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#### **GCRF-AFRICAP**

GCRF-AFRICAP is a major programme to make agriculture and food production in Sub-Saharan Africa more productive, sustainable and resilient to climate change.

Working with local organisations and governments in Malawi, South Africa, Tanzania and Zambia, we are creating an evidence base to underpin new country-specific policies in agriculture and food production.

#### Find out more: https://africap.info/



# Welcome OBP and PPECB

A circle has been completed with the addition of Onderstepoort Biological Products (OBP) and the Perishable Products Export Control Board (PPECP) into the fray of Agricultural State Owned Entities (SEOs) Liaison Committee. Established in 2016, the objective of the committee is to collaborate on areas of mutual interest specifically on farmer development, research and promotion of agriculture as a whole. The inclusion of the two entities is hoped to complement the committee in areas of export promotion, trade and biosecurity.

Climate Smart Agriculture (CSA) (month to month) seemed to stand the tallest out of the topical agricultural issues in this quarter. The BRICS Ministerial Agricultural Summit hosted in Mpumalanga earlier in the year emphasised the importance of CSA. Importantly, the ARC and NAMC played an advisory role to the Department of Agriculture, Forestry and Fisheries at the summit. Since the summit, both entities now conduct research on CSA, the former from a technical perspective, and the latter from an economic perspective.

In this issue, we are recount the successes of women in agriculture and the milestones achieved.

We wish to express our thanks to all our stakeholders, who have worked with us and submitted content for this issue.

Enjoy the read.

## Partnership















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3



## Health Awareness on Avocados

Avocado is one of the subtropical fruits in South Africa. It is mainly produced in Limpopo and Mpumalanga provinces including in other parts of South Africa such as Kwa-Zulu Natal.

People from rural villages and urban areas delight in avocados for their morning meals. This is because avocado can be used as a complementary source for traditional bread and vetkoeks (Magwinya). Since avocados play a significant part of rural and urban foods, there is high nutritional value that includes; high energy and monounsaturated fats. (71%), free cholesterol (Omg cholesterol per 100g), contain source of fibre. (5.3g fibre per 100g) and virtually free from sodium to name but a few.

Health awareness and consumer education on the product cannot be undermined. Subtrop considers to use it as a promotional strategy to open market access for those who trade with the product.

On 7 November 2018, Subtrop conducted a marketing symposium on the Nutritional Value of Avocados.

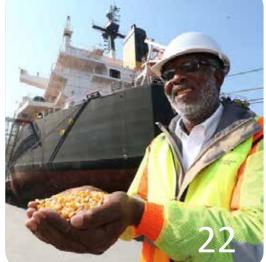




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## Contents

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- 06 NORTHERN CAPE ECONOMIC COLLOQUIM 2018
- 08 TRANSFORMING COMMUNAL LAND INTO COMMERCIAL VENTURE
- 12 HOW WILLSOUTH AFRICA'S AGRICULTURE FOOD SYSTEMS BE LIKE IN 2050?
- 14 THE ARC CONDUCTS A RESEARCH PROGRAM TO CULTIVATE HEMP FOR MEDICINAL PURPOSE
- 16 WORLD FOOD DAY
- 18 THE ARC PRESENTS THE 2018 ANNUAL NATIONAL BEEF PERFORMERS AWARDS
- 20 LESSONS AND EXPERIENCES ON CHINA MODERN AGRICULTURAL PRACTICES

- 22 GFADA EXPORT STORY
- 28 YOLANDA NTLAKAZA TRANSFORMING CITRUS INDUSTRY
- **32** FROM A RECRUITMENT SPECIALIST TO A SUCCESSFUL YOUNG EMERGING FARMER
- **34** GENDER TRANSFORMATION IN THE SOUTH AFRICAN AGRICULTURAL SECTOR
- **38** OPPORTUNITIES FOR GREATER YOUTH INVOLVEMENT IN AGRICULTURE

42 PERISHABLE PRODUCTS EXPORT CONTROL BOARD LEARNERSHIP SETS GRADUATES ON A PATH TO SUCCESS

44 LAND BANK EMPOWERING COMMUNITIES THROUGH AGRICULTURE

## NORTHERN CAPE ECONOMIC COLLOQUIUM 2018

#### By: Bongani Radebe

he Northern Cape Government - Economic Colloquium took place at Mittah Seperepere, Kimberly from 30-31 July 2018. This was the first time the Northern Cape Government held an Economic Colloquium themed "Advancing socioeconomic development through innovation and investment in the Northern Cape". During the State of the Nation Address, you would recall that President Ramaphosa called for accelerated economic growth through investment and innovation. "It was against this backdrop that the colloquium was convened" alluded the Northern Cape MEC for Finance, Economic Development and Tourism Mac Jack.

During the round table discussions, the Northern Cape province was seeking to boost its agricultural economy. The province contributed about 6.4% to the overall national agricultural economy and was ranked 7th out of other provinces. Dr Moses Lubinga, Trade Economist from the NAMC said while the province produced maize, wheat, groundnuts, table grapes and wine grapes it urgently needed to prioritise its declining sheep and cattle numbers. "Figures suggest that in provinces like KZN, Eastern Cape, Western Cape and Free State, livestock was mainly a source of revenue" he said.



In her state of the province address, Premier Sylvia Lucas mentioned that her province was serious in turning its agricultural fortunes around. The province identified five mega-investment projects: Namakwa Irrigation Development, Rooibos Development, Vanderkloof Fisheries and Cape trout farming, Vaalharts Revitalisation and Vineyards Development Scheme. All these projects had an investment commitment value of R400 million said the MEC of Finance.

The colloquium was also informed on SIP 11 and the impact assessment conducted by NAMC on agricultural infrastructure developments. The colloquium ended with the resolution to also consider climate smart agriculture.



#### "Advancing Socio-Economic Development through innovation and investment in the Northern Cape"



economic development & tourism Department of Economic Development and Tourism NORTHERN CAPE REPUBLIC OF SOUTH AFRICA



economic development Economic Development Department REPUBLIC OF SOUTH AFRICA





## **GCRF\_AFRICAP IN SOUTH AFRICA**

#### By: NAMC/ AFRICAP TEAM

he province of the Free State welcomed AFRICAP in South Africa on 12 July 2018, Mangaung. Styled around climate smart agriculture, the objective of the Agricultural and Food-Systems Resilience: Increasing Capacity and Advising Policy (AFRICAP) workshop was to introduce the four-year project to local stakeholders engulfed with the work of climate smart agriculture.

AFRICAP aims to identify and implement evidence-based policy pathways to facilitate the development of sustainable, productive, climate smart agricultural systems to meet food security and economic development needs. The programme is funded by the UK government's Global Challenge Research Fund (GCRF) and championed by the University of Leeds in collaboration with the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) with NAMC charged with the responsibility to convene stakeholder engagement activities within South Africa.

According to Country Coordinator Bill Kunin from the University of Leeds, the GCRF-AFRICAP modality is to translate research into evidence, evidence into policy and policy into practice. The Free State was an ideal base for the research as it was bordered by other provinces and was unique due to its flexibility to accommodate grains, livestock and horticulture. Andries Fourie represented the Free State Department of Agriculture and outlined the province's agricultural landscape. He passed a passionate plea to build capacity for government officials and to work closely on identified special agricultural zones. Stephen King of AFRICAP said the Special Agricultural Zones (SAZ's) where geographic indicators which will be piloted for government policy recommendation. "SAZs will deliver outcome-oriented activities that will be owned and have traction with stakeholders, leading to the creation of institutions, knowledge-sharing communities, tools and approaches that remain after the initial project ends" he said.

The Department of Agriculture, Forestry and Fisheries also presented an overview of the South Africa Climate Smart Agriculture (CSA) strategic framework. Solely, the aim of the framework was to implement and upscale the best CSA practises and approaches that will promote sustainable agriculture and assist to achieve sustainable development and ensure food security in South Africa.

A follow-up workshop was hosted in November 2018.





#### Transforming communal land into commercial venture:

## A story of Ncera Macadamia Farming in the Eastern Cape Province

By: Elekanyani **Nekhavhambe** and Samella **Nozibele** 



This is a ground breaking project headed for success. It can serve as a model for which to launch the further expansion of the South African Macadamia Industry in the Eastern Cape. It is a shining example of how Rural Communities. Government and Private Enterprise can work together to create successful agricultural enterprises in the New South Africa. Congratulations to all parties concerned Mr. Phillip Lee - Internationally Respected and Knowledgeable Macadamia Consultant



istorically, macadamia farming in South Africa was dominantly focussed in the Mpumalanga, Limpopo and KwaZulu-Natal Provinces. The Eastern Cape is largely a livestock farming province. The Ncera Community are the first people in the province to farm macadamia on a significant scale.

Ncera Macadamia Farming (NMF) (Pty) Ltd was established by the nine Ncera villages. The macadamia farm is situated 30 km from East London. Nestled along the coastline, the area is suitable for macadamia because of its soil fertility, access to water and favourable weather conditions.

The Farm is geared at establishing 300 ha macadamia plantation of which 180 ha to date has been already established. The NMF also established a nursery where they are growing young macadamia trees in order to feed the expected land for plantation.

In the past three seasons, the NMF macadamia production has been on the rise. The 2016/17 production was 69 tons while the 2017/2018 was at 81 tons. This was an increase of 17.4% in volume. Currently, the farm employs around 150 community members with expectations that 300 – 400 jobs will be created in the long term.



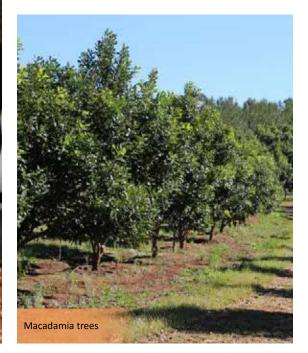
Ncera Macadamia Farming (Pty) Ltd achievements include:

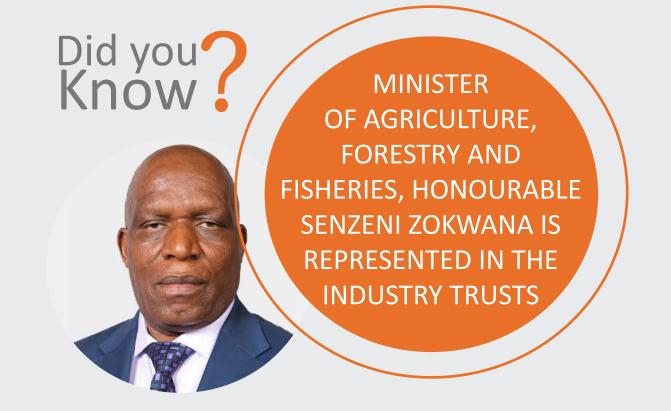
- Best Governed Rural Development Project from AGRISETA;
- Recognition of Excellence and Entrepreneurship in the Large Enterprise category from ECRDA;
- The Global-GAP for Good quality control management systems and adherence to International Standard;
- The Female Entrepreneur Award for Top Entrepreneur exporter;
- Certificate of Achievement for the No.1 Lowest Unsound Kernel Return (best quality nuts) in 2013 & 2015; and
  Five-star nursery accreditation from
- SAMAC.





