



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Integrating Gender and Nutrition within Agricultural Extension Services

SENEGAL

Landscape Analysis

Working document

December 2015



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INGENAES
Integrating Gender and Nutrition
within Agricultural Extension Services



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SENEGAL

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Acronyms

ANCAR	<i>Agence Nationale de Conseil Agricole et Rural</i> (National Agricultural and Rural Advisory Agency)
BMI	Body Mass Index
CDCS	Country Development Cooperation Strategy
CLM	<i>Cellule de Lutte contre la Malnutrition</i> (Unit for the Fight against Malnutrition)
DO	Development Objective
EAS	Extension and Advisory Services
ENA	Essential Nutrition Action
FTF	Feed the Future
GOANA	Great Agricultural Offensive for Food and Abundance
HDI	Human Development Index
IFPRI	International Food Policy Research Institute
INGENEAS	Integrating Gender and Nutrition within Agricultural Extension Services
IR	Intermediate Result
LOASP	<i>Loi d’Orientation Agro-Sylvo-Pastorale</i> (Agro-Sylvopastoral Law)
PNIA	<i>Plan National d’Investissement Agricole</i> (National Agricultural Investment Plan)
PPP	Purchasing Power Parity
PSAOP	<i>Programme de Services Agricoles et Organisations des Producteurs</i> (Agricultural Services and Producer Organizations Program)
SUN	Scaling Up Nutrition
USAID	United States Agency for International Development

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About this Study

The INGENAES (Integrating Gender and Nutrition within Agricultural Extension Services) project is funded through the Bureau for Food Security of USAID (the United States Agency for International Development) to support the Presidential FTF (Feed the Future) Initiative, which strives to increase agricultural productivity and the incomes of both men and women in rural areas who rely on agriculture for their livelihoods.

This landscape study provides an overview of agriculture in Senegal as well as the country's extension system. It also provides information on the prevalence of poverty, nutrition, and gender-related issues in the country with special focus on rural areas. In addition, it summarizes Senegal's current agriculture and nutrition policy, and it reviews several on-going projects by the U.S. government and other donors in

INGENAES supports the development of improved extension and advisory services (EAS) to reduce gender gaps in agricultural extension services, increase empowerment of women farmers, and improve gender and nutrition integration within extension services. The program aims to directly and indirectly assist multiple types of stakeholders within a country, such as farmers, producer groups, cooperatives, policy makers, technical specialists, development non-governmental organization (NGO) practitioners, and donors, with the overall goal of empowering women and engaging men.

INGENAES efforts will strengthen the capacity of key stakeholders and provide the fora and networks for them to coordinate and reach agreement on policies and strategies to implement improved EAS that better meet the needs of men and women farmers. While the INGENAES project will not directly monitor beneficiary impact, it will focus on changes in institutions that directly impact men and women who access agricultural information, training, technologies and nutrition information.

INGENAES will strengthen institutions by identifying their needs and strengthening their capacity to effectively integrate gender- and nutrition-sensitive information and activities into agricultural extension systems with the aim to promote gender equality, improve household nutrition, and increase women's incomes and, subsequently, household food security. Based on the identification of four main gaps in extension services in terms of gender and nutrition integration, INGENAES activities are divided into the following action areas:

- Building more robust, gender-responsive, and nutrition-sensitive institutions, projects, and programs capable of assessing and responding to the needs of both men and women farmers through EAS;
- Identifying and scaling proven mechanisms for delivering improved EAS to women farmers;
- Disseminating technologies that improve women's agricultural productivity and increase household nutrition; and,
- Applying effective, nutrition-sensitive extension approaches and tools for engaging both men

the country related to agriculture extension, gender, and nutrition.

Indicative activities of the INGENAES project include: learning exchanges, assessments, curricula development, training into action, mentoring relationships, internship experiences, and networks that focus on identifying gender-responsive and nutrition-sensitive innovations that can be promoted by EAS organizations and adopted by men and women farmers. Developing these outputs collaboratively with agricultural extension experts and other partners will transform extension-relevant institutions working directly with men and women farmers.

In each country, INGENAES will examine relationships, identify the key change actors, build their capacity, and provide them the incentives to make changes (e.g., set new policies, employ new management practices, modify organizational structures, make changes in practice, and adopt innovations). The key actors will vary from country to country, although policy makers, the Ministries of Agriculture and Health, NGOs, the private sector, and of course, women farmers, are likely to be involved in most countries. Key actors will be identified as part of the needs and scoping assessments.

The consortium gathers information and key contacts to develop a landscape study of the agricultural sector in that country: a description of the pluralistic extension system, nutrition-related initiatives, and gender issues. The landscape study is intended as a preparatory tool and handy reference document for work in country. Each landscape study will be updated periodically as INGENAES continues to engage in that country and identifies new key contacts, organizations, and initiatives.

About Senegal

This section provides a brief overview of many aspects of Senegal that are relevant to the Feed the Future Initiative and to INGENAES: geography, culture, income, gender equity, agriculture, women's involvement in agriculture, food security, and nutrition.

Geography, Culture, and Income

Senegal is the westernmost country on the African continent, bordering the North Atlantic Ocean, Mauritania, Mali, Guinea-Bissau, Guinea, and Gambia (see Figure 1). It is slightly larger than the U.S. state of Washington, with a population of around 14.6 million people. French is the official language of Senegal, although only 10 percent of the population is considered Francophone, while an additional 21 percent are considered partially Francophone (OIF, 2007). Wolof is considered Senegal's lingua franca, with over 90 percent of the Senegalese population using Wolof as either a first or second language (McLaughlin, 2008). Major ethnic groups in the country are Wolof (43%), Pular (24%), Serer



Figure 1: Map of Senegal

Source: www.commons.wikimedia.org

(15%), Diola (5%), and Mandingue (4%) (ANSD, ICF, 2013). Around 94 percent of the Senegalese population self-identifies as Muslim, while 4 percent are Christian, and 2 percent practice animism or other religions (ANSD, ICF, 2013).

Senegal is one of the most politically stable countries in all of Africa. However, per capita income is lower than average for the region, as seen in Table 1. While extreme poverty (percent of the population living on less than \$1.90 USD per day) is slightly less prevalent in Senegal than in the rest of sub-Saharan Africa, the portion of the population under the \$3.10 poverty line is nearly the same (The World Bank, 2015; see Figure 2). Income inequality is about the same in Senegal as in the rest of the region, as evidenced by the Gini coefficient (in Table 1), which is considered “moderate” (The World Bank, 2015; Ortiz & Cummins, 2011). This indicates that despite the large number of people in poverty, there is also a sizeable portion of the Senegalese population living well above the poverty line.

Table 1: Average yearly income and income inequality in Senegal and sub-Saharan Africa (2011-2012).

	Per capita GNI ¹ (PPP ²)	Gini coefficient ³
Senegal	\$2,270	0.40
Sub-Saharan Africa	\$3,440	0.44

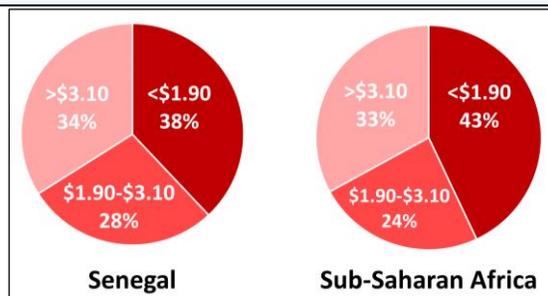


Figure 2: Average daily income in Senegal and sub-Saharan Africa

Gender Equity

One way of measuring gender inequality within a country is by comparing measures of “human development” for women and men. These measures, as defined in the United Nations Development Program’s Human Development Index (HDI), include health, education, and economic indicators. Overall, Senegal’s HDI ranks 166th out of 187 countries evaluated in the index, with the 187th country having the lowest measure of human development. Compared with other countries worldwide with similar HDI values, Senegal’s ratio of female to male HDI (a measure known as the Gender Development Index, or GDI) is about in the middle (see Figure 3).

Table 2: Gender Equity Indicators in Senegal. Sources cited in text.

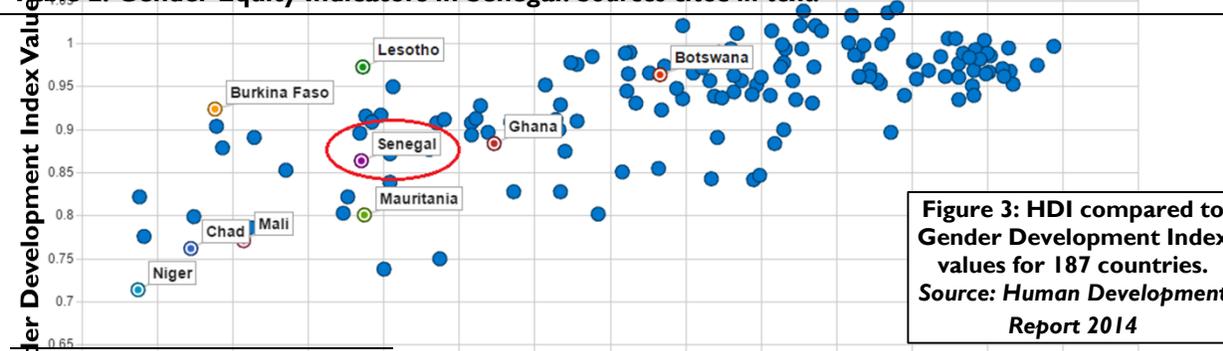


Figure 3: HDI compared to Gender Development Index values for 187 countries. Source: Human Development Report 2014

¹ GNI (gross national income) consists of gross domestic product (GDP) plus income earned by foreign residents, minus income earned in the domestic economy by nonresidents.

