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Harvest SA

Securing South Africa's Food Resources

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**Not enough food
on our plates**

Findings of the Global Food Insecurity Index

ISSN 2305-0551 **Harvest SA wins gold at the international Tabbie Awards 2013 in the Best Single Edition Category**



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Despite Africa's newly found presence on the global stage in terms of investment potential, the continent has seen an increase in the number of starving people.

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FOREWORD



JANNIE DE VILLIERS
CEO: GRAIN SA

Mother Nature at her best

One of the values that the agricultural sector brings to civil society is the connectivity to Mother Nature. There are numerous disciplines, practices and habits that those in agriculture are using every day that we are not even aware of.

Some form of respect for the elements in nature is running in our veins. Our dependency on these elements not only ensures our daily bread, but also that of thousands of others in civil society.

The role of farmers is to use their skills to blend some elements with one another at a specific time of the year, wait in faith, experience the dependency and then celebrate with joy the fruit of this process.

Unfortunately this process does not always have a happy ending. If one of these critical elements are missing, it could end up in a crop failure.

One of nature's disciplines is that you have to learn to wait for the rain. The rain came late and with it, came shorter growing period for optimum yields.

The farmer then skilfully changes the recipe and plants shorter cultivars that grow faster and need less heat units to reach maturity. It might yield a bit less, but if you continue with the old recipe, the immature plants might

be damaged by early frost at the turn of the growing season.

The farmer knows the soil, he knows how deep and how far apart the seeds need to be planted to get an optimum yield. He carefully feeds the plants with nutrition (fertilizer), he weeds the fields to give the plants the best possible chance to grow and yield well ... and then he waits.

When the season turns and the winter frost kills whatever is left of the plant, he prepares for the harvest. The fruit of mixing of all the elements and discipline of a whole year come together when the combine starts cutting the plants, take off the kernels and delivers the crop.

What is the yield? He can do very little about it now – the result that comes to light now is the fruit of the discipline during the dark hours of the morning and late evenings earlier in the season.

When all the maize is safely in the silo's, ready to be processed, the farmer gathers his family around their dining room table and celebrate the gift they have, being able to provide food security for themselves and 6 000 fellow South Africans. The elements of nature blended with great discipline and the skills of our farming community, covered by the grace and blessings of God, provides not only food for all, but a lot of life lessons and values that are needed for a sustainable and balanced life.



TRACEE HARVARD
EDITOR

Bittersweet moments

I can barely contain my excitement! I am proud to announce as a representative of Cape Media Corporation, that the company entered into the Annual Trade Association Business Publications International TABBIE Awards 2013 and walked away with handfuls of awards and honourable mentions.

The best news however, is that out of 500 entries from across the world, *Harvest SA* won gold in the Best Single Issue Category.

I cannot tell you how proud we all are of the hard work that goes into publications such as these. Our team is a dedicated one, and one that prides itself on striving to be the best it can be, with top quality editorial, design and layout while still ensuring our advertisers are more than happy with the end product.

Not only did *Harvest SA* win The Best Single Issue, it got an honourable mention in the Opening Page or Spread category as well!

To Dave Itzkin and your team, thank you for your determination and tireless efforts in making this magazine the one that clients want to be a part of.

To Travis Arendse, your hard work in design has always been exemplary and has been acknowledged on an international standard. You should be proud! To Lindsay King, thank you for your keen eye, and for driving us to be the best we can be; to Diane de Kock and the team of sub-editors who have to trawl through editorial and throw away the

rubble, leaving the gold behind. To Francesca van Rooyen – without your strict eye on our budgets, commissions and deadlines, we would be in trouble! And, to everyone who has had an impact on making this magazine what it is, thank you.

The reason behind this magazine's existence is an important one and one that impacts on all of us. It is hard to imagine that one day, if we don't tackle the problems of global warming, unemployment, disease and education for all, our world as we know it could be over. The world is suffering from a lack of food, and South Africa is not far off from being one of the countries that can't feed itself at all. But for the majority of us who have jobs, are educated, healthy and have economic freedom we cannot begin to fathom the depths of despair and hunger our people go through everyday.

That is why winning these awards is not just about ego and acknowledgement of a job well done. It is about receiving the sign that the magazine is fulfilling its mandate, it is educating people about food security issues and it is highlighting the challenges that exist and creating a platform for the government and Grain SA, the largest grain body in South Africa to communicate. The radio silence between the two bodies can no longer be an excuse. *Harvest SA* is a tool to ensure that our people, and those who follow after us, will have a world that is full of fresh healthy produce to feed every single mouth that needs nutrition.

EDS NOTE



Conservation Agriculture

Green prosperity for grain farmers

Each year, 12 million hectares of land in the world – where 20 million tonnes of grain could have grown – are lost to land degradation. In the past 40 years, 30% of the planet's arable (food-producing) land has become unproductive due to erosion. Unless this trend is reversed soon, feeding the world's growing population will be impossible.

In July 2008, a technical workshop was held at the United Nations' Food and Agricultural Organisation (FAO) headquarters (Rome) entitled: "Investing in Sustainable Crop Intensification: The Case for Improving Soil Health". The main outcome was to develop a framework for action. The workshop was attended by 96 stakeholders from 40 countries, representing governments and inter-governmental institutions, the private sector, research organisations, farmers and NGOs.

The consensus of the workshop was that plough-based farming, as now widely practised, has unsustainable elements, whose continued promotion and application endangers global capacities to respond to the food security concerns. Ploughing and removal of crop residues after harvest leave soil naked and vulnerable to wind and rain, resulting in gradual, often unnoticed erosion of soil. This is like tyre wear on your car – unless given the attention and respect it deserves, a catastrophe is only a matter of time. Erosion also puts carbon into the air where it contributes to climate change.

In South Africa, crop production systems based on intensive and continuous soil tillage have led to excessively high soil degradation rates in grain producing areas. This adds to the growing problems with profitability and poverty in some of the rural areas.

According to a recent study by the Agricultural Research Council (ARC) in South Africa, the average soil loss under grain crops in the country is 13 tonne ha/per year, which is much higher than the natural soil formation rate. If we have to offer farmers a

better chance to survive on the farm and if sustainable and economically viable agriculture is to be achieved, then the paradigms of agriculture production and management must be changed.

There is general agreement among key government departments, such as the Department of Agriculture, Forestry and Fisheries (DAFF) and producer's organisations, such as Grain SA, that these outcomes will be achieved through the adoption and implementation of Conservation Agriculture (CA) principles and practices.

CA is seen as an ideal system for sustainable and climate-smart agricultural intensification, through which farmers can attain higher levels of productivity and profitability (i.e. or 'green prosperity') while improving soil health and the environment.

Conservation Agriculture (CA) is an approach to managing agro-ecosystems for improved and sustained productivity, increased profits and food security while preserving and enhancing the resource base and the environment. CA is characterised by three linked principles, namely:

- Continuous minimum mechanical soil disturbance.
- Permanent organic soil cover.
- Diversification of crop species grown in sequences and/or associations.

CA principles are universally applicable to all agricultural landscapes and land uses with locally adapted practices. CA enhances biodiversity and natural biological processes above and below the ground surface. Soil interventions such as mechanical soil disturbance are reduced to an absolute minimum or avoided, and external inputs such as agrochemicals and plant nutrients of mineral or organic origin are applied optimally and in ways and quantities that do not interfere with, or disrupt, the biological processes.

CA facilitates good agronomy, such as timely operations, and improves overall land husbandry for rain-fed and irrigated production.

Complemented by other known good practices, including the use of quality

seeds, and integrated pest, nutrient, weed and water management. CA is a base for sustainable agricultural production intensification.

It opens increased options for integration of production sectors, such as crop-livestock integration and the integration of trees and pastures into agricultural landscapes.

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CA is a base for sustainable agricultural production intensification. It opens increased options for integration of production sectors, such as crop-livestock integration and the integration of trees and pastures into agricultural landscapes.

Ample evidence now exists of the successes of CA under many diverse agro-ecological conditions to justify a major investment of human and financial resources in catalysing



Oats and radish crops planted in soybean mulch (photo by TE Zunckel)



Maize in oats mulch (photo by TE Zunckel)



Soybean planted into white oats mulch (photo by TE Zunckel)



Residues of previous crops protect the soil from erosion and ensure better humidity in the soil (photo by A. de Villiers)

a shift, whenever and wherever conditions permit it, towards CA.

This will lead to large and demonstrable savings in machinery and energy use and in carbon emissions, a rise in soil organic matter content and biotic activity. It will also reduce carbon emissions, ensure less erosion, increase crop water availability and thus resilience to drought, improve recharge of aquifers and reduce the impact of the apparent increased volatility in weather associated with climate change. It will cut production costs, lead to more reliable harvests and reduce risks especially for small holders.

Due to the multiple benefits that CA systems generate in terms of yield, sustainability of land use, incomes, timelines of cropping practices, ease of farming and eco-system services, the area under CA systems has been growing exponentially in many countries, largely as a result of the initiative of farmers and their organisations.

It is estimated that, worldwide, there are almost 100 million hectares of arable crops which are grown each year without tillage. Countries such as Argentina, Brazil, USA and Australia have adoption rates of above 70%. In South Africa, CA has not been 'mainstreamed' in agricultural development programmes or backed by suitable policies and institutional support, and the total area under CA is still small relative to areas farmed using tillage.

