



# Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 29-Aug-2018 | Report No: PIDISDSA24581



**BASIC INFORMATION**

**A. Basic Project Data**

Country Africa	Project ID P164486	Project Name Agricultural Productivity Program for Southern Africa - Angola & Lesotho	Parent Project ID (if any)
Region AFRICA	Estimated Appraisal Date 28-Feb-2018	Estimated Board Date 15-Nov-2018	Practice Area (Lead) Agriculture
Financing Instrument Investment Project Financing	Borrower(s) Leostho Ministry of Finance, Angola Ministry of Finance, CCARDESA	Implementing Agency Angola Ministry of Agriculture, Lesotho Ministry of Agriculture and Food Security	

Proposed Development Objective(s)

To increase the availability of improved agricultural technologies in participating countries in the Southern Africa Development Community (SADC) region.

Components

Technology Generation and Dissemination  
 Strengthening the Institutional and Enabling Environment for Technology Adoption  
 Contingency Emergency Response Component  
 Project management, monitoring and evaluation, and regional coordination

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Project Cost</b>	50.00
<b>Total Financing</b>	50.00
<b>of which IBRD/IDA</b>	50.00
<b>Financing Gap</b>	0.00

**DETAILS**

**World Bank Group Financing**



International Bank for Reconstruction and Development (IBRD)	25.00
International Development Association (IDA)	25.00
IDA Credit	20.00
IDA Grant	5.00

Environmental Assessment Category

B-Partial Assessment

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

**B. Introduction and Context**

Country Context

1. **Southern Africa’s increasingly integrated regional market presents opportunities for greater economic growth and poverty reduction.** Southern Africa is a diverse region of both low income and middle-income countries and is home to over 330 million people connected through an increasingly dynamic regional market. The region hosts two well-established pan-African institutions covering agriculture and commerce—the Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA), which are actively pursuing a regional integration agenda.

2. Agriculture varies in importance from country to country within the region but is the primary source of subsistence, employment, and income for most of the population. Particularly in the lower income countries, agriculture is the largest contributor to GDP, and the performance of the agricultural sector has a strong influence on growth, employment, food security, and poverty. In Angola, while the agriculture sector contributes only on average 5.5 percent to GDP, 44 percent of the employed population works in the sector. More than half of Angola’s poor are in rural areas and depend almost exclusively on agriculture for their livelihood. Within Lesotho, agriculture contributes around 6 per cent to the GDP, employs almost 60 per cent of the labor force (on subsistence farms) and provides livelihood sustenance for 90 per cent of the rural population. In Lesotho, more than half the population – 57 percent – live below the poverty line, many of whom reliant on agricultural activities.

3. **Both Angola and Lesotho have experienced development challenges common to the Southern Africa region: economies heavily reliant on natural resource exports with high levels unemployment and food insecurity and malnutrition in rural areas. In Angola,** malnutrition is high with 38 percent of children under five being stunted (an increase from 29 percent in 2007), 45 percent being vitamin A deficient, and 48 percent of women being anemic. **In Lesotho,** malnutrition is widespread with one third of children under five being



stunted and 44 percent being vitamin A deficient. Among women of reproductive age, 27 percent is anemic and 38 percent are obese. These impacts on women's nutritional status also directly contribute to childhood stunting and adult malnutrition. The impacts on the economy are significant, and in 2014, the total income and productivity losses in Lesotho associated with under nutrition were calculated at US\$ 184.4 million and represented a total of 6.56 percent of GDP.<sup>1</sup>

4. **For many countries in Southern Africa over-reliance on oil and mineral resource driven growth has led to increased focus on economic diversification and more inclusive growth.** Within **Angola** the 2015/2016 oil price shock highlighted the need to more forcefully address vulnerabilities and dependence on oil, and diversify the economy and better manage oil revenue volatility. The shock prompted the Government of Angola to accelerate efforts to diversify the economy and reduce dependence on food imports. The Government's strategy in the face of the crisis placed a strong emphasis on agriculture as an immediate way to increase domestic production and reduce imports. Increased agricultural production (particularly cereals and vegetables) and productivity have the potential to ease the current account pressures and the foreign exchange scarcity. The economic growth in **Lesotho** has been driven by natural resource based exports – water and diamonds – and is strongly linked to trade with South Africa, where Lesotho also struggles to compete with South Africa's more efficient firms or farms. Lesotho's National Strategic Development Plan prioritized development of several sectors – agriculture and rural economy, manufacturing, tourism and mining. Measures to develop processing and manufacturing capacity – including agro-based – are important to diversification efforts and address rural unemployment.

5. **The region's rich land and water resources have potential but the agriculture sector has not yet been fully developed to contribute to economic transformation.** Southern Africa region falls within the so-called Guinea Savannah zone, which has significant potential for highly productive commercial agriculture as with similar agro-ecologies in other parts of the world such as Brazil and Thailand. **Angola** is the third largest country in sub-Saharan Africa in terms of geographic size and much of its agricultural land is within the underexploited Guinea Savannah zone. A major agricultural producer before the civil war, Angola's agricultural performance remains a fraction of its potential. Similarly, **Lesotho**, over the past 50 years, has gone from a position of virtual self-sufficiency in grain production to being highly dependent on imports of grain. A mountainous country with limited amounts of arable land, Lesotho nonetheless has areas of high agricultural potential and the possibility to exploit its extensive water resources and unique highland growing environment – particularly for higher value crops.