² PPP (purchasing power parity) adjusts the exchange rate so that an identical good in two countries has the same price when expressed in the same currency.

³ The Gini coefficient shows the level of income inequality. It is measured on a scale between 0 and 1, where 0 indicates perfect equality and 1 indicates perfect inequality.

	Life expectancy	Years of schooling	GNI per capita	Percent of seats in parliament	Literacy	Decide by themselves how to spend own income
Women	65 years	3.4	\$1,642	43%	34%	82%
Men	62 years	5.6	\$2,717	57%	53%	91%

Table 2 displays several measures that are included in the Gender Development Index, including life expectancy, mean years of schooling, and GNI per capita (data for these measures come from UNDP, 2014). Women in Senegal have fewer years of schooling and earn a lower income than men, though their life expectancy is longer. In addition, and perhaps surprisingly, women in Senegal currently hold 43 percent of seats in Parliament—the 6th-highest rate in the world (IPU, 2015). Literacy rates are relatively low for both men and women, although more men are literate than women (The World Bank, 2015).

As of 2012, Senegalese women were to be less active in the labor force than men, although women who do work for pay are fairly financially autonomous. A national survey found that 49 percent of married women in Senegal had been employed either in the formal or the informal labor force within the past year, compared to 99 percent of married men (ANSD, ICF, 2012). As seen in Table 2, the majority of Senegalese women who work say they decide by themselves how to spend their income; only nine percent say they decide jointly with their husband, and nine percent say their husband “mainly” decides how to spend her income (ANSD, ICF, 2012). This varies somewhat by region: only 59 percent of women in Kedougou and 64 percent of women in Kaffrine made independent decisions about spending her earnings. Countrywide, 84 percent of women thought they earned less than their spouse (ANSD, ICF, 2012).

Table 3: Early Marriage and Genital Cutting. Sources cited in text.

	Average age of first marriage	Have experienced genital cutting	
		2005	2014
Overall	19.6	28%	25%
Rural Areas	18.2	34%	28%

Some discouraging trends emerge around early marriage and female genital cutting (sometimes referred to as female circumcision or genital mutilation). As seen in Table 3, Senegalese women tend to marry when they are between 18 and 20 years old. Many women marry before they turn 18: twenty percent of women with a primary school education marry before age 18, and as do 36 percent without a primary school education (Ndiaye & Ayad, 2006; USAID, 2010). Around a quarter of Senegalese women have experienced genital cutting in 2014 (down slightly from nine years earlier—see Table 3) even though 81 percent of women and 79 percent of men believe that this practice should be discontinued (ANSD, 2015).

Agriculture

Three-quarters of Senegal’s workforce is engaged in agriculture (USDA, 2007). The majority of farmers rely on rain-fed crops,

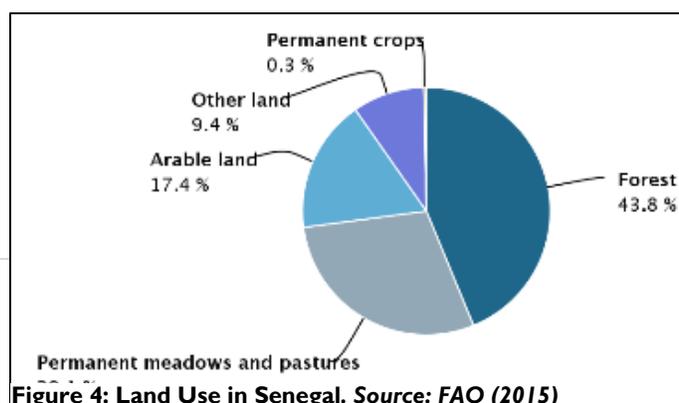


Figure 4: Land Use in Senegal. Source: FAO (2015)

though there are slightly over 1,000 square kilometers of irrigated land, out of a total of slightly less than 200,000 square kilometers of land in the country (CIA, 2013). Available surface water and runoff water provide potential to greatly expand irrigated agriculture (Worldwide Extension Study, 2010). Just under half of Senegal's land is forest, 29 percent is permanent meadows and pastures, and 17 percent is arable land (FAO, 2015; see Figure 4).

Senegal faces many barriers to agricultural production. First, the majority of Senegal's landmass lies within the Sahel region and is thus arid (receiving 300-350mm of rain per year) and extremely prone to drought (Wuehler & Wane, 2011). The Casamance region, south of Gambia, experiences more rainfall (1000-1500mm per year); it is therefore an important agricultural area, but it lacks greatly in infrastructure and transportation (Wuehler & Wane, 2011). Soil quality throughout Senegal is generally poor, serving as an additional barrier to agricultural production. And lastly, climate change trends have placed a strain on farmers: mean annual rainfall has been decreasing by 10-15mm per decade, and mean annual temperature has increased by 0.9°C since 1960, now hovering around 28°C (82°F) (The World Bank, 2015).

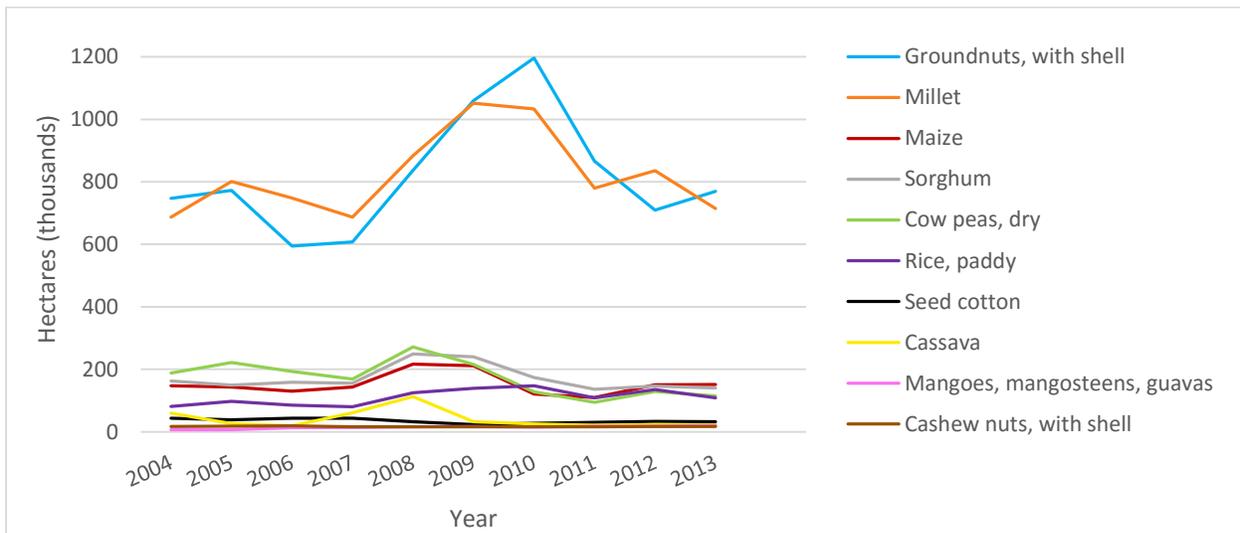


Figure 5: Top Crops by Area Harvested (2004-2013). Data from FAO (2015); graph by author.

Figure 5 depicts the top crops produced in Senegal in terms of area harvested. (For black-and-white productions of this report, note that the legend is sorted in order from most to fewest hectares harvested.) Figure 6 depicts the top crops in terms of gross production value. Both figures clearly show that groundnuts (peanuts) and millet are two of the most important crops in Senegal, with rice, maize, sorghum, and cowpeas (black-eyed peas) shortly behind. For more information on the geographical areas in which these crops are grown, see [Appendix A: Senegal's Agricultural Zones](#).

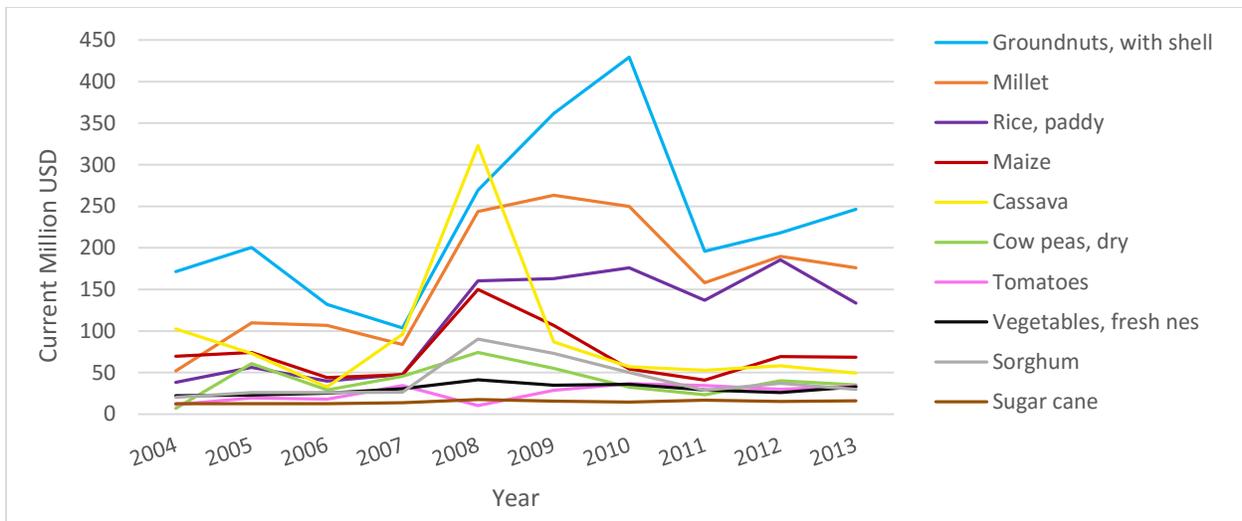


Figure 6: Top Crops by Gross Production Value (2004-2013). Data from FAO (2015); graph by author.

