



Program Information Document (PID)

Concept Stage | Date Prepared/Updated: 15-Sep-2018 | Report No: PIDC153189



BASIC INFORMATION

A. Basic Program Data

Country Senegal	Project ID P164967	Parent Project ID (if any)	Program Name Groundnut Competitiveness and Agriculture Diversification Program For Results
Region AFRICA	Estimated Appraisal Date 18-Mar-2019	Estimated Board Date 14-Feb-2019	Does this operation have an IPF component? No
Financing Instrument Program-for-Results Financing	Borrower(s) Ministry of Finance, Economy and Planning	Implementing Agency Ministry of Agriculture and Rural Equipment	Practice Area (Lead) Agriculture

Proposed Program Development Objective(s)

to improve the competitiveness of the groundnut value chain and to increase the resilience to climate and market risks of farmers and herders in the Groundnut Basin.

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	700.00
Total Operation Cost	225.00
Total Program Cost	225.00
Total Financing	225.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	150.00
World Bank Lending	150.00



Total Government Contribution

75.00

B. Introduction and Context

Country Context

1. **After decades of slow growth, past reform initiatives have cumulatively strengthened structural competitiveness and positioned Senegal among the fastest-growing economies in Sub-Saharan Africa (SSA) in recent years.** Driven by progressively resurgent exports, the Senegalese economy has been expanding at almost 7 percent annually since 2015, when external conditions have also become more supportive, as global oil, commodities and food prices declined. Growth decomposition highlights the critical role of more competitive and diversified exports not only in the past three years, but starting from 2010, when the country reversed a historic trend of declining international competitiveness, although this positive effect was initially offset by large negative external shocks. The recent progress contrasts starkly with decades of paradoxically modest economic development, when Senegal’s per capita GDP, almost uniquely in Sub-Saharan Africa, remained below its level at Independence, as the economy was persistently stifled by high vulnerability to shocks, weak productivity and omnipresent informality.

2. **Wide-based accelerated growth since 2015 has been driven by expanding exports, fueled by economic reforms and a robust external demand.** GDP growth accelerated from 6.5% in 2015 to 6.7% in 2016, positioning Senegal among the fastest growing economies in the African continent. All sectors of the economy contributed significantly to growth in 2016 with services being the sector that contributed the most due to its large size as a share of GDP. Other demand components performed well, but their role as growth drivers were not as strong as exports. Total investment grew by 8.8% in 2016 (up from 6.3% in 2015) as a result of the investment program adopted as part of the Plan Senegal Emergent (PSE-2014-2035, and its ongoing 5-year Priority Action Plan 2014-2018), as well as policy interventions in specific sectors, including agriculture. While the strong import component of investments reduces their short-term impact on growth, the increase in both public and private investments bodes well for future growth, particularly if the efficiency of public investment can be enhanced. Private consumption accelerated also as its growth rate increased from 5% in 2015 to 5.3% in 2016 thanks to higher income and optimistic expectations about the future of the Senegalese economy.

3. **The recent structural turnaround is anchored in prudent macro fiscal policies and supported by a favorable environment.** On the fiscal side, the balance has improved significantly with the fiscal deficit reduced to 4.2% of GDP in 2016 (from 4.8% in 2015) as a result of rationalized current spending stemming from the current fiscal consolidation efforts and higher revenues driven by better collection of custom taxes. According to the latest IMF-World Bank (WB) debt sustainability analysis, public debt in Senegal (60.6% of GDP in 2016) remains at a low risk of distress, but indicators are showing emergent strains with respect to sustainability. Also, inflation has remained under control and below the 2% target set by the regional central bank, thanks to the prudent regional monetary policy, exchange rate stability and ongoing fiscal consolidation efforts.

4. **Higher growth has resulted in an estimated drop in poverty incidence by 4 to 7 percentage points since 2011 (from 47 percent, to 38 percent based on the international poverty line).** Agriculture appears to have been one of the main drivers of this reduction, as it has registered low, but positive growth with two exceptionally good years in 2015 and 2016. At the same time, rural areas have witnessed some job reallocation out of the primary sector, as households have diversified their livelihoods, tapping into a growing rural non-farm economy. Moreover, moderate improvements in general value added per agricultural worker have reversed a negative trend of more than a decade, pointing to signs of



nascent structural transformation. In urban areas, labor income among the poor has been boosted by growth in labor-intensive sectors, such as construction.

