

Event report – Sustainability Week 2018

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Sustainable Agriculture and Food Security Seminar – 7<sup>th</sup> June 2018

Time: 9.00am

#### Introduction:

The seminar was opened by the honourable city councillor Sakkie Du Plooy who is tasked with the management of the food bank that the city of Tshwane will be launching in the city to offer nutritious food to those in need. He offered a warm welcome to the sector specialists due to present and pointed out that food security is enshrined in the bill of rights even though food insecurity is common in many SA households. He encouraged collaboration to address the challenges faced by cities to provide nutritious affordable food to its citizens to create sustainable food networks. Agriculture could deliver opportunities for poverty reduction and economic growth if managed with a sustainable framework. The city of Tshwane has approximately 213 000 households that are vulnerable to hunger and the opening of the food bank will aim to alleviate some of the burden they experience.

#### Stephanie Midgely – Research and Project Manager in Agriculture, Food Security and Climate Change, University of Cape Town: “Defending Against Drought: How can crops still thrive in a warmer world”

The current drought gripping the western Cape is considered a one in a four-hundred-year event. This fact was stated in the opening presentation which reflected on the impacts of climate change and its rapid spread that was changing weather and rainfall patterns. The impacts are seeing both warming and drying of the atmosphere and dryland crops are likely to change in terms of output on the next few years specifically those grown in marginal areas. It was discouraged to make predictions without looking at the various modelling projections available, but it was presented that sorghum and sugar cane are likely to be crops that will expand although the rise of other pest and diseases were considered unknown impacts preventing specific data. For irrigated crops the future looked far less certain with apple crops being at high risk due to the change in access to water for the crops. Conservation agriculture was having a positive impact because its methodology promoted efforts to build soil that holds water and retains carbon far more effectively. Irrigating at night also had credible impacts on water saving of up to 40 % less water needed. The need for farmers to adapt, be resilient and diversify their crops were strategies for managing the next few years although the impacts on vegetable production were likely to be felt heaviest due to lack of access to water. Technology was also playing an important role in measuring and managing the effects of the drought, but job losses had created a new number of at risk households who will not be able to afford nutritious food. More investment and research were needed in to the impacts of climate change, and the land issue remained a big question for the future of agriculture.

#### Nachi Machoe – ICLEI AFRICA: “efections from a City Food Network”

Local governments needed to be tasked with providing a city food network and ICLEI offers this network for the exchange of peer-to-peer knowledge. The benefits for city managers joining the network included helping to mobilise funding for projects that would assist in food security. ICLEI hold regular workshops that aren't just 'talk shops' enabling youth development and problem-solving engagement strategies. Machoe stressed the importance of networking and finding support to unlock funding for new projects and initiatives. She concluded that the City Food Network was a

global network that can offer great support and a wealth of resources to assist in finding solutions to the problem of food insecurity.

Timothy Willis, CFO Aerobotics: “The smart green revolution: How Agritech is making agriculture more productive and climate resilient.”

The presentation focused on the technological development of drone technology to support farmers in understanding their crop vulnerabilities from data posted by the drones. Essentially it is the implementation of early-warning systems to show where trees were under threat from disease and that would enable focused intervention to mitigate the risks. Machine learning was undergoing continuous learning and improvement and technology – which is developed in South Africa – is currently being used in 11 countries around the world. The machines can read moisture and chlorophyll indices and the management tool that assists farmers saves time in finding where the vulnerabilities in a farm exists. It also counts trees and capture data from farmers to create comprehensive maps of agricultural land. Aerobotics is also working with finance institutions to enable them to review a farmer’s risk portfolio based on the information to hand which can assist farmers in the long term to re-evaluate their farms and production capabilities and communicate this to banks, so they are given more support.

Dr. Garry Paterson – Soil Scientist – Agricultural Research Council- “Foundation of Health: The Role of Healthy Soil in Climate Resilient Agriculture”

The last speaker in the first part of the seminar presented compelling research showing the map of South African soils and where the country has the most arable land. He framed South Africa as a rainbow nation with rainbow soils, i.e. many different soil types, some of which were more suited to agriculture than others. He stressed the need to understand this map of soil to make sound decisions on where to focus production and farmer support. This land capability map showed that soils with high potential only make up 5% of South Africa’s soil quotient. The Eastern Cape is a region with very poor soils for agriculture and this was cause for concern considering where land claim and new agricultural initiatives were being proposed. There is limited high quality soil, and this is a call to action for it to be protected and nurtured so that it remains in good health. He shared many pictures showing the impacts of poor soil health on crops and on soil erosion as well as practises that were likely to cause further soil erosion like planting too close to waterways and wetlands. Pollution impacts were also discussed with emphasis on acid mine drainage and its impacts on soil health. Soil is alive and there are more living organisms in a teaspoon of healthy soil than on the earth and their role in nitrogen cycle is in its true sense – vital for crops and the nutritional aspects of them.

Solutions in developing soil health included identifying the soil type via surveys and mapping, revision of land use practises to include conservation agriculture and precision farming and correct water harvesting based on the requirement of the soil. Irrigating the right soils was a key factor in water conservation. Healthy soils equal a healthy nation and the ARC is there to help farmers with analysis as they address soil health.