However, there are a significant upswing in the number of innovative farmers (commercial and small holder) practising CA successfully, as well as key research and development initiatives having a great success in promoting it.

Soil

The dirt beneath our feet is a living and magical world filled with tiny, wondrous creatures. A mere handful of soil might contain a half million different species including ants, earthworms, fungi, bacteria and other

micro-organisms. These organisms need organic matter for food.

Soil provides nearly all of our food – only 1% of our calories come from the oceans. Soil also gives life to all of the world's plants that supply us with much of our oxygen, another important ecosystem service. Soil cleans water, keeps contaminants out of streams and lakes, and prevents flooding. Soil can also absorb huge amounts of carbon, second only to the oceans.

The quality and health of soil determines agricultural sustainability, environmental quality and, as a consequence, of plant, animal and human health. In a broader sense, soil health can be defined as the ability of soil to perform or function according to its potential, and changes over time due to human use and management of natural events.

The key issue facing South Africa is how to accelerate the large-scale uptake (mainstreaming), wherever appropriate, and in forms fitted to the diversity of local conditions and constraints, of CA-type systems.

According to the FAO, this acceleration will require nothing short of a revolution in the way farmers, their advisers, scientists and those who influence farming policies think about, decide and act regarding soil and crop management.

From the experiences of mainstreaming CA around the world, there is now increasing understanding that it does not follow a linear process.

An innovation systems (IS) perspective to this transformation into CA inter alia reveals that not only the science suppliers but the totality of actors are involved in the innovation process.

Importantly, land-users are not merely recipients of new knowledge but also potential sources and/or partners in its generation, i.e. they are researchers and innovators in their own right.

Accordingly, and at the very least, the emphasis has to be on on-farm innovation and the inescapable



New green leaves sprouting through the residues of previous crops (photo by A de Villiers)

experiential and discovery learning that this generates; both of which critically place the farmer in the central role. During the last few years a top-level partnership forum, the National Conservation Agriculture Task Force, which is chaired by DAFF, engaged key stakeholders such as the provincial departments, ARC, Grain SA and the CA Academy, in designing strategies to mainstream CA in South Africa.

Already, there are highly commendable programmes within these partnerships, such as the development of accredited

qualifications by the CA Academy and the CA Farmer Innovation Programme by Grain SA.

The latter recognises and empowers farmers as CA innovators in their own right, through farmer-centered innovation systems and funding mechanisms.

The funding (grants) will be targeted towards teams, consortiums, farmer networks and/or local community-based organisations that are (interested to) successfully delivering projects to support sustainable farming. CA is a fundamental change in doing agriculture – it is not

business as usual. Correctly applied CA is the core of a sustainable and climate-smart agriculture – it can be complemented and combined with other approaches to farming, such as agroecology, organic farming, agroforestry and crop-live-stock-integration, which only with the basic principles of CA will comply on all elements of a climate smart conservation agriculture.

*Dr Hendrik Smith
Conservation Agriculture:
Grain SA*

Finding the balance

The newly appointed vice-chairperson of Grain SA knows all too well that his position – while a great achievement – is a hugely challenging one

Grain SA, for many years, has been viewed as a white Afrikaans male-dominated space. However, that perception is entirely incorrect.

For a few years now the Rural Farmer Development Programme, spearheaded by the organisation has dedicated a large portion of its resources and manpower to uplift and educate rural farmers in the ways of farming so that they too could become commercial farmers.

Grain SA members are heavily involved in supporting and sharing knowledge and skills for rural farmers that are an essential part of the programme.

From the point of view of having interviewed members of Grain SA many times over, and of attending gala events and award ceremonies for emerging farmers who have been acknowledged for their successes, Grain SA members have been nothing short of supportive and enthusiastic to see the people they help succeed.

It wasn't very well known that a large number of members in the organisation were black farmers until recently.

To help highlight that fact and make it a reality, a strategic move on the part of Grain SA to show its vested interest in supporting black farmers as representatives and members of the organisation, was the recent appointment of vice-chairperson, Victor Mongoato.

When Mongoato isn't working as vice-chairperson, he is working on a farm he and his brother run. When asked about his thoughts and feelings about his new position: "It is an honour, but it is a responsibility that I have to perform. My own have entrusted me to represent them and to represent their aspirations," he said.

The total membership of Grain SA comprises more black farmers than anybody realised.

According to Mongoato, over the last couple of years, the growth of black farmer membership has been an organic one.

Interestingly and astoundingly, many people don't know that Grain SA, over the last couple of years, has far more black members than it does white. Mongoato maintains that this movement has been an organic one and was not properly formulated.

The reason for this is that previously subsistence farmers were unable to produce at the level of the commercial farmers, hampering their ability to become members, until the Farmer Development Programme was established.

"The reality is that it seems as though a small percentage become members, but when you see the demographics, there are more black members on the membership list. The unfortunate part is that they don't engage in a higher level, more at a farming level which is where they are mostly comfortable."

According to Mongoato, Grain SA is moving forward in terms of the number of black commercial farmers it has in its organisation who are productive and can stand on their own, no matter the issues they face.

And farmers face many challenges: Pestilence, disease, drought, flooding, financial issues, land issues, mechanisation versus employment among many other issues.

"We are faced with drought in some areas of the country, and it has affected commercial farmers as much as black commercial farmers, but the point is that they both respond to the challenges of drought in the same manner."

Land use

Mongoato is emphatic that we need to understand that together we are faced with hunger and poverty, and only through working together will we eradicate the issues. While there are many issues the major concern for rural farmers is that of finance. "Until commercial banks and whoever is part of the value chain of agriculture, realise that, the better," said Mongoato.

"To produce on communal land is not an issue. There is a difference between owning the land and not producing and not owning that land and being able to produce on that land," said Mongoato. As far as he is concerned, the day the financial sector understands that it has a responsibility to support farmers, is a day that all the problems farmers have, will halve.

The banks need to explore the opportunities there are, says Mongoato. "They need to go to communal lands and be able to avail funds, because the communal lands we have, are productive. The day banks realise that, the better for all of us".

The frustration goes further in that black farmers are not getting financial assistance from either banks or the government. The red tape around the issue of land ownership is a serious obstacle in the way of economic freedom to the rural farmers in South Africa.

Clearly Mongoato has a lot of expertise on the matter gained while working for Grain SA to better black farmers and on his own farm. When questioned on how he manages to juggle his responsibilities as both vice-chairperson and farmer, he says: "It's a sacrifice and a responsibility, because the time used could be used on the farm. However, if I were to do that, the country won't go forward."

It is a balance that needs to be managed and luckily for Mongoato his brother steps in on the farm when he needs to focus on Grain SA business.

Being on the board of Grain SA, has meant that Victor Mongoato is at the forefront of understanding the issues rural farmers have. As vice-chairperson he hopes that farmers, who are struggling to gain access to finance and land, will one day soon be able to contribute to the economy, to society and to their families.



Victor Mongoato, vice-chairperson of Grain SA

Tracee Harvard and Tony Sanderson

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- personal expenses.





Too

many empty plates

If food security is defined as a nation's ability to feed itself, then South Africa is doing well, especially compared to its neighbouring countries. But dig a little deeper and you'll find that many households are struggling to put nutritious food on the table.

Nearly 870 million people in the world, or one in eight, is suffering from chronic undernourishment, according to a United Nations hunger report called *The State of Food Insecurity in the World 2012 (SOFI)*. The report says the vast majority of the hungry live in developing countries.

Encouragingly, the report says that the global number of hungry declined by 132 million from 1992 to 2012, putting the Millennium Development Goal (MDG) within reach. "If the average annual hunger reduction of the past 20 years continues through to 2015, the percentage of undernourishment in the developing countries would reach 12.5%, still above the MDG target of 11.6%, but much closer to it than previously estimated," the report states.

Unfortunately Africa was the only region where the number of hungry grew over the period, from 175 million to 239 million.

According to the SOFI report, the prevalence of hunger on the continent has risen sharply over the past three years, with nearly one in four hungry.

Christopher Matthews, media relations officer for the Food and Agricultural Organisation (FAO) in Rome, explains why food security is so prevalent in Africa. "Economic growth rates have been

increasing in Africa, but not enough to keep up with population growth," he says. "Many of the region's poor and hungry people live in rural areas and depend on agriculture for their livelihoods, but their yields and thus their incomes remain low."

Luke Metelerkamp of the Sustainability Institute, which recently collaborated with Ernst & Young to produce the Global Food Systems Review, puts it this way: "Feeble economic growth, poor infrastructure and low political bargaining power all combine to exacerbate the effects of weak institutional capacity, widespread poverty and regional conflict to ensure that food that is available on a global level does not end up on the plates of many poor African families."

Clearly the causes of food insecurity and its grip on the continent are more complex than meets the eye. "It's about far more than supply and demand," says Jo Davies, executive editor of strategic consultancy Kalliston.

"It's about availability, accessibility and affordability. There is an endless network of factors which influences how effectively a nation feeds its people – from agricultural productivity, water-related issues, land tenure, food price volatility, agricultural subsidies, unemployment, technological development, education and climate change to conflict, social stability and political commitment."

The South African picture

At home, the simple truth is that there is more than enough food to feed everyone, but people don't have the money to buy it.