5. **However persistent spatial disparities are evidenced, with rural areas- particularly the Groundnut Basin (GNB)- lagging behind their urban counterparts on a wide range of non-monetary indicators.** In 2011, nearly 70 percent of the poor and 84 percent of the extreme poor lived in rural areas, accounting for 57 percent of the total population and suggesting rural poverty to be deeper and more severe. Female-headed households were less likely to be poor, as women tend to head smaller households, and are more likely to receive cash and in-kind transfer¹. The poorest communes are located in the center of the country known as the Groundnut Basin (particularly in the region of Diourbel, Fatick, Kaolack and Kaffrine), and in the Kolda (south) and the eastern part of Tambacounda (south-east), which is also part of the extended groundnut basin. The poverty profile constructed using the DHS wealth indicators for 2015 suggests that the characteristics of the poor have largely remained unchanged since 2011 in terms of geographic distribution, households' size and education levels. The extended Groundnut Basin is the country's bread basket, supplying key staples (mostly millet, sorghum, and maize) and fodder from groundnuts and cowpeas. Those areas have the highest population density (100-120 people/km²) after the capital city area.

6. **Agriculture employs the largest share of the poor, particularly in the Groundnut Basin. Indeed, 62 percent of the rural population depend on agriculture,** which employs more than 36 percent of the total labor force of the country, according to the 2015 Labor Force Survey, and poverty incidence among farmers is the highest. In rural areas, nearly 80 percent of paid workers in the bottom quintile of the distribution of consumption worked in agriculture, while the more prosperous are engaged in largely informal services. Among the poorest are the farmers growing rain-fed crops particularly in the Groundnut Basin. Households having animal production as a main source of livelihood are also among the poorest. On the other hand, poverty is at its lowest rates among horticulture farmers, mainly based in the Niayes, on the coast between Saint-Louis and Dakar, or rice producers along the Senegal River valley. Groundnut farming is a primary source of income for a vast majority of family farms, accounting for about half of the total cropped area in the country and employing two-thirds of the rural population, mostly below the official poverty line. In fact, groundnuts are grown by 27 percent of all households in Senegal, and by 52 percent of households in extreme poverty (ANSD, 2011). Moreover, supporting labor-intensive activities down the value chain, such as transportation, storage, and processing, remains an important source of non-farm employment in both formal and informal sectors.

7. **While the economic prospects are good with a projected real GDP growth at 7.0% in 2019, much more needs to be done in implementing the Government's longer-term strategy (PSE) to transform the rural economy and reduce poverty and spatial imbalances.** Supported by robust macroeconomic fundamentals, Senegal is expected to remain one of West Africa's top growth performers, if the current internal and external conditions continue supporting this trend. Indeed, higher exports from the agriculture, fishery and extractives sectors would continue to drive economic growth. However, external shocks, delayed critical reforms to remove bottlenecks to competitiveness of key sectors and increase private investments, insufficient funding and/or delays in implementation major PSE programs, poor quality of public spending, uncertainties or slow pace of critical reforms to address key bottlenecks due to non-technical motivations are major risks to growth expectations. In particular and despite recent improvements in competitiveness and diversification, the agriculture sector would continue to be adversely exposed to volatile climatic conditions, particularly if adequate reforms are not implemented and substantial investments not made to reduce agricultural dependency on rainfed cropping systems, to adapt the groundnut value chain to changing markets, and to improve the overall resilience of the crops and livestock production systems to worsening climate conditions in the poorest regions, particularly the groundnut basin.

¹ Moreover, due to self-selection women, heading their households, may represent a sub-sample of women with different preferences, norms, and characteristics.



B. Sectoral (or multi-sectoral) and Institutional Context of the Program

8. **The agriculture sector has played a critical role in the Senegalese economy, but remains vulnerable to external shocks, which are likely to intensify with greater openness of the economy and climate change.** The agriculture sector grew at an average rate of 3.2 percent between 2000 and 2016, but volatility around that average was large. The big swings in agriculture growth, which are highly correlated to large changes in the Senegalese economy's growth rates, are mainly the result of weather and climatic hazards which heavily impact pastoralism and rain-fed crops such as groundnut, millet and other cereals that have traditionally dominated the sector. This suggests that for Senegal to maintain the high output growth attained since 2015, more efforts are needed to protect the agriculture sector against climatic variability and enhance the resilience of livelihoods in rural areas. Deteriorating climatic conditions in areas surrounding cities are likely to increase human migration into cities, further increasing already high urbanization rates. If left unmanaged, urban sprawl may worsen or even cause natural hazard events.

9. **Recent improvements in agriculture output in the past few years have been driven by expansion of cropped areas and an increase in the use of inputs encouraged by public policies, with limited impact on productivity and job creation.** The Senegalese government has adopted several policies to modernize and develop the agriculture sector over the past few years. These policies, such as developing the skills and financial capabilities of farmers, subsidizing of high quality seeds, and supporting agricultural mechanization, have helped boost agriculture yields and production, in cereals, horticulture and pulses. The main crops that have benefited are those tagged as priority value chains under PRACAS (rice, onions and groundnuts, with steady increases by 160%, 74%, and 108% respectively between 2013 and 2017). Continued public support for rice over the last two decades - by increasing investments and implementing reforms in the irrigation management systems and expanding low land (and rainfed) cropping systems - is paying off with higher rice yields, surpassing the African average and closing the gap with the World average. The private sector has contributed to the improvement in agriculture productivity due to the modern processing units that were developed along the Senegal River Valley. However labor productivity did not improve over time - and even decreased for certain crops - mainly due to a decreasing land-to-labor ratio. In fact, the increase in agriculture output was largely due to an expansion of input use per unit of land, and to a much lesser degree to overall improvements in Total Factor Productivity (TFP), through innovation and better skills. Therefore, to achieve the objective of poverty reduction - poverty remains prevalent in rural areas - and to drive the agricultural transformation agenda, total factor productivity, and labor productivity in particular, should significantly increase. This requires creating more jobs for the rural workforce ('move-out' track), while supporting farmers to modernize and better connect to downstream segments of value chains and with the rest of the economy ('move-up' track)

