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Harvest SA

Securing South Africa's Food Resources

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The living earth

The ARC is taking soil seriously

ISSN 2305-0551

Harvest SA **wins gold at the international Tabbie Awards 2013 in the Best Single Edition Category**

TABBIES 2013 Award Winner

TABBIES 2014 Award Winner

Agro-innovation moulding future champions of agriculture

Experimenting with drip irrigation systems, doing complicated calculus equations and managing a piggery are all part of a normal school day at the Arthur Mfebe Senior Secondary School in Cofimvaba in the Eastern Cape.

For pupils, learning has not been the same since their school became part of the Technology for Rural Education and Development (Tech4RED) pilot project.

Launched in 2012, Tech4RED is an innovative approach that involves mobilising local and external resources, including land, people, technology and financing.

A joint initiative of the Departments of Science and Technology, Basic Education, and Rural Development and Land Reform, and the Eastern Cape Department of Education, Tech4RED has several components, which include bringing energy, water and sanitation, and the introduction of tablets to schools in the area as part of improving the teaching and learning of maths and science.

One of these components is agriculture. The idea is to create a vibrant local economy, while building skills in agriculture practice and the use of innovative agricultural technologies.

In June learners showed off their experimental farm under the Tech4RED initiative to Minister of Science and Technology Naledi Pandor when she visited her department's projects in the area. What the Minister saw was no ordinary vegetable garden.

The school's 500 m2 garden, which is run in partnership with the local community, is used to teach learners commercial farming techniques, including the use of agricultural technologies such as irrigation systems.

Community leader David Mfebe said the community welcomed the project to assist learners with practical knowledge of agricultural management and practices. But more than that, the project was also helping learners to gain experience in agricultural innovation. Mr Mfebe said the project went beyond the school, extending to the local community.

"The overall success of the project depends to a large degree on local action taken by the communities to complement the initiative in respect of development, management and resources", said Mfebe.

A living lab methodology was used to ensure a participatory approach to different and complex stakeholder needs. This way of working caters for user-driven, open innovation in multifaceted, real-life rural and urban settings.

The project initially focused on technology support for the teaching of the Mathematics, Physical Sciences and Agricultural Sciences school curriculum. New and existing technologies such as information and communication technology (ICT) infrastructure and devices (wireless mesh networks and tablets) were introduced. Basic infrastructure and material for practice plots and livestock were provided to enhance learning exercises, which were expanded to include community members.

This resulted in the development of an experimental farm to enhance the teaching of agricultural management practice at the school. This contribution has also seen the installation of drip-irrigation infrastructure, fencing and security, chicken coops, a piggery and a nursery.

Chicken production started at the end of 2012, followed by crop planting and the introduction of pigs in 2013. At this stage, activities were managed by a programme called Agricultural Management Practices, through which

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teachers received mentoring and business support from the Council for Scientific and Industrial Research.

There was a full annual cycle of production in 2013, with eight harvests of chicken and two of crops, as well as the sale of the piglets produced. Egg layers were introduced towards the end of the same year.

The annual production turnover for 2013 amounted to R250 000.

Since April 2014 the farming operations at the school have been managed by a group of skilled local community leaders in collaboration with the school's agricultural team. Together, the team and management deliver the agricultural curriculum to grade 11 and 12 learners through classroom and practical training. They also make use of the land to explore farming methods and experiment with innovative agronomical practices.

The fusion of these two platforms produces grade 12 learners who have the necessary academic knowledge and practical abilities to partner with small-scale local farmers and access services from the farming operations team to improve the performance of their businesses while providing for their families.

Linda Mbovane, a grade 11 pupil at Arthur Mfebe School, said had wanted to be a social worker, but that the project had made her fall in love with agriculture. "I have learnt a lot about planting vegetables, and working as a team has assisted us to produce more."

The initiative also supports small businesses and small-scale farmers in the community using ICT and facilitating access to markets.

Mr Mfebe says that there are plans for a market along the R61, the main road connecting Beaufort West with Port Shepstone. This will create jobs locally so locals will no longer have to go to bigger cities like Cape Town to seek employment.

With the help of this project, he sees the school as well-positioned to bolster the limited natural resources in the area.

"Cofimvaba is the poorest municipality in the Intsika Yethu District, and the direction we should be going is agriculture – to get something in people's bellies."

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foreword

Jannie de Villiers

Hamba kahle

This will be the last foreword that I write for Harvest SA. I can very clearly remember the excitement discussing the birth of this baby with Tony Sanderson. Agriculture and especially food security needs to be taken closer to policy makers and the public sector. Yes, we had many teething problems, but the day when the first Tabby Award landed in Cape Town, we all knew this was special. Agriculture is going through a tough time trying to assist the country getting on with transformation and maintaining food security at the same time. The most recent drought and general impact of climate change are some of the challenges the farmers are facing on a daily basis in the process of producing food for our nation.

Grain SA would like to thank the Cape Media team for selecting Grain SA as a partner during these founding years of Harvest SA. It was fun and we have enjoyed it. For us it is time to move on. We would like to wish the team and the magazine all the best for the future. We will still contribute towards the content, when requested. The challenges that lie ahead of us have not changed. Our focus will remain on sustainable grain production to ensure food security to all. Our development efforts need to improve to get all the communal areas in the country into commercial production. The partnerships at all levels will determine the outcomes.

Our country has gone through some bad patches lately, but this is the time to build character and encourage each other. We need each other to succeed. Our history proves that we have what it takes to endure. We also owe it to our children and grandchildren.

I would like to conclude this part with a story from my past. I was still in primary school and was on my grandfather's farm during the winter school holiday period. The flock of sheep was in the kraal and Oupa was watching them carefully with a tested eye. He pointed out one ewe and asked me to catch her. She had a badly swollen patch on the side. He unceremoniously took out his pocket knife and cut through it while I was holding the sheep. I did not expect it and stalled and shivered at the pain the animal had to experience. He pressed the wound and the yellow septic fluids came out. Immediately I asked him what this was all about and why he hurt the animal to such extent. His answer was a very important lesson I have put into practice all my life: "Sometimes you need to be cruel to be kind."

South Africa needs some cruel truths about the direction in which we are heading. We need leaders and citizens that can stand up for the truth and integrity to uphold those values that make a nation a great winning nation. Even if it sometimes seems to be cruel and hurting, it will eventually be kind. Truth brings freedom – something we all strive for. Hamba gathle Harvest SA. God bless.

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EDS NOTE

GREG PENFOLD
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The issue of Harvest you are holding in your hands marks something of a watershed. First, the time has come to bid a fond farewell to an award-winning partnership with Grain SA. To Jannie and the team, our sincere thanks for the guidance we have enjoyed during Grain SA's tenure as endorsing body, not to mention the insightful and informative editorial they have supplied over the years.

Second, the time has come to broaden our horizons and extend our readership. Consequently Harvest SA has begun talks with exciting potential new partners and will be in a position to make an announcement soon. Watch this space!

