred swaths of land – the "burn scars" – are outlined and measured in detail, even in remote rural terrain.
- **Per-Livestock Association Impact Analytics:** Crucially, the MAPSS system overlays fire data onto Livestock Association boundaries. It automatically calculates how much area each Livestock Association lost to a given fire. For the Meat Naturally GRASS programme, which works on communal lands, this feature is invaluable – it shows which Livestock Associations were affected and how severely.
- **User-Friendly Dashboards:** All this wildfire data streams into a dynamic dashboard accessible via computer or smartphone. With just a few clicks, Meat Naturally staff and partners can visualize active fires across a region, zoom into specific burn scars, and generate summary reports. Charts and tables break down statistics like total hectares burned per month, or fire counts by Livestock Association, offering an at-a-glance overview of the situation.

Behind the scenes, the system draws on a suite of geospatial technologies. Thermal sensors aboard NASA and NOAA satellites scan for fire "hotspots" multiple times a day, feeding alerts into the platform. For burn scar mapping, high-resolution optical imagery is analysed with indices that differentiate burnt vegetation from healthy growth. The platform's algorithms then delineate the fire perimeter and

compute the burned area. A fresh layer of fire extent is produced weekly, ensuring the Meat Naturally GRASS programme is always working with current data. The platform even attaches extra metadata to each fire – for example, the date it started, the land cover type affected, and a severity estimate – painting a more complete picture of each incident. All this information is spatially explicit, meaning it's tied to real locations on a map that users can explore. This is important because instead of relying on word-of-mouth or patchy reports, Meat Naturally has a bird's-eye view of wildfires across their project areas – updated continuously and with fine-grained detail.

From Data to Action: Protecting Grasslands and Communities

Technology, of course, is only as good as the action it enables on the ground. For the GRASS programme and the communities it works with, the true power of the wildfire mapping solution lies in how it translates data into proactive measures that safeguard both people and the environment. In practice, the MAPSS wildfire data has become a multi-purpose tool supporting operations in several important ways:

1. **Early Warnings & Rapid Response:** When a new fire ignition is detected on the dashboard, word can immediately be spread to local Livestock Associations, Fire Management Committees and local firefighting agencies. The data helps answer critical questions in the heat of the moment: *Where exactly is the fire? Which way is it moving? Who or what lies in its*