The majority of farming in Senegal takes place for subsistence, though peanuts, sugarcane, and cotton are important cash crops, and a variety of fruits and vegetables are grown for export and local markets. Gum Arabic (also known as acacia gum) exports totaled \$280 million in 2006, making it the country’s leading agricultural export (USDA, 2007). Peanuts are the most important crop in rural areas, accounting for around 40% of cultivated land and providing employment for around one million people (USDA, 2007). Millet, sorghum, and rice are major staple food crops; unfortunately, in 2007, production of these crops met only 30% of consumption needs (USDA, 2007). Fortunately, production of these crops has increased since then.

As seen in Figure 7, several of Senegal’s major crops are sown between June and August, coinciding with the country’s three-month rainy season (which runs slightly longer in southern regions). The “lean season,” during which food insecurity is highest, coincides with the sowing season. Growing and harvesting take place during the dry season, which runs from September through May (October-April in the south).

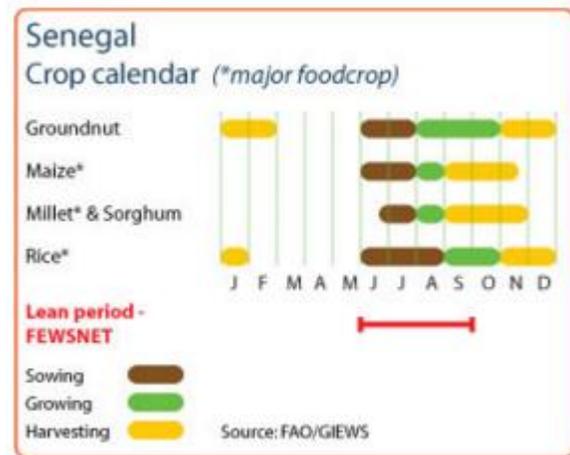


Figure 7: Calendar of Senegal’s major crops.

In 1999, Senegal signed an agreement with the World Bank titled the Agricultural Services and Producer Organizations Program (PSAOP), which aims to encourage the collaboration of rural producers, research institutions, and agricultural/rural extension systems. The first phase of the program helped to establish Senegal’s semi-public National Agency for Agricultural and Rural Council (ANCAR), which is discussed in further detail later in this report. ANCAR is co-managed by producer organizations and private agro-businesses, and it has helped the PSAOP to “replace the top-down model of dissemination of technical packages with demand-driven support to address producers’ needs” (The World Bank, 2006, p. 6). The World Bank states that the PSAOP has allowed producer organizations to fully contribute to the definition, implementation, and evaluation of research and extension programs.

The World Bank recognizes several “social risk issues” that are relevant to the implementation of the PSAOP, including the special needs of women and youth groups. It plans to address these issues by “mainstreaming participatory methodologies in all project activities (identification and implementation of advisory services and capacity-building activities, economic activities, etc.) so that the program responds to the needs of beneficiaries and reduces the gender disparities in access to agricultural services” (The World Bank, 2006, p. 22). In addition, program monitoring indicators will be disaggregated by gender, and gender training will be undertaken for stakeholders, including producer organization members, women, and men. The World Bank notes that women and youth are often well represented within producer organizations and thus have “largely benefitted” from services provided during the first phase of PSAOP.

In 2000, then-president Abdoulaye Wade built upon the PSAOP by creating a 20-year vision for modernizing Senegal’s agricultural sector, known as the Agro-Sylvopastoral Law (LOASP). The LOASP includes (among other things) several goals that align with Feed the Future: improving food security, achieving national food self-sufficiency, and improving incomes and living standards of rural populations. More details on this law can be found in [Appendix B: Objectives of Senegal’s Agro-Sylvopastoral Law \(LOASP\)](#).

Over the past few years, the government of Senegal has been increasing its investment in agriculture by over 10 percent per year, partially encouraged by the National Agriculture Investment Plan (PNIA), which emphasizes the desire to designate agriculture as the primary driver of Senegal’s economic growth (USAID, 2011). The PNIA, which began in 2011 and will conclude in 2015, is headed by the Office of the Prime Minister and focuses primarily on increasing production of rice, millet, and maize as well as preserving fisheries. All programs under the PNIA have a significant portion of their budget dedicated to youth; a few also dedicate a small portion of their budget specifically to for women (see

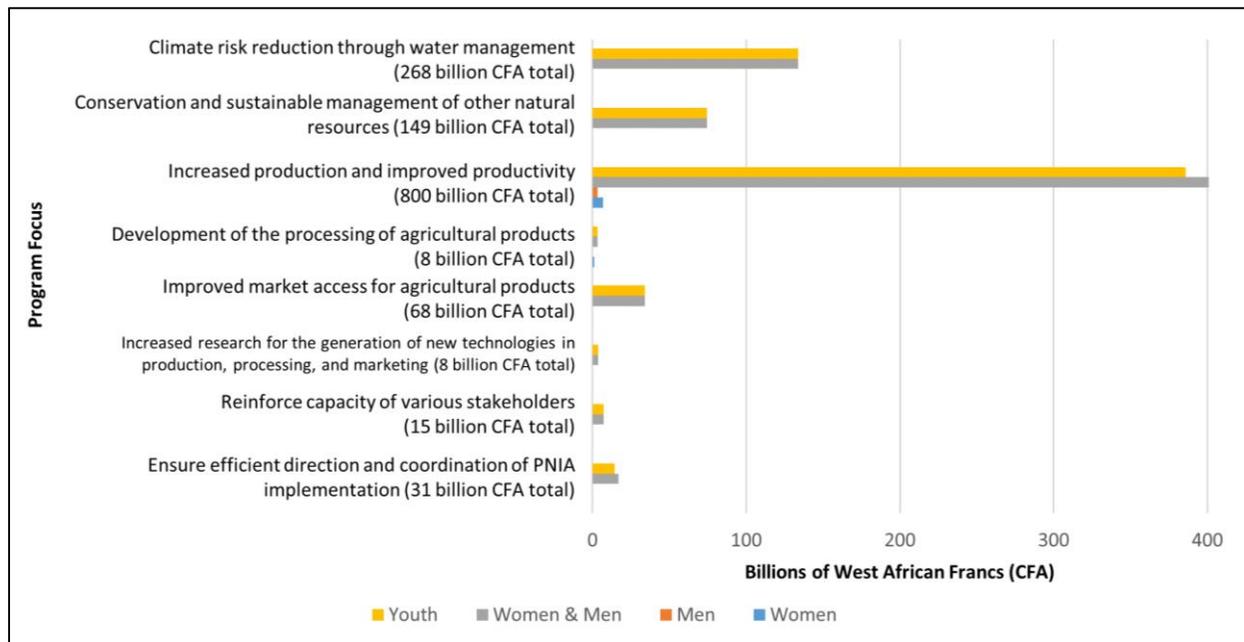


Figure 8: Breakdown of Budget for Senegal’s National Agriculture Investment Plan (PNIA).

Source: Government of Senegal (2010)

Figure 8 for more details).

In addition to these initiatives, the president of Senegal launched a program in 2008 known as the Great Agricultural Offensive for Food and Abundance (GOANA), which aimed to achieve food self-sufficiency for Senegal by 2015. The program provided farmers with equipment and heavily subsidized seeds and fertilizer, and also made 500,000 hectares of irrigated land available to farmers at no cost, and promoted high-yielding varieties of seeds developed by the national agricultural research institute (Stads & Sene, 2011). Even though not all of the program's targets were reached, GOANA is largely considered to have been successful, with output for many crops (most notably cereals) increasing dramatically (Stads & Sene, 2011).

Women in Agriculture in Senegal

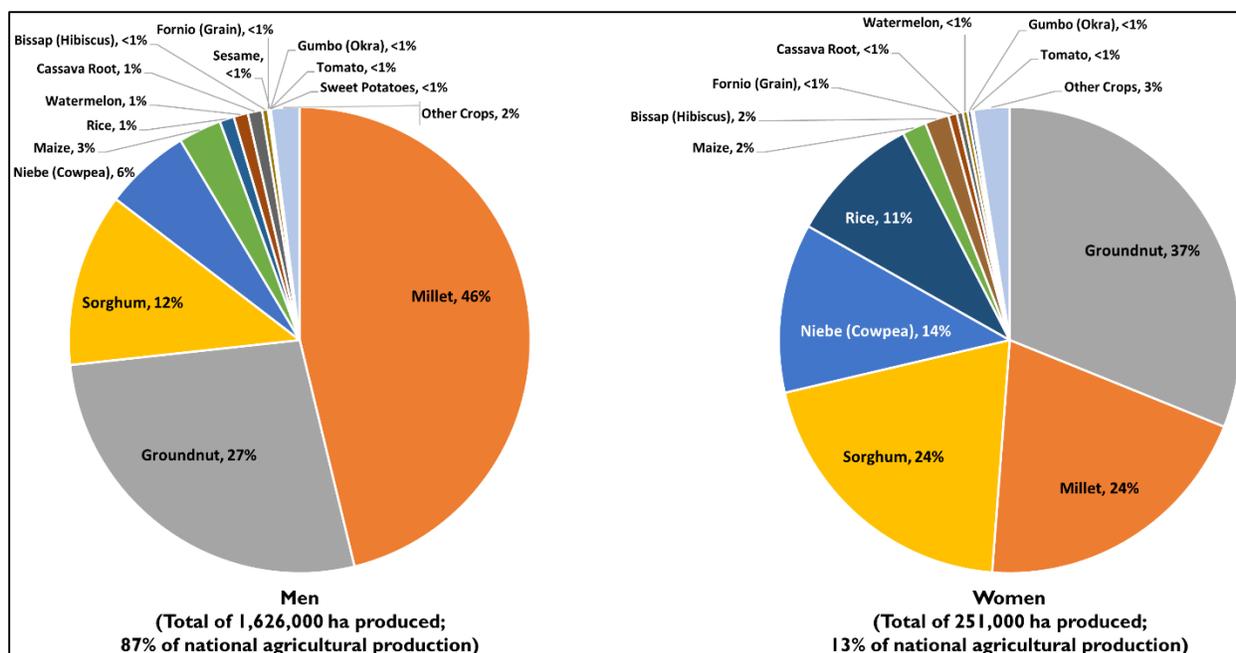
Women and men are about equally active in Senegal's agricultural sector, often in different ways. Although patterns vary by region and socioeconomic status, men and women are generally both involved in labor on agricultural plots. Men are to be more heavily engaged in raising large livestock, which is not generally seen as a women's domain. Women are more heavily involved in post-harvest processing—for example, the “transformation” of grains is typically considered women's domain—and they are also more involved in the small-scale marketing of agricultural produce (USAID, 2010). In rural areas, women also dedicate more time to labor on family farms and subsistence activities (Government of Senegal, 2015). Some women are involved in the production of export crops, including horticulture, although they are often faced with marketing difficulties.