The fact is that not South Africa benefits from among the best research in the world, in every area of agriculture, while the agriprocessing sector remains the goose that may lay the golden eggs that will fund the houses hat Jack might build to house the community… After all, as Minister of Trade and Industry Dr Rob Davies never tires of pointing out, agriprocessing has consistently outperformed manufacturing since the house of cards slithered down in 2009. Should research and practice find a way to consummate their marriage most optimally, the spin-offs would go a long way toward restoring not only food security but social cohesion too.

All avenues of production must be explored and all markets must be tested. The narrative needs to change from a tale of woe reflecting a siege mentality of isolated individuals under threat to a bold, united value chain that takes no prisoners from any corner of the world. If China, for example, is hard to break into because of a business culture that defines corruption differently, it is necessary to build bridges and drive into Beijing with the correct understanding to do great business. This requires initiative, innovation and intelligence—intelligence not only of the native variety but also business intelligence founded on science.

That is the road map Harvest SA proposes to follow. Let us be your media partner – and join us for the journey!

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Manage fire professionally

Working on Fire can implement fire management on your land

The National Veld and Forest Fire Act 101 of 1998 (NVFFA) has changed the face and market for fire management in South Africa. The Act requires all land owners to conform to the NVFFA which requires land owners to have trained and equipped personnel to implement fire management practices on their owned or leased properties.

The vast majority of landowners in South Africa have limited capacity and experience in the implementation of firebreaks, fuel load reduction using prescribed fire and the suppression of wildfires.

Failure to comply in the event of fire spreading from their properties and causing damage to a neighboring property would result in the landowner being prosecuted.

Weather is the single biggest risk and therefore accurate weather forecasting is required to enable the prescribed burning operations to be carried out safely. This would require that a suitably qualified person be employed to allow for weather forecasting to be supplied to the various crews engaged in burning.

"Working on Fire (WoF) addresses the prevention and control of veld and forest fires, to enhance the sustainability and protection of life, property and the environment through the implementation of Integrated Fire Management (IFM)," says Llewellyn Pillay, Managing Director of WoF SA.

WoF Commercial Operations and the WoF Academy have developed capacity and products to assist landowners with developing their own potential, as well as the supply of integrated fire management services to rural landowners within South Africa.

They have also developed a pool of qualified and experienced Fire Managers, who are based across all the fire-prone regions of South Africa and are responsible for supervising any prescribed fire and suppression operations performed by the WoF Commercial Operations fire crews.

Risk of Spread of Fire

WoF- Commercial Operations' burning operations are covered by Risk of Spread Insurance.

All burning operations are carried out within very specific weather parameters.

All our project managers and crew leaders are trained to adhere to these requirements.

All project managers and crew leaders are to adhere to the burning Best Operations Procedures.

Health and Safety

In terms of the Occupational Health and Safety Act, both management and

employees have clearly outlined duties and as a measure to ensure streamlining of processes and operations, it is imperative that WoF Commercial Services has a SHE Policy that will be an internal commitment and guideline.

The Kishugu group has implemented a standard Health and Safety Programme, which is managed by a National Health and Safety Manager. Selected personnel are trained and appointed under the occupational Health and Safety Act.

Dispatch and Coordination

A dedicated network of dispatch centers manages the day-to-day movement of all company resources. The dispatch centers are all coordinated by Provincial Coordination Centers, which are overseen by a National Coordinator. This dispatch and coordination system allows for resources to be effectively deployed for immediate reaction in the case of emergency.

Training

WoF Commercial Operations and the WoF Academy in Nelspruit have developed products to assist landowners in South Africa. All personnel are trained to international standards in: Basic Firefighting, Advanced Firefighting, Annual Safety Representatives Training, Selected First Aider Training, Selected Crew Leader Type 2 and Type 1 Training, Selected Drivers Training, Brushcutter and Chainsaw Training and Selected Teams for Herbicide Applicators Training. Additional specific training courses can be handled as well.

Products and Services

WoF Commercial Operations has developed a range of unique fire management products and services that include:

- Transmission power line fire fault reduction and servitude management with prescribed burning and invasive vegetation management
- Fire prevention suppression in commercial industry, commercial farming and conservation areas – all types of prescribed burns as well as wildfire suppression activities;
- Supply of a permanent team to the client, with people employed from the immediate area. This team is then totally dedicated to the client and may be used for working as per training on all properties belonging to the client. The period of contract will be 3 years. Transport and Project Manager is optional;
- Invasive vegetation management in the forms of manual and mechanical bush clearing of invasive vegetation;
- Aquatic weed clearing and management thereof;
- Carrying out veld and bush assessments;
- Supply of permanent teams to client — team dedicated to client only for three years, included vehicles, tools, equipment and management; and
- Supply of firefighting tools and equipment.

Transnet Freight Rails Agriculture & Bulk Liquids Business Unit is focused on trasnporting Grain, Fast moving Consumer Goods (FMCG), Petroleum products, Chemicals and Fertilizers. The key agricultural commodities transported are maize and wheat amongst others.

This Unit is the most geographically dispersed with depots and yards spread across South Africa in Durban, Pietermaritzburg, Pretoria, Sentrarand in north and Betlehem, Kroonstad, Bloemfontein in the Free State as well as East London, Worcester and Bellville in the Western Cape. Trade is also conducted with African countries such as Maputo, Botswana extending up to the Democratic Republic of Congo.

Critical train flows for grain are from Kroonstad to Durban, Kimberly to Cape Town and Klerksdorp to Polokwane.

In 2012, we reopened the Orkney-Vierfontein Branchline. This was to improve accessibility to export maize in Klerksdorp.

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soil degradation

Taking care of our fragile earth

Humans walk, run or drive across the soils of the earth without a second thought. Soils are just "there", always have been and always will be….but will they?

Soils are fragile and can easily and rapidly degrade. This can take the form of physical degradation, such as erosion by wind or water when the vegetation cover is disturbed or removed, as can be seen by the network of dongas visible in many parts of South Africa. The basic principle is that the roots of the vegetation cover (whether it be the natural vegetation or some sort of crop) act as a stabilizing force to hold the topsoil in place and reduce the impact of raindrops and human, animal or vehicle traffic. If the vegetation disappears or is removed, the newly-exposed soil is very susceptible. Poor land-use practices, linked either to ignorance or inefficiency, can cause rapid and lasting damage. This can happen in rural areas, but can also be seen in places such as schools, where hundreds of pupils use the same route every day and cause the soil to start to wear away.

A soil that took thousands of years to form can be destroyed by one season or even one event, resulting in the need to apply expensive and complicated soil conservation measures, such as geotextiles, contours, windbreaks and

soil stabilizers. Soils across the whole of South Africa may be affected, as the drier parts are affected by wind action, while the erratic but often intense rain that falls across the interior is always potentially damaging.

Another form of soil loss is where otherwise productive soil is either excavated or covered over, rendering it unusable. The main culprit is the mining industry since most of the extractable coal that South Africa needs for energy production unfortunately lies underneath some of the best arable soils that we have. Despite the best efforts of the environmental impact assessment process, once these soils have been removed, stored and later rehabilitated, their productivity has declined so much that to all intents and purposes they are no longer suitable for any type of agriculture. Added to the mining environment is a wide range of other industrial or commercial developments, such as the building of factories, roads and other infrastructure, whereby potentially productive soils can easily be lost. In addition, the expansion of the "concrete jungle" often indirectly causes increased soil erosion, as the rainwater that would otherwise soak away in the soil now gets diverted as runoff and funnelled into other areas, where the increased flow often has unplanned consequences.