#### Sectoral and Institutional Context

6. **Raising agricultural productivity is necessary if agriculture is to contribute to growth and poverty reduction.** Agricultural productivity has increased in southern Africa, but remains well below potential. This remains the case in Angola and Lesotho where even average yields are below southern Africa regional averages. Most of the growth in productivity in Africa has come from bringing previously uncultivated land into production, rather than from intensification made possible by technical change. Comparisons of total factor productivity growth have shown technical change accounted for a large share of agricultural productivity growth in Asia and Latin America, but a very small share of agricultural productivity growth in Africa in recent decades. Southern Africa has experienced more technology-driven productivity growth than other regions in

<sup>1</sup> "The Cost of Hunger in Africa Lesotho study report."



Africa, but the gains have occurred mainly in middle income countries. Analysis has identified significant yield gaps (the difference between actual and potential yields) that could be narrowed with additional investments in technology adaptation and dissemination.

7. **Regional approaches to technology generation and dissemination are a more effective and strategic than national efforts alone.** Regional integration has proven to be an effective strategy that can allow groups of countries facing common research challenges to increase the efficiency of their investments in agricultural R&D. Adoption of a regional approach to research based on the concentration of resources within a reduced number of large, specialized research institutes serving an expansive shared technology space can deliver key benefits. First, it can reduce duplication by allowing a single regional research institute to undertake work that otherwise would be done in parallel within multiple national research institutes. Second, it can help capture economies of scale by concentrating resources within a single institute, where they can achieve a critical mass. Third, it can increase the payoffs to research by facilitating dissemination of improved technologies across national borders, thereby vastly increasing the number of beneficiaries. Fourth, it can mitigate the isolation that frequently occurs in small, fragmented research institutes by creating effective mechanisms for facilitating knowledge exchange and technology transfer.

8. **Southern African continues to offer attractive opportunities for regional research.** Groups of countries within southern Africa share similar agro-ecological zones and farming systems, suggesting that there is potential for finding shared solutions to common problems. Technology spillover is already occurring within the sub-region, and many high-yielding crop varieties and improved crop and livestock management practices have been successfully disseminated across borders. Significant unrealized potential remains, however, for expanding spillovers.

9. **Southern Africa is also vulnerable to climate shocks and many countries are likely to face greater variability and more pronounced extremes of temperature and rainfall.** Adaptation measures—particularly the adoption of climate-smart agricultural practices—will be needed to maintain productivity and ensure resilience in the face of more frequent and more severe shocks. For **Angola**, the country's vulnerability to climate change poses serious threats to Angolan production systems, infrastructure and markets, and therefore livelihoods and food security. The impact of climate change on the production of six key crops—cassava, maize, sorghum, rice, wheat, and millet—shows that Angola is one of seven countries in which climate change would result in a reduction of total crop yield by the 2030s for all studied climate scenarios<sup>2</sup>. In case of **Lesotho**, the country is expected to experience increased vulnerability due to changes in temperature and precipitation patterns, toward dryer and hotter conditions. In addition, the intensity and frequency of extreme events such as floods and drought are expected to increase, especially in the western and northern lowlands<sup>3</sup>.

10. **Regional coordination mechanisms have increasingly pointed to the need for regional collaboration on agriculture research, policy and service delivery systems.** The Regional Agriculture Policy (RAP) for SADC, which is the regional compact of the African Union's Comprehensive Africa Agriculture Development Program (CAADP), heavily emphasizes regional cooperation on agricultural research and technology transfer with focus on climate smart agricultural practices. In a similar manner. Both Angola<sup>4</sup> and Lesotho<sup>5</sup> have prepared their

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<sup>2</sup> <https://www.climatewatchdata.org/countries/AGO>

<sup>3</sup> <http://www.adaptation-undp.org/explore/southern-africa/lesotho>

<sup>4</sup> INDC Angola, UNFCCC November 2015

<sup>5</sup> Lesotho's INDC, UNFCCC September 2015



respective (Intended) Nationally Determined Contributions (INDCs) that include agriculture as priority sector for adaptation measures.

11. **National systems for generating and disseminating agricultural technology are operating well below their potential, constrained by inadequate facilities, shortages of qualified staff, and low levels of overall investment and budget support.** These factors, in turn, are linked to the high degree of fragmentation in the deployment of resources within the sector, as limited financing is spread over a range of priorities. Given the small size of many countries and economies in the sub-region, few can afford fully elaborated technology development systems capable of addressing all the crops and livestock breeds in their highly diversified production systems. This particularly true in the case of Angola and Lesotho, which have small number of PhD scientists (particularly for Lesotho) and infrastructure that has largely been devastated by the civil war.

12. **The regional productivity program model has demonstrated satisfactory outcomes.** The Agricultural Productivity Program for Southern Africa (APPSA) was approved in March 2013 with IDA financing to Malawi, Mozambique and Zambia. APPSA is part of the Bank's larger portfolio of regional agricultural productivity programs and was third regional operation in a series that followed the successful implementation of the West Africa Agricultural Productivity Program (WAAPP) and the East Africa Agricultural Productivity Program (EAAPP). While the WAAP and EAAP are now being expanded as second-generation programs, APPAS is still considered a first-generation program with additional countries expressing interest to join the program.