According to the 2007 Report to the Office of the Presidency, approximately 14 million people are food insecure and 1.5 million children suffer from malnutrition.

"In the South African context, the past three years have seen a steep increase in food prices, which are closely connected to an increase in energy and fuel prices – as transport prices increase, so do food prices," says Abigail Harper of Stellenbosch University's Food Security Initiative.

Rising food prices, particularly of staples such as maize and wheat, pose serious problems for the food security of the rural and urban poor. The Global Food Systems Review reports that local food prices are increasing relative to other goods, with food price inflation reaching 13.7% in 2007 – well above the consumer price index of 7.5%.

While the wealthiest third of the South African population increased their food-budget allocation only marginally in response to these food price increases, the poorest third were forced to increase their food-budget allocation from 29% to 36% of their total budget.

"For those already on the bread line, these increases will continue to mean less food and more skipped meals," the authors say.

According to the review, South Africa is considered a food-secure country, given that the volumes of food available at national level are sufficient to feed all citizens. "However, at a household level, between 14% to 52% of households are food insecure, depending on the metrics used," the report notes.

The fact that there is no standard measurement for food security is a problem, says Harper.

"There is no one universal quantitative standard for measuring food security and, as a result, different studies can produce very different results depending on the measurements and statistical methods used," she says. "Measuring something as complex and varied as a population's daily food intake is not a simple task."

Take, for instance, the huge disparity between two household surveys. The General Household Survey showed that in 2007, 10% of adults and 12% of children were hungry. In contrast, the much smaller National Food Consumption Survey of 2005 found that 52% of households experience hunger.

According to the Human Sciences Research Council's (HSRC) 2009 report, *Household food security status in South Africa*, food prices are likely to increase steadily over the next decade.

"Unless there are new policy directions," the authors say, "poor households will increasingly be forced to allocate a greater proportion of their expenditure to food, with the result that their diets will become less diverse, lower in quality and energy intake will drop as people try to cope with the situation."

"Those most severely affected will be the urban and rural poor, the landless and female-headed households," the report predicts.

The double burden of malnutrition and obesity

While malnutrition, a chronic lack of vitamins and minerals in one's diet, remains a problem in South Africa, another monster is raising its ugly head – obesity.

The SOFI report states, "Even while 870 million people remain hungry, the world is increasingly faced with a double burden of malnutrition co-existing with obesity, which affects more than 1.4 billion people

worldwide." Metelerkamp says this is also a growing trend in the developing world.

"More and more people are adopting unhealthy high carbohydrate and high fat diets with very little real nutrition because these diets are cheap, easily accessible and marketed as 'modern'," he comments.

Harper agrees. "It is possible to be obese, but still suffer from malnutrition as a result of unhealthy food intake," she says. "Carbohydrate-rich foods, such as white bread and mielie meal, are more affordable and accessible than protein-rich foods and give a feeling of fullness, yet offer very little in the way of vital nutrients."

She adds that access to fresh fruit and vegetables is also very limited in informal settlements, which manifests itself in obesity among the urban poor. "Furthermore, there is a lack of education about healthy food choices and many fast-food brands are perceived as status foods."

Kalliston's Jo Davies links this double burden to both income and education. "Diversity is one of the first things to go when income and food security come under pressure and a lack of diversity can result in both obesity and malnutrition," he explains. "This isn't elective indulgence – poverty simply does not come with a lot of choices."

The effects of malnutrition can be disastrous and far reaching, especially in children, who are often underweight and whose growth is stunted as a result.

Poor cognitive development, weak educational performance, an increased risk of death and impaired immune functions are the consequences of a diet lacking proper nutrition.

The road ahead

Just as food insecurity is a multi-faceted issue, so too the solution to ending hunger and malnutrition requires an interdisciplinary problem-solving approach. "Unemployment and poverty remain very high in sub-Saharan Africa and are the main contributors to food insecurity," asserts Harper.

"Government organisations need to work together on an integrated national food security plan and find ways to implement it across the nation."

On a positive note, the incidence of hunger across South Africa has dropped since 2002,

according to the HSRC report, largely due to improved spending on social welfare in the form of grants and pensions.

In addition, school feeding schemes, many of which are sponsored by big companies, have been successful, often providing vulnerable children with their only meal of the day.

The SOFI report emphasises the crucial role that broad-based economic growth plays in ensuring food security. "For many, this will require policy changes to improve farmers' incentives and their access to markets and improved technologies so they can increase their productivity and incomes," says Matthews. "For others, this will require improved employment opportunities outside agriculture."

Metelerkamp of the Sustainability Institute believes addressing food insecurity is about reducing the unequal distribution of wealth.

He cites the example of a handful of South American countries which are working to ensure that local farmers and food retailers stay in business instead of being "wiped out by mega-retail chains which effectively leach financial capital out of these regions and concentrate it in the hands of fewer and fewer mostly foreign shareholders."

Fostering agricultural efforts is also an effective strategy, particularly those that involve small-scale farmers.

Davies maintains that commercial agriculture is important in terms of national food security and job creation, as agriculture is the biggest employer in South Africa. But smallholder farmers also have a "vital role to play in feeding families and communities and, in some cases, generating small incomes," he says.

Reinvigorating co-operatives and exploring the synergies between small-scale and commercial agriculture is another possibility, he says. "We need to be innovative with food-security solutions and if that means integrating urban agriculture and inner-city community gardens and markets into spatial planning, then that's what we have to do – and we have to do it alongside the appropriate infrastructural and social development so that it's sustainable and viable."

Katherine Graham

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understanding
every step – from the
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Protecting

Natural disasters like drought, disease and flooding are the biggest threats farmers in Africa face. Insuring farms against this possible impending doom, means African farmers can breathe with relief.



Farmers in Kenya and Rwanda are able to farm without fear of financial loss through damaged crops caused by bad weather – in farming terms this generally means either too much or too little rain, and it can be the undoing of a farmer.

Kilimo Salama is an insurance scheme offering farmers coverage for their farms from the effects of drought and rain; and it works with just the use of a mobile phone.

Kilimo Salama, which means 'safe farming', is an innovative programme operated by Safaricom, Kenya's largest mobile operator;

the Syngenta Foundation, for sustainable agriculture; and UAP Insurance, a leading insurance provider. It started in Kenya in 2009 before expanding to Rwanda.

The scheme was established to give farmers the confidence to invest in their farms, which feed their communities, and was created by the Syngenta Foundation. Syngenta aims to extend crop insurance to smallholder farmers in rural and developing countries through innovation. Insurance is bought from agro-dealers, who are registered and trained by Kilimo Salama.

They are issued with camera phones used to scan the bar code of the policy bought

by the farmer, at the time of purchase. This immediately registers the policy with UAP Insurance over the *Safaricom* network. Farms from as small as one acre – about 0.4 hectares or 4 050 square metres – can take out Kilimo Salama insurance to shield them from any financial losses, enabling a premium price that millions of farmers can afford.

Kilimo Salama is one the new innovations in small scale agriculture that has been quietly sweeping across Africa's farms, boosting production, crop fields and family incomes.

Since its launch, the project has grown from 200 policy holders to more than 70 000. Its operations are innovative: solar power

their assets



weather stations collect weather data at the end of each growing season to determine if extreme weather might affect the harvest.

Kilimo Salama staff do not visit farms to assess the pay out and farmers do not have to submit a claim. Rather, it uses information from the automated weather stations and makes automated mobile pay outs if the rainfall is 15% below or above the average.

The scheme's design was based on the Laikipia District in Kenya, where hundreds of maize farmers insured their farms against the long rains of 2009. Since weather monitoring on farms has developed, several other projects have been launched in countries

such as Mexico, Morocco, India, Malawi and Tanzania. But Kilimo Salama is the first agricultural insurance programme worldwide to reach smallholders using mobile technology.

Farming is a way of life for many people in Kenya and Rwanda, and Kenya's economy is highly dependent on agriculture. Kilimo Salama offers some measure of security from risk in these countries.

Micro insurance on the rise

According Microfinance Africa, about one billion people live in Africa, with an estimated 60% living below the poverty line. It is common cause that natural disasters such as

floods and drought, as well as disease affect the poorest the hardest. Micro-insurance is insurance with low premiums that protects low income earners and their assets from disaster. It is targeted at individuals who have little savings, mainly for lower valued assets, illness, injury or death.

The micro-insurance sector is expanding throughout Africa, where about 14 million low income earners were covered at the end of 2008, according to the International Labour Organisation. Its study, *The landscape of micro-insurance products in Africa* found that 14.7 million people living on less than \$2 (R17.92) a day in 32 African countries



were covered by micro-insurance products. By 2012, micro-insurance had grown by more than 200%.

Farming in Africa

According to the University of Cambridge Research, there are about 500 million small-holder farmers worldwide, of whom Africans are some of the poorest. For many Africans, farming is the only source of income and money is generated according to what is planted and harvested. Statistics estimate that 60% of the world's available farmland is in Africa.

It is a large continent with many different types of climate. In North Africa, in Morocco, Algeria, Tunisia and Egypt, farming is limited by the dry climate.

Products planted include wheat, barley, olives, grapes, citrus fruit, and some vegetables. According to Plant Life, less than 20% of the working population in Libya and about 55% in Egypt are employed in farming.