Another form of degradation is chemical degradation, where the loss of nutrients or organic matter can leave the soil very

depleted. This can happen under different types of arable monoculture, and often the only solution is a vicious circle of continual fertilization, liming and re-supply of other soil amendments, which leads to steady environmental exhaustion. One of the solutions is Conservation Agriculture, where the main aim is to combine minimum tillage, organic matter conservation and soil cover to produce a healthier and more sustainable soil environment for future generations.

A potentially more serious problem is soil pollution, whether by salinity or man-made activities such as mine-related or industrial pollution (e.g. spillages). Once the soil profile is affected by these processes it can be very difficult, if not impossible, to restore it to a healthy state. The main reason for this is the fact that most pollution is as a result of toxic elements or materials occurring in solution, making them extremely difficult to remove when the water infiltrates the soil and often the underlying groundwater. Soil pollution can take the form of localized spills, such as from a factory or accident site, or can be more damaging and widespread, such as acid mine drainage from a variety of mine-related sources, or continuous seepage, such as sewage and other waste products caused by neglect of the sanitation system in many parts of the country.

The wide range of threats to our soil resource listed here show clearly how easily the soil can be affected, almost without thinking. It is the responsibility of every citizen to look after the soil, to report any actual or potential degradation, and thereby help to ensure that future generations in South Africa actually have soils that they can use.

For more soil-related information, contact:
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Land reform no threat to farmers

Fertile insights from the annual FERTASA conference

"No farmer will lose his land as a result of the land reform policy," said the minister of agriculture forestry and fisheries, Mr Senzeni Zokwana, at the FERTASA (Fertilizer Association of Southern Africa) annual congress in Cape Town. He paid tribute to the fertilizer industry as the largest and one of the most important components to ensure that abundant and affordable food is available for a growing population.

The government recognises that in order to continue to ensure food security in South Africa, we will need to work in a collaborative effort, he added.

"To this end I call on FERTASA to engage more frequently with me to address the challenges that the industry faces. There are already areas, particular regulatory issues, in which the industry and government collaborate. However, I wish we can do more in a collaborative manner concerning other issues such as:

- Empowering small-scale farmers to ensure their contribution to food security.
- Research and development.
- Export of fertilizers to the rest of the continent."

"There is a need for all of us to commit ourselves to work together to address issues that are of mutual interest," he emphasised.

Committed to compliance

To establish the fertilizer industry as a recognised and preferred body aimed at promoting the image of the industry, FERTASA (Fertilizer Association of Southern Africa) has established an effective framework of self regulation. This includes

From left: The Minister of Agriculture, Forestry and Fisheries, Mr Senzeni Zokwana MP; Jaco Raath, director Industrial Commodities Holdings, deputy chairman FERTASA; Adriaan de Lange, managing director, Omnia Fertilizer, chairman of FERTASA, and Adam Mostert, the CEO. (Photo Hans Lombard)

subscription to a code of conduct and compliance audits as well as subsequent accreditation for its members in compliance with international standards, says Mr Adriaan de Lange, chairman of FERTASA and MD of Omnia Fertilizer.

Presenting his annual report at the 55th FERTASA congress in Cape Town, he said Afri Compliance has been contracted to implement the code of conduct compliance. Once compliance has been confirmed, a member will receive a certificate. The first certificate was handed to Tom Mason, CEO of Metson Manufacturing.

He said the purpose of the code of conduct compliance service is to create, sustain and monitor an ethical culture of compliance, integrity and trust within the fertilizer industry.

The department of agriculture, forestry and fisheries (DAFF) has agreed to a separate Fertilizer Bill. Regulation of the fertilizer industry is necessary in order to protect the environment as well as consumers of food produced with fertilizer, and also to protect crop producers against dubious suppliers.

Proposed changes to the regulations of Act 36/1947 to control the use of zinc-ash as a key source in fertilizer products were presented to the Registrar.

FERTASA has also drafted guidelines for the registration of Group 3 fertilizers, as no clear guidelines exist.

De Lange said members and non-members are being assisted with product registration applications for submission to the Registrar to cut delays.

Membership increased from 28 last year to 42 currently.

Africa food potential

Adam Mostert, CEO of FERTASA, said it is often claimed by various influential sources that Africa has the POTENTIAL to produce enough food to feed its population and leave a surplus for exports. The question is, what is being done to achieve this potential? The fact today is that people don't eat potential. They eat what is actually produced. This is not enough, as millions on the African continent are starving and malnourished.

"Africa spends US$35 billion annually on food imports. There must be a change in

Mr Adriaan de Lange, managing director Omnia Fertilizer and chairprson of FERTASA, with the delegates from Foskor – from left: Musa Xulu, general manager marketing; Chris Masina, production manager; Thandeka Khumalo, sales manager acids and Nonfumdu Mthembu, sales co-ordinator. (Photo: Hans Lombard)

Taps Mashingaidze, general manager Zimbabwe Phosphates; Michelle Benecke and Hans Benecke, chairman Atlas Organic Fertilisers. (Photo Hans Lombard)

food production. Without change more will die of hunger. We cannot play the violin while Rome is burning."

Mostert mentioned that he had recently attended the African Green Revolution Forum in Addis Ababa hosted by the Kofi Annan Foundation. There the following actionable steps were identified as needing urgent attention in order to achieve Africa's food potential:

- Expand the food and agribusiness sector in Africa.
- Invest in critical infrastructure. Governments must invest in agriculture, not because it is the right thing to do but because it is the smart thing to do.
- Implement policies to promote land tenure security. If we want to raise productivity and sustainability, we need to ensure the security of land tenure in Africa.
- Increase access to financial services.
- Prioritize climate solutions.

Zambia

Dr Guy Scott MP (Lusaka) and former acting president of the Republic of Zambia, said minimum tillage (MT) has the potential to increase maize yields in Zambia for smallholder and commercial farmers. Much research and development has been done to eliminate losses through late planting, inaccurate seeding, excessive weed competition, inaccuracy in placing nutrients and poor water retention. These can lead to yield losses of 65%.

"Commercial companies involved with synthetic fertilizers should take a keen interest in the broader context in which fertilizer is being used, especially by smallholder farmers, to secure a more efficient future."

He added that much of the fertiliser distributed each year ends up in the hands of influential people including civil servants and the local political elite who are "fronted" by cooperatives whose members (smallholder farmers) do not get the fertiliser needs they are supposed to. Thus the fertiliser distribution leads to a minority of "medium scale" farmers producing the larger share of the maize through corruption.

Subsistence farmers not the answer

Independent agricultural economist Fanie Brink stressed that the production of food by small subsistence farmers will never be the solution to food insecurity and poverty eradication in Africa. In many cases they are struggling to make a living themselves. They never were the solution in the past. Neither will they be the solution in future.

"No farmer in the world, irrespective of the size of his farm, can make a contribution to food security if he cannot produce food profitably and sustainably. The time has now arrived for everybody involved in the process of achieving food security in Africa to acknowledge and accept this reality."