Unfortunately, in-depth data regarding women's involvement in Senegal's agricultural sector is lacking. In the words of a gender report produced by Senegal's Ministry of Family and Entrepreneurship: “We must deplore [*déplorer*] the lack of gender-differentiated data that would allow a better assessment of the situation of women compared to men [in the agricultural sector]” (Government of Senegal, 2015, p.38).

Although not generalizable to the whole country, some in-depth information on gendered agricultural activities is available on a regional basis. For example, Tall, Kristjanson, Chaudhury, McKune, & Zougmore (2014) found that in the central region of Kaffrine, men and women often plant the same crops—notably, millet and maize. Women often farm on separate plots of land, which they own: these plots are entitled to them through traditional property rights. Women usually keep the revenues from the sale of crops from this land. In these cases, women's crops are often sown about a month after men's, which allows women to borrow means of production (ex: carts and donkeys) after men (usually, their husbands) are done using them. Rubin (2010) notes that in the central regions of Senegal (which includes Kaffrine), women historically grew peanuts for cash, though they have recently turned to the production of vegetables and other crops such as hibiscus, which is considered a “woman's crop.” Rubin reiterates that both men and women grow cereals in this region, as well as groundnuts and rice; livestock (goats, sheep, and cows) are also important in the central regions.

In the Casamance regions (south of Gambia), Rubin notes that men are usually responsible for the production of grain and pulse crops, while women focus on rice and specialty crops, while also producing vegetables for home consumption and for market.

While there is clearly regional variation in gendered agricultural responsibilities, Figure 9 provides a broad (albeit somewhat outdated) look at men's and women's participation in crop production in Senegal. Women (at least at the time) clearly had more variation in the crops they produced, while



about three-quarters of men's production was peanuts and groundnuts.

Figure 9: Crop production by men and women in Senegal. Data from Agricultural Census 1998/1999, as depicted by Rubin (2006). Graphs by author.

A gender assessment conducted by USAID in 2010 revealed a number of obstacles that inhibit women's participation in agriculture, as well as barriers that prevent women from fully benefitting from agricultural activities:

- While many donor interventions promote mixed-sex agricultural cooperatives, women are highly underrepresented in these groups. (There are some active women-only groups, but these are few in number.)
- Customary law among most ethnic groups in Senegal does not allow women to inherit property without a man acting as an intermediary, with the result that women usually only inherit a portion of what men do.
- Under the Senegalese Family Code, husbands have the sole power to decide where a family resides, and exclusive rights to act as parent of children.
- Women usually do not receive the same tax allowances that men do, effectively requiring women to pay higher taxes than men on a similar income.
- Though men and women in Senegal have equal legal access to land ownership, socio-cultural patterns of lineage make it difficult for women to obtain and control agricultural land.
- Women typically have smaller plots of land than men, and these plots are often less fertile or less conveniently situated than men's plots (USAID, 2010).
- Women farmers in Senegal use six times less improved seed varieties and four times less fertilizer than male farmers, and women therefore obtain lower yields and lower incomes from their agricultural efforts than men (USAID, 2012).

It is possible that the practice of polygyny (men having multiple wives) has an effect on agricultural activities in Senegal. In urban areas, 32 percent of Senegalese women report being married to man who

has multiple wives, and 36 percent of women in rural areas report the same (ANSD, 2015).

Food Security & Nutrition

The average diet in Senegal reflects the country’s agricultural activities, as it is largely based on cereals (primarily rice, millet, and sorghum), which represent about two-thirds of the national dietary energy supply (FAO, 2010). Groundnuts, cowpeas, vegetables, and fish are all common foods which complement these staples. Consumption of millet and sorghum has been decreasing in recent years, while consumption of rice is increasing: rice now accounts for 30 percent of dietary energy in Senegal, even though 91 percent of rice is imported (Arsenault, Hijmans, & Brown, 2015). Consumption and imports of wheat are also increasing, reflecting urbanization and changing consumer habits. As of 2010, 70 percent of Senegal’s food supply was imported—the highest rate in sub-Saharan Africa (FTF, 2010).

In recent years, Senegal has been facing great difficulties in its agricultural sector, largely caused by a decline in cereal production coupled with the weakening of the groundnut sector and of the country’s fisheries. Combined with high poverty rates, this has created high levels of household food insecurity across the country. Relatively high rates of undernutrition have caused the International Food Policy Research Institute to label the country’s hunger situation as “serious:” the third of five levels in the

Table 5: Food Security Indicators in Senegal. Sources cited in text.

Avg. # of calories consumed daily	Percent of income spent on food	Stunting (Children <5)	Underweight	Micronutrient deficiencies	Anemic
1,967	66% (Rural) 55% (Urban)	26%	18% (Children <5) 22% (Women) 27% (Men)	Vitamins A & C Riboflavin Folate Calcium Zinc	71% (Children <5) 54% (Women) 31% (Men)

institute’s index of global hunger severity (IFPRI, 2015).

Smith & Subandoro (2007) found that sixty percent of Senegal’s population is considered “food energy deficient,” and that the average Senegalese person consumes around 1,967 calories per day—33 calories below the average daily requirement for a lightly physically active person (see Table 5). This same study found that daily consumed calories per capita falls as low as 1,430 in Senegal’s Ziguinchor region. Although this doesn’t seem to align with data from the national Demographic and Health Survey (see Appendix C: Maps with regional data on undernutrition and poverty), Benzekri et al. (2015) confirm that food insecurity in Ziguinchor is indeed very high, possibly because of the longstanding conflict in the southern Casamance regions. Nonetheless, Smith and Subandoro found that dietary diversity in Senegal is high throughout the country, with the average Senegalese person consuming between 5-6 out of 7 total food groups. As seen in Table 5, economic vulnerability in Senegal is not as closely linked to food security as it is in other developing countries, where households spend an average of 75 percent of their incomes on food (Smith & Subandoro, 2007).

Rates of stunting (low height-for-age) and underweight are relatively high in Senegal (see Table 5), indicating that chronic malnutrition is relatively widespread (ANSD, ICF, 2012). Protein deficiencies are also common (USAID, 2011). Women between the ages of 15-19 are more likely than other women to be underweight (35%), as are women located in rural areas (26%) (ANSD, ICF, 2012). According to the

ANSD survey, there were no noticeable correlations between being underweight and women's education or household wealth.

Among pregnant women, malnutrition contributes to maternal mortality; in Senegal, the maternal mortality ratio is 392 deaths per 100,000 live births (ANSD, ICF, 2012). This rate is lower than that of many other sub-Saharan African countries, but still relatively high on a global scale. Perhaps surprisingly, many adults in Senegal are overweight, and nearly twice as many women (21%) are overweight as men (9%) (ANSD, ICF, 2012), also attributable to poor dietary practices.

As seen in Table 5, many men, women, and children in Senegal are anemic (ANSD, ICF, 2013). In addition, Arsenault, Hijmans, & Brown (2015) found that several micronutrients are inadequate in the Senegalese diet. The authors offer many suggestions for reducing these deficiencies:

- Increase vitamin A and C consumption by increasing production of crops that are dense in these nutrients (for example, carrots and guava)
- Increase folate consumption by increasing the production of legumes and green leafy vegetables
- Increase consumption of other micronutrients by enhancing livestock production, food fortification, biofortification, and/or imports.

Since 2011, Senegal has participated in the Scaling Up Nutrition (SUN) Movement, which aims to eliminate malnutrition by bringing together governments, civil society, the United Nations, donors, businesses and scientists (SUN, 2014). SUN identifies a "Focal Point" in each country, which brings people together in a multi-stakeholder platform. Senegal's Focal Point is the Unit for the Fight against Malnutrition (CLM), which is attached to the Office of the Prime Minister. The CLM is composed of representatives from seven government ministries, local elected officials, and representatives from NGOs and civil society (see Appendix D: Structure of Senegal's Unit for the Fight against Malnutrition).

Objectives of Senegal's Unit for the Fight against Malnutrition (CLM)

- Assist the Prime Minister in defining political and national strategies for nutrition
- Examine and approve collaborative proposals from ministries
- Implement a framework for consultation between the ministries, entities in charge of nutrition policies, NGOs and community-based organizations
- Develop synergies with other programs against poverty in general
- Promote communication policy for promoting behavior change and good practices in the fight against malnutrition
- Help build national capacity for the effective conduct of nutrition programs

(CLM, 2013)

The CLM has a particular focus on maternal and child nutrition, which it aims to improve by mobilizing and empowering locally elected officials that provide community nutrition services. The CLM aims to reach 380 local governments by 2017, covering 75 percent of the country (CLM, 2013).