13. **Several key results are achieved to date under APPSA.** Under the APPSA 74 R&D sub-projects are launched which are currently making 156 technologies available to farmers (new and "on the shelf" technologies). This includes 47 technologies in Malawi (37 seed varieties; 10 agronomic practices); 63 technologies in Mozambique (11 seed varieties; 28 agronomic practices, 16 pest and diseases management practices, 3 water management practices, and 5 post-harvest technologies); and 46 technologies in Zambia (31 seed varieties; 15 agronomic practices). Additional results include improving cross border movement of technology through the introduction of new plant material and varieties; scaling up extension and dissemination of improved technologies to reach more farmers; improved seed production; building a larger pipeline of qualified agricultural scientists – particularly women scientists; and upgrading of laboratory and fields to modern standards. Annex 3 contains a summary of APPSA results to date.

14. **Closing the gender gap in agriculture R&D.** A recent study<sup>6</sup> shows that gender gap in African agricultural research, while remaining substantial, has continued to decline over the past years, especially in lower tiers of researchers, but remains substantially low in specializations (PhD) and management tiers. In the ongoing project, APPSA will continue to reinforce the training and capacity building opportunity to affirmatively intake female scientists, as well as increase women farmers' access to agricultural technologies. These interventions are increasingly becoming the key avenues to close gender gaps. APPSA will introduce mechanisms that address women's specific constraints in accessing technology and advisory services to ensure effective outreach to women farmers and include women's preferences within the R&D sub-project cycle.

### C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

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<sup>6</sup> Beintema, N., An assessment of the gender gap in African agricultural research capacities.



To increase the availability of improved agricultural technologies in participating countries in the Southern Africa Development Community (SADC) region.

#### Key Results

15. The APPSA Angola and Lesotho specific indicators and targets are based on the regional Results Framework (see Annex 2). The PDO indicators are as following:

- Number of technologies that are being made available to farmers and other end users
- Percentage of Lead Farmers in targeted areas who are aware of an improved technology promoted by the Project
- Number of technologies generated or promoted by the Project in one participating country that are released in another participating country
- Direct Project beneficiaries (number) of which female (percentage)

#### D. Project Description

16. **Changes to the original design were considered but rejected.** Continuation of the original APPSA design in Angola and Lesotho is considered most appropriate given the limited capacity of their respective National Agricultural Research systems. Implementation of the original APPSA design will allow both countries to make core capacity building investments and collaborate on the existing set of developed R&D activities. APPSA design is expected to evolve as the original participating countries develop a possible second phase. These changes could include a greater focus on commercialization, climate adaptation, food safety, regional trade integration, or the agriculture transformation agenda more generally. This evolution in design requires more dialogue in the original participating countries and is not yet fully developed. APPSA implementation in Angola and Lesotho can be adjusted as needed as the vision for continued regional collaboration around R&D matures.

17. The original APPSA design is structured around three components: (1) technology generation and dissemination; (2) strengthening regional centers of leadership; and (3) coordination and facilitation. This structure would largely remain the same for the expansion to Angola and Lesotho with some key modifications: (i) the R&D sub-project cycle will be strengthened by including 'concept incubation' to ensure higher quality sub-projects are developed; (ii) component 2 will be renamed and adjusted to allow institutional capacity building investments not just in Regional Centers of Leadership (RCoLs) but the larger enabling environment for technology dissemination and movement of technology within the region, and (iii) a new component on contingency emergency response will be added to redirect project resources for responding to an emergency or crisis, should the need arises.

18. These adjustments are expected to facilitate alignment to a follow on phase for the original APPSA participating countries, who are expected to build on their implementation experience to scale up technology generation and dissemination but also further develop regional market linkages and strengthen the regulatory capacity in line with the larger agricultural transformation agenda. The summary description of each component is as follows and additional details are provided in Annex 4.

19. **Component 1: Technology Generation and Dissemination (US\$ 8.0 million IDA and US\$ 9.86 million**



**IBRD).** This Component will finance innovative R&D technology generation and dissemination activities associated with the commodity groups or technology themes being targeted by countries participating in APPSA. These will include: (i) regional R&D activities developed in the initial set of APPSA participating countries in the areas of maize, rice, grain legumes, conservation agriculture/climate adaptation, and climate smart agriculture technologies; (ii) additional activities in horticulture and cassava as part of the expansion of regional collaboration to include Angola and Lesotho; and new frontier R&D activities to be developed over the course of implementation by participating countries.

20. All R&D activities financed will be undertaken through collaborative R&D sub-projects involving the participation of at least two countries. The sub-project modality is important mechanism to enable regional collaboration and also allows for flexibility during implementation to adjust the technical focus of activities to meet emerging priorities or test new technologies. Under the first phase of APPSA financing in Malawi, Mozambique and Zambia 77 R&D sub-projects were developed covering a range of topics throughout the value chain. Table 1 summarizes the areas of activities.

