Boosting smallholder farmers vegetable productivity and income

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South African marginal areas face significant social and economic challenges, often characterized by poverty, high unemployment, limited access to resources, and a history of inequality. These challenges are exacerbated by the prevailing adverse effects of climate change, which lowers the agricultural land potential for production of sufficient food that is rich in nutrients and phytochemicals to combat the predominant societal hidden hunger and malnutrition. These marginal areas are often characterized by arid and semi-arid climates, with low and erratic rainfall (less than 500 mm on average annually), high atmospheric evaporative demand and poor soil fertility. As a result, crop production, particularly for vegetables, is constrained under such climatic conditions. For these reasons, the Agricultural Research Council (ARC), in collaboration with the Department of Agriculture, Land Reform and Rural Development (DALRRD) has initiated a project focusing on improving the productivity

Research trials being implemented at Groenvingers Vegetable Farm (an arid region of the Northern Cape Province) to test the productivity of eight vegetable crops (tomato, pepper, cucumber, onion, carrot, lettuce, Swiss chard, and beetroot) exposed to varying soil water supply regimes

Smallholder farmers vegetable crop productivity was considerably improved by increased access to water supply, installation of a complete drip irrigation system and application of organic soil amendment practices

of high-value vegetable crops in marginal areas of South Africa. Research trials are currently being implemented in an arid region of the Northern Cape Province to test the performance of eight vegetable crops (tomato, pepper, cucumber, onion, carrot, lettuce, Swiss chard, and beetroot) exposed to varying soil water supply regimes.

In South Africa, high-value commercial vegetable crops such as tomatoes, cucumbers, peppers, lettuce, onions, and carrots contribute to a gross national income of at least R27 million annually. Besides, vegetable crops are highly nutritious, with enormous potential to contribute to both, food, and nutrition security. This is particularly relevant

Market access and income generation (c, d, e) were considerably improved as a result of interventions made by the Agricultural Research Council

As a result of interventions made by the Agricultural Research Council Groenvingers Vegetable farmers entered into an agreement with a local NGO for continuous provision of social support, including delivery of food parcels

in South Africa, where acute malnutrition (including moderate and severe forms) remains a significant underlying cause of child mortality, being associated with one-third of all child in-hospital deaths. Vegetable crops are grown for a relatively brief period of time, can be easily harvested, and therefore have a promising profit return. The vegetable industry is mostly dominated by smallholder and emerging commercial farmers lately. Unreliable water supply, poor soil fertility and limited arable land are among the major challenges faced by vegetable farmers in South Africa. The ARC, with funding provided by DALRRD, addressed these challenges experienced by small scale farmers in marginal areas. As a result of these interventions, farmers vegetable crop productivity, market access and income generation were considerably improved.

Investing in agricultural infrastructure in smallholder and emerging commercial farms, building farmers knowledge and skills through training and technology exchange initiatives, and improving market access are key areas for fostering success for these farmers, particularly in South African marginal areas. The interventions made by ARC brought hope to these farmers for a more prosperous future and new collaborative opportunities with local non-governmental organizations (NGOs) arose. As a result of ARC's interventions, farmers entered into an agreement with a local NGO for continuous provision of social support, including delivery of food parcels. They also secured a market for continuous supply of fresh vegetable produce.

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