There are 870 million people estimated to be undernourished in Africa and it is shocking that 60% are actually small subsistence farmers. As far as South Africa is concerned the generally accepted goals of the government, land distribution and the development of smallholder farmers on the one hand and food security on the other hand, can never be compatible. This is mainly because there is no possibility that smallholder farmers can make a meaningful contribution to food security if they cannot produce food profitably and sustainably, emphasised Brink.

Employment opportunities in agriculture

Any substantial farm employment growth will have to come from additional land under irrigation, from improved livelihoods and increased employment in the communal farming areas. Industries with the largest potential contribution to job creation are mostly irrigation-based, said Professor Nick Vink, chairman of the department of agricultural economy, University of Stellenbosch.

He added that South Africa currently cultivates about 13 million hectares of agricultural land. Available arable land amounts to approximately 15 million hectares. This leaves two million hectares, mostly in the former homelands, available for expansion.

"About 300 000 employment opportunities can be created in the communal areas where close to 1.3 million households have access to land. The less labour-intensive field crop sector can potentially create 10 000 on-farm opportunities. In total, the number of primary and secondary jobs created could top 900 000," Professor Vink said.

Hans Lombard

Stop the dop

Tackling alcohol abuse among South African farm workers

Alcoholism is a major issue in South Africa for a number of reasons, including a 'drinking culture' that promotes the excessive use of alcohol during leisure time or for recreation. This is particularly prevalent within rural agricultural communities, and alcohol abuse remains one of the major challenges facing farmers, especially wine farmers, in our country.

South Africa has some of the highest rates of alcohol misconduct, risky alcohol use, and rates of violence and trauma associated with alcohol use. In addition, the adverse health impacts of alcohol abuse are significant among these communities, and for farm owners, the negative impact on productivity can be detrimental. In order to combat the multiple ill effects of alcohol misuse in these communities, farm owners themselves need to get more involved. A multi-level approach, with education drives, comprehensive testing policies, and the right equipment to back these, is critical in tackling alcohol abuse among South African farm workers.

Excessive alcohol consumption is exacerbated industries such as farming, where workers may be away from their families, or have little to do in their spare time. In the wine farming industry in particular, this challenge is compounded by a legacy issue dating back to the 'dop system', where farm workers were given part payment in the form of alcohol. While this practice has since been outlawed, the problems of the culture it created persist, and farm workers often spend large proportions of their wages on alcohol.

The challenges that alcoholism creates within farming communities are multiple. Health problems among the farm workers themselves include issues such as fatal liver damage and slowed brain function resulting from long-term abuse. In addition, pregnant women who excessively drink alcohol may cause foetal alcohol syndrome in children, which perpetuates the cycle of damage and disease. Further to the health problems caused by alcohol, mistreatment also leads to emotional instability, anger, irrationality, anger and aggression, which in turn creates high levels of physical abuse, violence against women and children, disruptions to family and more. For farm owners, alcohol misuse creates a dangerous working environment, as workers are often under the influence while doing their jobs, while also impacting negatively on productivity. In addition, long-term health problems result in more sick days, again effecting productivity.

While there are currently efforts to stop the over use of alcohol among the famers, such as the Dopstop Association, additional input, education and policies must come from the farm owners and managers. Ultimately it is in the best interest of farmers and farm owners to tackle the mistreatment of alcohol and become more involved in efforts to curb the physical and social problems alcoholism creates. Lack of education is a primary issue with regard to alcohol abuse and alcoholism.

Farm workers typically are not aware of the detrimental effects on themselves and their families as a result of their drinking. They spend most of their wages on alcohol, which creates a cycle of poverty and social damage from which it is difficult to emerge. Education therefore needs to form a crucial component of any effort to tackle alcohol consumption, and farm owners need to get involved in this process. This education needs to include understandable examples of the negative effects of drinking on health as well as the financial implications. The positive influences of reducing the violation of alcohol should also be emphasised.

Regular testing for alcohol consumption is also essential, and should form part of the education drive. Farm owners need to develop comprehensive testing policies and procedures around testing, and then educate their workers as to why they are testing and how it works. Emphasis should be placed on ensuring that workers understand that testing will not mean they cannot drink at all, but should rather limit their intake within safe levels.

Breathalysers are readily available and extremely useful in detecting and deterring alcohol abuse. Farm owners need to make use of this technology, in conjunction with policies and procedure, to help curb alcohol among. Farm owners will benefit from better production, happier and healthier workers and better communities. Sober workers will mean fewer accidents and less likelihood of damaged and broken equipment.

Rhys Evans, Director of ALCO-Safe

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Talking about regeneration

Youth needed to take agriculture into new era of cross industry integration

Although not necessarily as obvious, the pervasive influence of agriculture on society is creating an entirely new and glamorous view of the sector that will attract the pioneering energies of young people looking for careers as enticing as those in information technology.

The ways in which technology and social media have changed consumer expectations and the nature of the products and services they aspire to have triggered a ripple effect in agriculture.

Wherever you touch the world...

For instance, the convenience that social media delivers is now being copied in the energy sector, where petrol stations carry fresher produce than many supermarkets. In order to match that freshness, supermarkets are re-examining their logistics and cold chains. The traditional way of bringing produce from outlying districts to a central distribution centre and then sending it all the way out again, often to where it was harvested, for sale in supermarkets, is proving not only costly but detrimental to shelf quality.

Satellite technology is now being installed in tractors and other farm equipment in order for farmers to more accurately measure and monitor soil quality and, therefore, crop yields.

Green and renewable energy are being applied to farming operations not only to reduce energy costs but in response to society's demands for sustainable production in all sectors. However, the green and renewable industries are still evolving, leaving plenty of pioneering work to be done.

The debates raging on social media about the merits or otherwise of genetic modification of seeds and organic farming methodologies are not only making consumers more particular about what they buy but how it is labelled. This calls for much more astute production and packaging.

Food sovereignty issues in both the political and social domain are making local research into indigenous and heritage crops essential to the sustainability of local producers.

Thinking holistically

These and other issues are bringing agriculture out of its perceived sector isolation and meshing it tightly and very directly with consumer lifestyle requirements well beyond what gets cooked for dinner tonight. And they are moving agriculture's economic contribution to GDP, for instance, far beyond the relatively narrow criteria of employment in and foreign exchange generated by the industry.

Agriculture now has the potential to boost employment across multiple sectors, many of them unexpected. As just one example, growth in the logistics sector can be predicated on the ability to move fresh produce more efficiently.

Also, if fresh thinking can be brought to bear on turning South Africa into a net exporter rather than a net importer of processed agricultural products, entirely new industries can be created – bringing with them an influx of foreign capital.

Innovators in the technology and research sectors can create more effective ways for South African conditions to be put to work to increase volume and quality of outputs.

In other words, modern agriculture places almost no limits on people who wish to make an impact on the way the world works. Agriculture is no longer about planting crops or running herds of cattle. It's about satisfying and successful careers in all sorts of human activity linked to agriculture.

A new generation

This tipping point in the sector comes at a time when established farmers and agribusiness operators are beginning to age out of the market. Our own internal research matches those of external agencies in showing that the majority of commercial farmers in South Africa are in their fifties. Only some 8% are younger than 35.