The government of Senegal also currently implements a national Nutrition Enhancement Program, funded by the World Bank, which covers 50 percent of the country (The World Bank, 2006). This program includes provision of insecticide-treated bed nets, promotion of micronutrient supplements and deworming medications, cooking demonstrations, screening for acute malnutrition, and training on community management of cases of acute malnutrition (The World Bank, 2006). Another government program known as the Child Nutrition and Food Security Project aims to improve the health status of over 800,000 children under 5, as well as pregnant and lactating women.

Overview of Extension and Advisory Services (EAS) in Senegal

In 1998, during the first phase of the Agricultural Services and Producer Organizations Program (PSAOP), the government of Senegal created the National Agricultural and Rural Advisory Agency (ANCAR). ANCAR is a semi-private institution that is co-owned by the government of Senegal, producer organizations, agro-based private actors, and rural governments (see Table 6), and it is charged with overseeing, regulating, and supporting the various public and private institutions that provide EAS in Senegal. ANCAR's main office is in Dakar, and as of 2007 it was supported by eleven autonomous regional offices with a total of 94 agricultural and rural advisory teams that operate at the district and community levels (ANCAR, 2007). The organization's objective is to provide decentralized, demand-based EAS that will allow small farmers to sustainably improve their productivity, production, food security, and incomes (ANCAR, 2007).

Table 6: Ownership of ANCAR

Government of Senegal	42%
Producer Organizations	38%
Private actors	13%
Rural governments	7%

(ANCAR, 2007)

As of 2010, ANCAR had 240 staff members, including 21 subject-matter specialists and 190 field agents, with the rest serving in administrative roles at the national and regional levels (Simpson, 2012). Unfortunately, according to Simpson (2012), this staff can only cover about 60% of identified needs. In addition to these staff members, ANCAR is supported by around 550 farmer *relais* ("relays"), who are paid to assist with extension delivery by passing on technical messages from ANCAR field agents to local farmers using a system of local farmer contact groups. *Relais* usually have not received training in any extension field techniques (Simpson, 2012).

Gender Integration within AES

Although the pre-1998 iteration of ANCAR (an organization known as the National Program of Agricultural Extension) had an objective of "ensuring the integration of rural women and youth into agricultural extension activities" (ANCAR, 2009, p.3), it is difficult to find mentions of women or youth in literature relating to ANCAR. This is somewhat concerning considering that women in Senegal are three times less likely than men to access EAS (Blackden, Canagarajah, Klasen, & Lawson, 2006). Moore, Hamilton, Sarr, & Thiogane (2001) found that in Senegal, women farmers often prefer to receive agricultural extension services from a female extension agent (rather than a male agent), and that female extension agents can have a positive impact on dissemination of knowledge among both male and female farmers. Thus, the incorporation of more female extension agents into Senegal's extension system is likely to have a positive effect. Although slightly outdated, a 1995 World Bank report states that only 5%

of governmental agricultural extension agents in Senegal were women, while 14% of non-governmental extension agents were women (The World Bank, 1995).

Additionally, various researchers have found that women have inferior access to agricultural information as compared to men, because of the information channels used to distribute this information. For example, although extension services in Senegal have successfully reached many rural farmers through the use of mobile messaging services, only 27% of women own mobile phones (compared to 56% of men) and therefore women are much less likely to benefit from these services (Tall et al., 2014; Gillwald et al., 2010). Women farmers in the Kaffrine region have identified several communication channels through which they prefer to receive agriculture-related information. These include community radio (with information in Wolof or another local language—not French), by word-of-mouth (through designated, local information relays), at women-friendly gathering spots (such as water boreholes), and on publicly posted blackboards (Tall et al, 2014). Some women in this study did say that they would like to be reached by mobile messaging services, though they preferred that the message be in a local language, rather than French. Research conducted by Poulsen, Sakho, McKune, Russo, & Ndiaye (2015)

found that health posts in Kaffrine are eager to collaborate with extension services to distribute agricultural information to women in rural areas, insofar as this information overlaps with health issues; most weather and climate forecasts fall in this category.

Feed the Future Multi-Year Strategy 2011-2015

The overarching goals of the Feed the Future Initiative in Senegal are “to sustainably reduce poverty and hunger, to improve equitable growth in the agricultural sector, and to improve the



Figure 11: FTF Target Regions (in green). Source: www.feedthefuture.gov; regional designations by author.

Major Institutions Providing (Information)

Public Extension Institutions

- Ministry of Agriculture (www.agric.sn)
- Ministry of Livestock & Livestock I
- Ministry of Industry & Mines

Public Research and Education Institutions

- Senegalese Institute of Agricultural Research (ISRA; <http://www.isra.sn>)
 - Crops, livestock, forestry
- Food Technology Institute (ITA; <http://www.ita.sn>)
 - Crops, post-harvest (14 extension staff)
- Chiekh Anta Diop University (UCAD; <http://www.ucad.sn>)
- Ecole Nationale Supérieure d'Agriculture de Thiès (ENSA; <http://ensa.sn>)
- Ecole Inter-Etats des Sciences et Médecines Vétérinaires de Dakar (EISMV; <http://eismv.org/>)

Semi-Autonomous and Parastatal Organizations

- Promotion of Rural Entrepreneurship Project (PROMER; 57 extension staff)
- Senegal Agricultural and Industrial Development Corporation (SODAGRI; 51 extension staff)
- Senegal African Office for Development and Cooperation (OFADEC; 5 extension staff)

Farmer-Based Organizations

- Center for Management and Rural Economy of the Senegal River Valley (CGER VALLEE; 23 extension staff)

Non-Governmental Organizations

- Senegalese Federation of Non-Governmental Organizations (www.fongs.sn; 109 extension staff)

(Worldwide Extension Study, 2010; more information can be found at <http://www.g-fras.org/en/component/fabrik/list/7.html?Itemid=1080>)

nutritional status of the Senegalese people” (USAID, 2011). As seen in Figure 11, FTF/Senegal primarily focuses its activities in three geographic areas: 1. the Senegal River Valley (with a main focus on irrigated rice), 2. the Southern Forest Zone (with a focus on rainfed rice, maize, and millet), and 3. fisheries in the Sine Saloum Delta. FTF/Senegal outlines five core investment areas, displayed on the next page.

Feed the Future’s FY 2011-2015 Multi-Year Strategy outlines several ways in which FTF emphasizes gender considerations in Senegal. Firstly, maternal and child nutrition is specifically targeted, and includes the incorporation of men into community nutrition activities. Several household-level Essential Nutrition Actions (ENAs) are promoted through an existing network of over 1,600 health huts, through Peace Corps Volunteers, through the national Nutrition Enhancement Program, and through clinical and community services. Second, FTF implements capacity-building activities for female-owned businesses and for organizations that are led by and that benefit women. FTF also works on improving women’s access to finance, as well as improve women’s skills in the areas of processing and commercialization (USAID, 2011).

As of 2014, Feed the Future has reported several successes in Senegal. Production of white rice increased by 1 million metric tons, contributing to the 20% decrease in rice imports from 2008-2011 (FTF, 2014). Cultivation of high-yielding, drought-tolerant seed varieties has helped to double maize production in target regions (FTF, 2014). In the financing and insurance sector, FTF has implemented mechanisms to make loans more accessible to smallholders: in 2013, more than 17,000 farmers and small entrepreneurs in Senegal benefitted from nearly \$20 million in rural loans and grants (FTF, 2014). Many farmers have gained access to weather-indexed crop insurance, financing for farm equipment (such as tractors), and assistance negotiating contracts with commercial mills (facilitating access to seeds, inputs, and farming equipment). This particular document does not specifically mention progress markers for Senegalese women or children, though it does mention that worldwide, FTF has supported 91,000 women farmers in homestead gardening, has improved access to nutrient-dense foods, and has increased income for women and children (FTF, 2014).

FTF/Senegal Core Investment Areas

- 1) Increase agricultural productivity and market linkages
 - Focus on rice and maize value chains
 - Millet and fisheries as secondary priority
- 2) Bring to a national scale Essential Nutrition Actions (ENAs) and integrate nutrition into the agriculture value chain approach
 - High-impact nutrition interventions
 - Income-generation activities
- 3) Enhance policy environment
 - Enhance the business environment (including discussion on land tenure and moving toward decentralized, market-based agriculture)
 - Policies and management structures for the fisheries sector
 - Decrease civil sector subsidies in the agricultural sector
- 4) Improve rural infrastructure and access to finance
 - Entrepreneurship training and technical assistance for investors
 - Loan mechanisms
 - Increased efficiencies in security and border customs
 - Investment in roads
- 5) Increase institutional and human resource capacities
 - Facilitate access to finance
 - Train in business management
 - Develop efficiencies in production and processing

(USAID, 2011)

USAID Country Development Cooperation Strategy (CDCS)



Figure 12: Feed the Future and Senegal's National Agricultural Investment Plan (PNIA) are both integral parts of USAID's CDCS in Senegal. GOS = Government of Senegal. Source: USAID, 2012

As seen in Figure 12, Feed the Future features prominently in USAID's Country Development Cooperation Strategy (CDCS) for Senegal. The CDCS has three Development Objectives (DOs), as well as several Intermediate Results (IRs) and sub-IRs, all of which are outlined in [Appendix E: Results Frameworks for USAID Country Development Strategy in Senegal](#). The first DO and its IRs relate most closely to FTF as they deal with agriculture, nutrition, and gender:

- DO 1: Increased inclusive economic growth
 - IR 1: Inclusive agriculture sector growth
 - IR 2: Increased private sector trade
 - IR 3: Improved management of natural resources
 - IR 4: Improved nutritional status, especially among women and children

Other aspects of the CDCS that relate to gender and nutrition are nearly identical to those of FTF, and thus will not be discussed here. The CDCS report does not detail the role of Senegal's extension and advisory system in its strategy, other than to say that linkages between extension workers will be strengthened.