10. **Low productivity, a weak land regime and underdeveloped infrastructure and logistics limit the potential of agriculture to reduce poverty.** Despite the importance attributed by the Government to the agricultural sector in the Plan Senegal Emergent, agriculture still has the lowest productivity among all sectors, the average farmer being more than six times less productive than his average counterpart in the rest of the economy. This result is not surprising if one thinks that only 3 percent of cultivated land is irrigated; the production system is still archaic; harvest losses span between 10 and 30 percent and access to inputs is problematic. Productivity is particularly low among the poor for whom these problems are exacerbated by the lack of access to productive assets and financing for farm operations. The recent success recorded in the subsectors of horticulture and rice, where productivity increased significantly during the last 10 years, was made possible by addressing some of those constraints, including through improved water management particularly in the Senegal River Valley, increased access to inputs (seeds, fertilizers) and machinery, and better connectivity.

11. **Addressing the overreliance of the agriculture and livestock production systems on rainfall in the Groundnut Basin is critical to secure agricultural growth and sustainable development.** The World Bank Disaster and Risk Climate portal recorded the following extreme events in the past years, which have certainly influenced performance of the agriculture sector : (i) statistically significant decrease in wet season rainfall between 1960 and 2006, with the 500 mm isohyets regressing about 100 kilometers (km) to the south; (ii) high variability on inter-annual and inter-decadal



timescales, which can make long-term trends difficult to identify ; (iii) a period of particularly high rainfall in the early 1960s, whilst the early 1980s were particularly dry; (iv) some unusually high rainfalls have occurred in the dry season in very recent years (2000-2006), but this has not been part of a consistent trend; (v) increased mean annual temperature by 0.9°C since 1960, an average rate of 0.20°C per decade. Recent projections indicate that those phenomenon are likely to amplify with : (i) mean annual temperatures projected to increase by 1.1 to 3.1°C by the 2060s, and 1.7 to 4.9°C by the 2090s, with projected rates of warming faster in the interior than in those areas closer to the coast; (ii) substantial increases in the frequency of days and nights that are considered 'hot' in the current climate, with such increases occurring more rapidly in the south and east of the country; (iii) decreases in the frequency of days and nights considered 'cold' in the current climate; (iv) a wide range of changes in the mean annual rainfall averaged over the country, from -41 to +48% by the 2090s—but more models show decreases. While it is difficult to draw robust conclusions of changes in precipitation, it is likely however that a greater proportion of precipitation will occur in heavy rainfall events, so it is important to incorporate scenarios of both precipitation increases (which will further fuel soil erosion) and decreases (amplifying drought frequency) in future planning.

12. **The production systems in the Groundnut Basin, both for crops and livestock, are overwhelmingly rainfed and driven by small farmers with holdings of less than 5 ha per households.** Unlike other major agroecological areas of the country (Senegal river valley which concentrates major irrigation investments, Costal Niayes which is the traditional horticultural region, and Casamance with significant water resources both from rainfall and surface water), the natural resource base in the Groundnut basin is poorly endowed and fragile. The majority of the area is composed of poor quality sandy-low organic matter content of tropical ferruginous, with allomorphic brown soils located on low lands (Badiane et al., 2001). Rainfall regime is increasingly erratic (600 to 900mm per year) while water quality (salinization and high presence of chlorine) is a major constraint to use of surface and superficial groundwater around the Sine and Saloum river system. Good quality and productive deep water for agriculture is available in significant amount in the deep groundwater tables (the Miocene and Maestrichien) in the eastern part of the Groundnut Basin but requires important investments well beyond the capabilities of small-scale farmers.

13. **Demographic pressure and high exposure of production systems to climate risks have led to unsustainable short-term coping strategies,** e.g. overgrazing, extension of cultivated area, which further contribute to accelerating the depletion of the agricultural resource base in the Groundnut Basin. Whilst land degradation has become a genuine issue across the country, with 64% of the country's 3.8 million hectares of arable land affected, the Groundnut Basin alone carries the heaviest burden with 47% of the total degraded land. Negative impacts of land degradation include stagnant or decreasing agricultural productivity, imbalanced ecosystems, which threatens waterways and the viability of wildlife habitats. Continuous land degradation and recurrent droughts in the Groundnut Basin increases the volatility of agricultural production, resulting in increased poverty and vulnerability, with a strong rate of rural and international migration. These migratory flows are also at the origin of land conflicts, particularly in the Senegal River valley and in Casamance.