**Table 1: Current APPSA R&D Projects Thematic Areas within maize, rice, grain legumes farming systems**

<ul style="list-style-type: none"> <li>• Breeding for resistance to pests and diseases and tolerance to abiotic stresses (drought, heat)</li> <li>• Germplasm collection, characterization and conservation</li> <li>• Integrated pest and disease control</li> <li>• Management of newly emerging pest and disease threats (Fall Army Worm, Maize Lethal Necrosis Disease)</li> <li>• Seed production, supply and delivery systems</li> <li>• Conservation agriculture and climate adaptation measures</li> <li>• Soil fertility improvement</li> <li>• Water management and water use efficiency</li> <li>• Animal traction</li> <li>• Crop-livestock production systems</li> </ul>	<ul style="list-style-type: none"> <li>• Post-harvest processing, marketing and value addition</li> <li>• Improved storage practices (maize, beans)</li> <li>• Food safety (mycotoxin/aflatoxin management)</li> <li>• Reducing pre- and post-harvest losses</li> <li>• Agricultural mechanization (tools for pre- &amp; post-harvest operations; labor-saving devices)</li> <li>• Marketing/ trade of crop produce - linking Farmers to Markets <ul style="list-style-type: none"> <li>▪ Nutrition (vitamin A maize, Quality Protein Maize, high iron/zinc beans, utilization of grain legumes)</li> </ul> </li> </ul>
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21. As part of APPSA Angola and Lesotho preparation the sub-project cycle has been strengthened (see Annex 4). Building on lessons from the ongoing APPSA implementation, the current methodology for development and approval of R&D sub-projects has been further improved to ensure higher quality sub-projects are developed. The main changes have focused on introducing greater technical assistance and quality backstopping during R&D sub-project design as part of the preparation phase. In addition, the role of CCARDESA in ensuring quality of R&D sub-projects is also being enhanced through strengthening the regional coordination and quality control role of CCARDESA. As in the ongoing APPSA, Angola and Lesotho will participate in R&D sub-projects relating to the commodity farming system being targeted by the RCoL that they are hosting – i.e. cassava in Angola and horticulture in Lesotho. Angola and Lesotho will also participate in the R&D sub-projects relating to the commodity farming systems being targeted by RCoLs in other countries; or additional R&D priorities that are agreed collectively by all participating countries. Also building on the lessons from ongoing APPSA, and to address the countries’ ability to address climate change impacts, the APPSA design will provide support for conducting vulnerability assessments as one of the criterion for selection of R&D sub-projects.





22. APPSA's sustainability depends on effectiveness of dissemination and adoption by end users. To achieve this, component 1 will also finance the dissemination of improved technologies by providing resources for RCoLs to engage with a range of partners in scaling up the use of promising innovations of relevance to the targeted commodities. Where needed, behavioral communication campaigns (BCC) messages will be incorporated to promote adoption of all technologies, and especially for nutrition-sensitive varieties and consumption of associated products, to increase potential for end users' demand of nutritious foods, and enhance dietary consumption effects.

23. APPSA will help to strengthen the links between researchers, extension agents, input distributors, farmers and other end users. To do this, APPSA will not only support the national extension systems in the respective countries, but will promote special sub-projects that are focused entirely on technology dissemination by extension services and also outsourcing dissemination through civil society networks, private sector collaborators, and other stakeholders. In addition, special focus on reaching women farmers for technology awareness will be included in the dissemination pathways.

24. **Component 2: Strengthening the Institutional and Enabling Environment for Technology Adoption (US\$ 7.5 million IDA and US\$ 9.05 million IBRD).** This Component will finance: (i) upgrading of research infrastructure including rehabilitation and construction of on-farm infrastructure, research laboratory, and research and office equipment; and information technology and knowledge management systems; (ii) upgrading of infrastructure for sanitary and phytosanitary (SPS) management and regulatory systems; (iii) improving institutional administration and performance management systems within RCoLs; (iv) developing human capital, with special focus on promoting women scientists, by providing scientific or technical training at the post graduate level; by upgrading skills through short courses or targeted training, and scientific exchanges; (v) strengthening seed production capacity, seed regulatory functions, and related services, and (vi) improving national research regulatory system to facilitate NARS functionality and implementation of research and dissemination activities.

25. The need for upgrading infrastructure remains a priority for each country participating in APPSA, however APPSA will prioritize financing policy and regulatory framework in conjunction with infrastructure. This component will finance technical assistance for policy analysis and harmonization through analytical work, needs assessments, and policy dialogue or policy harmonization activities in key areas that affect R&D at national and regional levels. Analytical work will focus on seed production systems, intellectual property rights, operationalization of the SADC harmonized seed regulatory system, implementation of biosafety regulations, and similar topics. Some of these studies already exist for ongoing APPSA countries and will be updated to include Angola and Lesotho. APPSA will also support key players other than the RCoLs, through CCARDESA, to facilitate the policy harmonization process.

26. **Component 3: Contingency Emergency Response Component (US\$0).** The CERC would be available should the need arise to redirect some project resources to contribute with other projects in the participating countries portfolio to respond to an eligible emergency or crisis. Resources would be made available to finance emergency response activities and to address crisis and emergency needs. If such a crisis develops, the government may request the World Bank to reallocate project funds to cover some costs of emergency response and recovery. Detailed operational guidelines acceptable to the World Bank for implementing the project CERC at national level will be prepared as a disbursement condition for this Component. All expenditures under the CERC will be in accordance with paragraphs 11, 12, and 13 of World Bank OP10.00



(Investment Project Financing). The operational guidelines and expenditures will be appraised and reviewed to determine if they are acceptable to the World Bank before any disbursement is made. Disbursements will be made against an approved list of goods, works, and services required for crisis mitigation, response, recovery, and reconstruction. In case this component is to be used, the project will be restructured to re-allocate financing.

