CCARDESA

Centre for Coordination of Agricultural Research and Development for Southern Africa

SADC

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

TOWARDS A COMMON FUTURE

AGRICULTURAL PRODUCTIVITY PROGRAMME FOR SOUTHERN AFRICA (APPSA)









Catalogue of APPSA on-going R&D Subprojects & Pipeline Technologies

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GOVERNO DE ANGOLA

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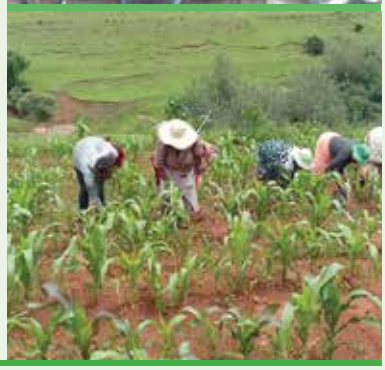

Subproject 1

Performance of bean genotype under multi environments in Lesotho and Angola

Overall objective	To screen bean varieties for adaptability and stability across varying climatic conditions of Lesotho and Angola	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr. Puleng Letuma Lecturer, National University of Lesotho	Antonio Chicapa Dovala Principal Advisor Instituto de Investigação Agronómica Angola
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved bean genotypes	Adaptable across varying climatic conditions of Lesotho and Angola

Subproject 2

Characterization of common bean (Phaseolus vulgaris L.) genotypes using morphological and molecular markers

Overall objective	To contribute towards increased productivity and production of common bean by 100% through the evaluation and adoption of high yielding, pest and disease resistant genotypes imported from SADC countries.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr Motlatsi Eric Morojele National University of Lesotho - Roma	Mónica Mbui Martins, MSc. Instituto de Investigação Agronómica Chianga - Huambo
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved common bean genotypes	High yielding, pest and disease resistant genotypes

Subproject 3

Drivers to Technology Adoption and Profitability-Dissemination of improved technologies maize and beans in Lesotho and Angola

Overall objective	To assess drivers to technology adoption and profitability-dissemination of maize and bean crops grown by smallholder's farmers in Lesotho and Angola.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Lilian Morahanye Department of Agricultural Research Lesotho - Maseru	Kiakanua Manuvanga, Dr. Instituto de Investigação Agronómica Chianga-Huambo
Focus (Generation vs Dissemination)	Dissemination	
Pipeline technologies	Name	Basic attributes
	Farmer Field Schools and Demonstration Plots	Training of lead farmers and extension officers

Subproject 4

Strengthening the sorghum seed delivery systems in Lesotho and Angola

Overall objective	To increase accessibility by small scale farmers to seed of improved sorghum varieties through the strengthened delivery system of the early generation seed of improved sorghum varieties	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr Mpho Liphoto The National University of Lesotho - Roma	Óscar MORAIS, MSc. Instituto de Investigação Agronómica Chianga – Huambo
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved sorghum varieties	High yielding and better performer sorghum varieties

Subproject 5

Breeding maize tolerant to acid soils and the other biotic and abiotic stress conditions in Angola and Lesotho using DH technology

Overall objective	To develop maize inbred lines and hybrids tolerant to soil acidity and the other biotic and abiotic stress conditions in Angola and Lesotho.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr. Dibanzilua Nginamau Instituto de Investigação Agronómica (IIA) - Chianga, Huambo - Angola	Mr. Likotsi Kakole Department of Agricultural Research – Lesotho, Maseru
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Maize inbred lines and hybrids	Tolerant to soil acidity and the other biotic and abiotic stress conditions in Angola and Lesotho.

Subproject 6

Collection, characterization and conservation of Cassava, Peach trees and indigenous leafy vegetables germplasm in Angola and Lesotho

Overall objective	To identify genetic diversity among adaptable species of Cassava, Peach trees and indigenous leafy vegetables using genetic and morphological markers, thereby enhancing their utilization.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr. Moniz Paulo Mutunda Instituto de Investigação Agronómica – Malanje, Angola	Ms. 'Matsikoane Sefotho Senior Research Officer National Plant Genetic Resources Centre Department of Agricultural Research – Maseru, Lesotho
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Genetic diversity of species of Cassava, Peach trees and indigenous leafy vegetables	Adaptable to different agro-ecological zones

Subproject 7

Pathogens limiting cassava culture in Angola, Zambia and Mozambique: Epidemiology and integrated pest management

Overall objective	To identify, characterize and determine the genetic variability of agricultural important pathogens in cassava cultivation and its epidemiology in Angola, Zambia, and Mozambique.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dissoluquele Daniel Manuel Bassimba, Instituto de Investigação Agronómica – Chianga, Angola	Rabson Mulenga, Zambia Agriculture Research Institute, Chilanga, Zambia.
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	**Name**	**Basic attributes**
	Genetic variability of pathogens in cassava cultivation and its epidemiology in Angola, Zambia, and Mozambique	Resistant to different cassava pathogens

Subproject 8

Evaluation of Cassava Genotypes tolerant to Drought in Angola, Zambia and Lesotho

Overall objective	Assess cassava genotypes for water stress tolerance to respond to climate change in Angola and the SADC region.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr. Sandra Afonso Instituto Superior Politécnico do Cuanza Sul (ISPCS), Angola	Richard Chanda Seed Control and Certification Institute (SCCI) – Chilanga, Zambia
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved cassava genotypes	Drought tolerant

Subproject 9

Evaluation of Trade-offs in Conservation Agriculture (CA) and Conventional Farming Practice Adoption Gradients Improved Food Security and Incomes