14. **Delayed adjustments to global markets trends and inefficient policies in the groundnut value chains have trapped groundnut farmers into a vicious cycle of low productivity-low-income-poverty loop.** The global groundnut trade has gradually shifted from oil and meal to whole nuts, and Asia has become the major producer. Indeed, shifts in relative transport costs and in consumer preferences have led to a decline in global trade in groundnut products and significant increases in the export of whole nuts. As a result, even highly industrialized exporters tend to produce cake and oil only for domestic consumption, while exporting the rest as whole nuts that now dominate global trade flows². Furthermore, high public spending on the groundnut value chain through various subsidies schemes (46% on seed subsidies, 30% on price subsidies directed to oil industries, 13% on fertilizers subsidies) accounted for around 50% of total public expenditures on agriculture but resulted in less than proportional impact on the added value created in the

² World Bank- Senegal Groundnut Competitiveness Report, 2017.



economy. Completing the longstanding reforms in the groundnut value chain and establishing a stable and credible policy framework for whole nut exports would unleash the economic potential of the groundnut value chain and accelerate the modernization and realignment of the groundnut sector to the international markets trends. The government could also reorient its agricultural spending from less productive fertilizer subsidies, which were found to play little or no role in substantially boosting productivity across several Asian countries, to productivity-enhancing input factors such as agricultural R&D, climate resilient technologies and advanced irrigation techniques. This could be paired with well targeted social protection mechanisms to support the poorest rural households.

15. **Young men and women are subject to considerable social pressures and norms in general, and more so in rural areas.** Key gender-based constraints facing women in the agriculture and economic growth sector are: limited access to and control over land because of discriminatory inheritance and land allocation practices; social beliefs about women's primary roles as mothers and wives; limited access to credit and/or cash that constraints purchase of agricultural inputs; limited literacy and numeracy skills among rural women; and limited opportunities for business development training or access to agricultural extension. Finally, social norms limit youth empowerment, particularly their occupational choices or access to productive inputs³. School drop-out is high among young girls to marry early with limited time left for productive activities. Young men are encouraged to start working early, before getting married, and / or to take over the family business. Furthermore, access to key assets, such as land, is largely determined by customary inheritance practices⁴. When active in business, women face different challenges depending on their profiles. Those in the processing Economic Interest Group (EIG) are faced with the challenge of growing their operation from a semi-domestic processing unit to a high-density industrial production. Access to energy, growth markets, and financing are decisive factors for the expansion of their business. Women group may have much more complex challenges, as they have to migrate from an organizational model of individualized work to a collective model under a group form, with access to training and to management of group project, access to production inputs (fertilizers, seeds) and access to land amongst the key challenges they have to face⁵.

16. **The proposed Program for Results would support the Government's Development Plan for Economic Emergence (Plan Senegal Emergent- PSE- 2010-2035) and its Agriculture Chapters** (the Accelerated Agricultural Growth Program- PRACAS⁶, and the National Livestock Development Plan- PNDE⁷). The strategic objectives of PSE are to: (i) stimulate structural transformation of the economy to support a sustainable and dynamic growth; (ii) facilitate broad access to social services while preserving conditions for sustainable development, and (iii) meet requirements for good governance through strengthening the country's institutions and the promotion of peace, security and regional integration. The PSE specific objective for the agricultural sector- understood in its broader scope (e.g. including livestock, fisheries and agroindustry) which is meant to spearhead the structural transformation of the economy are to : (i) strengthen the country's food security to reduce the food import bill; (ii) develop competitive, high-value added and integrated value chains; and (iii) preserve socio-economic balance and reinvigorate the rural economy. This will be driven by the development of commercial agriculture as detailed in the sector operational Program (PRACAS).

17. **Implementation of the first phase of PRACAS in the period 2014-2017 has yielded significant results and contributing to redressing the overall performance of the agriculture sector and to the country's economic performance.** In the groundnut sector in particular, the Government's performance targets under PRACAS were met or exceeded by 2016, both in terms of seed capital renewal with 55,000 metric tons (mt) of certified seeds produced against a target of 40,000 mt, and in terms of total output with 1,050,000 metric tons of groundnut produced against a target of 1,000,000 mt for 2017. Furthermore, the government has taken significant steps to eliminate monopsony around the

³ Deborah Robin, Oumoul Khairy Niang-Mbodj – Senegal Gender Assessment. USAID, 2010

⁴ The World Bank. Senegal Strategic Country Diagnostic, Draft for Decision meeting, January 2018

⁵ World Food Program. Gender, markets and Agricultural Organizations in Senegal. VAM Gender & Markets Study #6. WFP, USAID, 2016-2017.