Farm Chemicals International found there was a high incidence of organic farming in Tunisia, which reserves 300 000 hectares for organic farming of products such as olives, dates, jojoba, almonds, fruit, vegetables, honey, and medicinal plants.

West Africa comprises 16 countries, most of which are composed of low plains, desert and coastline. Agriculture in the region has developed, attracting economic interest in rice farming. The methods of farming in West Africa include permanent and temporary intercropping and livestock.

Its forests offer a large amount of biodiversity and support the population with forest resources. Fishing is also a large income earner.

The International Federation of Organic Agriculture Movements (IFAOM) and the Swiss Research Institute of Organic Agriculture found that 38 African countries had received certificates of organic farming, and about a million hectares of land had been given an organic stamp.

There are as many as 470 000 farms on the continent, the largest number in Uganda. These farms provide employment and feed many on and outside the continent. Organic farming is carried out in South Africa, Uganda, Kenya and Tanzania.

*Musa Mkalipi
MediaClubSA*

The business of farming

The benefits of sustainable agriculture investment

Conservative estimates put the world's population at around nine billion by 2050. That's two billion more mouths to feed than is currently the case.

While the responsibility for providing these escalating global nutrition requirements rests on the shoulders of the world's agriculture sector, it is not a burden this sector can be expected to bear alone – particularly when one considers that the additional challenges of climate change and water scarcity will make farming an increasingly difficult undertaking in the coming decades.

Given the importance of agriculture, it is incumbent on other sectors to actively contribute to its sustainability.

So, while some may contend that the only part banks have to play in agriculture is through responsible lending money to farmers, Nedbank takes a different approach.

One that, they believe, has the potential to make a lasting and significant contribution to the establishment of sustainable agriculture within the South African agricultural sector.

Their work in this area sees them co-operating closely with agriculture sector stakeholders in order to gain a better understanding of the challenges faced and contribute to the development of actionable and effective sustainable agriculture initiatives.

Through their involvement with the WWF Nedbank Green Trust, which Nedbank helped establish over 20 years ago, they support and participate in a variety of initiatives aimed at supporting South Africa's

agriculture sector while, at the same time, working with both farmers and consumers in promoting the importance of sustainable farming practices and consumption habits.'

Nedbank's three-year partnership agreement that was recently signed with WWF-SA's Sustainable Agriculture Programme is just one example of this integrated approach to encourage and enable sustainable agriculture at all levels of industry and society,' says John Hudson, Nedbank Business Banking's Divisional Manager: Agriculture for KwaZulu-Natal Coastal and Inland.

'Through our support of this programme, Nedbank will be making a significant and sustainable contribution towards the establishment and growth of healthy farmlands and surrounding ecosystems as well as the development of a resilient and viable agribusiness sector that will continue to play an important role in job creation, food security, social and economic upliftment and development of the entire country.'

The WWF Sustainable Agriculture Programme currently focuses on agricultural sectors within areas of global conservation importance, such as the Western Cape's Fynbos region, the Succulent Karoo and the Grasslands of South Africa. This programme seeks to encourage environmentally sensitive agriculture production practices that ensure improved water and energy efficiency; reduce stress on limited, scarce natural resources; increase production capacity through the promotion of healthy, living soils and optimal water usage whilst delivering sustained, ethical long-term

employment; and community upliftment opportunities.

The programme focuses on both commercial, as well as emerging farmers. WWF-SA's Senior Manager for Sustainable Agriculture, Inge Kotze says that there is an urgent need to redefine and refocus our vision in terms of the future of food and the role of agriculture in reaching that future.

'This is why the Sustainable Agriculture Programme is aimed at enabling better production, rather than merely focusing on increased production alone.

By promoting and supporting a vibrant and profitable agricultural sector in this way, we can all help to address potential food security challenges, while protecting the planet's natural resources and unique biodiversity.'

Targeting not only the primary agriculture sector, but also the role players throughout the supply chain such as retail industry, key markets and many other key stakeholders in government, corporate and civil society sectors, the Nedbank-supported WWF Sustainable Agriculture Programme offers a unique opportunity for all members of society, including each of us as daily consumers, to be a part of a viable solution to South Africa's sustainable agriculture challenges. And when one considers that conservative estimates point to the need for global food production to increase by 70% in the next 35 years in order to meet the nutrition needs of the nine billion future inhabitants, it's easy to see why this level of involvement by all is non-negotiable and why Nedbank is committed to investing in the future of South Africa's farming.

An industry in crisis

R2-billion loss and counting for the agricultural sector

The farm workers' strike has had a detrimental effect on the country. It is undisputed that a salary of R1 493.85 per month is as close to slave wages as you can possibly get.

However, demanding a 217% wage increase in less than two years will cripple the agriculture sector. To put this into perspective, this proposed exorbitant increase could cost South African farmers an excess of R2 billion, countless job losses and financially ruin the farmers. If wages were to rise any higher than R105.00 per day, many farmers would not be able to cover their operating expenses. This will not only have a knock-on effect from Cape Town to Musina but also significantly alter the economics of farming.

The 2012 wage bill was R14 billion – which excludes the 52% increase (from R69 per day to R105 per day). With the imminent increase to R150 per day, farmers will be forced to lay off people as they simply do not have an additional R7 billion in their coffers.

To compound this, farming is seasonal, so they will not be able to generate this revenue on a monthly basis. There are many similarities between the demands from the Marikana strike and the farmworkers strike – the disparity is not accounted for during negotiations. The majority of the big farms have established villages on their properties whereby they give free housing, training, clinic services, childcare services, and depending on the size of the farm, a church and school. This excludes the costs incurred for housing, training, UIF, skills development levy and in some instances, medical aid and provident fund – and of course running costs.

This is something none of the unions seem to realise. But why should they? They earn a salary like the rest of the people they represent and never worry about where the money comes from or how much it actually costs for them to be a union representative. Now, as they are clueless about this, explaining what damage they are doing to South Africa will

fall on deaf ears. Is it because they cannot comprehend the concept of business, they do not care about their members; or simply do not understand the consequences of their actions? And what about the fact that the longer they enforce a strike, the longer it takes for the employee to recoup their lost earnings?

To compound this, the transport, mining, agricultural industry and service delivery strikes were the most prominent, even while the top brass in the ANC were spending millions of taxpayers' money on their party celebrations over December 2012.

This makes us speculate why the government is not keeping its promise of looking after its own people by using the taxpayers' money wisely and not pilfering it for their own gain and entertainment?

The lessons to be learnt include the complexities of dealing with new, dynamic power relationships between unions, workers and/or worker committees, management and other interest groups, as well as conflicted individuals who become influential in times when leadership is being sought; the effect of public pressure when there is a deadlock in negotiations; and, crucially, the danger of ignoring the broader social conditions that affect workers and their families. But the depth of the scars caused by this dispute remains to be seen.

While government had several blueprints for improving the economy – from the Industrial Policy Action Plan to the National Development Plan – nothing sustainable will be achieved as the conversion of these plans into action and implementation is sorely lacking.

The ANC secretary-general Gwede Mantashe pleaded with unions to play by the rules, referring to the National Union of Mineworkers (NUM) and the Association of Mining and Construction Union's violent rivalry. Unfortunately, he did not specify what rules – the ones governed by the country, or the man-made rules by the unions.

While this comment was made specifically towards NUM, it is evident that it needs to be asked of the other unions as well.

To compound the already unpredictable dilemma, Rupert Murdoch's news corporation, which was bidding for South Africa's biggest English language newspaper group Independent News & Media Group, pulled out of the bid after the outbreak of the Marikana incident as it feared for the safety of its investment in the country.

Sadly, a weaker rand will make it harder to break-even let alone make a profit from exports. The bottom line is that unless government and corporations react swiftly and effectively, the effects of the farming crisis could be felt for many years.

Thanks to the unions' interference, not only have a number of mines closed, but thousands have lost their jobs. Taking this into consideration, a conservative ratio of 10:1 has been equated for the number of people that do not have any income and look towards an extremely bleak future.

The irony of all of this is when Margaret Thatcher, was in power as Prime Minister, she refused to allow Britain to place sanctions on Apartheid South Africa as she said she did not want to play a role in creating unemployment in our country. This, from someone that only had an affiliation with our country. How could she be more empathetic about our own people than we are? It makes no sense.

Debbie Lieberthal, managing director, Umkhonto Labour Holdings





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Plant lucerne today

While the present global shortage of lucerne is a reality a number of questions are being raised as to why to plant lucerne, how to plant it and where to get the seed

Lucerne is a vigorous perennial legume with a well-developed taproot system that boasts a high nutritional value for numerous types of livestock. While lucerne is relatively easy to farm with, it must be sown correctly and well managed.

There is, however, a misunderstanding among farmers that there are less coated seeds in a 25kg pocket than there are in a 25kg pocket of uncoated seeds. This means that establishing stands that have the required population is compromised. Looking at the maths there are approximately 400 000 seeds in a kilogram of uncoated lucerne seed, whereas there is an approximated average of 220 000 seeds in a kilogramme of coated seed. This may vary slightly depending upon the size of the original seed before coating.

Generally speaking, 25kg of uncoated lucerne seed is recommended to establish a one hectare field or stand. This equates to approximately 10 000 000 seeds, broken down at 25 bags x 400 000 seeds per kg.