Kenneth Carden – Independent Consultant Southern Food Lab Programme, and Bongani Sambo – facilitator, Spar Rural Hub development project: “Getting to the roots of food security: the proactive implementation of rural Fresh Assembly Points”

The link between agriculture, nutrition, health and the food system are evident as well as the fact that the current food system was failing to deliver food security to a nation where 26% of the population faces daily hunger. The cost of food and access to nutritious food were real threats to overcoming this problem. The distribution of food is also adding to the cost factors which is why the

rural hub aims to solve this by linking subsistence farmers to local supermarkets to reduce food miles and provide impetus for new agricultural initiatives. Local hubs would improve access to fresh produce and the affordability of nutritious food, equalling a more inclusive food system. As Spar is not in the business of agriculture its main aim was to support local farmers with their business models and to link them to points of distribution – in order “to create localised short value chains in a local area”. There is currently one hub active in the Limpopo Province and a hub in partnership with the provincial government in KZN. A case study of the Ekwhesi hub was presented showing how this model can work. The plan for 2017-2022 was to establish more hubs and to actively seek partners in the endeavour. Whilst fresh vegetables were crops of choice there is an opportunity to expand in to poultry and dairy production as well.

Wandisele Makwabe – Head Masisizane Fund Agribusiness and Flagship Initiative: “Hope for the Eastern Cape: how a pro-society approach brought agriculture back to life”

The Masisizane fund is fostered by Old Mutual and provides funding for all elements of sustainable agriculture. In consultation with government it has created a vehicle for entrepreneurs and partnerships to flourish. Active in five provinces, it offers Agribusiness Pillars and routes to investment for land usage, soil health and risk aversion. Irrigation access and technology is key to the success of agricultural endeavours as is the gross contribution of animal products. The fund works with funds from government as well for procurement purposes in terms of machinery and training for farmer’s and farm workers to use the machinery. It has seen successful investment in Agri-processing endeavours and supporting of emerging farmers. A major success of the presentation was the link to Spar Rural Hub’s call for investment – Wandisile Makwabe noted the fund would reach out and support the work.

Nazeer Ahmed Sunday – Farmer and Leader of the PHA campaign: “Reality Check: the struggle to farm in the shadow of unchecked urban development”

The Philippi Horticultural Area provides 80% of Cape Town’s fresh vegetables and employs some 6000 people. Supported by an aquifer that has shown no signs of depletion during the current drought scenario, the organic farming initiative can help cut the city’s carbon emissions by 20% but it is under threat by plans for development. Politicians and developers see short-term profit solutions whereas in fact the need to look at urban agricultural solutions is very much a long-term concern and is impacted by land reform issues. Urban sprawl and its impacts on farming lands was under discussion with the opportunity for better urban planning that includes green and agricultural spaces to be noted. In the past 3 years, 3 million hectares have been lost to urban sprawl and cities need to rely on the ecosystem services that agricultural land provides. Densification is a solution and he noted the city of Barcelona as a successful example of this approach. Questions around the de-colonisation of spatial design were also posed. The issue of water conservation was addressed, and it was revealed that of the 400 million litres of waste water produced each day only 7% was recycled. The current food system is responsible for the inequality in access to healthy food and the issue of land reform was a hot topic. The need to connect people to the source of their food would enable better understanding of how vital small-scale farmers are to the economy and environment. Rural and urban development need to be considered in tandem.

Mandla Nkomo – Managing Director Solidaridad Southern Africa: “From the field to the plate-practical insights into integrating emerging farmers in the value chain”

The key question posed by the presenter was whether food insecurity can be fixed by sustainable development. The UN’s Sustainable Development Goals were touched upon and who could disagree

with the set of standards that have been negotiated with a view to promote progress on food security and nutrition. Collaboration was a key strategy to achieve these bold aims and it was noted that food insecurity is a global problem. The decline in investment in agriculture was a cause for concern. The number of people in South Africa who are food insecure equals the entire population of Zimbabwe (13.6 million) and this is a major driver in finding solutions that will work for the long term. Solidaridad is a global organisation that provides solutions through its networks. It was responsible for the development of Fairtrade and yet the role of certification was not enough in helping to eradicate poverty in the lives of farm workers. What will bring change? It is not the lack of science or technology that is holding true change back but the fact that people are not connecting the 'dots' in agriculture and food supply. Solidaridad aims to change this by providing technical solutions and sticky apps that will help farmers manage their land and output in a more effective manner. Instead of certification, there will be a self-certifying tool that farmers can use to measure their own performance and set new goals for improvement. An example was given of a farm about to be foreclosed by the funding bank until the app that could measure the proposed value of the crop still in the fields was used. The result was an ability to prove to the bank the value of not foreclosing on the farmers and this was a great win for the farmer. This indicated the need for the finance sector to support emerging farmers in more practical ways and to understand the value of the agricultural sector not only in terms of financial returns but to the overall cohesion of society. An innovative soil testing kit was due to be rolled out to rural youth to enable micro-businesses to develop and to assist farmers in understanding their soil which would have overall impact on the use of water, pesticides and fertilisers. There are enough resources and it is through networks that these will be better managed; companies need to become strategic partners in rural development and speed and scale were required to activate rural agricultural hubs. Diversification was an important consideration for farmers as is the fact that urban agricultural solutions need to be considered due to the rate of urbanisation.

#### Conclusion:

Undoubtedly food security and agriculture are inter-dependant as is the support structure that can be offered to farmers by corporations looking to invest in relevant social development projects. Urban sprawl and its impacts on the environment need to be far better managed as well as looking to solutions for micro farms that can provide the daily needs to mega cities. Diversification of crops is an important element in managing the impacts of climate change and understanding soil health and the preservation and regeneration of South Africa's soil is a major factor in whether the country can grow in to a more food resilient society and provide enough nutritious food for its citizens. The actions of the country's major metropolitan centres can also go a long way in supporting vulnerable citizens that are faced with hunger everyday by looking to create networks and supply of excess food via food bank initiatives. More than 50 delegates attended this inspiring seminar and the energy and insight of the speakers left the delegates inspired and committed to connecting and building networks help address the issue of food insecurity and sustainable agricultural development.