⁶ *Programme d'accélération de la cadence de l'agriculture sénégalaise, with the first phase covering the period 2014-2017, and second phase under preparation.*

⁷ Senegal Ministère de l'Élevage et des Ressources Animales - Programme National de Développement de l'Élevage (PNDE 2017-2021)



supply chain of oil mills, SONACOS in particular, and to improve competition for the collection and marketing of groundnuts in the region. The government has encouraged the entry of new operators in the collection, processing and export of groundnut oils and seeds, and took over SONACOS from the main shareholder for its next privatization. In addition, the government has also launched initiatives to encourage the diversification of cropping systems in the groundnut basin, with expansion of rain-fed and low-land rice cropping systems, sesame and horticulture in addition to livestock.

18. **Deepening the reforms in the groundnut sector, including a stable policy framework for private investments in the value chains and mitigating climate risks and price volatility will lay the foundation for agricultural transformation in the Groundnut Basin (GNB).** Reforms undertaken by the government since 2014 to liberalize the groundnut market have started to yield results, with larger exports of nuts and new investments in the value chain (storage, deshelling facilities, with significant potential in term of off-farm employments). However, distortive policies to keep alive the less profitable segment of processing of crude oils have prevented farmers from getting the full value of expanding to global whole nuts markets. Within that context, developing a new value chain centered on producing high quality groundnuts for whole nuts exports and for the confectionery industry is needed. This requires establishing a level playing field for the private sector to invest and innovate in the processing and marketing segments. A key step in this direction would be to privatize SONACOS. At the farmers' level reforms should address the issue of revenues volatility, including safety net mechanisms when both international prices and domestic production are low.

19. **The proposed Program will support the adaptation of the groundnut value chain to evolving climate and markets conditions and accelerate the diversification of the agricultural production systems in the Groundnut Basin for greater resilience to external shocks.** To seize emerging market opportunities, Senegal would need to substantially increase and stabilize groundnut yields (actually 60% of the world average yield, compared to 200% for China), tackle the protracted issue of aflatoxins to meet the requirements of the high quality confectionery nuts export market, improve competition along the value chain and particularly in the inputs and processing segment, while accelerating the diversification of production systems and scaling up the adoption of climate smart-agriculture in the groundnut basin. This will require implementing several adaptation measures including the wide adoption of agro-forestry techniques and crop diversification; the use of short-cycle varieties and that of varieties tolerant to salinity; improved collection and water storage (i.e. dams, retention basins, anti-salt structures, windbreaks); the expansion of community woodlots; the prevention of bush fires; the dissemination of fertilization techniques; the establishment of an early warning system in rural areas, and preventing and tackling pest infestations, such as the West Africa Desert Locust and fruit flies which are major threats to expanding the lucrative business of mangoes exports from the groundnut basin

Relationship to CAS/CPF

20. **The World Bank Group's Strategic Country Diagnostic (SCD) for Senegal identifies** four main constraint areas to inclusive growth and equity, three major constraints to the sustainability of this inclusive growth and two underlying institutional constraints (see diagram). Summing up, the constraints and solution areas identified by the SCD delineate three main pathways to poverty reduction and increased shared prosperity in Senegal.

- *Boosting Senegal's Competitiveness* to ensure a dynamic private-sector led growth and capitalize on the growing young urban population by focusing on reforms of the fiscal and monetary frameworks and improvements of the business environment as well as measures aimed at an increased and equitable availability of productive inputs, such as skills and land, and improved critical infrastructure, including energy and ICT.
- *Enhancing Equity and Resilience* unlocking the economic potential of non-extractive natural resources, including agriculture and livestock, from which most of the poor still derive their livelihoods, while enhancing the ability of the population in rural areas to engage in the growth process and cope with shocks through appropriate government support allowing for the accumulation and protection of their asset base.



- *Managing Risks Associated with Natural Resources* by addressing the perils inherent in the nascent oil and gas sector, particularly the ‘resource curse’ and potential erosion of the competitiveness of labor-intensive exports, as well as diverse impacts of the climate change, threatening to erase years of progress in poverty reduction.

21. **The proposed Program aligns well with the three pathways outlined in the SCD and the World Bank Groups’ Africa Region’s Climate Change Business Plan**, in particular the one on ‘Enhancing Equity and Resilience’. While the Country Partnership Framework is being developed, it is likely that it will be consistent with the proposed pathways which all echo the priority areas of the proposed Program. By fusing its intervention on climate change adaptation, the Program also contributes to the Region’s climate change business plan.

C. Program Development Objective(s) (PDO) and PDO Level Results Indicators

Program Development Objective(s)

22. **The Development Objectives of the proposed Program** are to improve the competitiveness of the groundnut value chain and to increase the resilience to climate and market risks of farmers and herders in the Groundnut Basin.