To some extent, the flow of new entrants to the sector is being diminished by uncertainties regarding sector policies. We understand that legislators are aware that decisions on policies need to be accelerated and must have economic benefits for all stakeholders.

Another entry barrier, the severe drought that has plagued parts of the country for some years, is temporary. It's just a matter of time before the weather changes. Still, the drought – and the weather in general - is another uncertainty. Our established producers have been on the land long enough to know that farming is a long-term activity that calls for financial and emotional endurance. We need our experienced farmers to focus on what they have always done best, which is getting mother nature to deliver her bounty.

However, although many of them are innovating, becoming tech savvy, and getting involved both up and downstream of their own operations, we must close the gap that is growing between those who have been on the land for generations and those coming out of school now.

Fortunately, Gen Y, now between the ages of 18 and 24, has been raised on technology innovation and has an appetite for new ideas in general. These young people understand and relish interconnectedness. They are socially minded. They want to make a difference. Best of all, they don't all necessarily want to be information technology whizzes. As long as they're doing something special, that benefits the world in general, they will be happy in careers in logistics, retailing, green energy, research, and whatever business disciplines that have yet been invented that will impact agriculture.

All we need to do is show them that agriculture is about planting the seeds of the future – in whatever form feels good to you.

Nico Groenewald, Head of Agribusiness at Standard Bank

Technology to the rescue

Solving the food security crisis through precision farming

The global food crisis is a high-profile international concern, and with global population rates continuing to rise, so does the strain on natural resources. With the majority of the world's arable land to be found in Africa, the need to develop sustainable agricultural practices and techniques on the continent becomes essential. In fact, in their 2015 State of Food Insecurity in the World report, the FAO indicates that within sub-Saharan Africa, agricultural growth can be 11 times more effective in reducing poverty than growth in non-agricultural sectors.

The need for agricultural technology in Africa has never been more relevant than now. The current natural resource constraints on water, increasing pressure on the governments for a self-sustaining economy and the need for food security are translating into a growing dependency on crop yield. These economic and environmental challenges have resulted in the development of advanced agricultural solutions, such as precision farming. This age old trade is moving away from traditional methods towards a more sustainable approach driven by technology.

Precision farming offers a sustainable solution to the current crises. It is a farming management concept based on observing, measuring and responding to inter and intra-field variability in crops. By observing and responding to the land, farmers are able to capitalizing on the land's natural resources, accurately apply the right amount of input in the precise location, at the right time. This not only benefits crops yield for the present, but creates a sustainable environment for future crop cycles.

Precision farming can take one of two approaches, based on the individual customer needs; the first is a customized programme based on data collected for analysis through the basic farming cycle. The data would be analysed and in consultation, suggestions would be made and implemented to minimize identified risks and exposures thereby controlling the yield to maximise profitability and control any environmental and social exposures.

The second approach is the analysis of conditions post last yield and prior next crop with the intent of controlling conditions during the farming cycle. The potential benefit of this approach is the scientific methodology relating to yield cycles, where planned programmes and contingencies would position the crop yield to survive the most common known and some infrequent scenarios that affect it.

However, precision farming should not be thought of as only yield mapping and variable rate fertilizer application; it is instead a solution that will affect the entire production function. Precision farming includes expertise which can increase agricultural output, such as yield per hectare, while reducing costly inputs. It includes services such as soil analysis to help manage soil fertility, determine crop potential and tillage practices, as well as farm layouts. In addition, plant analysis evaluates and manages the nutrient status of a crop during the growing season, and water analysis helps determine risks involved in irrigation.

Precision farming is now offering a solution to a trade which has previously been less commercially attractive. Technology is the language of today and innovation the language of tomorrow. Precision farming has brought these two languages together in order to modernize the agricultural profession and make it a sustainable economic contributor.

This service is offered by Intertek, at their South African National Accreditation System (SANAS) accredited laboratory. This significant achievement places Intertek at the forefront for soil testing in Africa. The precision agriculture laboratory in Johannesburg is amongst the first laboratories in South Africa to obtain ISO 17025 accreditation for soil nutrition testing. The service is further strengthened through association with the Agri-Laboratory Association of Southern Africa (AgriLASA), which is a non-profitable association for laboratories with agricultural relevance.

Where lambs have no eyes

Intelligent pied crows are wreaking havoc on Western Cape sheep farming

When Manie Louw took over a farm outside Paternoster last year his neighbours warned him about three things: stock theft, jackals, and pied crows. Louw, a 53 year-old sheep farmer from Calvinia, grew up raising livestock, and thought himself familiar with the risks of the trade. He brought 42 aging Dorper ewes to the coast with him, hoping to fatten them for slaughter on the farm's Strandveld vegetation. "I didn't know what people meant about the crows," he said.

Since arriving in April he has been forced to slit the throats of 21 ewes and more than 30 lambs after discovering them with their eyeballs pecked out, a signature of the large black and white birds, which have been increasing in numbers in the Western Cape since the late 1980s.

He has watched crows descend moments after a birth, surgically jabbing at lambs that are still wet and unable to stand. Other times he has found adult sheep wandering drunkenly through the veld, bleeding from the face and unable to see. When he encounters a victim he takes out his knife and slaughters it on the spot, dumping the carcass if it isn't ready for market. He estimates that this has cost him tens of thousands of rands to date.

"I hate killing my sheep like that," he told me. "It's the biggest problem I face here. But I have no choice."

Louw is one of hundreds of local sheep farmers facing the threat of pied crow predation, which has escalated since the species (scientific name Corvus albus) expanded its range into the Western Cape. Pied crows occur throughout Sub-Saharan Africa but were relatively uncommon in the province until two decades ago, when they began shifting their distribution in response to climate change, which has warmed the south-western parts of the country while cooling regions in the north east. The birds have become ubiquitous in the Western Cape as a result—particularly in cities and shrubland areas, according to data from the Second Southern African Bird Atlas Project (SABAP2), a citizen science venture that maps the abundance and distribution of birds across Southern Africa.

Their arrival in large numbers has potential biodiversity implications in addition to posing challenges for farmers, although researchers have not yet conducted the studies necessary to detect negative ecological impacts.

Pied crows are aggressive, opportunistic feeders and will eat anything from small animals, eggs, fruit and seeds to roadkill and human scraps. They are considered highly intelligent—one 'exclusive avian products' dealer from Georgia, USA, has trained a pair of South African pied crows to retrieve golf balls and peck at the keys of a piano—and can readily adapt to new environments, tailoring their diet and behaviour to suit different conditions. This versatility enables pied crows to colonize a wide range of habitats but can have negative consequences for native species, which risk being preyed upon or outcompeted by the encroaching birds.

Whether or not this represents a genuine ecological threat has become a controversial topic in local birding and conservation circles, with disagreement about how best to assess and respond to the crows' dominion and spread.

John Fincham, a retired Bellville veterinarian and regular SABAP2 contributor, is among those who believe that pied crows should be treated as a 'problem species' due to their adverse effects on Cape wildlife. In 2013 Fincham and a Ceres farmer named Nollie Lambrechts documented the killing of at least 315 small tortoises by a single breeding pair of crows over the course of one year, publishing their findings in a University of Cape Town publication, Ornithological Observations. "This rate of predation is almost certainly not sustainable," they wrote. "Any defenseless species will be equally at risk, including the eggs, nestlings and fledglings of many birds. These, as well as dwarf chameleons, geckos, skinks and other small prey, may be digested entirely, leaving no trace."