Minister of Agriculture, Forestry & Fisheries - Hon Senzeni Zokwana and Minister of Trade and Industry - Hon Rob Davies inspecting Macadamia harverst For marketing purposes, the Ncera Macadamia Farm has a good standing relationship with Green Farms Nut Company (GFNC) which sells the produce locally and internationally. A lot can be learned from Ncera Macadamia Farming (Pty) Ltd. It could be a lesson to other provinces to develop the communal land into commercial macadamia ventures in particular for the Limpopo, Mpumalanga and KwaZulu-Natal provinces, where macadamia production is taking place. If more support can be given to black owned macadamia enterprise such as Ncera and elsewhere in the country, they could be a radical economic development in the rural villages creating jobs while at the same time improving household's income within the community.





The NAMC Agricultural Trusts Division manages the communication and reporting processes between the Minister of DAFF, Ministerial Trustees and Agricultural Industry Trusts. On an annual basis a workshop is coordinated between the Minister, Industry Trusts and Ministerial Trustees to deliberate on the operations and functioning of the Trusts, and amongst others transformation through the Trusts funds is on top of the Agenda. Furthermore, this engagement seeks to establish how government can collaborate with the industry trusts in support of transformation.

There are currently 11 Agricultural Industry Trusts (governed by over 25 ministerial trustees and 56 industry trustees), which were established during the deregulation of the former control boards post 1994. These trusts are commodity specific i.e. maize trust, winter cereal trust, national Lucerne trust, sorghum trust, oil and protein seeds development trust, meat industry trust, wool trust, mohair trust, potato industry development trust, deciduous fruit industry development trust and citrus industry trust. The current value of all the 11 Trusts is over R2.3 billion worth of assets (both monetary and fixed property).

Once in a year, the Minister and Industry Trusts convene to discuss issues of how the trusts are managed and areas of transformation targets. On 2018, 9<sup>th</sup> November, the Minister met with the Industry Trusts and encouraged that the issue of transformation should not only focus on training and bursaries, but more importantly on enterprise development.

For more information please contact Matsobane (BM) Mpyana at mmpyana@namc.co.za







#### agriculture, forestry & fisheries

Department: Agriculture, Forestry and Fisheries REPUBLIC OF SOUTH AFRICA

## **ADVERTISE ON THE** Next Issue of Agri-Inspire



The five agricultural state-owned entities (SEOs) [Agricultural Research Council (ARC), Land Bank, National Agricultural Marketing Council (NAMC), Ondeerspoort Biological Products (OBP) and the Perishable Products Export Control Board (PPECP)] saw a need to facilitate the flow of information between different stakeholders involved in the agriculture sector and the farmers, through the Agri-Inspire Journal.

The name "Agri-Inspire" has been chosen to reflect the developmental aspect of the journal, where the relevant information will be shared with farmers pertaining to policy matters, marketing and support services, and to government and other relevant stakeholders pertaining to progress made out of their

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If you missed the print edition, the Directory is always available online (Ebook or a PDF). Get it at http://www.namc.co.za/agri-inspire-journal/



## HOW WILL SOUTH AFRICA'S AGRICULTURE FOOD SYSTEMS BE LIKE IN 2050?

Written by: Bongani Radebe

AFRICAP project came at the correct time in our country as we are recovering from the drastic drought, there is a need to have such projects to assist in how the coming years might turn out to be. As government, we are looking towards your guidance on this subject expert



he National Agricultural Marketing Council (NAMC) in its capacity as the Food Agriculture Natural Resources Policy Network (FANRPAN) node host institution in South Africa, hosted the SA scenario workshop on 12th November, Sierra Burgers Park Hotel. The scenarios looked at the possible realities of climate smart agriculture, the future of agriculture and food systems in South Africa. It addressed a potent question: How will South Africa's agriculture food systems be like in 2050 if Climate Smart Agriculture is not practised?

CEO of NAMC, Zama Xalisa introduced the Hon Deputy Minister of Agriculture Forestry and Fisheries, Mr Sifiso Buthelezi who gave a welcome address at the workshop. The Deputy Minister said the "AFRICAP project came at the correct time in our country as we are recovering from the drastic drought, there is a need to have such projects to assist in how the coming years might turn out to be. As government, we are looking towards your guidance on this subject expert area."

The main purpose of the AFRICAP workshop was to develop sustainable, productive, climate smart agricultural systems scenarios that will be able to meet future food security and economic development needs by 2050. "Through this effort, the expectation was that all stakeholders involved in CSA dialogue will contribute towards policy development of South Africa's climate smart agriculture" said Bill.

Breakaway sessions identified driving forces that where critical and uncertain. The overall consensus that may impede progress on climate smart agriculture were: Land reform, Climate change, Trade and markets, Political and economic stability, Jobs and Technology. These were identified as six critical driving forces that South Africa needed to address.

The four-year project will run until July 2022, and numerous engagements will ensue thereafter. The six driving critical factors identified will form part of a policy brief to the RSA government.



Hon Sifiso Buthelezi, Deputy Minister of Agriculture, Forestry and Fisheries, giving a keynote address.



#### The Agricultural Research Council conducts a research program to cultivate hemp for medicinal purpose

By: Agricultural Research Council

he Agricultural Research Council- Industrial Crops campus (ARC-IC) has started with the research programme that will focus on optimizing the cultivation of hemp for medicinal purpose, and this is due to the presence of cannabinoids in the hemp plant. The research is conducted in order to determine key factors to optimize the cultivation of local pharmaceutical grade active ingredients. The research will develop models, standard operating procedures and development of training manuals towards achieving good agricultural practices (GAP) in the cultivation of hemp for medicinal purpose.

Cannabis sativa L. is an annual crop mainly grown for industrial use and is one of the oldest plants to be grown for food, oil, textile fibre and medicinal purposes. Hemp and dagga (marijuana) belong to the Cannabaceae family. Although, similar in appearance, the dagga plant may develop more side branches and has a more bushy appearance in contrast with hemp. Further, dagga varieties, popularly known as marijuana contains about 5 - 20% of delta-9-tetrahydrocannabinol (THC), an active ingredient with psychoactive effects. Hemp has a significantly lower concentrations of THC (less than 1%) and higher concentrations of cannabidiol (CBD), with minimal psychoactive effects of THC. Hemp also tends to be more fibrous and contains higher levels of oil. Because hemp contains very low THC, it is not suitable for use as a recreational drug.

There is a wide range of uses for hemp. Industrial hemp is used to make over 25 000 consumer products from hemp apparel and accessories to house-wares and hemp seed oil cosmetics. Some of the products made from hemp are: clothing, shoes, diapers, rope, canvas, cellophane, paints, fuels, chain lubricants, biodegradable plastics, paper, fibreboard, cement blocks, food, cosmetics, and soap. Currently three main groups of hemp varieties are under cultivation, namely, varieties cultivated primarily for fibre, varieties grown for seed and varieties grown for their medicinal and narcotic properties. Medicine based on cannabinoids is used to manage symptoms of various debilitating conditions. To date it has been illegal to handle or cultivate hemp in South Africa as it is classified under Cannabis species. Typically there has been a requirement for a permit, obtainable from the Department of Health under the Medicines Control Council for cultivation, transport and use of hemp. However, the recent Constitutional Court ruling could significantly alter the regulatory requirements for handling hemp.

In order to conduct research and development, the ARC-IC was issued with permits by the Department of Health as early as 1994 to allow for legal handling, possession, cultivating and harvesting of hemp. Research work on hemp has been going on for more than 20 years and this resulted in the successful development of two hemp fibre varieties suited to the South African growing conditions. These two varieties are in the process of being registered/listed with the Department of Agriculture, Forestry and Fisheries. Hemp production research on agronomics, harvesting and processing has also been done. A production guide was developed and it is available at ARC-IC campus. From the research conducted, the results showed that hemp fibre production can be cultivated successfully in KwaZulu Natal, Eastern Cape and Western Cape provinces of South Africa. The main reason for this confined production is due to long photoperiod (±14 hours) requirements of hemp.

In South Africa, not enough hemp is produced for the local market due to legislative barriers that restrict the amount of hemp to be produced. There is an existing market in South for imported hemp products, mainly hemp textiles and fibre. Several hemp products, such as clothing, soaps and shampoo are manufactured in SA from imported raw materials. There is also potential demand in some other segments on the local market, such as hemp-based composite materials and medicine use.

The Constitutional Court ruling opens up a wide variety of possibilities for the ARC to develop new products and uses for hemp, which in turn, would be a good stimulus for enterprise development and job creation.

14



The NAMC was established in terms of the Marketing of Agricultural Products Act No. 47 of 1996, as amended by Act No 59 of 1997 and Act No. 52 of 2001. We are a statutory body reporting to the Minister of Agriculture, Forestry and Fisheries.

#### Our mandate is captured in our four core divisions namely;



Agribusiness Development



Agricultural Trusts



**Statutory Measures** 





**Our Vision** Strategic positioning of agriculture in a dynamic global market.



#### Our Mission

To provide marketing advisory services to key stakeholders in support of a vibrant agricultural marketing system in South Africa.

### The work of the NAMC is aligned to the four strategic objectives as set out in Section 2 of the MAP Act, 1996 namely;







## **OUR ACTIONS ARE OUR FUTURE**

By: Daniel Rambau

The Department of Agriculture, Forestry and Fisheries hosted a World Food Day on 24 October 2018 in Brandwag Sports Field, Mossel Bay Local Municipality, Garden Route District. World Food Day is an annual event celebrated worldwide on the 16 October. This year's theme was held with the emphasis that our actions are our future and it was possible to achieve a #ZeroHunger world by 2030.

outh African communities still face challenges with regards to food insecurity. The inability to produce and buy food contributes tofood insecurity. Hence DAFF developed this initiative with the view to bring into attention food security needs of people in order to avoid anyone going hungry. Through this initiative, the government wanted to assist communities to produce their own food in their garden to be able to feed themselves.

Against this backdrop, the Department has started a campaign of harvesting grey water into tanks, used for drip systems to irrigate their own plants employing the department's extension officers. The campaign was done with the aim of creating a system that is sustainable for people to produce their own food. "South Africa is one of the countries in which the number of people who go to bed without food is still high, although some improvements have been made, there is still a challenge" Hon Senzeni Zokwana said.





In addition, the Food and Agriculture Organization (FAO) donated gadgets to manage Fall Armyworm in the field. The Minister concluded by saying that it was our responsibility to end hunger during our life time and he closed his address by quoting Nelson Mandela "Hunger is not God created it is manmade like racism, it is in all of us to stand up to change the life of those who are challenged."















## The Agricultural Research Council presents the 2018 annual National Beef Performers Awards

By: ARC

**retoria:** The Agricultural Research Council (ARC) presents the 2018 annual National Beef Performers Awards to be held at ARC-VOP, Roodeplaat. Each year, the National Beef Recording and Improvement Scheme (NBRIS) of the ARC presents the awards to showcase and acknowledge our

country's most outstanding achievers in breeding genetically superior animals using performance recording as a tool. The Annual awards has grown in leaps and bounces and has become one of the highlights of the South African agricultural calendar.

Animal production contributes approximately 41% of the agricultural GDP of South Africa. There are about 500 000 people employed in the livestock industry. Cattles are also an important contributor to food security because they account for 60% of edible products produced from livestock.