PDO Level Results Indicators

23. At PDO-level the following indicators are proposed to assess the Program’s results:
- (i) Number of farmers/herders reached with climate-smart agricultural practices and technologies (e.g. drought resistant varieties, new seeds/feedstocks for crop diversification; soil and land management practices and technologies);
 - (ii) Increase in yields of groundnuts and selected crops;
 - (iii) Increased exports of high value crops (shelled groundnuts and horticultural produce);
 - (iv) Reduced variability in production of groundnuts and selected crops.

D. Program Description

PforR Program Boundary

1. Government program objectives and results

24. **The objective of the Government’s updated agriculture program** as set in the LPDSA is “to develop a performant, competitive, diverse and sustainable agriculture that provides stable income to farmers and promotes economic and social development”. This is further broken down into four specific objectives, five programs and 15 lines of activities:

- (i) Increased agricultural production and productivity with the following activities. This objective aims to sustainably increase agricultural production and productivity through diversified and qualitative products, able to meet the consumption needs of the population, to provide raw materials for the domestic processing industry and to be competitive in international and regional markets;
- (ii) Diversified agricultural production systems. This objective aims at developing diversified agricultural value-chains, taking full advantage of the various agro-ecological zones of the country, in order to give rural populations more income opportunities, in particular through increased support to high added-value agricultural value-chains;
- (iii) Strengthened agricultural services framework. This objective aims at developing agricultural and rural research, training and advice, facilitate farmers’ access to finance and creating a regulatory environment conducive to private sector investments;



(iv) Improved agriculture sector governance facilitating the dialogue between all relevant stakeholders to ensure an efficient implementation of the sector's development policies

2. Proposed Program for Results operation context

25. The proposed Program will contribute to the government's programs addressing the volatility of agricultural production and farmers revenues, while positively impacting longer term productivity in the Groundnut Basin, and is anchored within PSE's vision regarding the development of the agriculture sector, and its sectoral program's (PRACAS) objectives. In agreement with the GoS, the proposed Program would focus mainly on the Groundnut Basin, the traditional area for peanut production that is lagging behind in terms of development. The proposed Program will focus on areas of intervention identified in Senegal's agriculture development strategy that are key to addressing the high vulnerability of farmers to climate and market risks and improving the competitiveness of the groundnut value chain.

26. The proposed Program will support the economic transformation of agricultural households, in particular through the supply, through public and private entities, of quality agricultural services. Two different trajectories have been identified to achieve that purpose: (i) the diversification of family farms through increased technologies adoption and digitalization and (ii) the creation of jobs opportunities along agri-food value-chains of high commercial potential.

27. The approach will consist in putting the private sector⁸ at the heart of the proposed Program's interventions. For that purpose, the proposed Program would support the GoS's efforts in establishing a favorable environment for the development of private sector, via the pursuit of reforms initiated in the agri-food sector, the institutional strengthening of dedicated organizations and targeted public investments to improve the factors of competitiveness (e.g. productive and market infrastructures, research and development, agricultural extension, quality management...).

28. Given the vulnerability of the country's agricultural sector to climate change, particularly in the targeted areas of intervention (Groundnut Basin), the proposed Program would carry-out several activities to achieve climate Co-Benefits. The proposed Program aims at enhancing the adaptation of production systems to climate change (mainly increase in temperatures and reduction in rainfall) and to strengthen the resilience of farmers to climate shocks. This will be achieved through better management of water resources with improved irrigation systems, the adoption of climate-smart technologies and climate-resilient crops, and higher integration of agriculture and livestock production systems. The proposed Program also aims at achieving climate Co-Benefits by reducing GHG emissions. It will promote climate-smart agricultural and husbandry practices, favor restoration of soil to allow greater carbon absorption, and reduce food losses and waste through increased connectivity of farms to markets and improved storage and processing capacity.

Results areas

29. To achieve its development objective, the proposed Program would focus on three results areas: (i) increased productivity and diversification to strengthen resilience, (ii) increased market access, and (iii) sector governance, coordination and programs management private sector development. Those results areas have strong synergies and are mutually supportive.

30. **Result area 1: Increased productivity and diversification to strengthen resilience.** The proposed Program would aim at developing solutions to mitigate the risks that farmers face in the targeted areas of the Program, in particular market and climate-related risks.

- Development of the agricultural resource base in the Groundnut Basin. The Program would aim at strengthening the sustainable use of natural resources the agricultural sector relies on. In particular, the Ministry of Agriculture

⁸ In the context of the Program "private sector" includes all type of entrepreneurial activities, from smallholder's farms, to cooperatives, small and medium agri-business enterprises, national and multinational agri-food industries...



and Rural Equipment (MAER) and the Ministry of Livestock and Animal Resources (MERA) would closely coordinate with the Ministry of Water on ongoing assessments of water resources for an integrated and sustainable use of existing resources, in order to scale up efficient water and soil management programs in the Groundnut Basin. Those would include use of existing water infrastructure or the development - where conditions for sustainability so allow - of small scale water infrastructure to expand efficient irrigated systems in the Groundnut Basin, improvement of livestock watering points, the rehabilitation of degraded land/soil through investments and building capacity of farmers and herders on water and soil management infrastructure and techniques. The proposed Program would also enhance knowledge management on the state of these natural resources (water, soil, climate) in the Groundnut Basin.