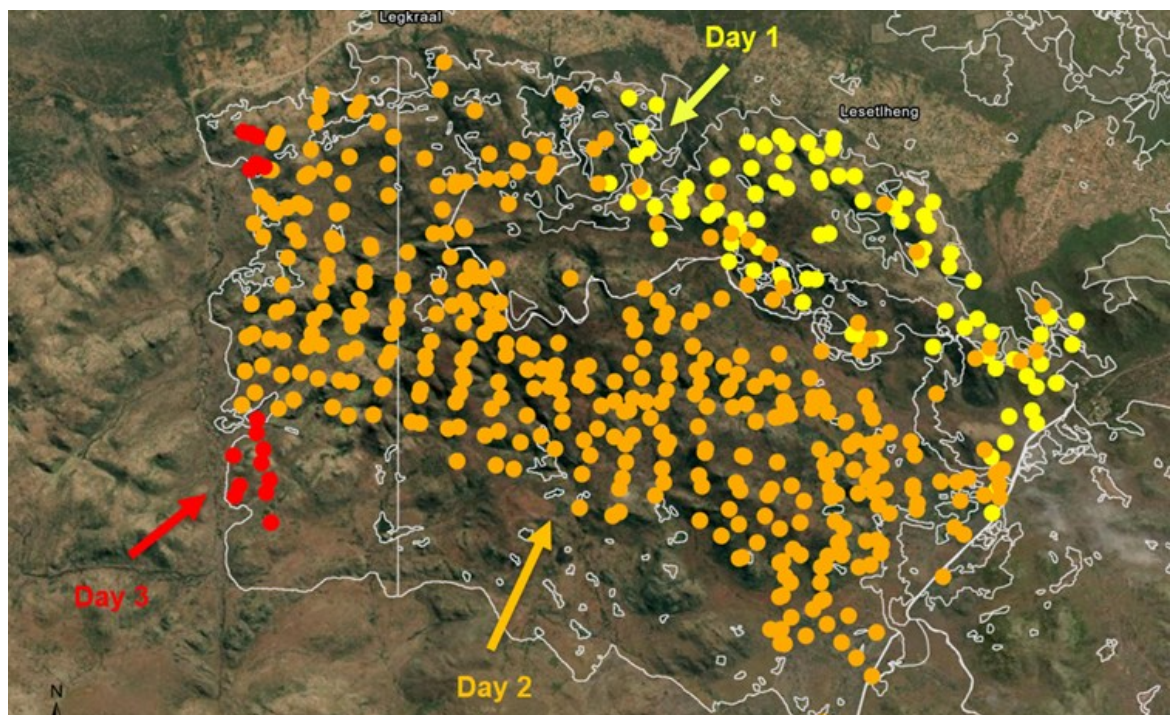


Figure 2. A map showing fire spread across an area with yellow dots showing where the fire burned on day 1, orange dots showing day 2, and red dots showing day 3. Each fire location also has a time stamp associated with it, allowing Meat Naturally to track fire spread over time and alerting affected communities.

path? Armed with this information, fire agencies can organise timely responses, identify any illegal or suspicious fires, and better manage the risk to grazing lands and high-value areas, such as homes or water infrastructure.

2. **Protecting Grazing Lands:** For livestock farmers, losing pasture to fire can be devastating – it means less feed for their animals and a higher risk of negative impact, such as overgrazing, to the remaining land. The burn scar maps help the GRASS programme and the farmers cope

with this in several ways. First, by quantifying exactly how many hectares burned and where, they can plan grazing rotations around the damaged areas. Grazing that has just burned might need months of rest to regrow; conversely, in some cases, a cool early spring burn can stimulate fresh, nutritious regrowth that livestock can utilize moderately. Second, the data allows the GRASS programme to advocate for post-fire assistance. For example, if thousands of hectares of communal land were torched in a regional blaze, the organization can present the evidence to government authorities or disaster relief agencies to help farmers get emergency fodder, water, or even compensation. In commercial farming, insurance companies use such burn assessments to validate claims in the communal context, it can support pleas for government relief. Either way, accurate data makes the case more compelling.

3. **Community Education and Prevention:** The detailed history of fires captured in the MAPSS system – essentially a digital fire log – reveals patterns that can inform prevention efforts. If the data shows, for instance, that a particular association experiences a spike in fires every August, the GRASS programme can target that area with educational workshops right before peak fire season. Communities can learn safe practices, such as how to properly extinguish cooking fires or the dangers of burning trash on windy days. The cause of many rural wildfires is often innocuous – an unattended hearth or children playing, as the GRASS programme has observed. But by pinpointing where and when such accidents happen most, the programme can work with community leaders to change behaviours and reduce those risks. Moreover, the very act of involving farmers in monitoring fires (even via a smartphone app or printed map on a community bulletin board) raises awareness. It sends the message: *we are watching out for wildfire danger together*. In some project areas, the programme and its partners have even incentivised community members – notably women small stock farmers – to become “fire champions” who lead local prevention and protection activities in exchange for rams for breed improvement.
4. **Bridging Communities, FPAs, and Government:** Historically, resource-poor communal farmers have often been left out of formal wildfire management structures in South Africa. Many Fire Protection Associations – which coordinate firebreak maintenance, firefighting resources and legal burning permits – were dominated by commercial landowners. This is starting to change, and data is proving to be a great equaliser. The GRASS programme acts as a bridge, sharing wildfire maps and analyses with both the communal groups, local municipalities, and regional FPAs. By speaking the language of geospatial data and hard numbers, the organisation can ensure that fire threats in communal lands are recognised.

By integrating all these uses, the wildfire mapping solution has effectively become another tool in the GRASS programme's climate resilience toolbox. Just as the organisation trains farmers and professional herders to rotate cattle to improve the health of rangelands, it is now training them to read fire maps and coordinate swift action to prevent disasters. The result is a community that's not only less vulnerable to wildfire losses but also more confident and proactive in stewarding its environment.