Their work followed a 2011 report in Africa Birds & Birding about pied crows mobbing raptors for their prey, adding to fears that vulnerable species were being placed under pressure by the advancing flock—a 'murder', to use the correct collective noun for crows.

A statement released by conservation body BirdLife Africa in 2012 acknowledged "potential threats" to indigenous species but warned against control or poisoning "in any manner whatsoever" until the completion of further research. Responding to this statement, Fincham and Lambrechts wrote that the "hard evidence of heavy predation on tortoises" they had collected was "unlikely to be unique". "If it is confirmed that similar situations are widespread there is a responsibility to do whatever is practical," they argued. "That (pied crows) are intelligent and adaptable does not mean they should be allowed to proliferate to the extent that they contribute to declines."

But according to Arjun Amar, an avian conservation biologist at the Percy FitzPatrick Institute of African Ornithology, housed at the University of Cape Town, there is an important distinction between observing individual mortalities and inferring population-level impacts. "If you repeatedly see pied crows hunting tortoises or eating the eggs of other birds then it's natural to believe that this will have wider consequences," he told me. "The reality—that increased predation doesn't always make a difference — can be more difficult to grasp."

To explain, Amar invoked the concept of the 'doomed surplus', a term for the common evolutionary strategy of spawning more offspring than can feasibly survive to adulthood. (Existence, for humans and all other living things, is at base a vehicle for passing on DNA to future generations, bounded by statistical frequency distributions of death and other forms of reproductive incapacitation; parenthood can be crudely reduced to a tradeoff between wasting energy on too many progeny and not having enough to justify the effort at

all.) A proportion of every generation, he explained, no matter the species, is quite literally born to die—meaning that if a chick isn't plucked from its shell by the long black beak of a crow it is likely to starve, or be devoured by some other predator, while its parents forage during the winter months.

"It's counter-intuitive," Amar said, "but pied crows might simply be doing things that would have happened anyway. We don't have enough information at this stage to tell."

Research in the northern hemisphere, where a number of crow species are considered pests—in some cases for mutilating lambs, as in South Africa—has revealed that removing perceived problem birds from an ecosystem can have little to no effect on the survival rates of affected species. A recent review paper by Amar, French ecologist Beatriz Arroyo and former University of Cape Town postgraduate student Chrissie Madden found that Corvids —crows, ravens and magpies—had a "small overall" impact on other bird species, with just 10% of studies reporting significant effects of predation on the abundance of prey.

"The situation may well be different here, but on the basis of evidence from the Northern Hemisphere it doesn't look like pied crows will necessarily have an impact," Amar said. An obstacle to evaluating the birds' effects locally, he explained, was the fact that "almost nothing" was known about their basic biology and behaviour. "Research here tends to focus on threatened species, or on ecosystems that can't be studied elsewhere. Crows are common yet we understand very little about them at all — their breeding behaviour, survival rates, juvenile dispersal, territoriality, home ranges and other really fundamental stuff. This makes designing experiments difficult."

That pied crows are technically native to South Africa, and not introduced from some distant country, further complicates questions about how to deal with their spread. The National Environmental Management: Biodiversity Act (NEMBA), published by the Department of Environmental Affairs, lists procedures for preventing or mitigating the costs of invasive species, but is not applicable to indigenous populations that have expanded as a consequence of human activity. Amar and his colleagues have shown that shifts in pied crow distribution can be explained by changing temperature and rainfall patterns — both direct manifestations of climate change — and, secondarily, by the construction of electricity pylons in the treeless environment of the Karoo, which the birds have appropriated as nesting sites. In terms of the NEMBA legislation these findings are insufficient to justify expensive eradication programs — such as those set up for the Indian House Crow (Corvus splendens), a close pied crow relative and notorious global invasive, resident in Cape Town since the 1980s, that has been aggressively targeted by the city's Invasive Species Unit for the last six years.

"It's probably too late to substantially reduce the pied crow population," Amar told me. "But with a systematic program of culling you could bring their numbers down."

While conservationists debate the most appropriate approach to dealing with pied crows, many sheep farmers have taken matters into their own hands. Shooting pied crows is permissible — the species is not protected by environmental legislation— but poisoning them is strictly forbidden. "If farmers go that route it'd be a real worry," Amar told me. "Endangered species like foxes, jackals and vultures would be at risk."

According to Thys Delport from the Western Cape Predator Management Forum (PMF), a platform for curbing predation in the livestock and game ranching sectors, pied crows are not yet considered a major threat in the province. "Jackals and lynx are our main problems here," he said, "although we do receive reports of crows attacking lambs in certain areas." He was not aware of any incidents where farmers had used poison to control the birds but emphasized that the PMF was opposed to poisoning "in all forms".

For Manie Louw, stationed on his farm six kilometres outside Paternoster, there is little solace knowing that crows are considered less of a threat than conventional predators, which have given him little trouble over the last year. The crows circle high above the veld or perch on the telephone cables or descend into the bluegum thicket behind the farmhouse, crying out to one another in maddening tones. Sometimes they disappear for weeks only to return suddenly: Louw has no idea where they go. He watches them and continues farming his sheep, undefended against the skies.

"There's a little hokkie outside the house," he told me. "We used to put the baby lambs in there, let the children feed them with a bottle. The crows got in and attacked those lambs, too."

A lamb's eye weighs less than five grams but is rich in fats and protein. The crows cannot eat anything more substantial because their beaks are not sharp enough to puncture flesh. That they just take the eyeballs, leaving his animals blinded for so little, is what troubles Louw the most.

"I like nature; I like everything that's on this farm," he said. "But eventually I had to do something about the crows."

Kimon de Greef is a freelance journalist and researcher from Cape Town. This article courtesy of GroundUp..

Studbook keeps SA agri at the forefront

110 years of recording, certifying, and publishing animal pedigree and production data has ensured continuous improvement in farm animal performance and sustainability of farmers

As economic conditions remain challenging and markets become more competitive, farmers have to increase their production effectiveness. For livestock farmers this means keeping animals that produce increased quantities of the best quality products like milk, meat, wool etc., in a cost effective manner.

Identifying such animals for purchase has become a scientific procedure. Hanging over a rail at an auction, selecting animals that look good to your eye and come from a breeder you respect is just too subjective a process in a time when farms need to be run as businesses.

"You have to have solid proof that the animal you're buying has the traits you're looking for," says Standard Bank's Free State Agricultural Manager, Danie Retief.

"You therefore need an industry body that has the global credentials and credibility to certify animals as having at least a 70% probability of giving you the results you need. As that industry body, SA Studbook plays a fundamental role in keeping livestock farmers viable."

The latest and best

Today, SA Studbook uses the latest in business intelligence and genomics technologies to predict the genetic performance of pedigreed animals with an accuracy that helps farmers justify the cost of buying them.