The Department of Agriculture Forestry and Fisheries declared the Kayanafatso ya Dikgomo Scheme as a national animal recording and improvement scheme in 2007 to assist emerging farmers in adopting and applying the available beef recording and improvement technology to increase the productivity and profitability of their herds through improved management practices and accurate selection for economically import traits. The 2018 award categories that were contested were:

#### The ARC National Special Performance Test Class

"One of the aims of this category is to also promote the appropriate use of performance data in the show ring and all bulls that have completed a standardised growth test (Phase C) of the ARC'S NBRIS and that received either a Gold or a Silver Merit are eligible to participate".

#### The ARC National Best Elite Cow Awards

"Cows should exhibit exceptional performance figures to be eligible to compete in this category, including outstanding reproduction figures and a proven track record in other economically important traits such as maternal ability and preweaning growth rate (weaning weight)"

#### The ARC National Platinum Bull Awards

"This category is also affectionately known as "the best from the best" category. For a bull to be considered for this award, it had to be bred from an exceptionally performing dam. The bull also had to receive a Gold Merit in the ARC's Phase C test while its mother had to receive an Elite Cow Award before or during the year in which the bull received the Gold Merit award. Bulls considered for the ARC National Platinum Awards had to complete the Phase C test between 1 January and 31 December in the year preceding the award".

18



"This award recognises the progress of a South African cattleman younger than 30 years of age who uses performance testing as a tool to improve the genetics of his/her herd through targeted breeding. The winner of this category must also have a proven track record in this regard. A participant should furthermore clearly demonstrate leadership skills and involvement with industry in a formal capacity. He or she must also be acknowledged by industry when it comes to breeding and management of genetically superior animals".

#### • The ARC National Small Scale Commercial Beef Producer of the Year Award

"This award aims to recognise a commercial beef producer who, under the mentorship of an established breeder, participates in performance testing and has made outstanding progress in his/ her own enterprise. The recipient should also display a passion and enthusiasm for breeding of genetically superior animals and must have a proven track record when it comes to breeding more efficient animals in his/her own herd by making use of performance recording and associated technologies"

#### - The ARC National KyD Province of the Year Award

"This award recognises the province with the highest number of participating farmers in the scheme. These farmers must be registered on the INTERGIS and must have loaded data on the database between March of the year preceding the award and April of the year of the award. The first three provinces with the highest number of participating farmers receive the accolades Platinum, Gold and Silver respectively".

#### The ARC National Emerging Beef Farmer of the Year Award

"Having started modestly in Limpopo and North West, the ARC flagship project Kaonofatso ya Dikgomo (KyD) Scheme has grown into a national scheme and performs a capacity-building function for farmers and young people".

#### • The ARC National Beef Cattle Improvement Herd of the Year Award

"The primary purpose of this award is to acknowledge breeders that excel in several criteria related to performance testing, genetic improvement, breeding and management. The top herds are identified based on a wide range of criteria, including the level of reproduction; the level of participation in performance testing and the application of performance testing as a tool for improvement; cow efficiency in the herd (including post-weaning performance); the completeness of performance records; the size of the cow herd (must consist of at least 50 cows); the calving performance of the herd; genetic progress in the herd and the application of modern scientific breeding techniques. The breeders' level of involvement in mentoring other farmers, their involvement in official industry structures and the degree to which they act as role models to other farmers and prospective breeders are also evaluated. Qualifying breeders in this category must be proponents of the application of scientific technologies aimed at genetic improvement of the genepool of the national herd".

## LESSONS AND EXPERIENCES on china modern agricultural practices

By: Matsobane (BM) Mpyana

Over the years, China has positioned itself as the second largest economic powerhouse after the United States of America. From initiating the market reforms in 1978, some of the achievements included economic growth averaging at 10% annually, almost 0.5% of China population out of poverty and most importantly, reducing unemployment rate to 4%.

nterestingly, the nominal GDP remains large at over \$11.8 trillion with major contributors being manufacturing and services accounting for approximately 45% each and agriculture contributing an impressively more than 10%. The main agricultural products in the Chinese economy are grains (mainly rice, maize and wheat) and livestock (pork, chicken and duck), with the grain production accounting for about 90% of China's total food production. Noteworthy is that 80% of crop production is allocated for human consumption and only 20% for animal feed.

Like in any other country, China is not unique in terms of the challenges faced. The main stressful challenge revolves around sufficient food production with main concerns being:

How is China going to feed its 1.3 billion population with a limited land size? More than 90% of the farms are less than 2.5 acres (1 ha) and among the smallest in the world Already planning for this eventuality, the Chinese government has introduced agricultural reforms.

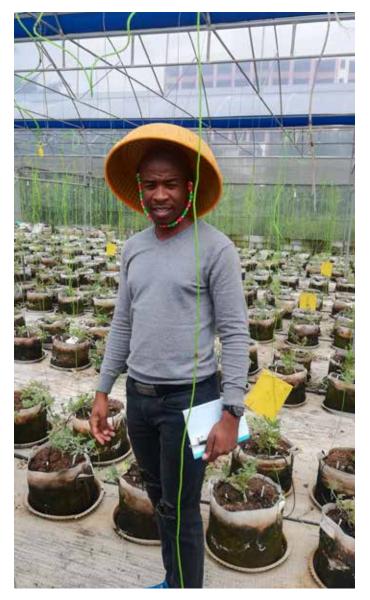
#### High investment in agriculture

Subsidies are provided to farmers who use organic fertilisers. Furthermore, high investment by Chinese government has been on agricultural infrastructure especially on machinery and equipment, research innovation and development.

Land ownership

Land ownership is in two forms namely, state owned urban land ownership and farmer collective owned rural land. These two land ownership types mean that no farmer in China is entitled to own land. However, the state has full responsibility in terms of the distribution of land on a lease agreement. Therefore, productive use of land is guaranteed.

Modern agricultural production



Organic farming is highly promoted and Genetically Modified Organisms/seeds (GMOs) are strictly prohibited including reduced use of chemical fertilisers and pesticides to reduce environmental pollution. This is a way to promote green agricultural practices such as the promotion of organic fertilisers especially pig and poultry manures in the main areas of production for fruits, vegetables and tea.

Promotion of scientific and technological innovation is advancing green agricultural development through government purchases of services, financial innovation and subsidies for fertilisers.

These approaches have resulted in China increasing its annual grain output (from 300 million tonnes) to over 600 million tonnes over a perios of 5 years. This implies that the produced output is more than enough to meet the demand, Furthermore, the favourable agricultural policies and technologies, such as improved water irrigation and promotion of machinery in agriculture has created an agricultural sector that is profitable and competitive as compared to the rest of the world.



#### Lessons to be drawn?

#### Investment in Green Houses

More than 85% of the world green house are found in China and accountable for over 3.8 million ha of land. In addition, more than 35% of vegetables are produced in greenhouses which ultimately saves electricity in cultivation, due to the solar energy being preferred by the majority of farmers. Such a move guarantees farmer an income throughout the year. As a climate smart agriculture approach, government supporting agricultural cooperatives can learn greatly from this model.

#### Policy shifts

Agricultural policies are changing and new policies are developed in a way to address climate change and promote organic farming. China developed a bank for farmers called the Agricultural Bank of China. This is an imporant lesson for South Africa. There is space for an agricultural cooperative bank to be developed for emerging farmers where the state is the main driver especially in the current environment of land reform debate. Important to consider is also the funding of research and innovation, which will accelerate the advancement of the agricultural sector and meet the targets of job creation and food security as outlined in the National Development Plan.

#### Branding

Many of the developed countries have branded their economies. This includes China which developed their national brand for years, with a caption "made in China" and this approach is working and positioned the country amongst the world's best. On the other hand, South Africa also branded its economy through Brand SA and Proudly South African. Especially for the latter, it can do more to accelerate the marketing of South African agricultural products for consumers to purchase agricultural products with the brand sticker. By doing so, SA farmers will reap greater benefits such as income generation, more jobs creation and ultimately increased agricultural contribution to the GDP.

## partnership with a

A Public Private Partnership in the Eastern Cape is creating commercial farming opportunities for emerging farmers in the province through availing finance, mechanization, technical support and markets. Mr Victor Mongoato, chairperson of the Matatiele Grain Corporation (PTY LTD), explains the benefits of pulling resources together to achieve a common goal.

By: Peter **Mashala**  n July 2018, a group of farmers from Matatielle, a quaint little town lying at the junction of three provinces (Free State, Eastern Cape and KwaZulu Natal), witnessed their first shipment of yellow maize set sail for Vietnam from the Durban harbor. This was a historic and proudest moment for this group who has for many years, battled to access a formal and direct market for their grains.

All this was made possible by a partnership between the farmers themselves (Matatiele GrainCO), Grain Farmer Development Association (GFADA), the Masisizane Fund, Eastern Cape Department of Rural Development and Agrarian Reform (EC-DRDAR) as well as the National Department of Rural Development and Land Reform (DRDLR).

Mr Victor Mongoato, was part of the delegation from the fourteen-member cooperative to see off this shipment. Victor is a grain farmer who started his farming career in 2000, following a long career as an educator. He leases government land which forms part of a military base on the outskirts of Matatiele. Since the beginning of his career, Victor has gone through the ropes, from a trainee farmer to being on several leadership roles of agricultural formations such as the Board of Grain SA, Committee Member of Agri Eastern Cape, and AgriSA Transformation Committee, and now interim chairperson of a newly formed South African Grain Association (SAGRA). SAGRA was formed solemnly to look after interest of black grain producers.

#### **Establishing the GrainCO**

According to Victor, one of the biggest challenges facing small farmers is their inability to benefit from economies of scale. This, in his opinion, makes farming expensive, and prevents small farmers from becoming competitive players in their industry, something that actuated the establishment of the Matatiele Grain Company (PTY LTD) which he is the Vice-Chairperson of.

After battling for a long time to expand and mechanise his own farming operations, Victor saw an opportunity in bringing together farmers in his area and combining their resources to form Matatiele GrainCO. The company contracts mechanisation services for 3 500 hectares of land, held by 26 small farmers, making a real impact in the lives of farmers clustered around Matatiele.

Matatiele GrainCo was originally established with R5 million seed capital in 2014 from Old Mutual's Masisizane Fund. To date, the initiative has had financial support of over R110 million, part of which was a loan and another part a government grant. The money has been invested in purchasing assets, including high-tech machinery, leading to farmers reaping the benefits of large, cost-effective agribusinesses. It has also allowed black farmers enter the agribusiness value chain and become competitive in the market.

#### The partnership

For Victor, the relationship/partnership formed between themselves, government, Masisizane Fund and GFADA is the most valuable part of the entire project. The partnership demystifies the narrative that black people cannot farm. He says traditional agribusinesses (input suppliers) and financiers have not made it easy for black farmers due to their tedious funding model, especially lending against land as collateral. "The industry's stereotypic thinking about titled land as the only way of being commercially viable is wrong. There are many ways to make funding available for black skilled farmers, such as using the actual crop as security," explains Victor. "This model has been proven to be highly successful in many instances it was used, without anyone having to produce a title deed," he stresses.