Overall objective	To evaluate agronomic and economic tradeoffs for improvement of production and productivity of maize through adoption of Conservation Agriculture (CA) Practices in Lesotho.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr. Brian Muroyiwa National University of Lesotho – Roma, Lesotho	Dr. Amilcar M. O. Salumbo Instituto de Investigação Agronómica (IIA), Huambo, Angola
Focus (Generation vs Dissemination)	Dissemination	
Pipeline technologies	Name	Basic attributes
	Conservation Agriculture in Maize	Increased production and productivity

Subproject 10

Adaptation and Promotion of Bruchid Resistant Bean Varieties in Lesotho and Angola

Overall objective	To improve household food security and income generation through the availability of bruchid resistant bean varieties.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Mpho W. Phoofolo National University of Lesotho, Roma	José Domingos JoséEduardo dos Santos University, Huambo, Angola
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved bean varieties	Bruchid resistant bean varieties

Subproject 11

Improving Grains Storage Structures for Smallholder Farmers in Angola and Lesotho

Overall objective	To promote improved grain storage structures in order to reduce post-harvest losses at smallholder farmer level under different climatic conditions in Lesotho and Angola.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Adriano Muiocoto André, Ph.D Instituto de Investigação Agronómica (IIA)	Pitso Masupha (Ph.D) National University of Lesotho
Focus (Generation vs Dissemination)	Dissemination	
Pipeline technologies	Name	Basic attributes
	Improved grain storage	Applicable in different climatic conditions in Angola and Lesotho

Subproject 12

Advancing the Adoption of Improved Management Practices to Increase Sorghum and Pearl Millet Production in Angola and Lesotho

Overall objective	To promote the adoption of improved management practices that can increase the production of sorghum and pearl millet of smallholder farmers of Angola and Lesotho.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Prof Fisseha Itanna National University of Lesotho	Mateus Manuel (PhD) Institute of Agronomic Research, Angola
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved sorghum and pearl millet	Increased sorghum production and pearl millet

Subproject 13

Soybean Introduction and Utilization Technologies to Enhance Nutrition and Income Generation in Lesotho

Overall objective	To enhance Lesotho's capacity to supply human food needs for protein and fats, through introduction and subsequent improvement and increase in soybean production and utilization in order to increase income generation, food security and nutrition of the smallholder farmers.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr. Pulane Nkhabutlane, National University of Lesotho	Dr Moleboheng Lekota National University of Lesotho
Focus (Generation vs Dissemination)	Dissemination	
Pipeline technologies	Name	Basic attributes
	Improved soybean varieties	Nutritious sensetive and profitable soybean varieties

Subproject 14

Screening bean and cowpea varieties and advanced breeding lines for productivity in low soil fertility and drought prone areas in Angola and Lesotho

Overall objective	To screen and evaluate bean and cowpea varieties and advanced breeding lines in low soil fertility and drought prone areas in Lesotho and Angola. To carryout adaptation trials for bean and cowpea varieties and advanced breeding lines under low soil fertility and drought conditions with the aim of improving bean and cowpea productivity on marginal soils. And to further develop drought-tolerant varieties of beans and cowpea with higher seed yield potential	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr Botle Mapeshoane National University of Lesotho	António N.Ndengoloka David, M.Sc. Instituto de Investigação Agronómica, Angola
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved beans and cowpea varieties	Adaptable to different agroecological zones, low fertility and drought conditions

Subproject 15

Mainstreaming climate smart agriculture through sustainable solar- powered micro-irrigation for sustainable small-scale business development.

Overall objective	To investigate the appropriateness (technical and economic) of solar powered drip irrigation and diesel/petrol powered sprinkler system, while also demonstrating them to smallholder farmers.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Lazaro Quintas (Professor) Instituto de Investigação Agronómica (IIA), Angola	Motanyane S. Motake, (Agric Engineer) National University of Lesotho
Focus (Generation vs Dissemination)	Dissemination	
Pipeline technologies	Name	Basic attributes
	Solar power drip irrigation and diesel/petrol powered sprinkler system	Cost-effective agricultural production

Subproject 16

Assessing the effect of biochar and fire on soil fertility and production of maize and beans under different farming systems in Lesotho and Angola

Overall objective	To evaluate the impact of biochar and fire applications on soil fertility, crop production and impact on the environment at different agroecological zones of Lesotho and Angola on fields using different farming practices: MfS, CF and MF.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Prof Mekbib Sissay Bekele National University of Lesotho	Dr Amílcar Salumbo Instituto de Investigação Agronómica (IIA), Angola
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved biochar technologies	Improved soil fertility

Subproject 17

Development and dissemination of legume-based food and fodder-based farming systems to improve cereal production in Angola and Lesotho

Overall objective	To integrate forages and food legumes into cereal production systems and to develop sustainable and efficient cultivation systems based on legume-cereal rotations or sequences.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Prof Makoala V. Marake, National University of Lesotho	Dr. Lutero Campos Instituto de Investigação Agronómica (IIA), Angola
Focus (Generation vs Dissemination)	Generation and dissemination	
Pipeline technologies	Name	Basic attributes
	Legume-based food and fodder-based farming systems	High yielding

Subproject 18

Evaluating common bean (Phaseolus vulgaris) genotypes for biological nitrogen fixation in Lesotho and in Angola

Overall objective	To introduce common bean varieties with enhanced symbiotic nitrogen fixation potential in Angola and Lesotho for purpose of improving soil fertility and ensuring food security.	
Scientists	**Principal Investigator (PI)**	**Co – Principal Investigator (Co-PI)**
	Dr Bataung T. Kuenene Department of Agric Research, Lesotho	Santos João da Costa Quizembe Head of Department of Agricultural Engineering and Forests
Focus (Generation vs Dissemination)	Generation	
Pipeline technologies	Name	Basic attributes
	Improved biological bean genotypes	Enhanced symbiotic nitrogen fixation potential in Angola and Lesotho

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