

Overcoming food security challenges

Efforts to end hunger, eradicate poverty and improve nutrition continue, writes ALF JAMES

ACCORDING to the Food and Agriculture Organisation of the United Nations (FAO), food security and sustainable agriculture are essential to achieving the entire set of Sustainable Development Goals (SDGs) by 2030. At the heart of the SDGs are: 1) ending poverty in all its forms everywhere; and 2) ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture. These two goals are at the crux of the existence of SA's Agricultural Research Council (ARC).

According to Dr Shadrack Moephuli, CEO at the ARC, the organisation's research and development efforts continue to contribute to the sustainable intensification of food and nutrition security in SA and to solving the global challenge of hunger, malnutrition and poverty.

"Helping government to eradicate poverty and promoting the wellbeing of our people is key to our mandate as a state-owned entity," says Moephuli.

The ARC has many initiatives that contribute directly to pursuing the goals of "ending hunger, achieving food security, improving nutrition and promoting sustainable agriculture" as the FAO pronounced that this goal must be urgently pursued because swift progress on that front is the key to the

other goals being realised.

Moephuli says that as malnutrition, and especially micronutrient deficiencies, are widespread among poor people in SA the ARC conducted research demonstrating that Amaranthus, popularly known as "morogo", an African leafy vegetable, could make a significant contribution towards fulfilling the nutritional requirements of iron, vitamin C, folate and beta-carotene.

"Many of us grow up with morogo in our communities, which is high in bulk and water content, yet low in protein, fat and energy," says Moephuli.

"The ARC identified morogo, specifically Amaranthus cruentus, as the most suitable plant species for initiating research on product development—mainly because of its high yield, nutritional value and acceptability in the market. Research by the ARC developed best agronomic practices and production guidelines for morogo. This included evaluating the profitability of producing African leafy vegetables in a sustainable way for commercial and smallholder farmers under irrigated conditions."

Animal protein is important in people's diets and, accordingly, cattle are an important source of such protein. What is more, according to Statistics SA more than 600,000 rural house-



Agricultural Research Council CEO Dr Shadrack Moephuli hands over a seed pack of drought tolerant maize to Bheki Cele, Deputy Minister of Agriculture, Forestry and Fisheries, and Cyril Xaba, KwaZulu-Natal MEC for Agriculture and Rural Development, during the launch of planting season and Food Security Month at Amajuba Berries, Charlestown, Newcastle.

holds own cattle as a form of wealth or source of food. With that in mind, the ARC embarked on a programme named Kaonafatso ya Dikgomo that, as its Sesotho name implies, aims to improve the production of cattle mainly for smallholder farmers.

Moephuli says evidence from the participants in this scheme suggests that they have experienced 16% market off-take. This scheme is important not only to food and nutrition security but also to sustainable income generation opportunities.

"Another initiative by the ARC geared towards contributing to the pursuit of the second SDG is the establishment of nurseries growing orange-fleshed sweet potatoes in collaboration with the Department of Rural Development and Land Reform.

"Malnutrition has been identified as significant threat to human growth and development and orange-fleshed sweet potatoes play a vital role to address vitamin A deficiencies in certain South African populations. The ARC provided high quality, disease-free planting material to farmers in rural areas."

Sustainable agriculture is key to the

research and development efforts of the ARC, thus promotion of conservation agriculture is important.

Moephuli says the ARC donated no-till planters and boom sprayers to emerging farmers in Mpumalanga, Limpopo, Eastern Cape and KwaZulu-Natal. Farmers received training on the equipment and the ARC scientists are monitoring their use to ensure it is correct and effective. The donation of the equipment is aimed at improving the uptake of conservation agriculture in a country whose soils are prone to degradation coupled with a lack of adequate rainfall.

"There is a need to build more sustainable agriculture and food systems that are resilient to the varied stresses and better able to cope with and respond to climate change impact," says Moephuli.

"The success of SA's agriculture lies in the effective application of innovations from the laboratories by scientists and interactive exchanges with commercial and smallholder farmers.

"As the ARC, we urge all South Africans to get involved and unite in the struggle to fight and end hunger. Young

people should consider careers in agriculture and agricultural research. There are various career streams that the youth can follow in agriculture and agricultural research."

While it is possible to end hunger, to achieve it would require a collective effort from individual citizens, the business sector and government.

"The majority of people more vulnerable to food insecurity are in the rural areas and agriculture continues to be the backbone of their livelihoods. Therefore, we urge companies and other government spheres to partner with it to support agricultural-based livelihoods especially in the rural areas.

"In our efforts to broaden the food base to achieve food and nutrition security through food science and technology development for improved product quality and yield, the ARC will continue to identify new and alternative production areas and systems.

"This will include a strengthened focus on animal production and health and development of drought and heat stress resistant crops to improve crops for quality, nutrition disease resistance, adaptation and yield," says Moephuli.

The Agricultural Research Council: Delivering Food and Nutrition Security Solutions through Agricultural Research and Development



The Agricultural Research Council Commemorates Food Security Month and World Food Day

- Food Security is a Constitutional Right that all citizens are entitled to
- More than 7 million people in South Africa are currently experiencing hunger
- South Africa and the world need solutions for food and nutrition challenges

The Agricultural Research Council calls on all stakeholders - farmers, organised agriculture, youth, academia, civil society and the private sector - to join forces with our government and unite in finding solutions to fight food insecurity and malnutrition.

Agricultural Research Council is committed to Excellence in Agricultural Research and Development in South Africa and Beyond.

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