Victor says the Masisizane Fund has gone beyond any of the current agricultural financier has been willing to go. He added that the intervention from GFADA played a pivotal role, not only through benefits such as mentorship, soil correction and insurance, but through linking them to international markets, something foreign to majority of black farmers. For deep rural farmers like them, according Victor, formal markets are inaccessible due to the system designed by the apartheid government. This system intentionally excluded former homelands from economic activities except only to provide cheap labor as migrant workers. "In the former Transkei, there is no agricultural infrastructure and storage facilities such as silos, which therefore forces us to transport our products some 400km away from our farms," explains Victor.

#### Achievements

The involvement of Wipwise through securing the Vietnam market beforehand, assisted to in mitigating costs implications, such as transport, storage, etc. The arrangement secured a farm gate price for the maize, removing hidden costs which erode profit margins. This as a result, saw the farmers making revenue of over R8 million. The achievement of this partnership goes beyond exporting maize.

The company has improved production for its members and clients. "As a single farmer, I was only able to farm between 50 and 60 hectares. Now I farm 150 hectares" Victor explains. "Also, the business is taking shape in such a way that I'm able to also supply local schools with beans, and have an impact on farming activity and the rural community. Everyone who has been letting their fields lie fallow now has an interest in farming their land again," he adds.

According to a DRDAR representative in the Eastern Cape, the total tonnage estimated from Matatiele farmers when they all complete harvesting is 8,658 tons, and is estimated to earn for farmers about R18.7million. The initiative has also created over 200 job opportunities benefiting more than 200 families. "The project, we believe, is what exemplify radical economic transformation," Victor says.

#### **Forward thinking**

The partnership is working in such a way that farmers have already secured a market for 30% of the next crop. There are negotiations in place with other potential international buyers for our grain. The negotiations, according to him, also include a favorable exchange rate (rand/dollar) to avoid dependency on the SAFEX rates. The project will continue to develop farmers for the next five years, and the partners remain hopeful and optimistic that it will yield more results, contributing in transforming the agriculture sector and increasing farm net income for farmers.

Victor says through modern technology they have the power to produce food for the growing urban population, as well as provide opportunities for young people. "The youth won't have to move to the cities to look for jobs, and we hope that the use of science, highvalue and technologically advanced machinery can be exciting enough for them," he points out.



Chris Havi District

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## The Land Debate: Embedding Black Producers into Established Value Chains

With land expropriation without compensation set to become both a reality and a defining feature of South Africa's land reform trajectory beyond 2019, its implementation is expected to enable fundamental transformation across the entire agricultural value chain - from primary to secondary agriculture and even at the tertiary level.

t would not be enough to merely transfer agricultural land to the landless and land hungry masses without radically altering the balance of forces both in the agro-business and retail supply value chains. A successful land reform programme should bring about patterns of economic participation and empowerment across the agricultural sector that enable marginalised groups to increase the size of their farms, resulting in their ability to farm at sustainable scale. If this implementation does not result in meaningful economic transformation and participation, it will indeed be meaningless.

South Africa's agro-food market landscape has grown at the exclusion of black producers in this sector. This skew towards large producers has been the norm in the sector for many years now. Therefore, any talk or discussion around fundamental transformation within the agro-food or business value chain must consider this current reality, something which the Agricultural Policy Action Plan (APAP) is grappling with, calling upon all actors in the sector to intervene.

In appraising the main challenges facing small commercial producers in the agro-business sector, the APAP makes the following observations: "...poor access to appropriate and timely information led to many struggling smaller commercial business in the sector being bought out by bigger corporates. The entry of large retail supermarket chains into smaller rural towns has largely replaced the role of small-scale farmers as local food producers. Secondly, the procurement requirements of many supermarket chains and agri-businesses are too heavy for the smallholder to comply with because of the numerous and onerous standards such as food quality and safety. As a result, smallholder farmers cannot benefit from market access opportunities offered by these agro-food chains ..."

The current status quo in the agro-food value chain should compel us to look at this matter holistically, through the lens of the various policy instruments that exist. Undoubtedly, the agricultural sector is fraught with structural fault lines which are constraining both growth and transformation in the sector. Inadvertently, these structural constraints undermine government efforts to fundamentally transform the sector. More importantly, the challenges facing black producers in the agrobusiness sector cannot be left unattended and neither can we afford to skirt over them.

The first thing that the sector must discourage if not condemn out rightly is the decimation of black producers by large retail supermarket chains. One of the major constraints that these producers are facing is active participation in the agro-processing value chain let alone market access.

The recent Oxfam Report titled: "Ripe for Change-Ending Human Suffering in Supermarket Supply Chain" highlights similar challenges facing small producers across the globe, not different from the ones that Black producers are facing in this country. The report exposes the extent to which the supermarket value chain that is largely dominated by Multi-national Corporations (MNCs) continue to build profits on the back of low wages, insecurity and inequality. The Oxfam report further revealed that many employers were cutting minimum wages with exploitative hours through forced overtime, or simply not paying legal rates. In short, this report reveals the economic exploitation faced by millions of small-scale farmers and workers in food supply chains across the globe. In countries like Kenya, it unpacks how small-scale farmers are pushed to the brink by these MNCs.

Big retail companies, especially in the fresh produce sector, also squeeze fresh produce producers in South Africa out of the market. Often, they get paid very low prices by retailers who adopt the attitude of take it or leave it, leaving black producers with their backs against the proverbial wall. The produce from these Black producers struggles to penetrate the markets across commodities. Small-scale cattle farmers are especially disadvantaged. Wandile Sihlobo of Agbiz better explains the sad picture of their conditions. He writes in the Business Day of 8 July 2018: "...In the livestock sector, emerging and communal Black farmers own about 40% of cattle in South Africa. But a large portion of this herd does not enter the meat supply chain..."

While much has already been said from various quarters of society during the ongoing public participation process around the issue of land expropriation without compensation, representation from some players, including the likes of South Africa's large retailers, has seemingly been minimal. Do these off-take owners understand the true potential of black producers across the country? How do we get them the insights on the informal markets that many black producers currently successfully access in order to survive? Any hopes of influencing traditional value chains in favour of small-scale / black producers are hopeless in the absence of participation of those who ultimately own these value-chains.

A renewed or redefined land reform landscape should go hand-in-hand with agricultural transformation. Having huge tracts of land without access to the markets will just be a hollow dream. The implementation of policies that give effect to Land Expropriation without Compensation will have to serve as a trigger for a holistic agricultural transformation of the entire value chain - from the farm gate to the aisles at the supermarkets. It is therefore incumbent on all the role players in the sector to create a more inclusive agricultural value chain, one that fosters greater participation of the most marginalised groups looking to make a contribution to the sector.

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## Leading Transformation in the Citrus Industry

Yolanda Ntlakaza is Business Support Manager at the Citrus Growers Association (CGA-DGC). One of the few female executives tasked with driving transformation in her industry. So far, her work speaks results as policy makers, agribusinesses, associations are keen to learn from her model.

Growing up in the Eastern Cape in the former Transkei, Yolanda was surrounded by farming activity. She pensively admits it never dawned on her that she will end up in agriculture. "I come from an era where career guidance was non-existent and having studied maths and science in high school, agriculture then became one of the options to look at, hence I made the choice" she says.

Yolanda is no stranger to development work. Previously, she worked in the development public sector space including the United Nations Food and Agriculture (FAO). "My specialty was focussed on research specifically on communal farming areas, skills development, enterprise development, food and nutrition security, youth development, gender mainstreaming, forestry and now transformation" she concludes.

At Citrus Growers Association, she is responsible for transformation – support black citrus growers. "I need to ensure they have business plans, those with export orientation are supported with the requisite compliance training including access to finance" she adds. So far, more than 60 business plans have been developed and are being used to source finance from various financial institutions. Growers have also participated in the Sustainability Programme for South Africa (SIZA) and the project still continues.

expected, the role of transformation is fraught with its own challenges. "The major challenge thus far is that the scope is huge and there are insurmountable expectations from the farmers. Furthermore, the current economic climate is making it difficult for farmers to obtain finance, and this has drastic implications to the new entrants" she says. On top of these demands by farmers, Yolanda has to constantly prove she is more than capable to do the job. "Being a woman in a management position can be viewed as a point scoring exercise, hence it means that one has to work twice as hard. However, I have seen many women in this industry pulling their weight, in particular our female entrepreneurs who have won a number of accolades in the past years."

She draws strength and inspiration from top black female citrus growers she has capacitated like Noluthando Mbilase (Greenwood Citrus Farm – DAFF Top Entrepreneur award for Exports in 2018), Smangele Gumede (Intathakusa – Winner of KZN Female Entrepreneur Award, 2017) Steri Ndyenga (Sikhula Sonke Enterprises – Winner Top Entrepreneur award for Exports, 2015) and Nokwanele zamo (Luthando Farm – Winner of DAFF Female Entrepreneur Awards at national level, 2014).

Asked how she feels on Citrus transformation generally, Yolanda sees positive signs especially the will and dedication shown by CGA. "The establishment of a Citrus Chamber in 2010 as part of the Citrus Industry's transformation agenda to host a forum of black citrus growers in order to have a constructive voice in the development and transformation of the industry" she concludes.

> For more information, visit -Tel: 012 003 4209, yolanda@cga-gdc.org.za

#### A BANKER LEAVES HER TRADE TO FOCUS ON FULL TIME FARMING

#### Mwamy Mlangwa is a female farmer from Tanzania

By: SACAU

n Africa, women farmers play a major role in the production and processing of household food. They are also providers of the bulk of labour in the production of cash crops within the smallholder farming setting. Collectively, women contribute more than 50% of agricultural labour in sub-Saharan Africa in varying levels depending on the specific enterprise (crop or livestock). Despite their contribution to food production and other household economic activities, women's economic roles remain largely invisible and unrecognised.

Additionally, they are often excluded in decision making structures of farmer-based institutions. They encounter greater limitations in accessing means of production as compared to their male counterparts due to social, cultural, legal and economic obstacles. Thus, most women producers are generally relegated to servicing un-lucrative markets as they are not able to supply the requirements of more remunerative markets locally or internationally. Consequently, women, especially those in rural areas bear the huge burden of poverty and they are a symbol of poverty.

The Food and Agriculture Organization of the United Nations (FAO) also alluded to the fact that development strategies can be equitable only when they consider and address the different needs, constraints, opportunities and priorities of both men and women. Thus, requirements for inclusive strategies in formulating agricultural policies and programmes cannot be overemphasized. Despite all these challenges, most women are breaking these barriers and are making tremendous progress and contribution to the sector through championing innovations and technologies that are making a difference in the sector.

The Southern African Confederation of Agricultural Union (SACAU) is making deliberate efforts to profile these women and publicise what they are achieving to the public. These women are pacesetters and they are breaking new grounds in as far as farming is concerned in Africa. They are bringing back the glory of farming in Africa and making it attractive. They are changing the image of agriculture and are role models to other women as well as girls.

Mwamy Mlangwa is a female farmer from Tanzania. She owns an urban farm named Mwamy Green Vegies. Mwamy is a banker by profession and she left her banking career to pursue farming on a full-time basis. The decision to quit her banking job was after realizing the possibility and potential of venturing into urban farming. She set herself to supply fresh vegetables to urban consumers through supplying retailers, hotels and restaurants.