This process also significantly shortens the period for which a farmer must plan for improvements in his output. Before genetic science and livestock evaluation were applied in this way, a breeder and his potential clients in the agricultural community would have to wait up to a decade to see what sort of progeny any given animal produced and what its performance was in terms of producing milk or meat.

> SA Studbook has opened up new markets overseas for its members, as breeders globally seek to improve the genetic traits of their animals

Now, based on the latest techniques and genomic analysis on a given population of 1 000 or more measured and recorded animals, it is possible for SA Studbook to predict efficiency, for example, based on traits such as effective feed conversion or meat quality etc, for a single member of that population from the day it is born, by simply doing a genomic analysis of a hair sample of the animal.

"Although these technologies have been in use in Europe and the United States for a few years, this is a new approach for South Africa," says Mr Retief. "SA Studbook has begun working with its member breeder associations to collect data for the required population numbers for the breeds concerned. It could take a few years to get that kind of statistical coverage with big enough numbers of measured and recorded animals on all the breeds covered by SA Studbook.

"The point is, however, that SA Studbook is at the forefront of modern animal breeding techniques and, therefore, so are South African breeders and the farmers to whom the breeders supply pedigreed animals."

An ongoing journey

Even when it was first founded, in 1905, long before measuring and genetic analysis were invented, SA Studbook served as the foundation on which livestock breeders and farmers could base forward-looking business decisions. Initially, its records (mainly pedigree) of pure bred animals were contained in 30 printed volumes. From 1953, the information was consolidated on to index cards.

In the 1980s, computerization of the data and SA Studbook's processes began and has been continuously updated to keep pace with international best practice. SA Studbook's database and procedures for registration and certification of South African animals are now accepted internationally. To achieve this, data and system integrity is

vital, and for monitor purposes, SA Studbook attained accreditation for all its systems and services through ICAR (International Committee for Animal Recording).

This has opened up new markets overseas for its members, as breeders globally seek to improve the genetic traits of their animals.

The need for an organisation like SA Studbook began to develop when Europeans came to the country and discovered the hardy indigenous cattle bred for generations by the Khoi San people. While they valued the fact that these predecessors of what became known as the Afrikaner breed were well adapted to African conditions, the settlers wanted traits in their cattle that would give them a market edge. They slowly began to import breeds that they had known and valued in their home countries.

The lack of registration of these imported cattle coupled with the highly individualistic breeding methodologies used by farmers who were widely dispersed across South Africa meant that there was no reliable way to track or verify the quality of the animals they produced.

In the late 19th century, as breeders of various cattle, sheep and horse breeds realised they needed to preserve breed qualities and, therefore, control breeding processes, they formed Breed Societies. These societies approached the local and national departments of agriculture, suggesting that a national registering authority be established in order to provide objective verification of the pedigrees of pure bred farm animals.

Legislation was passed enabling the setting up of SA Studbook as a non-profit organisation run by a board on to which representatives of these societies are voted.

Platform for sustainability

Today, SA Studbook consists of 63 Animal Breeders' Societies focused on the breeding and genetic enhancement of cattle, sheep, goats, pigs, horses, and dogs, as well as, recently, wildlife. It also has 79 entries for breeds of other species for which there are no societies yet.

As part of protecting and promoting those interests, SA Studbook has formed close links with similar bodies in Europe, Australia, and America, and maintains a close reciprocal liaison with those in Southern Africa. It verifies the pedigrees and other information related to imported animals.

SA Studbook general manager, Dr Pierre van Rooyen, says pure bred animal breeding is more competitive now than it has ever been, as science and technology have enabled breeders to produce almost identical characteristics from one animal to another.

"Whereas livestock farmers are in the business of selling meat or milk, livestock breeders are in the business of selling genetics. To be profitable, they must be able to prove that the genes they breed for are running true and that they will deliver better performance than those of their competitors.

"So, one service we offer in addition to our original mandate of keeping records of pedigrees and recording and publishing credible performance and genetic merit is to render technical, scientific, and advisory services to our members and other interested parties. In this way, we partner with breeders in continuously improving production efficiency for their customers, the livestock farmers."

Financing innovation

Dependent on subscriptions by its members and the fees paid by individual farmers for registration and certification, SA Studbook has a seasonally influenced income.

"We've had the enormous advantage of having Standard Bank as our banker from the start, over a century ago," says Dr van Rooyen. "Their intimate knowledge of our operations enables them to provide us with extremely pertinent advice at the commercial level.

"Also, agriculture is in their genes. Their first clients, more than 150 years ago, were sheep farmers in the Eastern Cape. As a result, they understand the seasonal fluctuations in our revenue streams and our need to evolve our business in support of the ways in which our members must evolve. They've pro-actively helped us continuously modernise the organisation and extend its scope."

Thembi Msimango

Putting women first

Projects aim to empower women in agriculture

Women in agriculture came under the spotlight recently at the 25th African Union (AU) Summit. Access to affordable funding was highlighted as critical for the empowerment of women in the agriculture sector. A call was also made at the African Union summit session for African groups to fund African initiatives.

Making finance accessible, affordable and timely for women in the agriculture sector was discussed during a session on agriculture on 11 June. The AU Summit ran from 7 to 15 June, at the Sandton Convention Centre in Johannesburg. More than 50 heads of states gathered in South Africa to find resolutions to these issues.

Delegates from organisations such as Young Enterprises in Malawi, Graça Machel Trust and Gambia Women's Finance Association (Gawfa), among others, had an opportunity to explain how they had made a difference in women's lives.

The theme of this year's AU summit is "Year of women empowerment and development towards Africa's Agenda 2063". Ministers and more than 50 head of states are attending, and the programme includes discussions on migration, Ebola, and agriculture growth and transformation.

Women in agriculture

Ebrima Ganna, of Gawfa, said the organisation had three main branches and 19 sub-stations. "A total of 90% of women [who are] part of our project come from rural areas."

Gawfa is the first and largest microfinance institution. Ganna said it was easy for women to get financing through the group. "Within an hour their data are processed, and the following day they get their financing needs.

"We have a loan portfolio of 70% agriculture and over 1 200 borrowers," he said. "We reach more people outside of towns. Donors can monitor their funds at any time."

Projects such as Young Enterprises in Malawi focus on skills training for female entrepreneurs. They also source funding for girls who want to further their studies.

The Graça Machel Trust has programmes in eight countries. A member said it was important that women who had access to banks connected with women who did not have this access. This allowed those who had access to banks to help others. Projects under the trust were not about investing money, but were about linkages and imports.

Support needed from African leaders

Delegates at the session heard that most of these initiatives were supported financially by Spanish funders through the assistance of the New Partnership for Africa's Development (Nepad).

Nepad, an African Union strategic framework for pan-African socio-economic development, is both a vision and a policy framework for Africa in the 21st century. Nepad is a radical intervention, spearheaded by African leaders, to address critical challenges facing the continent, namely poverty, development and international marginalisation.

One of the delegates – who does not want to be named in the press – said it was good that not millions of dollars were used to make these initiatives a success.

However, while noting that these African initiatives were supported by a Spanish funder, he asked: "What will happen to these initiatives if this funder runs out of money?"

African governments needed to support their continent's initiatives too, he stressed.

The session concluded with discussions on seeking collective ways of supporting more women in the agricultural sector.