However what is important to note, is that three to six months after sowing, a well-established lucerne pasture will present approximately 60 to 90 plants per square metre with a total of 600 000 to 900 000 actual plants per hectare.

The balance will have been crowded out or would have died due to natural causes; in addition to this approximately 5% of seeds simply don't germinate.

The point here is that a final stand of 60 to 90 plants per square metre is more than

sufficient to achieve optimum yields. When sowing 25kg of Agricote coated lucerne seeds, the actual number of seeds sown totals approximately 5.5 million per hectare. The coating provides a more sustainable seedling during the germination phase, as the nutrients it requires are in the coating.

As a result, the final population of plants, three to six months after planting, will be at 60 to 90 plants per square metre.

It has proven, through qualified research, that there is simply no need for a farmer to plant more than 25kg of seed per hectare, whether the seeds are coated or not. Having said this, the following needs to be taken into consideration.

These include: seedbed preparation (fine tilth), depth of planting and the availability of moisture throughout the germination phase. Where any of the above are, for whatever reason not achievable, then, and only then, should consideration be given to seeding at rates in excess of 25kg per hectare, for both coated or uncoated seeds.

Soil temperature during germination is critical. Lucerne will germinate at low soil temperatures and ideal temperatures vary between 10°C to 18°C.

Seeds bedded in soil at temperatures between 1°C to 5°C will take longer to germinate (three to four weeks).

During this period seedlings are subjected to unnecessary stress, and it is in such instances that coated seeds have an advantage. One should, however, avoid planting at these temperatures, if possible. Accurate and even placement of seed is critical to ensure a suitable final stand.

Good seed to soil contact is enhanced when using Agricote seed; something that rolling after sowing can also improve significantly.

Other agricultural practices that are important in order to maximise yields are weed control, correct soil fertility, insect and disease control.

There is no doubt that lucerne is a good nutritional supplement in any livestock ration. The question should not be asked if you should plant it, but rather when.





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Growing in the right direction

Empowering women in agricultural practices is an economic priority, and one that is being addressed by both international and national bodies

It is a common belief that as things grow they also change. And that we must embrace change or cease to grow. That ideal literally applies to the act of farming as much as to the agricultural sector that is faced with a number of challenges that require change to support growth.

Traditionally a male-dominated sector, agriculture has been under the microscope in recent years due to the issue of food security in the country and the continent as a whole. According to the United Nations Foods and Agriculture Organisation (FAO) more than two-thirds of all women in Africa are employed in the agricultural sector and collectively produce almost 90% of all the food on the continent. Coupled with the fact that women in sub-Saharan Africa make up almost 80% of the labour required to produce food for household consumption and sale, it seems obvious that harnessing and maximising women's roles in agriculture would be a natural progression of the industry resulting in reduced poverty, hunger and marginalisation.

While women are regarded as the answer to a successful agricultural industry, many questions go unanswered about how to realise this change. Gender issues remain largely unchanged and prevent women from taking a more active role in farming. The fact is that women receive a fraction of the land, credit, improved seeds, fertilisers, agricultural training and information compared to

men. Added to that, women are generally remunerated less than men.

In a report by Lindiwe Majele Sibanda, CEO and head of mission for the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN), said that: "Developing policies that focus on the needs of women is not just a political priority, it is an economic imperative. As the FAO states, there is a significant global gender gap in agriculture, which translates into a costly lost opportunity to improve the quality and quantity of the world's food supply. If women had the same access to, and control over productive resources as men, they could increase yields on their farms by 20% to 30%. This could raise total agricultural output in developing countries by 2.5% to 4%, which could in turn reduce the number of hungry people in the world by 12% to 17% or 100 to 150 million."

It is clear that addressing the issues that affect women's ability to become major stakeholders in agriculture is key to closing the gender gap that exists. Low literacy levels (as low as 40%) often prevent women in Africa from fully engaging in the business of farming. Literacy gives women access to essential resources such as loans and credit to purchase assets, equipment, tools, fertilisers and seeds. A lack of finance is also related to a lack of collateral or surety for loans.

Complicated administrative procedures and inadequate loan sizes or heightened interest rates are major obstacles that limit the investment and productive capacity of

women, as well as their ability to finance other basic and strategic needs.

Beyond the issue of literacy, women also have difficulty in accessing funds to invest in irrigation or land improvements because of their fundamental inability to own land. Many societies, laws and traditions in Africa prevent women from owning and inheriting land. Furthermore, formal laws and regulations that prohibit a married woman's access to credit without her husband's signature keep women from breaking cultural barriers to owning land and operational farms themselves. And according to Melinda Sundell, a senior research fellow at Stockholm Environment Institute, women's lack of assets directly impacts on human development outcomes.

Also at a root level, women access very limited to no benefits from training in new crop varieties and technologies. A lack of government services to help increase output and productivity in agriculture further exacerbates the problem. They receive only 7% of agricultural services, less than 10% of the credit offered to small-scale farmers, and own only 1% of the land. This excludes African women from lucrative agricultural opportunities such as cash crop production which has, in many instances, reduced women's bargaining power and status as their role of food producers is replaced by seasonal employment and unpaid family work on men's crops.

Unfortunately, a skewed perception of women's empowerment prevents growth and change in many of these problem areas.

Typically, empowerment is often regarded as a win-lose situation with men being replaced by women in the agricultural sector or 'losing out' to their female counterparts. Transforming gender relations may bridge the gap between fact and reality in this case. According to a study conducted by the International Food Policy Research Institute, if men and women had equal influence on decision-making in agriculture, an additional 1.7 million children would be adequately nourished in sub-saharan Africa. It has been stated many times over that Africa's food security problem can only be overcome by working in partnership with its small-scale farmers, most of which are women.

It is therefore imperative that these farmers be linked to seed suppliers in the private sector; have improved access to production resources such as input credit, secure land and water rights.

It is with that in mind that a number of initiatives are underway to elevate and equalise the role of women in agriculture. Women Accessing Realigned Markets (WARM) is an initiative by FANRPAN and is supported by the Bill and Melinda Gates Foundation that serves to strengthen women farmer's ability to advocate for improved agricultural policies and programmes through the Theatre for Policy Advocacy (TPA). FANRPAN has developed a script called 'Winds of Change' that explores the challenges that rural women face in farming.

Women in Agriculture and Rural Development (WARD) is an initiative started by former Land and Agricultural Minister, Lulama Xingwana. The purpose of WARD is to bring gender issues in agriculture and land policies to the forefront, and bridge the gap between rural women and government programmes and projects on a local and national level to increase their involvement in farming.

AfriSam is another pioneer in promoting women in agriculture and has invested in a multi-million rand enterprise development initiative to assist women from Rethabiseng, outside Bronkhorstspuit, to realise their dream of making a good living from sustainable farming. AfriSam worked together with social enterprise Food and Trees for Africa (FTFA) to develop a commercially viable, organic farming community project.

FTFA's programme, Farmer Eco-Enterprise Development (FEED) provides farmers with training, mentorship, operational support and marketing assistance to help them build their businesses from the farm to the local market, supermarket and in time, the international market as well. The produce from this initiative is already being sold, resulting in earnings of around R1 million for the co-op members in their first year of operation.

It is clear that growth must come from change and change in gender equality will require participation and co-operation from both men and women for the good of the continent and generations to come. An approach that means we can be the farm on a continent that has enough food for all and an abundance of opportunities to realise prosperity.

Tafara Mavingire

PRIME BEEF BLEND

Suitable for production under both dry land and irrigation.
Consists of six different varieties including legumes and indigenous perennial pasture grasses.

YOUR HERD DESERVES THE BEST



PLANTING DATE: September - March

CLIMATE: Subtropical

MOISTURE REQUIREMENT: 400mm + per annum

SOIL REQUIREMENT: Fertile sandy to clay loam type

SEEDING RATE: Rows 10kg / ha;
Broadcast 10kg / ha

REMARKS: Where less than 400mm annual rainfall occurs, supplementary irrigation is required. Deep fertile soils are preferable. This will enhance growth of the legume component of the blend. In drier regions of the country where no supplementary irrigation is possible establishing this pasture in 90cm rows may be advisable.

CONTACT US: +27 11 762 5261 or www.advanceseed.com



Advance Seed

A Division of
Alliance
GRAIN TRADERS

Metabo angle grinders



Setting new safety standards

With numerous safety functions and convenient features, the WEPBA angle grinders from Metabo protect the user even better than before.

With the two new angle grinders, WEPBA 14-125 QuickProtect and WEPBA 14-150 QuickProtect, Metabo sets new standards when it comes to safety and convenience.

The two models have a nominal performance of 1 400 watts and protect the user in several ways by means of a S-automatic torque limiting clutch, a protect safety switch incorporating a dead-man's function and no-volt release system, an autobalancer to reduce hand arm vibration and also as a further safety device, the fastest braking system on the market. This combination of features makes the new WEPBA models the safest angle grinders for industrial operations and professional metal processors.

Combined safety

The 'P' in WEPBA stands for 'Protect Safety Switch'; this being the ideal combination of a paddle switch with a dead-man's function and no-volt release switch. The paddle switch contact area is particularly long enabling convenient operation. It is also integrated into the housing in such a way that the angle grinder can be held easily and securely in any position. The tool is switched on by sliding and pressing the switch. This action ensures

that the paddle switch cannot be activated by accident.