What motivated her was the realization that through advanced technology, scarcity of land and space could not hinder her from realizing her dreams. She decided to start growing Lettuce using hydroponic technology where she is able to grow crops without the use of soil as medium of growth. This technology assists her to be precise in the use of water and other inputs such as crop nutrients, allowing the lettuce seedlings to grow within 15 days to maturity.

Mwamy encourages women to explore the possibilities of going into hydroponics farming because it has advantages that include among others; absence of soil borne pathogens in the vegetables produced, safe alternative to soil disinfection, high yield of good quality crops, precision application of nutrients, no soil tillage and preparation, high total yield and environmentally

December 2018 • AGRI-Inspire (29

Ruramiso Mashumba is a young female farmer from Marondera, Zimbabwe. She started farming in 2012 on a farm she inherited from her parents. At the time, the farm was just a bush with no equipment and the necessary infrastructure.

n 2013, she started growing snap peas for export to the European Union and Africa. She has since expanded her operations and now grows a variety of horticulture crops, indigenous organic grains that she mills into our under the brand Mnandi organic and traditional, brown rice as well as commercial maize. Ruramiso is also involved in forestry – in 2014, she partnered with Sustainable Afforestation Association, a Zimbabwean-based organisation, and planted 100ha of gum trees. She is also venturing into seed production after securing a contract with a renowned company to grow 30ha seed maize and 20ha seed millet.

Her interest in farming started while she was working in the United Kingdom for one of the leading agricultural equipment companies. It was there that she realised the potential of equipment and technology in transforming agriculture. This led her to commit to change the image of agriculture, and she embarked on farming upon her return to Zimbabwe. Ruramiso has never looked back since she started farming and is continuously looking for ways to improve and grow her farming business. The many opportunities that she knows exist in agriculture keep her interested in remaining a farmer.

Ruramiso holds a BA Degree in Agriculture Business Management from the University of West England (UWE). She is the National Chairperson of The Zimbabwe Farmers Union Young Farmers' Club to which she was elected in 2014. Ruramiso also founded Mnandi Africa, an organisation that helps rural woman to combat poverty and malnutrition by empowering and equipping them with skills and knowledge in agriculture, nutrition, markets and technology; assisting them to access affordable and effective agro technology through an input-sharing program; and collectively purchasing and selling goods and services. Mnandi's vision is to ultimately end hunger and poverty.

Her work was noticed by AGCO and she was invited to attend their Africa Summit in Berlin in 2015. After sharing her story, she won an award for influence and leading woman toward mechanisation in Africa. In 2016, she was selected to participate in the Mandela Washington Fellowship, which is the flagship program of Barack Obama's Young African Leaders Initiative.

Ruramiso was selected to be a panellist at the World Food Prize in Iowa and gave input on the importance of nutrition in Africa. She also became a member of the global farmer network and was nominated for The Zimbabwe Businesswoman award. She has also been featured in a number of publications, including The Zimbabwean Farmer magazine and also on the New Alliance for food and nutrition publication, which is endorsed by the African Union.

On attracting and keeping young people in farming, she believes that there should be efforts tobrand agriculture as a success and showcase opportunities in the value chain.

30

Maness Nkhata is a young female agripreneur from Malawi. She graduated in Business Administration from the University of Malawi, Polytechnic, in 2008.

fter not finding a formal job, Maness started commercial farming at her Kakoma Estate in Kasungu, a district in the central region of Malawi. She grows cassava, soybean and sunflower. Later, she decided to add value to the crops grown on her estate and established Lakeshore Agro-processors Enterprise (LAPE).

Over time, the demand for raw materials increased beyond what her estate could supply, and she then started contract farming with smallholder farmers to supply these products. She currently works with more than 5 000 business partners that are engaged in contract farming for cassava, soybean and sunflower.

In 2013, she set up a cassava mini-processing factory for high quality cassava flour in one of the regions where she contracts the smallholder farmers. She also supports cassava farmers with clean planting materials, extension services and by offering a ready market.

Of late, she has partnered with the International Institute of Tropical Agriculture (IITA) to conduct research for promotion of cassava varieties that have high processing efficiency. Because of her work as a youth, Maness was selected to study at Southern University Agri Center in Louisiana, the US, and CGIAR (formerly the Consultative Group for International Agricultural Research) in Nairobi, Kenya, where she obtained certificates in Agribusiness and Entrepreneurship and in Women Leadership and Management. Because of her achievements in farming and agro-processing, she became the first ever board chairperson below the age of 30 for the National Youth Council of Malawi in 2014.

In order to further share her experience, Maness has partnered with the University of Malawi, Polytechnic, and Lilongwe University of Agriculture and Natural Resources (LUANAR) for their internship programmes. As part of these programmes, she hosts between 15 and 20 interns per year from Polytechnic and LUANAR who undergo incubation training in entrepreneurship at LAPE. The idea is to motivate young graduates to start thinking of self-employment and job creation instead of waiting to be employed.

The interns are involved in both cassava processing for highquality cassava flour production and sunflower processing for cooking oil and seed cake. She is a member of Farmers Union of Malawi, and through her involvement in agricultural value chains, she has also become a SACAU young agripreneur ambassador.

Maness believes that agriculture can be a gold mine for young people and recognises the role that the sector can play in reducing unemployment. She also thinks that successful young agripreneur models are important in encouraging young people to participate in the sector.

# From a recruitment Specialist to successful yo emerging far

By: Brian **Makhele**, Emmanuel **Mafokoane**, Bongani **Radebe** & Kayalethu **Sotsha** 

Farming is not sexy, one has just got to view it as an incomegenerating source

and be determined to make it work -Mbali Nwoko

"

Mbali Nwoko is a 30-years old female farmer from Soweto, Johannesburg. Currently, she leases a 14-hectare farm (Green Terrace) using 7 ha field to plant green peppers,

baby marrows, green beans and spinach. The farm has 10 tunnels and 11 shade net structures. Some of her client base include the Johannesburg, Springs and Tshwane Fresh Produce Markets, two formal retailers, five processing companies as well as 20 hawkers. In 2019, Mbali will be exporting some of her green beans to foreign markets.

In just two years of farming (without any prior agricultural background and government support), Mbali was recognized by the Agricultural Writers of South Africa with an awarded of New Entrant into Commercial Farming (Northern Region).

#### Where it all started

Mbali completed her Bachelors of Commerce degree in industrial psychology with the University of Johannesburg in 2011. Then, she worked in the recruitment industry for two years. However, she had always expressed affinity to run her own business. She started her own recruitment company in 2013, co-owning it with her friend. The business ran successfully for four years.



In 2015 December, when the company took a knock, the clients froze some positions and the business was showing signs of decline. Fortunately, Mbali met Eric Mauwane and Ntsako Mabunda at a Shanduka Black Umbrellas networking event. "Eric and Ntsako, both Engineers did not have an agricultural background, but they way they spoke about their agricultural enterprises I just saw opportunities. Honestly, it inspired me to venture into farming. I then decided to quit my recruitment business and went straight into farming" she adds.

She started with the assistance from her husband, but they had to get the land first, and it was a struggle. She finally got a piece of land from a farmer who was not fully utilizing the land. She started off by leasing two hectares, planting spinach in July 2016. By September of the same year, the landlord decided to lease her an additional piece of land, including vegetables that had been planted (spinach in the tunnels and cabbages in the open space). Although this seemed as a blessing, it brought a challenge to Mbali because the vegetables needed to be sold but she did not have a market.



Before she could think of planting further, Mbali went around negotiating with the nearest super-markets such as Food Lovers Market, Johannesburg Fresh Produce Market for her produce. "It was an overwhelming experience, managing the relationship with the new clients (markets) and the farming operations – it was not easy." Her business then started growing from two workers to eight workers and within a short period of time she acquired additional land.

In May 2017, she secured an off-take agreement with Pick n Pay, however she did not have a pack house facility. She struggled to secure funding due to the fact that she was leasing the land and it only had a ten-year lease agreement. She had to dig into her pocket again to get a mobile pack house to secure the Pick n Pay market.

Omnia also played a crucial role in Mbali's success. The company gave her a contract for purchasing inputs, where she had a credit facility to use to get inputs for planting and only pay the money back after harvesting. This eased the burden of capital injection and enabled her to expand the area of land planted.

#### Hitting a bumpy slope

The growth of her farming enterprise came with unforeseen circumstances. In 2016, a hail storm ravaged her all vegetables leaving her to start all over. The result of this experience set her on a path to research about crops that are in huge supply and demand. She settled with green peppers, baby marrows, green beans and spinach generating over R20 000 on average per month.

"In 2018, I learnt a lot about how dynamic the markets can be, the challenges of maintaining market share particularly in the formal markets. I even had to learn, analyse trends in supply and demand and the influence of prices plus volumes in the market. I was also exposed to the spraying programmes for diseases and pests' control, which helped a lot in ensuring I produce quality."

#### **Reinvesting in the business**

Mbali built relations with other farmers and on occasions she visits her mentors like Masedi Mohale and Andile Siphesihle Ngcobo to draw more knowledge about farming. "To be successful, the circle of learning from others never stops." Between July and September 2018, she de-bushed another strip of land on the farm to expand her operations further. This also included an investment of about R200 000 on irrigation infrastructure.

Currently, she has seven full-time males, hires 10 - 20 females mainly for harvesting and packaging. She has gone to the extent of hosting her clients and stakeholders (Fresh Produce Markets, Omnia and some seed companies) as a way of showing her appreciation for their support and also to showcase the new farm.

#### Advise for young and future farmers

"Farming is not sexy, one has just got to view it as an incomegenerating source and be determined to make it work. You must be enthusiastic and motivated. Planning is one of the key things that will make you successful."

## **Gender Transformation**

#### in the South African Agricultural Sector: Noluthando Mbilase

In the mist of challenges facing new entrants in commercial agriculture, there are snippets of successful stories not often reported. The story of a citrus producer Noluthando Mbilase is one such that deserves all headlines, for the right reasons.

By: Elekanyani **Nekhavhambe**, Bonani **Nyhodo**, Nonhlanhla **Gwamanda &** Melton **Mulaudzi** 



oluthando Mbilase is a successful female black citrus producer from Greenwood Citrus Farms. Her farm is approximately 62 ha, with 26 ha portion dedicated to citrus production. On top of this,

Greenwood Citrus Farms portion of income arise from export markets. The farm exports approximately 75% of its quality fruits to Russia, Japan, Middle East and Europe and 25% to local market. A financial management student with the University of Pretoria, Noluthando has attended numerous management courses including those focusing on risks assessment.

Just how did all start for Mam' Noluthando, as she is affectionately known by her community? "It all started in 1989 when I was employed as a Field Officer at Crenforn Farms" she says. Fastforward to 1997, the company was liquidated (Crenfron Farm was one of Ulimocor parastatals) and she seized the opportunity to take over the management of the farm. "Thereafter, I renamed the farm to Greenwood Citrus Farm" she adds. When the new beneficiaries took over the Crenfron Farm, the trees were dry and nonproductive. Within a few years, the new owner managed to turn its fortunes and make it productive. Currently, out of the 62 ha, the farm offers varieties of citrus cultivars; Cambria Navel Late maturity on 10 ha, Lemon Eureka on 3 ha, Satsuma MiyoWase on 3 ha, Satsuma Owari on 2ha, Nadorcott Mandarin on 4ha, Lane late Navel on 2 ha and Nova Mandarin on 2ha.