- Strengthening family farms' productivity and resilience. The proposed Program would support the transformation at scale of part of the rainfed dependent family farms to more resilient, irrigation-based diversified farming systems. Both the development of irrigation and the diversification of production systems in the Groundnut Basin would allow farmers to reach higher labor productivity and full employment all year long. Furthermore, better water management through access to irrigation as well as adoption of climate-smart technologies would improve the resilience of farmers to climate-related risks, reducing their exposure to droughts. Based on ongoing analysis of the agricultural and livestock resources base in the Groundnut Basin, MAER and MERA will assess during the Program's preparation, value-chains, business models and business alliances, which the proposed Program will help expand, through technical assistance, training, and investments.
- Facilitating access to improved seeds. Access to adapted and productive planting material is a prerequisite for successful development of modern farms. This result would be achieved through increased availability of breeder and foundation seeds from the research system and efficient seed multiplication system. The Program would support development of a market-driven, private-sector-led seed multiplication system to disseminate quality seeds adapted to climate change, notably the new breeds recently released in Senegal and West Africa under the West Africa Productivity Program (WAAPP). The national agronomic research institute (ISRA) and public institutions (e.g. MAER's Division of Seed control) would be strengthened in their role on breeder seed production and seed quality control.
- Insuring commercial herders and farmers against shocks. The Program would support the expansion of the ongoing agricultural index-based-insurance scheme⁹ to address residual production risk and reduce the incidence of systematic shock on farmers' and herders' revenues. The insurance program would be part of a package of support to project beneficiaries aimed at accelerating uptake of improved technologies and adoption of good farm management practices, and de-risking access to credit. The Program's support on insurance could be coupled with ongoing social protection programs such as the Government "*Bourses Familiales*" and upcoming World Bank Social Protection program to ensure that poorest and non-insurable households in the Groundnut Basin are provided with the adequate instrument to emerge from climate related disasters, with emergency relief and the provision of assets to re-start production cycles.

31. **Result area 2: Increased market integration.** The proposed Program aims at strengthening the links between agricultural production and other segments of the value-chain, promoting inclusive business alliances, removing critical impediments (physical impediments as well as capacity building) to promote the development of private-sector-led services and agro-industries along the value chains.

⁹ Index based Insurance was been introduced in Senegal with WBG support since 2009, but its development has been very slow until recently with increased interest from the private sector and contract farming in the groundnuts value chain. See more on the design of the product in "The World Bank : Index-based Crop Insurance in Senegal – Promoting Access of Agricultural Insurance for Small Farmers. Sustainable Department-Africa Region, and Finance and Private Sector Department, March 2009



- Structuring farmers associations and promoting contractual farming. This result area would focus on the improvement of storage, processing and marketing of agri-food products so as to improve the connection of production systems to the agro-industry and markets in general. The proposed Program would (i) identify and support business models strengthening the links between producers and agro-industries, (ii) support the development of farmgate small scale crops and animal feed/fodder storage facilities, as village aggregation centers and cottage processing center within the production areas to facilitate linkages with off-takers;
- Increasing control of aflatoxins and fruit flies. The proposed Program would tackle these major hurdles to access to markets for key produces which could otherwise develop rapidly in the Groundnut basin, such as confectionery groundnuts, maize for animal feed, and exportable mangoes¹⁰. The Program would support (i) the dissemination of appropriate technologies to control aflatoxins on groundnuts and maize along the value chain; (ii) the Department of Plant protection (DPV) to extend the coverage of areas infested by the fruit flies; (iii) the strengthening of the quality control system for agri-food products on aflatoxin and fruit flies.
- Supporting the emergence of Agropole-Centre. While large scale infrastructure, such as roads, power plant and construction of manufacturing or industrial processing facilities are excluded from PforR financing, the proposed Program may support the feasibility studies for the Agropole Centre, which aimed at addressing critical impediments to the development of processing and marketing of agricultural products. In parallel, the Program would support the construction and rehabilitation of small-scale rural infrastructure such feeder and connecting roads, aggregation/storage and processing parks in and/or around selected economic poles. The Program would ensure climate-resilience of implemented investments.

32. The World Bank and IFC teams are working closely in the preparation of the proposed Program and will further deepen the collaboration during implementation to promote private investments in agricultural value chains and facilitate access to domestic and international markets. Specific areas of collaboration could include the extension of the warehouse receipt systems to value chains of interest for the groundnut basin (groundnuts, and animal feed crops such as cowpeas and maize), agricultural finance including insurance, and structuring contract farming between producer associations, traders/aggregators, agro-processing companies and exporters.