Active FTF Projects in Senegal funded by the U.S. Government

For more-detailed information, see Appendix F: Active FTF Projects in Senegal Funded by the U.S. Government.

Project Name	Link(s)	Goal(s)/Objective(s)	Activities
Yaajeende: Nutrition-led agriculture (USAID)	<ul style="list-style-type: none"> • https://www.ncba.coop/usaid-yaajeende-agriculture-and-nutrition-development-program-for-food-security-in-senegal • http://www.ngoaidmap.org/projects/5339 • http://www.counterpart.org/our-work/projects/yaajeende 	Accelerate the participation of the very poor in rural economic growth and improve their nutritional status	(2015-2017): Scale up nutrition-led agriculture approach through local institutions
Contact: Todd Crosby (Chief of Party), 221-77-333-4001, tcrosby@usaid-yaajeende.org Amy Coughenour (COO of NCBA-CLUSA International Program) acoughenour@ncba.coop			
Education and Research in Agriculture (USAID)	http://www.oired.vt.edu/Senegal/welcome-era-senegal/	Strengthen agricultural education, research, and outreach to support poverty and hunger reduction and inclusive economic growth	<ul style="list-style-type: none"> • Facility upgrades • Workshops on partnerships, curriculum development, and conservation agriculture • Gender equity framework
Contact: era@oired.vt.edu ; Dr. Larry Vaughan (larryjv@vt.edu)			
FTF Innovation Labs (USAID)	http://feedthefuture.gov/lp/feed-future-innovation-labs	Four labs doing work in Senegal: <ul style="list-style-type: none"> • Adapting livestock systems to climate change • Grain legumes • Integrated pest management • Sorghum and millet 	Agricultural research. Some labs explicitly address gender and nutrition.
Contact: Diana Fahrenbruck (administrative support) diana.fahrenbruck@colostate.edu			
Peace Corps Master Farmer Program (USAID)	http://www.peacecorps.gov/media/forpress/press/2253/	Improve the lives of farmers and their families by improving food security through the adoption of improved agriculture and agroforestry technologies.	Peace Corps Volunteers hold a series of trainings at Master Farms (a plot of land used for demonstration) that offer community members the opportunity to learn basic agriculture and agroforestry techniques and basic accounting.
Contact: Senegaldesk@peacecorps.gov			

Project Name	Link(s)	Goal(s)/Objective(s)	Activities
Millet Business Services (USDA)	<ul style="list-style-type: none"> • http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Millet%20has%20many%20faces_Dakar_Senegal_11-23-2011.pdf • http://www.ngoaidmap.org/projects/8091 	Improve millet yields while encouraging collaboration among established organizations and promoting good governance.	<ul style="list-style-type: none"> • Capacity building for agricultural extension services, producers, and the private sector • Facilitating agricultural lending • Others (see Appendix F)
Contact: Laurent Gomis (Chief of Party) lgomis@ncba.coop			
Farmer-to-Farmer (USAID)	<ul style="list-style-type: none"> • http://www.ngoaidmap.org/projects/5342 • http://www.ncba.coop/coop-jobs/volunteer 	Promote sustainable economic growth and agricultural development	American farmers and agribusiness professionals are sent on 2-3 week agricultural development assignments. Volunteer technical assistance from U.S. farmers, agribusinesses, cooperatives and universities helps smallholder farmers in developing countries improve productivity, access new markets and conserve environmental and natural resources.
Contact: Megan Wall (Program Manager) mwall@ncba.coop			
Nataal Mbay (USAID)	<ul style="list-style-type: none"> • http://www.prnewswire.com/news-releases/engility-wins-24-million-contract-to-provide-technical-assistance-to-usaidsenegal-agricultural-program-300066852.html • https://www.usaid.gov/senegal/press-releases/usaids-launches-new-agriculture-project 	Support the wide dissemination of technologies and best practices successfully introduced by Nataal Mbay's predecessor, USAID/PCE, so that a larger number of producers are benefitted in the rice, corn, and millet value chains	Provide on-the-ground support to strengthen and improve agricultural production, natural resource management, and marketing in key agricultural value chains.
Contacts: Eric Ruff (Engility - Corporate Communications) eric.ruff@engilitycorp.com Andrea Capellan (USAID/Senegal) acapellan@usaid.gov			
InnovaATE (USAID)	<ul style="list-style-type: none"> • http://www.hubrural.org/Senegal-USAID-oeuvre-pour-l.html?lang=fr • http://www.oired.vt.edu/innovate/ 	Achieve sustainable food security, reduce poverty, promote rural innovation and stimulate employment by building human and institutional capacity.	<ul style="list-style-type: none"> • Workshop on strategies and tools for integrating gender into the agriculture and nutrition curriculum • Pilot exercise in community participatory curriculum development (CPCD) for the agroforestry program at Universite Assane Seck de Ziguinchor (UASZ)
Contact: Sandra Russo (University of Florida) srusso@ufic.ufl.edu			

Non-U.S.-Government-Funded Initiatives Relating to Food Security and Ag Extension in Senegal

For more-detailed information, see Appendix G: Active Non-U.S.-Government-Funded Initiatives Relating to Food Security in Senegal.

Project Name	Link(s)	Goal(s)/Objective(s)	Activities
Project d'Appui a la Securite Alimentaire [PASA Lou-Ma-Kaf] (Government of Senegal)	http://pasaloumakaf.sn/	Promote food security and rural poverty reduction through livestock and crop production in vulnerable zones, including investments focused on provision of water management systems, rural roads, and animal vaccination centers. Particular focus on women.	<ul style="list-style-type: none"> • Implementation of drip irrigation systems supplied by borehole wells • Build anti-salt dykes to establish rice and horticultural crops in lowlands • Improve breeding habitats and produce storage • Construct rural roads • Collaborate with extension services
Contact: pasaloumakaff@gmail.com 37, Avenue Pasteur BP 67 Dakar +227 33 889 1416			
Creating Homestead Agriculture for Nutrition and Gender Equity [CHANGE] (CIDA)	<ul style="list-style-type: none"> • http://ngoaidmap.org/projects/4211 • http://www.ifpri.org/projects/creating-homestead-agriculture-nutrition-and-gender-equity-change 	Improve the nutritional status of infants and young children and their mothers through homestead food production and nutrition behavior change.	
Contact: Claire Coveney (Communications Coordinator), ccoveney@hki.org , (212) 532-0544			
Small-Holder Income and Nutrition Enhancement Program [SHINE] (Heifer Senegal)	<ul style="list-style-type: none"> • https://www.childfund.org.au/sites/default/files/publications/Senegal%20Country%20Field%20Report%20-%20FY14.pdf • http://ngoaidmap.org/projects/3860 	Improve nutrition levels and livelihoods of vulnerable families in target villages	Place animals with identified families.
Contact: heifer.senegal@heifer.org , (221) 33 939 5920			
The Hunger Project	http://www.thp.org/our-work/where-we-work/africa/senegal/	To end hunger and poverty by pioneering sustainable, grassroots, women-centered strategies and advocating for their widespread adoption	<ul style="list-style-type: none"> • Mobilize community volunteers to help develop leadership and microfinance • Construct buildings and demonstration farms • Implement food & nutrition security, health, education, sanitation, and adult literacy programs
Contact: Jenna Recuber (Director of Communications) jenna.recuber@thp.org , (212) 251-9110			

Project Name	Link(s)	Goal(s)/Objective(s)	Activities
Community Health Project (ChildFund)	<ul style="list-style-type: none"> https://www.childfund.org/senegals-commitment-to-community-health/ https://www.childfund.org/Senegal-Community-Health-Grant/ 	Establish 2,151 (government-run) health huts and 1,717 outreach sites nationwide, focusing on primary healthcare (including nutrition education among many other topics). Will reach 9 million people.	(Among many others): Work to improve community members' knowledge of basic nutrition
Contact: questions@childfund.org			
Agricultural Value Chains Support Project (IFAD)	<ul style="list-style-type: none"> http://operations.ifad.org/web/ifad/operations/country/project/tags/senegal/1693/project_overview https://webapps.ifad.org/members/eb/110/docs/EB-2013-110-R-19-Rev-1.pdf 	Contribute to a sustainable improvement in the livelihoods of family farms through their incorporation into diversified, profitable value chains	Many. Activities that directly affect women and youth: Market garden production, poultry and small ruminant rearing, processing of products, etc.
Contact: Luyaku Loko Nsimpasi (Country Program Manager) l.nsimpasi@ifad.org			
Projet Nutrition Enfant et Securite Alimentaire [NESA] (Government of Senegal)	http://clmsn.org/index.php/projet-et-programmes/projet-nutrition-enfant-et-securite-alimentaire-de-la-cellule-de-lutte-contre-la-malnutrition	Eradicate extreme poverty and hunger through the national nutrition policy, which aims to improve the status of vulnerable groups	
Programme de Renforcement de la Nutrition [PRN] (Government of Senegal)	http://clmsn.org/index.php/projet-et-programmes/programme-de-renforcement-de-la-nutrition-prn-de-la-cellule-de-lutte-contre-la-malnutrition	Improve children's growth. Strengthen institutional and organizational capacity to implement and evaluate nutrition interventions	Promote the integration of nutrition goals into the plans of government ministries involved in nutrition. Implement interventions focused on pregnant and lactating women and children under 5 years through the Community Enforcement Agencies (AEC)
Project to Support the Promotion of Employment for Youth and Women (African Development Fund)	http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Senegal_-_Project_to_support_the_Promotion_of_Employment_for_Youth_and_Women_PA_PEJF_-_Appraisal_Report.pdf	Contribute to the country's economic development by encouraging the emergence of youth and women's small- and medium-sized enterprises, mainly within the value chains.	Promotion of youth and women's entrepreneurship in rural and semi-urban areas, technological infrastructure to support enterprises, create a financing mechanism accessible to youth and women.