On employment opportunities, Mam' Noluthando employs 11 permanent workers with nine being youth and two being females. "During the peak season, the farm is able to employ approximately sixty (60) seasonal workers. All workers are provided with protective clothing for safety management. They also receive training in their respective farm duties" she adds.





From left to right: Rosina Semenya (Portfolio Committee Chairperson), Hon Sifiso Buthelezi (Deputy Minister of Agriculture, Forestry and Fisheries), Noluthando Mbilase (Best Women Exporter of a Year) and Dr Vuyo Mhlati (AFASA President)

The farm is assisted by the Department of Forestry and Fisheries to ensure compliance with the export market requirements such as EU standards and is accredited with SA Gap and SIZA. The Perishable Products Export Control Board (PPECB) provides workers with tractor driving while Mpofu Training Centre (MTC) provides maintenance training. Furthermore, the Citrus Growers Association (CGA) facilitates skills transfer to workers through leadership courses at MTC. The manager provides training on irrigation and fertilizer application. Such compliance with legal requirements and corporate governance standards attests Greenwood Citrus Farm as a commercial entity.

Greenwood Citrus Farm is also Climate Smart Agriculture orientated and it puts emphasis on the natural resources management, adaptation to and mitigation of climate change. Sustainable use of natural resources is ensured because no harmful chemicals are used which means that there is no soil degradation. The soil erosion is mitigated by cutting grass to prevent destruction of vegetation in between the trees. The competition in-between trees are controlled by clearing the weeds so that they don't compete with the citrus trees for nutrients and water.

Whilst the farm practices indigenous farming, it is also technologically advanced. "The workers use the clocking machine to clock cards when coming in and out of the workplace, they no longer sign the book for attendance. The pickers also use the scanning machine.



"For irrigation purposes they no longer use the auger to check humidity of the soil but use neutron probe", Mam' Noluthando demonstrates. In the past, the farmers used the flood irrigation system but now the farm uses electric pumps with microjets. These pumps and spraying machines are programmed to automatically change from one orchard to another when finished irrigating.

Mam' Noluthando represents South Africa in Germany and Holland markets and she encourages other women to become citrus exporters in South Africa. She is a recipient of the 2018 DAFF Female Awards where she won the award for the Best women exporter of a year. Not only is she involved in citrus farming, she also produces other crops such as vegetables and grows chickens. A community developer at heart, her company donates school uniform to Picardy Primary School and sponsored a soccer kit to a local football club called "Seymour." Added to this, she takes care of orphans around Balfour schools, and supplies vegetables to surrounding schools, creches and churches.

Greenwood Citrus Farms, under Mam'Noluthando's leadership, reflects true definition of women empowerment and transformation of gender in agricultural exports markets. Her story is evidence that if women are fully supported, they can excel in agriculture, thus contributing on poverty eradication and food insecurity.

## A letter to the youth: Farming is Fashionable

Dear Youth

Fact: farming is fashionable.

Fashionable is a term that describes something that is either influenced or represented by a current popular style. I believe that this is a standard starting point required for any occupation when engaging the current youth of South Africa. Farming does not fit the list and there are many reasons for this.

Everything you buy, use or eat involves agriculture, it is a fact. I got to learn about this after spending three years at an agricultural institution in KwaZulu-Natal. Mind you, I knew absolutely nothing about farming especially for a city boy like me. My calling or vocation to farming was solidified by the amount of information that existed about the agricultural sector. Studying and understanding the agricultural value chains convinced more than I ever that there were untapped opportunities in agro- processing, marketing and the economics.

Ever since then, the only way I figured out that agriculture can be elegant and sophisticated is from the aspect of exposure. So, every day I find an opportunity to expose the greatness of the sector in the little bit that I see, do and feel. Agriculture is not about food per se, but it is also about the clothes you wear, handbags you carry around, silicon's used in cellphones, computers, fridges etc, all the things we use to get us by. I see that in many of our youth, lack of educational exposure to agriculture is a detriment.

Looking back at school, one cannot recall writing aptitude tests designed for agriculture. It was very easy for many results to come back with more suitable and desirable occupations such as medical doctor, dentist, accountant, businessman etc. Many of our educators fashioned us in that direction due to limited knowledge and vocation on agriculture. But also, we as the youth do not take care enough to educate ourselves about the food we eat, clothes we wear, wines we drink, technology we use etc. Many of us, still do not know where all these are made or better still where they come from.

Time and space still allow for your participation especially now that the land reform issue is a subject of discussion. There is a shortage of youth in the sector who are willing to maintain and grow the potential of this sector for our country. Yes, the issue of resources for young people to get started is a hindering factor, but gathering information is key. In my experience, it is not ideal to depend and wait on government solely, there are plenty of local and international investors available to partner with you. Take the step today in feeding our country, and it all starts with a backyard food garden.

Thanks for reading my thoughts.

Andile Siphesihle Ngcobo





### **AFASA YOUNG FARMERS SUMMIT**

Comprehensive support for young farmers is key to growth of agri-sector

Young farmers need more holistic support from key stakeholders if they are to be successful business people in agriculture. Speaking on the last day of the third African Farmers Association of South Africa (AFASA) two-day Annual AFASA Young Farmers Summit (AAYFS) which took place at Sandton's Cedarwoods in Johannesburg on 28th and 29th August 2018, AFASA Youth Chairperson, Nono Sekhoto, said it was important that all stakeholders in the agriculture sector throw their weight behind the young farmers. "As AFASA, the important question is how we get appropriate support to assist young people to work the land and continue ensuring that there is food security while creating more jobs in the sector," Sekhoto said.

ekhoto, who is a commercial farmer herself, added that young people needed holistic support – not just one type of assistance. "There is already a lot of support given to young farmers – unfortunately it is just not appropriate. The issue is that maybe a farmer would get only access to finance or only to

mentorship, while the fact of the matter is that they need all of the support," she said.

As such, one of the key objectives of the AAYFS is to lobby and advocate for the rights of young farmers to access capacitybuilding in areas such as leadership, entrepreneurship and education. The organisation also intends on becoming an enabler to funding for young farmers. Over the two days (28 and 29 August 2018) of the summit, a 100 young farmers gathered and were provided with advice from speakers such as entrepreneur and author, Miles Kubheka, who stressed the importance of learning from experience while being able to take risks. "Document your work," he urged the farmers, "so that you are able to learn from your mistakes," he said. Kubheka also urged young farmers to go and learn from others who have been in the business before, something which was echoed by the young farmers themselves.

In a video flighted prior to Kubheka's keynote address, a young egg farmer Mbalenhle Siphengane stressed the importance of education to be successful. "Young farmers must learn from experienced farmers," she said. However, Siphengane, a Potchefstroom College of Agriculture graduate, added that young agriculturalists also needed to learn more about sector from institutions specialising in the subject. The Summit was held under the theme, 'Building a New Legacy', and encouraged the strengthening of networking among the young farmers. The AAYFS further promoted the sharing of experiences and provided guidance on how the young farmers could take their business to the next level.

Day Two of the Summit saw several panel discussions taking place, including topics on the key issue of financial and support programmes, followed by collaborating support for successful land use. Access to relevant markets was also tackled.

The AAYFS is fast gaining a reputation as a platform for young farmers and stakeholders to engage and build meaningful relationships. This year (2018), fifteen public and private sector organisations engaged the 100 young farmers about developing youth-run farming businesses and enabling stakeholders an opportunity to understand the challenges they face.

The Land Bank, SAB Foundation and the Masisizane Fund were also on-hand to provide assistance and information on how the young farmers could obtain financing for their ventures. The Summit was officially opened on 28 August 2018 by AFASA President, Dr Vuyo Mahlati, who is an accomplished commercial farmer with more than three decades of experience.



### Opportunities for Greater Youth Involvement in Agriculture

By: Agricultural Research Council

As South Africa celebrates the centenary of the struggle icon Nelson Mandela, who once said, "as long as poverty, injustice and gross inequality, none of us can truly rest". This is a rallying cry to the youth, policy makers, political leadership and the government alike to play their part in manifesting the former president's vision.

he world population is increasing every day while food production is on the decline. It's a challenge that the world is facing. What role if any can the youth of South Africa play in food security for the nation and for the next generations? The youth mind-set needs to be solution driven especially in the current environment that requires climate-smart thinking.

With every challenge lies an opportunity. It's an opportunity for the youth to take the bull by the horns and be part of the current big thinking and actions. It's an opportunity to empower themselves to improve by learning new skills that can make them produce quality and nutritious food to feed the world and also positively impact their financial security.

Food security is a serious issue, not just for South Africa, but the world as a whole. The rise of fuel costs and climate change are also negatively challenging to farming communities across the globe. However, we need scientific approaches and reprioritising our skills and scientific knowledge. The ARC is the go-to organisation for the youth to acquire the requisite scientific skills for meaningful involvement in the agricultural sector.

One of the challenges our young people face is the high barrier to entry into the agricultural space. Traditionally agriculture was one of the sectors known for its labour intensity. However, with the advent of the fourth industrial revolution the agricultural sector must take this opportunity and align itself with these developments. The Agricultural Research Council recently introduced the ARC Hub (Android and IOS), an application that assists farmers with their everyday farming needs and on-farm decision making. The ARC Hub App is a clear indication that agriculture and science can work together to provide much needed solutions. Agriculture should adopt technology and to better improve and provide access to agricultural communications.

"Agriculture is among key areas that the government will be focusing on in the coming year" said President Ramaphosa during his 2018 State of the Nation Address. He further emphasised that agriculture should take a centre stage when he announced his stimulus economic package.

The ARC with over 100 years of experience is at the forefront of assisting all farmers to start producing with the hydroponic systems. Through its research programmes the ARC is encouraging communities in townships and rural areas to develop own vegetable gardens. These vegetable gardens can provide much need nutritious food for families. The ARC is also advocating for communities to be trained in agro processing. This will increase the lifespan of garden products and can sustain families.

The ARC is a premier science institution that conducts research with partners, develops human capital and fosters innovation in support of the agricultural sector. The ARC provides diagnostic, laboratory, analytical, agricultural engineering services, postharvest technology development, agrochemical evaluation, consultation and advisory services, food processing technology services as well as various surveys and training interventions.

For more information visit the ARC website at: www.arc.agric.za or (012) 427 9700, enquiries@arc.agric.za.





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### FROM A FARM WORKER TO A FARM OWNER

Written by: Emmanuel Mafokoane & Kayalethu Sotsha

#### For more information, contact:

Emanuel Mafokoane at EMafokoane@namc.co.za or Kayalethu Sotsha at KSotsha@namc.co.za Guy Mphahlele, a 34-year Bachelor of Technology (BTech) graduate, now co-owner of a 4 200 hectares Bekendvlei Boerdery farm in Limpopo details his courageous journey.

n 2009, Guy graduated with a BTech degree at the Central University of in Technology Free State. Not barely out of his student uniform, Guy applied for a farm from the Department of Rural Development and Land Reform (DRDLR). The results of the application took long and while he waited with baited breath he opted to go work for the Department of Agriculture in the Eastern Cape for a number of years.