33. **Result area 3: Improving sector governance, coordination and programs management.** The proposed Program would address the policy and markets failures that prevent efficient private sector development in the agri-food sector, focusing in particular on the groundnut value chain which development has been affected by inefficient interventions. The Program would also support the strengthening of the organizational and institutional environment to facilitate the development of diversified and resilient agri-food value-chains and improve coordination and execution of government programs in the agriculture sector.

- Improving the policy environment for production, processing and marketing of agri-food products. The Program would focus on implementing key reforms to create an efficient and conducive environment for private sector development in agri-food value chains. This include (i) implementing the policies and activities defined in the Groundnut sector strategy (*Note d'orientation pour le Développement et l'Optimisation des Performances de la Filière Arachide- Draft May 2018*), (ii) establishing a more targeted – both in terms of beneficiaries and technologies focusing on climate-smart agriculture- and cost-efficient inputs and mechanization support program, (iii) setting up a permanent public-private sector dialogue on the agricultural sector, strengthening quality control and improving governance of government's inputs subsidy programs, (vi) implementing a conducive fiscal environment for the development of agro-processing, and (vii) implementing sustainable financing of agricultural services (research-development-extension) and facilitating access to finance for productive activities.

¹⁰ Senegal has received 24 alerts notice from EU in 2017 on fruit flies on mango



- Program Performance tracking, Sector coordination and capacity building. To accelerate the implementation of key reforms in the groundnut sector and implementation of investments supported by the proposed Program there is a need for capacity building and institutional strengthening. Key capacity building efforts under the Program would be directed at (i) selected inter-professions to enable them to carry out their mandate and become effective and inclusive platforms for intra-branch coordination and public-private dialogue, (ii) the Ministry of Agriculture (MAER) and its regional directorates to strengthen its ability to plan and coordinate different stakeholders and projects in implementing the second phase of PRACAS; (iii) national institutions in charge of data collection, treatment and analyses (MAER-DAPSA, DHORT, PAPA, DRD, MEFP-ANSD, PM-BPE) to improve their capacities to inform policies and monitor implementation programs; (iv) national organizations and institutions providing business development and technical support services to the agri-food sector; (v) authorities and laboratories ensuring quality control of agricultural inputs and food products (DPV, CERES-Locustox, ITA, LCI) in particular for the control of aflatoxins and fruit flies (vi) national institutions in charge of monitoring natural resources (soil and water) management and infrastructures.

E. Initial Environmental and Social Screening

34. It is assumed that the proposed Program by its nature will yield significant positive environmental and social benefits by promoting climate-smart agriculture, soil restoration, reduction of food losses, improved water management, etc., while its environmental and risk from the promotion of PRACAS and PNDE, of increasing yields, developing infrastructure (such small catchment dams/weirs, retention basins, cattle watering points, crop and fodder storage facilities, cottage processing platforms, etc), use of chemicals, will be limited. Interventions proposed for the Program's support exclude activities which normally would be considered as Category A under Investment Financing Projects. For this reason, the proposed Program for Results is not considering heavy infrastructure on irrigation or infrastructure necessary to establishing a full Agropole, such as power plant or connection to high voltage power grid and connecting roads. Furthermore, intervention on irrigation will not consider transfer of significant flow of groundwater for irrigation development, but rather small-scale irrigation around existing water infrastructure or small-scale infrastructure such as catchment weirs and boreholes fit for purpose. Environmental and social impacts of such infrastructure would be limited in scope and manageable. Implementation of some investments may require acquisition of land or displacement of people, even though affected people during construction may also be ultimate beneficiaries of such investment. Regarding land acquisition, the structure of farming systems in the Groundnut Basin, overwhelmingly dominated by small scale family farming holdings, and the high population density prevent distribution or acquisition of massive amount of land for agribusiness operations, which in any case the project cannot support. Therefore, the proposed Program's approach consists of developing targeted value chains around family farming.

35. Although the Program will strive to promote climate friendly agriculture, agricultural intensification including agroforestry, drought-tolerant and salt-tolerant varieties, crop diversification, efficient soil and water management techniques) may involve increased use of chemicals for soil fertilization and for plants diseases, weeds and pest control. For instance, the control fruit flies on fruit crops and may involve use of pesticide at a significant scale or acquisition of advance technology to produce sterile males of ceratitis.

36. Ministries of agriculture and livestock have long-standing experience of managing World Bank operations and are relatively well familiar with the Bank's guidelines and procedures on environmental and social risks management, but mostly through dedicated projects implementation units with qualified and competitively selected staff. As part of the Program's preparation, the Bank task team will prepare an environmental and social systems assessment (ESSA). The ESSA will review existing regulations and policies, their legal and practical applicability at the program level, institutional capacity, and the effectiveness of implementation in practice, using empirical information and data to be provided by the GoS and supplemented with information from other stakeholders and other available sources. The ESSA will include measures required to manage environmental and social impacts and risks and will include actions to strengthen institutions and increase the capacity of the whole program.



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