The dead-man's function deactivates the tool as soon as the user lets go of the switch. In order to ensure that this function cannot be deactivated, the switch cannot be locked in place. If the switch is fixed artificially, Metabo protects the user from themselves: the no-volt release switch in combination with the fixed switch prevents the tool from starting up again after the power is interrupted.

Brakes in two seconds

The new brake system brings the disc to a standstill just two seconds after the tool is switched off. Thus, Metabo angle grinders have the shortest braking time on the market.

The mechanical disc brake also protects the motor and increases the lifetime of the carbon brushes. Metabo is equipping all angle grinders with braking function with this new system.

In order to bridge the reaction time of the user from the moment the disc jams to the instant the switch releases, both WEPBA models have an S-automatic torque limiting clutch. If the grinding wheel jams, the clutch activates immediately and prevents kickback even before the user has time to release the switch.

Autobalancer and handle help reduce vibrations

Metabo is fitting the angle grinders with an autobalancer and the Metabo VibraTech

(MVT) handle to not only protect users from accidents, but to also provide the best-possible protection from hand-arm vibration syndrome. The autobalancer equalises any imbalance of the grinding wheels and thus reduces vibrations to a minimum. This allows the tools to be operated much longer than the usual eight hours per working day, and still conform with the European norm. Since the autobalancer prevents the majority of vibrations at source, both the user and the tool itself are subject to considerably less vibration damage. Ball bearings, gears, electronics and other components live longer and the lifetime of the wheels is also extended.

In order to ensure the operator of the new WEPBA models is able to use the tools not just more safely but also more comfortably, Metabo has fitted both models with numerous added extras. These include the electronic soft start, the quick flange nut for fast and tool-free disc changes and the protective wheel guard which can also be adjusted without tools. The spindle with the M14 standard thread is capable of accommodating all current accessories.

The robust Metabo Marathon motor with overload protection guarantees a long service life and constant performance. The Tacho Constamatic (TC) maintains revolutions at a stable rate even under load. Metabo has integrated the paddle switch with dead-man's function along the full length of the housing on the new WEPBA models.

metabo[®]

work. don't play



**“CREAM OF THE CROP”
WHEN IT COMES
TO POWER TOOLS**



www.metabo.com





Responsible retailing

The conscious consumer has inspired many large retailers to align themselves with greener, more ethical practices

Before 'sustainability' was a practice and not just a buzz word, 'green stuff' was a term coined to describe money rather than a set of ethics to ensure that businesses take the environment into account when calculating their bottom line.

With this in mind, a number of South African corporate farming companies have been at the forefront of forging sustainability and going green. By insisting on green practices they hope to be an example to other retailers who haven't taken sustainability into account and as a result, become the weakest link in the country's retail chains.

The fact is that consumer awareness and education about the choices they make; their right to know where products are sourced and what goes into them and serious environmental concerns across the agricultural industry have spurred large retailers and household names such as Pick n Pay, Woolworths and Shoprite Checkers to lead the way in contributing to the green ideal.

In today's market, consumers are not only becoming more aware of their own

sustainability behaviour but are choosing and evaluating organisations based on their sustainability behaviour.

Often, if companies are not seen as environmentally responsible, consumers will move their business to competitors who are.

An article published by *Fin24* in September 2012 reported that "customers are demanding more information about where products come from and expect products to have ethical and environmental attributes, generally without an increase in cost." Pick n Pay heeded the demand for sustainability and is leading the way for other retailers throughout the country.

Feedback from customer focus groups revealed that Pick n Pay customers want to actively engage in sustainable living. As a result, Pick n Pay became the first retailer in Africa to commit to selling only sustainably sourced seafood by 2015. Pick n Pay has been actively engaging with WWF-SA and the Southern African Sustainable Seafood Initiative (SASSI) through SASSI's Retailer Participation Scheme since its inception.

In 2010, Pick n Pay signed a partnership agreement with the WWF to support the conservation organisation's Sustainable

Fisheries Programme to only sell seafood products certified as sustainable by the Marine Stewardship Council (MSC) for wild-caught products and by the Aquaculture Stewardship Council (ASC) for farmed products. The three-year agreement is worth R6.1 million and aims to restore over-exploited fish stocks to sustainably managed levels

through Technology Award and second place in the *Mail & Guardian's* annual 'Greening the Future' awards for most innovative environmental strategy, Pick n Pay is definitely on the right track to forging sustainability and setting the standard for other retailers.

Woolworths is another green pioneer and launched the Woolworths Good Business

supply chain. In total the group has saved over R135 million through sustainable initiatives between 2008 and 2012. Added to that, they have also been successful in positioning the company as a responsible corporate citizen to a wide range of stakeholders and have influenced significant change in the retail sector and its value chains. So much so that Woolworths is the only retailer in the country to be included in the Dow Jones Sustainability Index (DJSI) in 2012. It was also recognised as one of 16 'New Sustainability Champions' by the World Economic Forum.

Shoprite Checkers is another retailer taking green seriously. One of the aspects of their sustainability efforts is environmentally sensitive property development and adhering to the principle that they will not buy or develop a site that is detrimental to the biophysical or built surroundings both within and outside South Africa.

They have also adopted an ongoing packaging and waste management programme to reduce the use of transit packaging material. Wooden and cardboard cartons typically used to store and transport fresh produce have been replaced with recyclable plastic crates with more than 600 000 currently in circulation. Not only an environmentally sound choice but the change has presented a massive cost saving.

The group has also adopted more than 30 energy-efficient technologies that focus on improving energy usage in refrigeration, lighting, heating, ventilation and air conditioning systems. Saving energy is also an integral part of the group's building and shop fitting specifications and savings over the last three years is estimated at R31 million or enough to power 15 average-sized supermarkets for 12 months.

Getting the green thumbs up for sustainability requires evaluation and positive change at every stage in the value chain. These major retailers are examples of the difference that can be made and what must be done to sustain consumer needs and business objectives. It is safe to say that retail giants like Pick n Pay, Woolworths, and Shoprite Checkers are not just leading the way but giving other smaller retailers, farmers and distributors the green light to adopting a sustainable approach.

Taryn Springhall

Often, if companies are not seen as environmentally responsible, consumers will move their business to competitors who are

while promoting responsible fishing practices of other stocks.

Pick n Pay's commitment to sustainability extends to improving energy and water efficiency and decreasing emissions in an effort to minimise its environmental footprint. As a start, store infrastructure uses a natural design to offer aesthetic ambience, energy efficiency and responsible use of natural resources.

Water consumption is monitored and minimised by harvesting rainwater with rainwater tanks, installing evaporative cooling in fridges and low-flow sanitary ware and electronic taps and using water-wise indigenous plants for landscaping.

Waste management and recycling is a primary focus area for Pick n Pay in the bid to reach and maintain sustainability. Waste is sorted and sent for recycling from all corporate stores and hypermarkets, which has not only created new jobs but has also significantly reduced the amount of waste sent to landfills.

Communicating their principles and best practices to staff, suppliers and customers has also played a big part in Pick n Pay's green efforts and combined with their strides towards sustainability, they have won numerous awards for their progress.

As recipient of the Environmental Social Governance (ESG) Award, the Innovation

Journey programme in April 2007 as a formal commitment to sustainability.

The programme focuses on six key areas, namely: sustainable farming, water, energy, waste, social development and transformation.

As extensions to the programme, a number of initiatives have also been launched to encourage and protect South Africa's biodiversity. One such initiative is the Farming for the Future (FFF) programme that adopts more environmentally sensitive farming practices throughout their supply chain. By taking a holistic approach to farming, the FFF programme aims to help farmers grow quality produce while protecting the environment, preserving natural resources and reducing dependence on chemical fertilisers, herbicides and pesticides without increasing the price the consumer pays in stores.

The programme has had far reaching effects throughout the value chain such as improvements in energy and refrigeration efficiency programmes, packaging reductions and increasing recycled content in products and packaging.

Woolworths trucks in Cape Town also use biodiesel, and the chain also produces a number of its own products like earth-friendly household cleaning products and personal care products reducing reliance on outside suppliers and making it easier to monitor the



HOW ARE WE GOING TO FEED A GROWING POPULATION?

Given the current population growth, all indications are that the world population will reach approximately 8 billion in 2025. Putting food on the plates of a growing population remains a challenge.

Advanced research and new tools such as biotechnology have revolutionised agriculture by helping farmers produce more and conserve more, as they work to meet the world's rising demand for food. These tools help them overcome challenges such as limited resources (water and land), extreme weather conditions due to climate change, and pests that compete for food.

Biotechnology crops are amongst the most extensively tested, characterised and regulated food and fiber products ever developed.

After more than 15 years of production and more than 1 billion hectares worldwide, there have been no adverse effects documented from the food produced from biotechnology crops.

In fact, biotech crops (GM-crops) provided a better environment by saving on pesticides and CO₂ emissions whilst increasing crop yields substantially.*

Thanks to companies such as Monsanto we can be sure of safe and healthy food** produced sustainably.

Read more about the safety of GM-crops at www.monsanto.com.

Monsanto is committed to improving lives by improving agriculture.