Conclusions

INGENAES aims to improve gender and nutrition integration in agricultural extension and advisory services in Feed the Future countries. In Senegal, several non-gender-related barriers will first need to be taken into account in order for this initiative to be successful:

- Education levels, literacy, and per capita income are all low
- Few agricultural plots are irrigated
- The climate is very hot and dry (with one short rainy season)
- Climate change is causing temperatures to increase and rainfall to decrease
- Casamance—the wettest and greenest part of the country—experiences frequent conflict and has poor infrastructure and transportation

Of course, gender considerations will also be crucial in order for INGENAES to be effective. In many ways, women in Senegal are at a disadvantage as compared to men:

- Women own smaller plots of land and use much fewer seed varieties and fertilizer than men
- Women are underrepresented in agricultural cooperatives
- Women cannot inherit property without a man acting as an intermediary

Many also consider early marriage and genital cutting to be impediments to women’s equity in Senegal.

In a few instances, Senegal leads the worldwide charge in gender equity: women currently make up 43 percent of Senegal’s parliament, and they also report a high degree of autonomy in their financial decisions (though this varies by region).

Senegal’s agriculture is dominated by groundnuts and millet, shortly followed by rice and maize. Few plots are irrigated, although there is potential to expand irrigation. The country’s national agriculture plan (PNIA) focuses primarily on increasing production of rice, millet, and maize; unfortunately, an extremely small portion of the PNIA budget is dedicated to programs that focus on women.

Although both men and women contribute substantially to labor on agricultural plots, women participate in certain other agricultural activities more often than men do, such as:

- Post-harvest processing
- Small-scale marketing of produce
- Subsistence activities
- Some export of vegetables
- In Kaffrine: women plant mostly the same crops as men, but on their own land and a month later than men do
- In Casamance: women focus on rice, specialty crops, and vegetables; men focus on grains and pulses

The Senegalese diet reflects its agricultural activity, as it is based on rice, millet, and sorghum, and is supplemented by groundnuts, cowpeas, vegetables, and fish. Around 70 percent of Senegal’s food supply is imported, indicating the current inadequacy of agricultural production in the country.

In terms of food security, Senegal currently has a “serious” level of hunger (as determined by IFPRI); 20 percent of the population is underweight, and nutrient deficiencies are common. Around 60 percent of

household income is spent on food. Senegal participates in the Scaling Up Nutrition (SUN) Movement via a multi-stakeholder platform known as the Unit for the Fight against Malnutrition, which (among other goals) focuses on maternal and child nutrition and on improving community services.

Senegal's extension and advisory services are provided by a variety of public and private institutions, which are overseen and supported by ANCAR, which itself is a partially private institution. Extension services have reported great success in reaching rural farmers through mobile messaging services, though women are much less likely than men to receive information through these services. Rural women in the Kaffrine region have suggested a variety of communication channels that extension services could use to reach them:

- Community radio (in local languages—not French)
- Word-of-mouth (via designated and compensated information relays)
- Blackboards at gathering spots (ex: water boreholes)
- Health posts and health extension workers (when agricultural information overlaps with health concerns, ex: climate/weather forecasts)

Feed the Future focuses its activities in three main geographical regions in Senegal: the Senegal River Valley (along the country's northern border) where it promotes irrigated rice, the southern forest zone (Casamance) where it supports rainfed rice, millet, and maize, and the Sine Saloum Delta (on the Atlantic coast, south of Dakar) where it focuses on fisheries. FTF targets women in several ways:

- Focuses on maternal and child nutrition
- Promotes capacity-building for women-owned businesses
- Improves women's access to finance
- Improves women's processing and commercialization skills

Since 2010, FTF has substantially increased rice production, has doubled millet production in target regions, and has experienced many other successes in Senegal; unfortunately, details regarding gender-related successes are difficult to find.

A variety of initiatives support agriculture, nutrition, food security, and gender initiatives in Senegal, and thus will likely be of interest to the INGENAES initiative. These range from large, U.S. government-supported programs, to programs supported by international NGOs, to smaller grassroots programs. A sampling of these programs, including contact information for the organizations that support them, can be found in the appendixes of this report.

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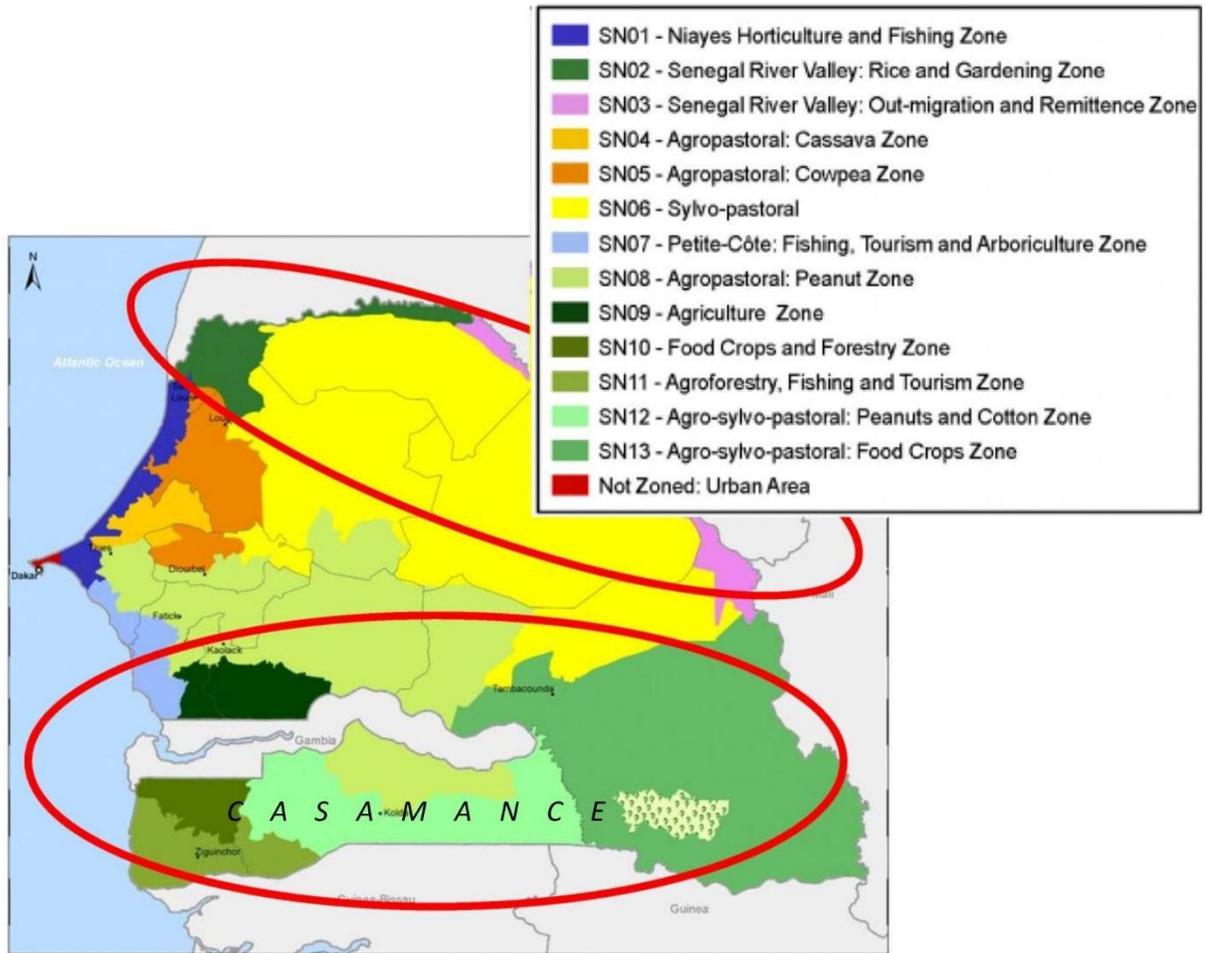
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Appendix A: Senegal's Agricultural Zones



Red ovals (by author) depict the approximate areas of FTF interventions. Source: www.fews.net

Appendix B: Objectives of Senegal's Agro-Sylvopastoral Law (LOASP)