Itching for farm activity, Guy Mphahlele unceremoniously left his comfortable job and chose the road less travelled. Out of all the possibilities he did the impossibility, he proceeded straight to work as a farm worker at Bekenvlie Boedery Farm in 2013. Although not quite sure of his psychic abilities, an argument could be made that Guy saw into his future because two years after he became a co-owner of the farm. "In 2014 while working as a farm worker, DRDLR came back to me and informed me my application was successful. Mind you, this was after four years" Guy confirmed. Fortunately for him, in the same year DRDLR reciprocated, the owner of the Bekenvlei Boedery Farm quit on the farm, citing the challenges with water. "Man, it was like manna from heaven or some designed blessing for me.

Long story short, I managed to acquire the farm under Proactive Land Acquisition Strategy (PLAS) programme" he says. However, given the size of the farm, he had to form a cooperative, where he recruited five of the previous farm workers to form a cooperative of six members (all males).



Bekenvlie Boedery Farm specialises in four enterprises, crops (sunflower and maize), vegetables (sweet corn, butternut, potatoes, peas, green beans and pumpkins), game (Impala, Kudu, Blue wildebeest, Blesbok and Nyala) and livestock (cattle, sheep and goats). His farms supplies NTK with crops produce and McCain with vegetables produce. Weaners (from 220 kilograms) are normally sold to Valkon feedlot in Nelspruit and at Vleisentraal auctions.

Guy professes that their main source was livestock and if it wasn't for government RECAP support the going would have been difficult. "We were supplied with production inputs and implements including the fencing of the farm, on top of this we received 30 Nguni heifers as a loan." Since our visit on 10 September 2018, Guy had more than a thousand heads of livestock comprising of of cattle (Nguni, Brahman, Simmentaler, Boran and Bonsmara), Boer goats and sheep.

Like any other enterprise, niggling challenges such cable and transformer theft, high electricity bill and a shortage of water for irrigation affect the bottom line. Yet these developments have not deterred them and they hope for the best rains in order to keep their boreholes not empty. In 2015, they received an award from McCain for being best butternut producers. In 2017, they were runners up in the same category. Currently, their plan is to expand on potatoes (due to a guaranteed market and a relatively high revenue compared to the other vegetables and crops). In addition, their planning to build chalets for a game lodge to accommodate hunters of their game during the hunting season.



#### Perishable Products Export Control Board learnership sets graduates on a path to success

Each year the PPECB's Agricultural Export Technologist Programme (AETP) offers high-potential, disadvantaged graduates the opportunity to gain a head-start in their agri-export technology career while receiving an accredited qualification.

By: PPECB he 12 month career development opportunity places qualifying learners at PPECB inspection-points across South Africa under the mentorship of PPECB Senior Inspectors where they are exposed to quality assurance practices applicable to specific perishable products. In the

2017/2018 financial year 35 learners graduated from the programme.

While the PPECB cannot guarantee learners employment following the learnership, the valuable on-the-job exposure gained from the experience has proved exceptionally beneficial to graduates when entering the job market. In addition, several learners have been permanently appointed by the PPECB over the years, many of whom have since been promoted to senior positions in the organisation.

One such graduate, Selby Mahlalela (left pictured),

now holds the position of Regional Operations Manager for the PPECB's Nelspruit region. Selby, who graduated from the AETP programme in 2005, went on to be appointed as a Junior Inspector at the PPECB following the learnership's completion. The workplace experience gained during this time together with his BTech Degree Agricultural in Management provided the foundation for him to excel

within the organisation where he quickly worked his way through various positions within the organisation.

Through the years Selby found himself working at a number of PPECB offices to gain exposure to various product types and by 2009 had experience with citrus, subtropical fruit, dried fruit, canning, and vegetables and in the cold chain. The breadth of this exposure left him perfectly positioned to be promoted to Chief Inspector when the opportunity arose in 2009. Further dedication and continuous hard work then saw Selby being appointed as Regional Operations Manager in 2012. Another equally inspiring AETP success story can be found in the career of Tloutsana

Langa (right pictured) who too began her journey at the PPECB as a Junior, Inspector following the successful completion of the AETP programme in 2006. Like Selby, Tloutsana used the foundation laid by the AETP programme to propel her progression within the PPECB and by 2009 was appointed as

a n

Inspector. From then she quickly moved through the ranks of Senior Inspector and Chief Inspector to Cold Chain Specialist where she finds herself today. During her time at the PPECB she has gained exposure to a number of products and business units, namely cold chain, deciduous fruit, citrus fruit, grain, dairy, dried fruit and export certification. Furthermore, Tloutsana continued to advance her education completing her Master's in Business Administration in 2017.

Both Selby and Tloutsana are perfect examples of the immense impact a learnership can have on the career of a graduate and the vital role that workplace experience plays in career success. For this reason, the PPECB hopes to continuously increase the number of learners it welcomes into the AETP programme, with 40 learners expected to graduate in 2018 and a further 6 which joined from Western Cape Department of Agriculture. Furthermore, the PPECB sees the AETP programme as an essential element of its transformation and development programme and vital to enhance the employability of today's youth.



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### PARTNERS





# Land Bank Empowering Communities

With agricultural now front and centre of the ongoing national debate on how to accelerate broad-based transformation and economic growth, society's expectations for a solution-orientated sector driven to deliver these objectives will be higher than ever.

s the primary economic activity in rural areas, the National Development Plan identifies the agricultural sector as having the potential to create nearly one-million new jobs by 2030. The President's recently announced economic stimulus package takes this sentiment forward,

prioritising support to an agricultural sector identified as a key catalyst for growth.

While policy makers and sector players have long recognised this potential, its translation into significant benefits for previously marginalised groups, like the youth, has been slow. The implementation of activities that will encourage and support more youth entering the agricultural sector hinges on the ability of these players to fully understand the challenges and how best to respond to them.

The Land and Agricultural Development Bank of South Africa (Land Bank) is one such sector player that has been charged with facilitating transformation in the economy and society in a manner that is more inclusive and equitable. With a specific development finance mandate, it has been working to find unique solutions to the unique challenges that exist in transforming the economy, with the objective of facilitating the participation of youth, women and other previously disadvantaged groups in the economy in a sustainable way

The Bank has positioned itself as a solution-oriented, development focussed organisation, working to create opportunities across the agricultural value chain for marginalised groups like youth, women and black people, into the sector.

Through its Corporate Social Investment (CSI) programme, it is supplementing the development financing work being done on a daily basis by reaching out to the communities in which it operates to try and facilitate greater participation in the sector for these groups.

By: Land Bank

The programme has three distinctive focus areas to boost participation within the agricultural sector, including:

- Food Security: upskill and provide resources to households
- to improve food security and reduce vulnerability to hunger.
- Employment Quality: Capacity building for smallholder farmers in order to upskill them to pursue sustainable agricultural practices and employment opportunities.
- Sector growth & transformation: Building the agricultural sector skills pipeline focusing on youth development and women headed households.



44





#### **Building an Impactful CSI Programme**

Over the last 18 months, Land Bank has worked to implement an impactful CSI strategy aligned to its core mandate of creating a more inclusive and equitable sector. This growing programme currently supports the following initiatives:

Buhle Farmer's Academy: Buhle Farmer's Academy has been training and developing entrepreneurial skills for the agricultural sector for 16 years already, growing from strength-to-strength. Trainees come from all over the country to learn at its two campuses, one of which is near Delmas, Mpumalanga, and the second at Mkhondo (Piet Retief), in KwaZulu-Natal. The Academy offers holistic and practical training courses covering vegetable, crops, poultry and livestock production, as well as mixed farming. The Academy has helped to create over 8000 jobs in the agricultural sector to date. The programme is currently selecting additional youthrun agricultural enterprises who qualify for support beyond their Farmer Support programme. These agri-enterprises will be profiled in the media and supported with additional startup funds to enable entrance into the commercial farming sector.

• Agriculture and Youth Programme: Land Bank was instrumental in supporting the launch of a new youth agriculture initiative called the Agri-Teen Symposium at the beginning of 2018. The initiative aims to facilitate greater youth participation across the agricultural value chain by providing youth with relevant information, opportunities and platforms for them to thrive in the sector. Through Land Bank's support, the programme is set to expose thousands more youth to opportunities across the agricultural sector. This initiative also includes a "Take a Learner to a Farm" component in which township school learners and agri youth clubs are exposed to farms and agricultural businesses.

Communal Wool Growers Association Programme: Through its CSI Programme, the Bank is supporting the training of over 1500 communal wool growers in the Eastern Cape. The idea behind the project is to not only train these growers but to create access to local and international wool markets so that they are able to grow their businesses sustainably. Training and farmer support sessions on Flock Nutrition & Health and Breeding and Reproduction Management have already been delivered.

- Sustainable Food Gardens Projects: The Food Garden programme (in schools and in communities) has commenced with the planting season, allowing Land Bank to profile and showcase the impact of the initiative during the months beginning October 2018 going forward. Six school and community centres are participating in this initiative, with learners/educator workshops, communal food production sessions and supply production inputs already completed.

• Employee Volunteerism: Giving back is embedded in our development culture at Land Bank, and our employees regularly get involved to make a difference in the communities in which we operate. Land Bank's employee volunteerism programme is closely aligned to the objectives of its CSI strategy which is to empower women and youth by creating sustainable opportunities within the agricultural sector for them to take hold of. These community initiatives include Mandela Day activities across the Country, activations on World Food Day as well as ongoing community work that aims to address the food security needs of communities where our branches are based.

While fairly new, the Programme is already measurable change for beneficiaries. Land Bank is committed to sustainably growing its community footprint in support of the national imperatives around agriculture.

Go to www.landbank.co.za for more on Land Bank's CSI programme.

# **LEVY ADMINSTRATORS**





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# Renewable energy:

one of the measures through which to address the climate change issue in the agricultural sector

By: Moses Lubinga

Often times when one talks about climate change in the agricultural sector, much attention is drawn towards activities at the production phase. However, agriculture goes far beyond the production phase and some evidence actually reveals that more greenhouse gases (GHGs) are emitted at postharvest level, particularly for commodities that require cold storage and processing. The postharvest phase includes a number of value chain actors who vary depending on the commodity in question. In this respect, post-harvest activities along the various commodity value chains also play a significant role in the generation of greenhouse gases (GHGs), the root causes of climate change. This, therefore, calls for an urgent need to also draw much attention to these activities to attain South Africa's envisaged GHG emission reduction targets of 34% by 2020 and 42% by 2025 as enshrined in the Carbon Tax policy.

n insightful presentation entitled "Agriculture and its contribution towards greenhouse gas emissions: A case of South Africa's fruit exports" was made by Dr Moses Lubinga at the 8th BRICS Ministerial Summit held in Mpumalanga<sup>1</sup>. Dr Lubinga emphatically showed that GHG emissions were highest at postharvest level (packhouse & cold storage) for the citrus, table grapes, pome fruits and stone fruits. Despite the undesirable high emission levels, Dr Lubinga reasoned that this presents a number of opportunities with spinoff effects that are bound to arise even beyond the agricultural sector. One of such opportunities was the potential to explore the use of renewable sources of energy (e.g. Solar PV, wind, etc) as a substitute for electricity, the key contributor to emissions at packhouses and cold storage. The use of renewable energy in South Africa is still very low, with the Northern Cape being in the lead followed by the Eastern Cape (Figure 1).