* According to Brookes and Barfoot, 2013, from 1996 to 2011 biotech crops contributed to food security and sustainability by increasing crop production valued at US\$ 98.2 billion. It also provided a better environment by reducing pesticide use by 473 million kg of active ingredient. In 2011 alone CO₂ emissions were reduced by 23,1 billion kg, equivalent to taking 10,2 million cars off the road.

** Regulatory agencies worldwide, such as the Food and Agriculture Organization, World Health Organization, the European Commission, the French Academy of Medicine, the American Medical Association, and the American Society of Toxicology have agreed that GM foods are safe for human health.
<http://www.sho.int/foodsafety/publications/biotech/20questions/en/>
http://ec.europa.eu/research/biosociety/pdf/a_decade_of_eu-funded_gmo_research.pdf



About Monsanto Company

Monsanto Company is a leading global provider of technology-based solutions and agricultural products that improve farm productivity and food quality. Monsanto remains focused on enabling farmers to produce more from their land while conserving more of our world's natural resources such as water and energy.

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Netafim South Africa

Leading the way for 21 years

Netafim has become a household name among irrigation dealers in South Africa – drip irrigation and Netafim goes hand in hand. Netafim drippers have been used in South Africa in the production of dripper lines for more than 40 years. Initially the Netafim drippers were sold by wholesalers, but in 1991, Netafim Israel decided to invest in South Africa and as a result, Netafim South Africa was formed 21 years ago in 1992.

Netafim has proved to be the market leader in drip irrigation in South Africa. Initially, the concept of drip irrigation was new and it took a lot of education and commitment to establish the principles of drip irrigation. The current situation looks much different as drip irrigation is well established in South Africa and more than 100 million meters of dripper lines are sold every year.

UniRam, DipNetPC, Tiran and Streamline are now all well known Netafim brands and these products are used on almost all crops produced in South Africa. The most popular crops include vegetables, citrus, sugar and wine grapes. As the global need for water and food becomes a bigger challenge, modern irrigation methods such as drip irrigation will pave the way for a more sustainable solution whilst producing more and better crops with minimum impact to the environment.

Netafim South Africa has produced many success stories, but the most outstanding is a 10 000 hectare sugar project in Swaziland that has been successfully operating for the past 15 years. The project, known as 'Simunye', belongs to the Royal Swazi Sugarcane Corporation (RSSC). Netafim dripper lines are used sub surface so that the sugar cane can be burnt before cutting.

This project is still the largest Netafim project in the world and is very active due to the fact that sugar has to be replaced every eight to ten years. The biggest advantage of using drip irrigation on sugar is the effective use of water (more than 10 tonnes of sugarcane per mega litre of water) and the high yields compared to other irrigation systems.

There are many similar success stories in the wine, citrus, vegetable and fruit industry. Netafim's integrity, relationships, quality, value and knowledge is the key reason why producers who have dealt with Netafim South Africa remain loyal clients. This extends South African borders and includes producers in Botswana, Angola, Mozambique, Namibia and Zimbabwe.

The Netafim factory in Kraaifontein is the pride and joy of all factory workers. The management system is ISO9001:2008 certified ensuring that producers can always rely on quality of the highest standard.

The same pride and commitment is evident among all Netafim South Africa's staff. The knowledge of people such as Chris Malan, Johan Visser and Leon Horn is almost just as famous as the company itself. These experts have been with the company for 10 to 20

years and are legends in their own right in the irrigation industry in South Africa.

The success of a company is largely reliant on the product offering and the people and staff supporting it, in this regard Netafim South Africa has been truly blessed.

According to Etienne Erasmus, managing director of Netafim South Africa, the company's success can be attributed to a proud team who are loyal towards the company; intensive focus on clients; knowledge, friendships and trust among staff and customers; consistency of product quality; an unwritten code of fairness; and an open and comfortable atmosphere where staff are encouraged to grow and fulfil their dreams and potential.

Netafim is closely involved with the South African Irrigation Institute (SAII) in the form of sponsorships, support of their magazine, training and membership. This is a way of giving back to the industry and showing gratitude for the support that Netafim enjoys in the South African irrigation market.

The South African agriculture industry can be assured of many more years of outstanding service and technological breakthroughs offered by Netafim.



1

LESS THAN 1% OF THE WORLD'S FRESHWATER RESOURCES IS USABLE
AND ABOUT 70% OF THAT GOES TO AGRICULTURE

10

ONLY ~30% OF EARTH'S SURFACE IS LAND
AND OUT OF THIS ONLY ~10% IS ARABLE

33

FOOD PRICES INCREASED BY 33% FROM JULY 2010 TO JULY 2011

9,000,000,000

RAPIDLY EXPANDING WORLD POPULATION, WHICH IS TO SURPASS 9 BILLION BY 2050
IS STRAINING THE EARTH'S FINITE RESOURCES

**AT NETAFIM WE HELP YOU GROW MORE AND
BETTER CROPS WITH FEWER RESOURCES.**

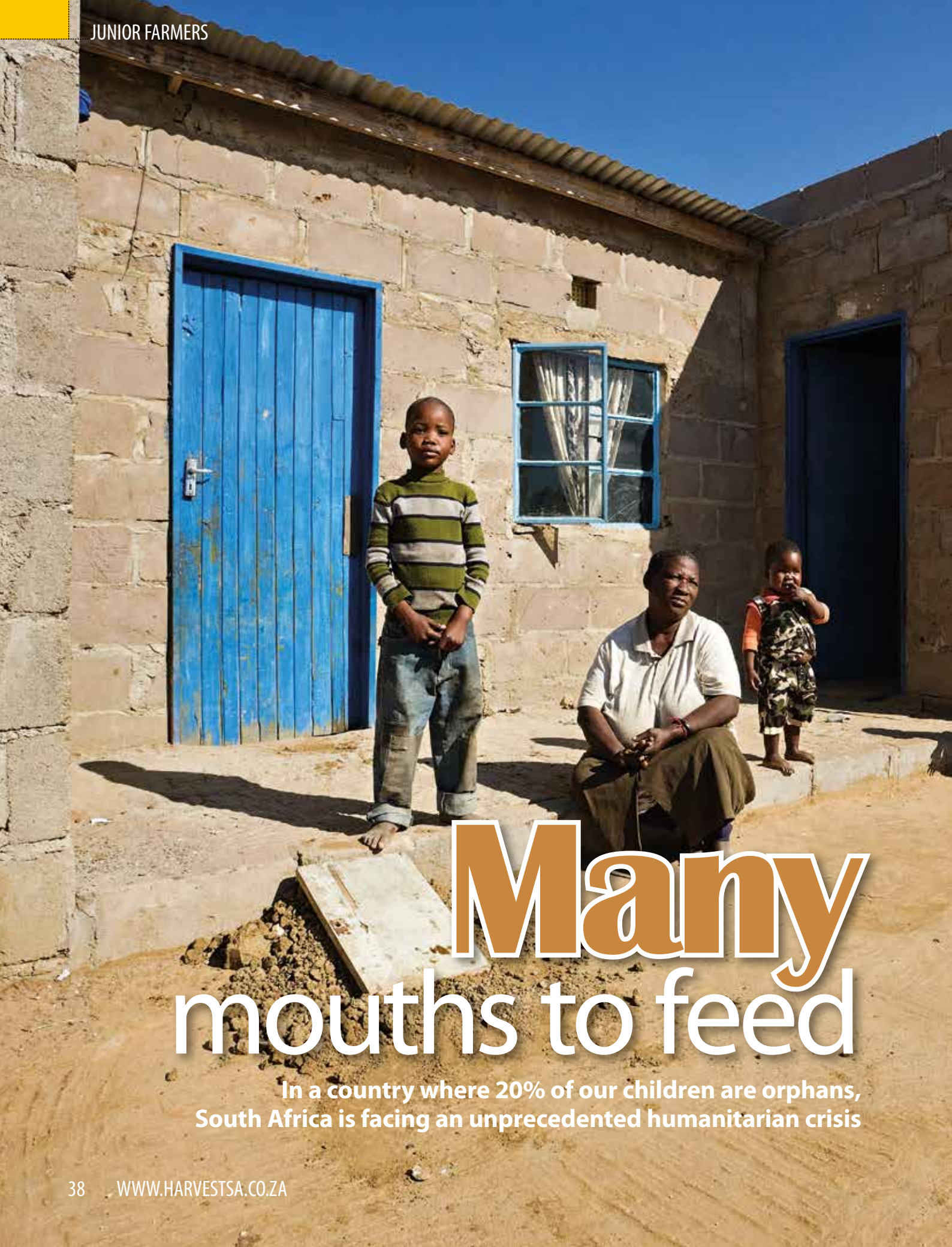
We have been leading the way in smart drip and irrigation solutions for agriculture since 1965. Now, as the world faces increasing challenges, more efficiency makes more sense than ever.



Contact our irrigation and agronomy experts to learn more about how we can help you grow more with less.

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A photograph of a man and two children in front of a stone building with blue doors and windows. The man is sitting on the ground, looking towards the camera. A young boy stands to his left, and a young girl stands to his right. The building is made of light-colored stone blocks and has a corrugated metal roof. The ground is dry and dusty.

Many mouths to feed

**In a country where 20% of our children are orphans,
South Africa is facing an unprecedented humanitarian crisis**



With the highest HIV/Aids population in the world, these orphan children, face the ravages of abandonment and live beyond the reach of society, deprived of rudimentary necessities, essential security and basic services.