27. **Component 4: Project management, monitoring and evaluation, and regional coordination (US\$ 4.5 million IDA and US\$ 6.09 million IBRD and US\$ 1 million IDA Grant to CCARDESA).** This Component will finance: (i) national coordination; (ii) regional facilitation; and (iii) monitoring and independent evaluation of results. The national level coordination will include planning and budgeting, management and administration, monitoring, independent evaluation, safeguards compliance, and regional engagement. If necessary, APPSA would finance consultants to ensure that all essential project coordination activities are carried out effectively. Government counterpart resources will be used to pay staff-related costs not eligible for IDA or IBRD funding. To ensure regional level coordination, CCARDESA will act as the key facilitation partner to support each country at all stages of implementation cycle including (i) planning, monitoring and tracking results related to regional collaboration; (ii) regional exchange of information, knowledge and technologies; and (iii) technical assistance and capacity building. CCARDESA will play an important role in facilitating the development of R&D sub-projects, including quality assurance of sub-project proposals and organizing the peer review process. The regional facilitation activities to be performed by CCARDESA will be supported using funds from a subsidiary agreement between the APPSA participating countries. CCARDESA will also support all participating countries in implementation of the regional M&E framework through setting up a joint Management Information System (MIS) between countries implementing the ongoing APPSA – Malawi, Mozambique and Zambia – as well as the new countries joining APPSA – Angola and Lesotho. As in being done in ongoing APPSA, CCARDESA will also commission independent evaluations of APPSA at regular intervals including at mid-term and project closing.

## E. Implementation

### Institutional and Implementation Arrangements

28. As in the original APPSA, implementation will be done through national entities within the ministries of agriculture in each country and supported by the regional coordination and facilitation role of CCARDESA.

29. **CCARDESA** would continue to play its regional facilitation role and subsidiary project agreements would be signed to finance the costs. Under the initial APPSA phase, participating countries each paid nearly 3% of their Credit to finance CCARDESA's regional facilitation services. This arrangement would be expected to continue under APPSA Angola and Lesotho.

30. In **Angola** the proposed implementing agency is the Instituto de Investigação Agronómica (IIA), a public research institute mandated for scientific research and technology development in the fields of agriculture, forestry and pastures. IIA has a national mandate and is part of the Ministry of Agriculture (MINAGRI), responding directly to the Minister. IIA's internal organization is composed of central management and administrative units; central technical services; and 23 Research Stations of which 11 would be possible locations for APPSA activities (Chianga, Cela, Mazozo, Malange, Nsosso, S. Vicente, Humpata, Namibe, Luso, Zaire and Ceilunga) but other sites can be included. The proposed RCoL will be part of the existing IIA research network and will host the specialized center for cassava R&D.



31. In **Lesotho**, the proposed implementing agency is the Department of Agricultural Research (DAR) under the Ministry of Agriculture and Food Security. DAR maintains a headquarters in Maseru with regional research stations representing each of the three major agro-ecologies of Lesotho: mountains, foothills and lowlands (southern, northern and central), which are complemented by six substations as research trial sites used to verify agro-ecological adaptations. APPSA would not operate in the Senqu River Valley zone.

#### **F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)**

Project activities (on farm trials and demonstrations) will take place on research stations and farmer fields. The activities will all take place on land that is already part of existing agricultural research stations in the respective countries. In Lesotho, the research stations that will benefit from APPSA funding are all in existence since many years, under Ministry of Agriculture's management and were screened for resettlement impact prior to appraisal. The encumbered land is generally well fenced and officers from agricultural research are residents at sites. The client has obtained Form C's (land certificates) for all the sites to formalize the Ministry's ownership of land in the areas that are governed under the local chiefs. There are well established rules for community benefits related to the research stations: no farm animals are permitted on the land occupied by the research stations, but following harvest of research crops, community members are given permission to gather grass or other left-over products. In addition, the chief identifies local community members who are hired for various tasks related to research activities, the current daily rate paid is M100. In Angola, the project will finance the rehabilitation and improvement of research stations and small-scale irrigation infrastructure. However, in Angola, as not all land is currently in active use by the client, research stations are not adequately fenced, and the exact location of all project activities are not known. Generally, Indigenous Peoples (IPs) in Angola are believed to be dispersed through small communities especially in southern Angola border regions and their exact locations have been difficult to determine. In this regard, a preliminary assessment was conducted to determine the presence of indigenous communities in the project areas. The assessment confirmed that there are indigenous communities present in the Namib province, one of the Provinces that will host project activities. Based on the results of this assessment, OP 4.10 was triggered as a precautionary measure for Angola in case project activities will take place close to IP's ancestral land potentially affecting IP's.