Progress too slow?

On Friday 12 June, American actress and humanitarian, Angelina Jolie was a guest at this event. Eyewitness News reports Jolie had been invited by African Union (AU) Commission head Nkosazana Dlamini-Zuma. Jolie said it is good that women's rights are put at the heart of this summit and the AU's agenda. "That is unbelievably important."

But, she said the world has a long way to go. "We all know that while there is more awareness of women's rights today, progress is slow, uneven and fragile. In some parts of the world it's being erased."

Melissa Javan
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Names up in lights

A province-wide competition seeks to celebrate Western Cape agriculture's top employees

The Western Cape Government, in partnership with Shoprite, are set to celebrate the stars of the province's agricultural sector.

The 2015 Western Cape Farm Worker of the Year Competition will be launched onTuesday 26 May 2015 at the Manor House, Elsenburg. The competition, with various heats leading up to the main event, will see prizes awarded to top agricultural employees in the order of R2.4 million.

One of the Western Cape Department of Agriculture's flagship events, the competition was launched in 2002 by the Hex Valley Table Grape Association.

Since then, it has grown receiving 1 057 entries from 15 regions in 2014. The competition is co-sponsored by Western Cape Department of Agriculture and Shoprite.

Previous winners have won cash prizes and oversea trips.

Wimpie Paulse, the 2012 winner, said his overseas trip gave him first-hand experience of the importance of market access.

Paulse said he had the opportunity to network and benchmark local products with overseas offering.

Karools Paulse, the 2013 winner, said he had a better understanding of the business process in the sector and was focused on fostering good relations between employees and farm owners. He has also been selected as a motivational speaker at several events.

Alan Winde, Minister of Economic Opportunities, said the agricultural sector, with its link to agri-processing, was one of the Western Cape's focus areas for the next five years.

"This initiative celebrates excellence in the agricultural sector. It also highlights the career opportunities in agriculture and agri-business."

The overall winner will receive a total prize of R100 000 during a gala event on 13 November 2015.

The first regional winner will be announced on the 30th of July 2015 in the Witzenberg region, which includes the towns of Ceres, Tulbagh, Wolseley, Prince Alfred Hamlet, and Op-die-Berg.

Don’t put your eggs in one basket

Local macadamia industry's Chinese woes illustrate agriculture's marketing dilemma

The Chinese government's crackdown on corruption in the importation of agricultural products is causing South African farmers to once again confront the fact that opportunism in product marketing carries immense risk.

Traders and middlemen have been found guilty of avoiding duties and China's strict country of origin regulations by either disguising the true value of meat, fish, citrus, and nuts they are importing into China or using ports of entry in countries such as Vietnam and Hong Kong where duties are lower or don't apply.

> China is a huge market that holds potential for immense growth for all of us

This has left the South African macadamia nut industry in chaos, as producers, processors, and marketers have steadily increased their exports to China to 50%. In fact, of the four largest local producers, one has been importing more than 90% of its stock to China, another 70%, and a third, 50%.

Only Green Farms Nut Company has maintained its Chinese exports at 20%.

With many off-takers in China now in jail, on the run, or unable to fund imports because the so-called shadow banks being used by the illegal traders are no longer supplying cheap finance, much of the 50% of South Africa's macadamia harvest for 2015 will now have to find other markets.

"That's very difficult to do overnight," says Jill Whyte, CEO of Green Farms Nut Company. "Many farmers may now sit with high levels of carry over stock and, as a result, substantial losses.

"Considering that building a macadamia farm is a long term commitment, with trees taking up to seven years to bear fruit, we have always ensured that the farmers who supply us have access to multiple markets. Even though prices in China have been attractive and, therefore, very tempting in terms of increasing one's exports, we've never exposed our producers to the risk of any one market going sour for whatever reason.

"That said, we do want to do business in China. It's a huge market that holds potential

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for immense growth for all of us. So, we're delighted that China is making the market more stable by taking action against corrupt traders and middlemen.

"This current crisis is not about China. It's about how we as producers and processors should be tackling our marketing."

As with many other sectors within agriculture, macadamia producers have four marketing options.

The most obvious one, the co-op, has a long history in local agriculture. If the co-op is managed well, then farmers do well—although dividends are not always guaranteed.

Another option is traders locking farmers in for a 1% share of the processing plant profits. The downside is that the dividend is too small to compensate for potential poor prices losses.

The third option, which has led to current threats to profitability in the industry, is opportunistic marketing through traders and middlemen who offer short term benefits by grabbing once-off prospects. As is now evident, the risks inherent in this approach are high. They include the possibility that traders may be buying raw stock, nut in-shell, for processing at much lower cost in Chinese factories and on-selling into other markets,

where the kernels will compete with South African products.

The fourth business model is one of profit sharing, of which Green Farms Nut Company is the largest and most established example. Producers pay a flat rate, which is published upfront each season, for processing. Green Farms Nut Company takes a 4% commission on marketing, which is done through its partnership with Green & Gold, the world's largest and most sophisticated macadamia marketing company.

Producers get 100% of all sales and exchange benefits that then accrue. Their nuts are marketed all over the world, with 20% each going to China and the United States, and smaller percentages being supplied to regions like Europe and South America. Green & Gold also focuses on opening new markets on an ongoing basis.

"We don't have to impose onerous supply contracts on our producers, because the benefits we offer are sufficient to keep farmers with good quality product coming back every year," Whyte says. "Most of our suppliers have been with us for more than two decades and a good percentage of new producers join us continuously. So, we have the volumes and economies of scale to both keep expanding our capacity and keep our processing costs down. We're always able, therefore, to ensure good margins for our suppliers.

"Also, because Green & Gold is represented on every continent and is supplied by macadamia nut producers worldwide, it extends our economies of scale still further, deepening the benefits our own producers.

"We've grown steadily on the back of a marketing strategy that is all about balance, consistency, and trusted relationships. It's one of the reasons, that as South Africa's first ever macadamia processor, we've remained sustainable through economic downturns and market upheavals such as the present one in China. It's what enables us to deliver for our producers. In this crisis, we've been able to sell all our producers' stock already and get them a good return. We earn our producers' trust."

The Chinese crisis for the macadamia industry is a reminder for the rest of South African agriculture that the basic rules for success don't change. Spreading one's risk and working with marketers and processors with global relationships that offer access to economies of scale and can exert influence on off-takers are the keys to long term sustainability.

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VISION

A dynamic, modern and directional organisation for agriculture in the Free State

MISSION

To promote a safe and sustainable agricultural environment in the interest of agriculture in the Free State.

As a member of Free State Agriculture the farmer does not have to rely on him/ herself. Free State Agriculture has an established structure in place to support the interest of its members and represent him / her. It also endeavours to negotiate for a better dispensation in the context of the present political environment in which the farmer can be competitive.

Free State Agriculture's biggest asset is its members with the necessary long term vision. These members are actively involved in local agricultural associations, area management and are also members of commodity organisations and agribusinesses.

Free State Agriculture is the most representative mouthpiece of commercial agriculture in the province.

The organisation's Annual Congress takes place on 5 & 6 August 2015 and will be hosted in Bloemfontein. The theme for this year's Congress is "Break the silence barrier".