Due to such severe circumstances – exploitation, neglect, disease and stigma will plague and will continue to stunt the lives of the most vulnerable members of society.

Whether on the streets or heading a household at 11-years-old, they are twice as likely to discontinue their schooling and twice as likely to contract HIV/Aids.

The need to defend and provide for the children orphaned by Aids is beyond the capability of any solitary government or agency.

Due to the high rate of unemployment, the so called 'kinship networks' have been strained beyond their capability.

Families are unable to support their own relatives because of the overflow of children who need to be taken in and cared for.

There are organisations that have successfully helped to improve the quality of life of orphaned and defenceless children and their families. These organisations have recognised the benefits of teaching child-headed households the value of farming in order to supplement and improve family food security.

One such organisation is Nurturing Orphans of Aids for Humanity (Noah). They have a strategy that uses 'Arks', aimed at backing for families and other carers of orphans and vulnerable children.

An important part of their sustainability strategy is to grow their own food to reduce the cost of buying groceries, which allows them to develop a lower cost source of healthy food for the children that they care for.

Arks provide community-based training, capacity building and income generation opportunities, enabling their communities

to better care for orphaned and vulnerable children. Opportunities are also given to the children to improve their education, their physical and cognitive development enabling them to mature into stronger, more capable and more effective adults.

According to the South African Social Investment Exchange: "Based on experience from other Arks, children are inspired by the successful planting and growth of fruit and vegetables, which allows them to see that through their small actions they can contribute to their own well-being. This lesson goes beyond the concept of food security and contributes to emotional and psycho-

The benefits of these schools go beyond food security and help to address the myriad of other issues facing children without families

logical well-being. The vegetable gardens not only meet the needs of the nutrition programme, but are further able to support the needs of the broader community."

The life story of Chido Govero

Chido Govero's empowerment as an orphan came about as a direct result of the positive changes that can occur through programmes that focus on alleviating food insecurity and which teach orphan children how to farm.

Chido Govero, never knew her father and witnessed her mother die from Aids. At the age of seven she became the head of

a small family nucleus, with her younger brother and blind grandmother.

At the age of 12, she learned how to farm mushrooms with a ZERI Foundation scholarship, converting leaves, dead tree branches, water hyacinth, coffee pulp and cobs into a substrate.

Chido has subsequently gone on to lead campaigns under the ZERI programme 'Orphan Teaches Orphans' and proclaims that: The only way girls can escape abuse is when they know how to provide for their own food security. By April 2009, Chido had trained her first dozen assistants.

Determined to reach out and network throughout Africa, she aims to create millions of jobs and to stamp out hunger on the African continent with what is locally available.

Chido has gone on to train women in India (Jhansi), Colombia (Manizales, Bogotá and El Huila) and Kufunda Village (Zimbabwe).

In 2009 Chido began mushroom farming in Zimbabwe (Karo and Chipinge), Kenya, Cameroon, South Africa, Congo and the USA.

The importance of teaching vulnerable children how to farm has been recognised by the Food and Agricultural Organisation of the UN (FAO), who with other partners are creating Junior Farmer Field and Life Schools (JFFLS).

Covering both traditional and modern farming techniques the children learn: sowing, weeding, transplanting, irrigation, pest control, utilisation and conservation of available resources, the use and processing of food crops, harvesting and storage.

They are also taught how to market and price their stock. The benefits of these schools goes beyond food security and helps to address the myriad of other issues facing children without families and enhance life skills.

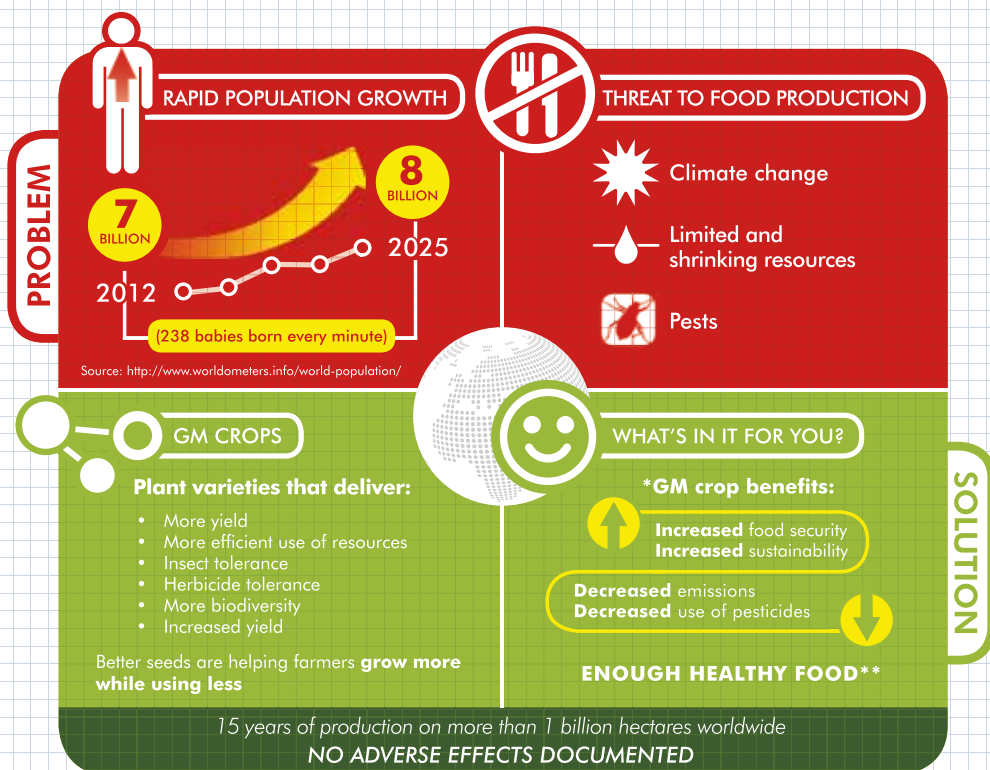
Given the opportunity, young orphaned children can be empowered to get beyond the confines of a very difficult start in life. Programmes that promote sustainable self-help bring hope to individuals and communities.

Simone Tredoux

Benefits of what the children learn:

- Activities are cultural as well as educational and include dance and drama.
- Teaches children to share issues, and utilise nearby resources – these problem solving skills help with self-esteem and create a sense of sovereignty.
- Opens up topics on children's rights, and encourages communities to discuss issues of children's rights – gender equality in relation to agriculture as well as HIV/Aids.
- Has helped to ensure more gender equal attitudes
- Helps to reduce the risk of vulnerability to Aids/HIV infections by reducing poverty and impoverishment.

THIS IS HOW WE ARE GOING TO FEED A GROWING POPULATION



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http://ec.europa.eu/research/biosociety/pdf/a_decade_of_eu-funded_gmo_research.pdf

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MONSANTO



SENER 360

- Your pivotal partner in irrigation

Sener360
Africa's pivot of success



COMPANY PROFILE

SENER 360 is a South African company. We have a simple policy of doing business with the highest standards of integrity. We therefore pride ourselves on not merely selling a product, but building long term relationships.

Designed and built in South Africa in 1994, SENER 360 centre pivots are known for their superior construction quality and strength – above industry standards, and we as a company are renowned for excellent sales and after-sales service.

We have been in the irrigation industry for more than 20 years, specialising in surveying, system design, installation and commissioning of irrigation systems. We have growing business interests in South Africa, Africa and internationally and offer a turn-key project development service from feasibility study phase to implementation and project management.

One of our recent achievements has been the allocation of an international tender for the supply of more than 50 centre pivots to the South African Government for the Taung irrigation scheme.

At SENER 360 we are passionate about our centre pivots. Apart from building a functional and exceptionally strong and rigid structure, we pay great attention to the finer details, making a day-to-day difference in your life.

STRUCTURE STABILITY

The SENER 360 centre pivot utilises trusses made from pipe being lighter than the traditional angle iron trusses, allowing us to incorporate two more sets of trusses, and so giving enormous strength and exceptional resistance to high wind. Longer 4,5 m base beams (5,8 m for the high profile machines), tower supports, stabilising rods and diagonals add to the exceptional stability.

INNOVATIVE CONTROL PANEL RANGE

The simple modular design is also applied to our control panel range. The basic panel with direct millimetre adjustment can be expanded at minimal cost through various stages of automation and communication.

"LAST SPRINKLER" SOLUTION

One of the problems in centre pivot irrigation is that the last sprinkler clogs regularly. We came up with a genius yet simple way to constantly keep the last sprinkler clean. SENER 360 centre pivots are fitted as standard with the pressure regulated Senninger I-Wob sprinklers on drop pipes to ensure outstanding water distribution in most climatic conditions.

HEAVY-DUTY GEARBOX AND MOTOR

The drive train of the SENER 360 centre pivot comprises a heavy-duty wheel gearbox as standard with a free optional five year warranty* driven by the UMC Power Saver centre drive motor and gearbox.

*Terms and conditions apply



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Sener360
Africa's pivot of success
Since 1994



FARM

WITH THE BETTER

BREED



FV26-420 with Cattle body



FK10-240 with Drop-side body



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BRED FOR BETTER BUSINESS