#### **G. Environmental and Social Safeguards Specialists on the Team**

Edward Felix Dwumfour, Environmental Safeguards Specialist

Kisa Mfalila, Environmental Safeguards Specialist

M. Yaa Pokua Afriyie Oppong, Social Safeguards Specialist

Majbritt Fiil-Flynn, Social Safeguards Specialist



Paulo Jorge Temba Sithoe, Environmental Safeguards Specialist  
Mantsebo Moipone Amelia Ndlovu, Social Safeguards Specialist

**SAFEGUARD POLICIES THAT MIGHT APPLY**

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The policy is triggered because under component 2 project funds will be used to support upgrading, rehabilitation and construction of research infrastructure such as on-farm small-scale infrastructure (including irrigation facilities), germplasm storage facilities, research and phytosanitary laboratories, office accommodation and research equipment. These civil works are likely to result in adverse impacts that are however localized, reversible and cost-effectively mitigable. Also, the proposed research activities under component 1 will include breeding for resistance to pests and diseases and tolerance to abiotic stresses, germplasm collection, characterization and preservation, and on-farm technology testing and demonstration that can involve the application of agro-chemicals including chemical pesticides. The framework approach has been adopted since the specific sites, nature and scope of risk were not known prior to appraisal. In this regard, both Angola and Lesotho have prepared separate Environment and Social Management Framework (ESMF) as the safeguard instruments which will provide a uniform approach for addressing identified potential negative environmental impacts as well as screening procedures and monitoring plans for compliance management. The project has been classified as a Category B under OP/BP 4.01 Environmental Assessment.
Performance Standards for Private Sector Activities OP/BP 4.03	No	The policy is not triggered. There will be no private sector involvement in the implementation of the project.
Natural Habitats OP/BP 4.04	No	The policy is not triggered because there will be no impacts on natural habitats given that activities will



		be implemented in existing lands and research areas owned by the research stations and/or farmers.
Forests OP/BP 4.36	No	The policy is not triggered as program activities do not have any impacts on the health and quality of forests, people who depend on forests, nor is there an aim to change the management, protection, or utilization of forests, as all activities will be implemented in existing lands and research areas.
Pest Management OP 4.09	Yes	Notwithstanding the fact that the project will finance breeding programs for resistance to pests and diseases and consequently contribute to reducing the use and application of pesticides, it is likely that other activities such as the propagation and production of selected crops may result in emergence of pests beyond economic threshold and thereby resulting in the need to apply pesticides. No pesticides or agrochemicals will be purchased and supplied by the project to farmers outside of their participation in research trials or demonstrations activities. Each participating country has prepared a Pest Management Plan (PMP) which incorporates Integrated Pest Management (IPM).
Physical Cultural Resources OP/BP 4.11	Yes	This policy is triggered because lessons learned from other projects in Lesotho have shown that in some of the districts where the project will be implemented, such as Leribe and Butha Buthe, artefacts from historical cultural resources have been found at some places. While there are no indications that the encumbered sites in Lesotho may have physical cultural resources, the Chance Find Procedures have been included in the ESMF in case of chance finds during implementation of the project. The policy will not be triggered for Angola because project investments are not likely to involve any significant excavations, demolition or large movements of earth, or presence of a cultural resources site within the project areas, or in its vicinity.
Indigenous Peoples OP/BP 4.10	Yes	In Angola, the Bank's IP policy is triggered due to the likely presence of indigenous (autóctone) communities in the project area and the need for alternative interventions to meet their unique needs. The San have been identified as an autóctone community that is likely to be in the project area. If there are other groups in the project area that may



meet the criteria of OP 4.10, the project will undertake a screening, social assessment and other measures, per the requirements of the policy. The project is not expected to affect negatively impact autóctone communities as there is no plan for expansion of agricultural production under the project. The project will neither displace communities from areas where they live nor alter their ability to engage in economic activity in areas where they traditionally operate. No resettlement is envisioned either in economic or physical terms. However, as these communities are present in the project areas, and their livelihood systems include commodities targeted by APPSA (cassava) and they may experiment with crops, technologies and systems on their land, an Indigenous Peoples' Policy Framework (IPPF) has been prepared, consulted upon and disclosed in Angola. The IPPF includes provisions for providing appropriate guidance on sharing R&D project findings and benefits to autóctone communities. The IPPF was consulted on 15 and 16 May 2018 and was disclosed both on WB website and in-country on IIA website.

The policy is triggered in Angola only. Although no land acquisition is expected under the project and activities will take place on land already under the management of agricultural research stations or farmers, in some cases land is currently fallow or not actively used and local communities may have encroached into fields for their own farming. While all land which is required for project activities belongs to the respective clients, there is a risk that informal occupation or use is occurring or may occur during project implementation. OP4.12 is therefore triggered to avoid involuntary resettlement impacts and to guide implementation of mitigation/compensation measures in case physical or economic displacements occur. An RPF has been prepared and consulted upon in Angola. In Lesotho, screening conducted prior to appraisal of all potential project sites determined that there is no encroachment on land utilized for research stations. Research stations are located in areas under traditional land management, but are fully recognized by chiefs and communities. The stations are staffed and fenced. Existing community benefit

Involuntary Resettlement OP/BP 4.12

Yes



		mechanisms will remain in place throughout the project.
Safety of Dams OP/BP 4.37	Yes	The policy is triggered because the project will finance repairs, improvements, where needed, of irrigation reservoirs/ponds (which are ground level structures with embankment heights of less than 10 meters). These ponds are located on the existing research stations and fields in Angola and Lesotho. Other investments will include rehabilitation of existing irrigation systems and small-scale drainage channels. For all rehabilitation works, guidelines provided in the FAO manual on small dams will be used and the design and construction will be supervised by qualified engineers.
Projects on International Waterways OP/BP 7.50	No	The policy is not triggered as the project would not be implemented in international waterways. Small scale irrigation within the context of technology demonstration or research could be financed by the program but would be within the context of research facilities and would not be located in international waterways.
Projects in Disputed Areas OP/BP 7.60	No	The policy is not triggered as the area where the program will be implemented is not known to include any disputed areas.

**KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT**

**A. Summary of Key Safeguard Issues**

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

APPSA is expected to have an overall positive impact by supporting the development and dissemination of agricultural technologies that promote sustainable use of land and water. From an environmental safeguards point of view, APPSA is a category B project. This implies that the Project’s potential environmental and social impact is expected to be minor, noncumulative, and site-specific and can be easily managed to an acceptable level. The potential risks or negative environmental impacts that could arise from implementation based on the initial assessments in the ESMFs are as follows:

- Increased vulnerability to pests due to poor pest management or introduction of new cultivars;
- Localized agro-chemical soil and water pollution and reduction of water quality from agro-chemical use or poor handling of pesticides and disposal of empty chemical containers;
- Unintended movement or transmission of plant varieties within or between countries because of field trials or other research activities;
- Land or water degradation due to maintenance and rehabilitation of existing small-scale irrigation systems at



research stations, or the construction or rehabilitation of additional buildings at existing research stations.

None of the proposed project activities are expected to have significant adverse environmental impacts that are sensitive, diverse, cumulative, irreversible, or unprecedented. The measures proposed in the ESMFs are considered sufficient to prevent or mitigate adverse impacts. Transgenic research or the use of biotechnology tools is neither promoted nor precluded by the project and the current regulatory framework for biosafety within each country is considered sufficient to manage any risks associated with this type of research project.

The project will also contribute towards reducing the vulnerability of poor rural households to climate shocks by promoting the adoption of climate smart agricultural practices. Under component 1, the project shall finance research activities which could include breeding, germ-plasm and farm technology testing that can involve the application of agro-chemicals including chemical pesticides; under component 2, activities will involve civil works such as rehabilitation of research buildings and small irrigation schemes. Given the nature of the foreseen works, it is anticipated that most activities will fall under Category B, since potential environmental and social impacts are site-specific, minimal, and can be easily mitigated using appropriate tools.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area: APPSA is expected to have significant positive effects on rural households, especially those engaged in smallholder farming, and more specifically on the women and children in these households who disproportionately bear the burden of food insecurity and nutritional deficiency. The Project will enable farmers—including women farmers—to identify priorities for research, partner with research agencies, and participate in technology demonstrations, field learning, and other training activities. In addition, technologies generated and disseminated under the Project are expected to improve the resilience of poor rural households in the face of climate shocks and reduce their vulnerability to food insecurity and poverty.

Women make up a significant proportion of agricultural work force in Angola and Lesotho. The Project will work to ensure that R&D projects will be sensitive to gender-differentiated priorities as these relate to household food security and nutritional sufficiency. Recognizing that research and extension programs in the participating countries in the past have attracted mainly men as participants, the Project is committed to ensuring that at least 30 percent of the farmers and other end users who participate in Project-supported activities will be women.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

No alternatives were considered to help avoid or minimize adverse impacts. Existing agricultural research stations would anyway be used for research activities, and land owned by farmers and volunteered for demonstration purposes would anyway be farmed.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

ESMFs and PMPs were prepared for both countries, while an RPF and an IPPF are prepared for Angola to manage environmental and social safeguard issues during project implementation.

Both Angola and Lesotho have some experience in implementing Bank safeguards requirements through other projects but capacities remain limited in the specific implementing agencies. In Angola the implementing agency is the Ministry of Agriculture through its Institute of Agriculture (Instituto de Investigação Agrícola (IIA)). In Lesotho the implementing agency is the Ministry of Agriculture through its Department for Agricultural Research (DAR). In both IIA and DAR, incremental staff and consultants will be recruited to ensure implementation of safeguards instruments and monitoring compliance of all components. In addition, the World Bank will provide guidance and training to ensure





that the client will have the adequate capacity to implement, monitor and report on environmental and social issues. Through the Bank supervision missions, capacity of the implementing agencies will be improved. Both Angola and Lesotho, have established project implementation units for other World Bank agriculture projects that will be utilized for shared services, and fiduciary and safeguards issues. For instance, in Lesotho, the Ministry for Agriculture and Food Security (MFAS) is currently also implementing the Lesotho Smallholder Agriculture Development Project (SADP) and substantial safeguard training has been provided to the Project Implementation Team and Ministry extension officers. The APPSA implementation team will be supported through the SADP for the first six-months duration and thereafter. Similarly, in Angola, the Ministry of Agriculture (MINAGRI) is implementing the Smallholder Agriculture Development and Commercialization Project (SADCP), which is already providing support for preparation and planning of APPSA Angola and this arrangement will be continued for at least the first 18 to 24 months. In addition, it should be noted that in Angola, IIA has shown willingness to improving their capacity on Safeguards Management and has taken the initiative to review safeguards instruments in house, without the assistance of an external consultancy.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