An indirect opportunity that is bound to arise from the use of renewable energy within the agricultural sector is the new job opportunities particularly in the renewable energy sector. The use of renewable energy is bound to stimulate more innovation in the industry and is also seen as a vehicle through which to increase market access for the country's agricultural exports. Noteworthy, consumers have become much more aware of environmental issues to the extent that the affluent in most export markets choose products and services that are deemed to be more environmentally-friendly than products within the same category. They use eco-labelling, a tool to declare or increase the awareness of the product's emissions and if the company(ies) offset their emissions.

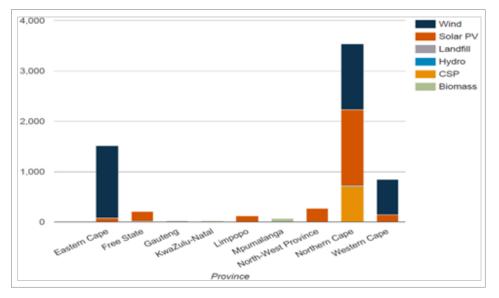


Figure 1: Renewable energy use by type and provinces Source: Energy (http://www.energy.org.za/data-and-tools/data-viz/)

<sup>1</sup> Source: https://www.researchgate.net/publication/328021316\_Agriculture\_and\_its\_contribution\_towards\_greenhouse\_gas\_ emissions-\_A\_case\_of\_South\_Africa's\_fruit\_exports

### **Climate Change:** Is it only a problem of the future or can SAWS with its resources already facilitate climate resilience?

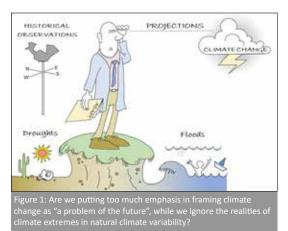
By: Prof Hannes **Rautenbach** & Ms Elizabeth **Webster**  n recent years, climate change has become a burning issue, with the South African Department of Environmental Affairs (DEA) at the forefront of international interventions to combat global warming. As a result, South Africa is actively involved in initiatives to provide guidance towards both mitigation and adaptation planning and response in the light of increasing global temperatures. Not only did South Africa develop national mitigation and adaptation strategies, but a new climate change bill was also recently released for public comments.

Most of these interventions require that Government on all levels (national, provincial and municipal) should prepare relevant climate change adaptation strategies that also need to be reviewed and updated on a regular basis. In future, it will also be required that business include climate change as an important performance indicator in annual reports. The Gauteng Province, for example, recently went into great depth to prepare a comprehensive climate change adaptation strategy, which is seen as an ongoing process in consultation with the people of Gauteng. Other provinces are also engaging in similar processes, and progress is reported on an annual basis to DEA.

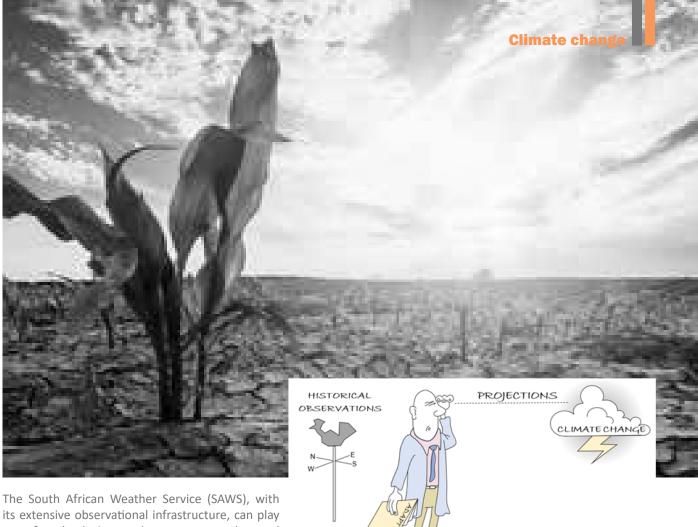
With global warming as a central indicator of climate change, reliable future projections have been regarded as essential for climate change adaptation planning. That is why such projections formed an important part in the preparation of Long-Term Adaptation Scenarios (LTAS) for South Africa.

It is no wonder that most adaptation strategies are exclusively based on model-generated future projections, with little or no reference to observed climate trends. It is therefore generally assumed that climate change is "a problem of the future", while in reality, climate change might already be present in current climate variability, with climate anomalies such as floods and droughts that are reported on a regular basis all over the world.

Although the increase in floods and droughts might still be a perception created by advances in communication technology, population growth associated with an increase in land occupation and greater awareness, the reality is that social society has always been exposed to extreme climate events, and is still being challenged by these events on an annual basis. Devastating impacts are especially being felt in vulnerable communities, in many cases where vulnerability is a result of ignorance to the realities of natural climate variability (Figure 1).







Droughts

a profound role in creating greater weather and climate variability awareness. A greater knowledge by social society, not only about climate averages but especially about the upper and lower limits of previously observed climate extremes, can contribute significantly to climate risk assessment and eventually to much greater climate resilience (Figure 2). As far as climate extremes are concerned, SAWS is already informing the National and Provincial Disaster Management Centres on a regular basis about extreme weather and climate risks. This is currently being done on a weekly basis through presentations on the prevailing drought that are compiled by SAWS and sent to a National Joint Drought Coordination Committee, highlighting the expected country-wide weather conditions for the week as well as the recent weather.

With the development of its weather forecasting and climate outlook capabilities, SAWS has made excellent progress over recent decades in the advancement towards the development of early warning products and services. The early warning services provided by SAWS are constantly being revised in accordance with global standards as SAWS is currently embarking on developing an Impact-Based Severe Weather Warning System. This will modify the current threshold-based weather warnings into user-oriented impact-based warnings. These warnings will be communicated in a non-scientific manner with the aim of reaching as many South Africans as possible.

With its traditional mandate to issue short-term weather forecasts, SAWS is also advancing towards the provision of informative climate services. With the availability of long climate observational records, improved short-term weather forecasting capabilities, eventually linked to dedicated climate outlook services, SAWS can cover the entire spectrum of climate change and variability. With such a framework in place, SAWS can make an indispensable contribution, not only in creating greater climate resilience, but also in preparing a basis for more effective climate change adaptation planning.

igure 2: The South African Weather Service (SAWS) can play a great role in climate risk

assessment, which will contribute to greater climate restrictions of the second stronger basis for affective climate change adaptation.

Floods



#### **Climate-smart agriculture**

## Climate-smart agriculture takes care of soil resource

rratic climate change is a major concern to farmers and the food security for South Africa and the whole world. Changing weather patterns are a contributing factor to how we treat the soil. Soil condition is facing a challenge that if not urgently corrected humankind will perish. This requires a series of scientific interventions and the Agricultural Research Council (ARC) is recognised internationally as being one of science institutes at the forefront of educating communities about the challenge this world is facing.

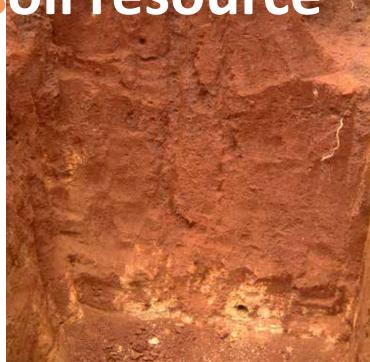
One has to ask how important soil is for the agricultural sector. In the agricultural sector, soil plays an integral role in providing food to animals and human beings alike. It is one of the most precious, import natural resources, and cannot be replaced. However, soil remains one of the most neglected and abused mineral resources. The level of soil erosion is reaching alarming rates. This is a major concern for the agricultural sector as one of the cornerstones is degrading.

To produce good quality food one needs good quality soil. However, the agricultural sector finds itself competing with sectors such as mining and housing for soil and its benefits. Unfortunately, the agricultural space always find itself at the receiving end of this dilemma as it has the responsibility to feed and sustain humanity. Without good quality soil, human being will not be able to survive for long.

The other challenge that the soil and the agriculture is facing is the use of the industrial mechanisation to work the soil. The heavy industrial mechanisation can cause the soil compaction that will make the land to be unworkable.

Under natural conditions, soil is capable of supporting all ecosystems on earth. As soon as human activities take place, however, factors such as overpopulation, incorrect agricultural practices and uncontrolled mining activities start to degrade good healthy soils. Aspects such as pollution recognise degraded soils by outside substances, erosion by wind or water, or other factors like salinity, acidification and compaction.

The ARC recognises the importance of soil in the agricultural space, and is on a mission to encourage and teach farmers and food producers, commercial and smallholder alike, to take better care of this other most important resources of the sector besides water. The ARC is currently running a campaign to encourage farmers to start practicing climate smart agriculture strategies and tactics nationwide under the leadership of soil scientist, Dr Garry Paterson from its Soil, Climate and Water Research Campus in Pretoria.



As the world celebrates World Soil Day on 5 December 2018, the ARC will also be supporting the World Soil Day by hosting the International Union of Soil Science Soil at the Climate and Water Research Campus (ARC-SCW) where esteemed scientists will converge and hold discourse under the theme "Be the Solution to soil Pollutions".

The International Union of Scientists will gather under one roof to seek solutions to the silent challenges of soil pollution. "We gather as scientists and have the unenviable task to use scientific knowledge to mitigate soil pollution in our countries and abroad. If the solutions are not forthcoming from this gathering mankind stands to perish," said the Chief Executive Officer Dr Shadrack Moephuli.

#### About the Agricultural Research Council

The Agricultural Research Council is a premier science institution that conducts research with partners, develops human capital and fosters innovation in support of the agricultural sector. The ARC provides diagnostic, laboratory, analytical, agricultural engineering services, post-harvest technology development, agrochemical evaluation, consultation and advisory services, food processing technology services as well as various surveys and training interventions. For more information, visit the ARC website at www.arc.agric.za or call (012) 427 9770 or download the ARC Hub App at archub.agric.za, also available on Android and IOS.

50

# Production Guideline for SUMMER VEGETABLES

#### A demand for more vegetables

Vegetables form a vital part of the human diet because they are the source of many vitamins, minerals and proteins. In almost all developing countries, the consumption of vegetables is far from sufficient. Vitamin A is one of the nutrients which is normally lacking in our diets and therefore dark-green leafy and orange vegetables should be consumed on a regular base.

Production Guideline for

The United Nations Food and Agricultural Organization (FAO) recommends an intake of 200g vegetables per person each day, or 73kg a year, to ensure adequate nutrient supply.

The farmer should practice correct cultivation (from the seedling stage), and sound management principles in order to produce healthy vegetable plants that are able to withstand various adverse field conditions.

#### When does production become profitable?

If, for example, onions are grown on 1ha of land, a yield of 4 000 bags of 10kg each of is possible. At R22 per 10 kg bag (R2,20/kg), this can provide a gross income of R88 000.

Input cost at present is R1/kg, so the profit is R1,20/kg. If the farmer is only paid R16 a bag, his profit is 60c/kg. If onions are grown on 10ha, however, and are successfully marketed, the income derived could be 10 times more. In other words, the smaller your farm, the smaller your profit will be. However, larger infrastructure must be available to Increase production.

> If you missed the print edition, the Directory is always available online (Ebook or a PDF). Get it at http://www.arc.agric.za/arc-vopi/Leaflets%20Library/Production%20Guideline%20 for%20Summer%20Vegetables.pdf