In Angola, the main stakeholders consulted for the RPF included: traditional authorities; FCA-Faculty of Agricultural Sciences; INCER- Institute of Cereals; IIA-Agronomic Research Institute; Local Administrations; IDA-Institute for Agrarian Development; SENSE-National Seeds Services; IDF-Forestry Development Institute; ISPKS-Polytechnic Institute of Kwanza Sul; UNACA-Confederation of Associations of Peasants and Cooperatives Agro-livestock of Angola; ADRA-Action for Rural Development and Environment; SNAPP-National Plant Protection Service; DPUHA-Provincial Directorate for Urbanization, Housing and Environment; FAS-Social Action Fund; Farmers; UNIKIVI-Kimpa Vita University; NGO LUBEL Association; Cooperativa do Carmo; Cooperativa Bom Fim; Cooperativa Ampindi; MinEd-Ministry of Education; and the ISV-Veterinary Service Institute. For the RPF and ESMF, the consultations were held from 09 April to 16 May 2018 in the following locations: Malanje Agricultural Experiment Station (Malanje), Tomboco Municipal Administration (Zaire), Nsooso Agricultural Experiment Station (Damba / Uige), Provincial Higher Technical Institute of Sumbe (Kuanza Sul), Cela Agricultural Experimental Station (Waku Kungo / Kuanza South), Chianga Agricultural Experiment Station (Huambo) and Provincial Directorate of Family and Woman (Kuito / Bié) EEA from São Vicente (Cabinda), EEA from Namibe and EEA from Mazozo (Luanda). The Public Consultation Workshops saw the participation of 490 people. For IPPF in Angola, principle stakeholders beyond MINAGRI and the IIA included MASFAMU, due to their mandate for coordination and support for autóctone communities, and local NGOs as advised by the FAO but likely including OCADEC and ADRA, both located in Lubango. In Namib, consultations took place on May 15 and 16 2018. The framework for ensuring free, prior, and informed consultation leading to broad community support with the affected Indigenous Peoples' communities at each stage of project preparation and implementation will be included in the Project Implementation Manual that will have a specific section with regards to engaging with autóctone communities to ensure that all interactions are culturally appropriate.

In Lesotho, community members within the project areas are considered the key stakeholders for the project. Therefore, citizen engagement will be a key component and the PIU will oversee ongoing and meaningful consultation in communities using existing local governance structures and area extension workers. Substantial safeguards training will be provided to the Project Implementation Team and Ministry extension officers. The APPSA implementation team will therefore ensure that the consultation processes are recorded and incorporated into the decision-making processes. The Project will establish a grievance redress system) building on both traditional conflict-resolution mechanisms as well as project-based steps to ensure maximum citizen engagement.



**B. Disclosure Requirements**

**Environmental Assessment/Audit/Management Plan/Other**

Date of receipt by the Bank	Date of submission for disclosure	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
06-Jun-2018	20-Jul-2018	

**"In country" Disclosure**

Angola  
20-Jul-2018

Comments

Lesotho  
21-Aug-2018

Comments

**Resettlement Action Plan/Framework/Policy Process**

Date of receipt by the Bank	Date of submission for disclosure
26-Mar-2018	21-Aug-2018

**"In country" Disclosure**

Angola  
21-Aug-2018

Comments

**Indigenous Peoples Development Plan/Framework**

Date of receipt by the Bank	Date of submission for disclosure
23-May-2018	28-Aug-2018

**"In country" Disclosure**

Angola  
28-Aug-2018

Comments



**Pest Management Plan**

Was the document disclosed prior to appraisal?	Date of receipt by the Bank	Date of submission for disclosure
Yes	06-Jun-2018	25-Jul-2018

**"In country" Disclosure**

Angola  
25-Jul-2018

Comments

Lesotho  
25-Jul-2018

Comments

**If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.**

If in-country disclosure of any of the above documents is not expected, please explain why:

**C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)**

**OP/BP/GP 4.01 - Environment Assessment**

Does the project require a stand-alone EA (including EMP) report?

Yes

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?

Yes

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?

Yes

**OP 4.09 - Pest Management**

Does the EA adequately address the pest management issues?

Yes



Is a separate PMP required?

Yes

If yes, has the PMP been reviewed and approved by a safeguards specialist or PM? Are PMP requirements included in project design? If yes, does the project team include a Pest Management Specialist?

Yes

**OP/BP 4.11 - Physical Cultural Resources**

Does the EA include adequate measures related to cultural property?

Yes

Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?

Yes

**OP/BP 4.10 - Indigenous Peoples**

Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?

Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Yes

If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social Development Unit or Practice Manager?

Yes

**OP/BP 4.12 - Involuntary Resettlement**

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?

Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Yes

**OP/BP 4.37 - Safety of Dams**

Have dam safety plans been prepared?

No

Have the TORs as well as composition for the independent Panel of Experts (POE) been reviewed and approved by the Bank?

No

Has an Emergency Preparedness Plan (EPP) been prepared and arrangements been made for public awareness and training?

No

**The World Bank Policy on Disclosure of Information**



Have relevant safeguard policies documents been sent to the World Bank for disclosure?

Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes

### All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Yes

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

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Country Director:	Emmanuel Noubissie Ngankam	30-Aug-2018



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