A 20-year Vision for Modernizing Senegal's Agricultural Sector

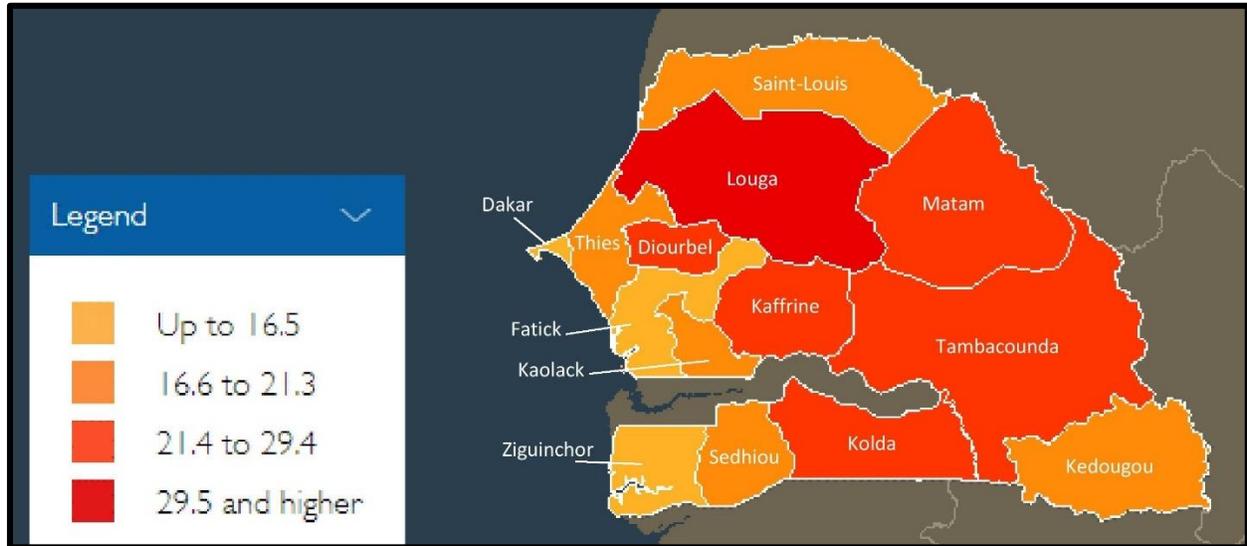
- Reduce the impact of climatic, economic, environmental and health risks, through better water resource management, product diversification the training of rural communities; all this being aimed at improving food security, and in the long run, achieving national food self-sufficiency.
- Improve the incomes and living standards of the rural population, and the establishment of social safety nets.
- Improve the quality of life in rural areas, particularly through access to public infrastructure and services, and through appropriate land use and planning.
- Environmental protection and sustainable management of natural resources through soil fertility improvement know-how.
- Establish an incentive system for private sector investment in agriculture and in rural areas.
- Improve the environment and quality of production to enable agriculture become the engine of industrial and artisanal development, and to better meet the needs of the domestic and foreign markets (sub-regional, regional and international).

(Government of Senegal, 2012)

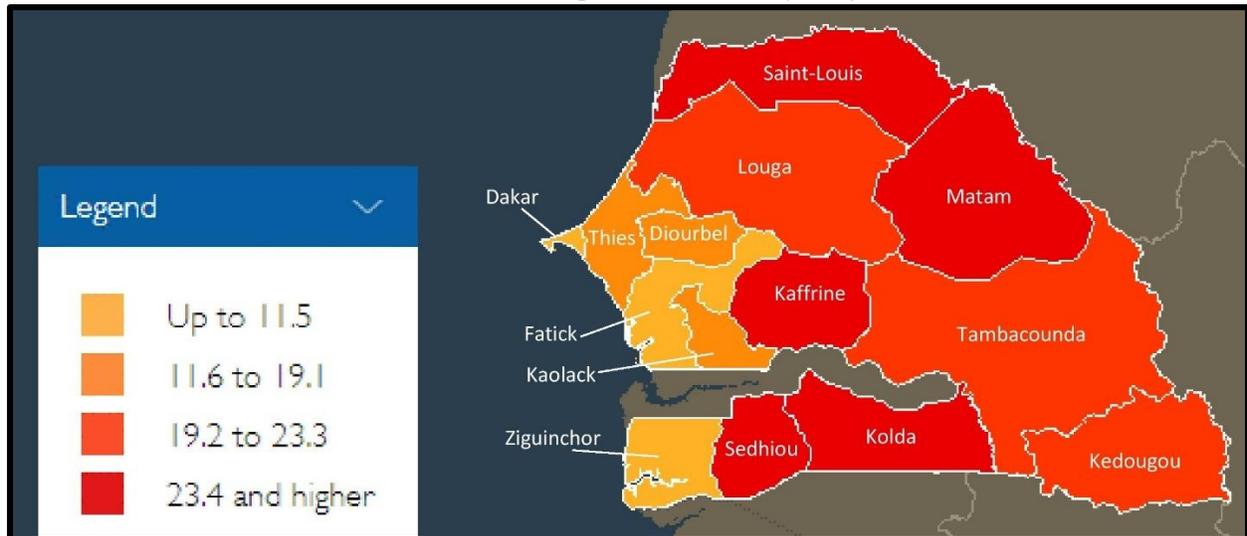
Enacted in 2004

Appendix C: Maps with regional data on undernutrition and poverty

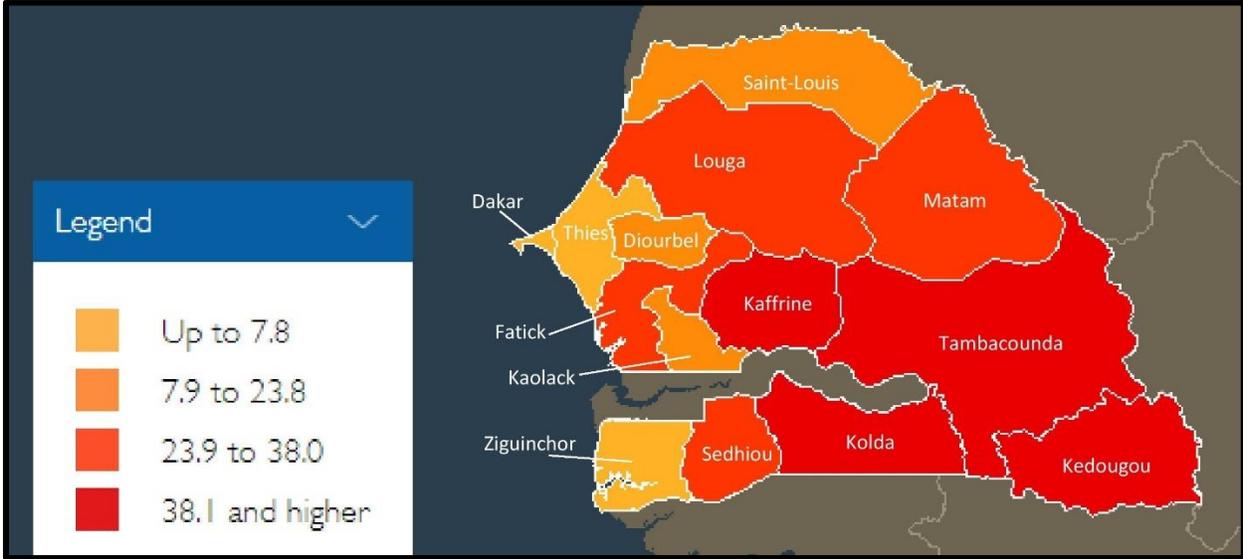
Percent of Women that are Underweight (BMI <18.5). Source: DHS (2010)



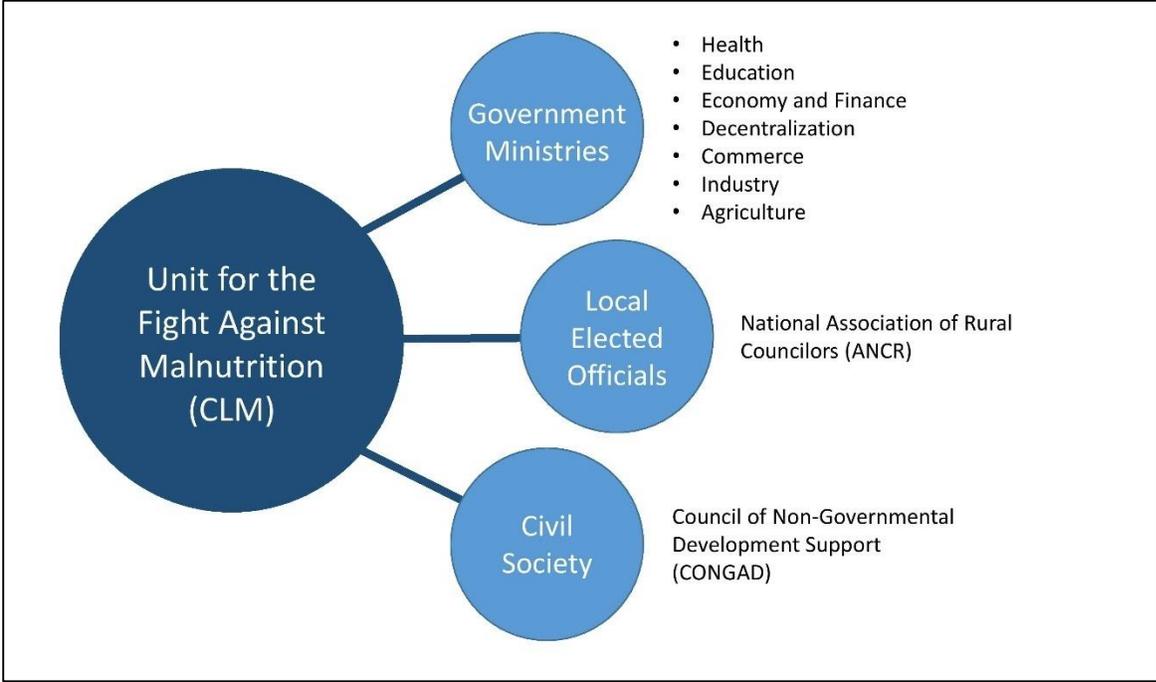
Percent of Children <5 that are Underweight. Source: DHS (2010)



Percent of Population in Lowest Wealth Quintile. Source: DHS (2010)



Appendix D: Structure of Senegal's Unit for the Fight against Malnutrition



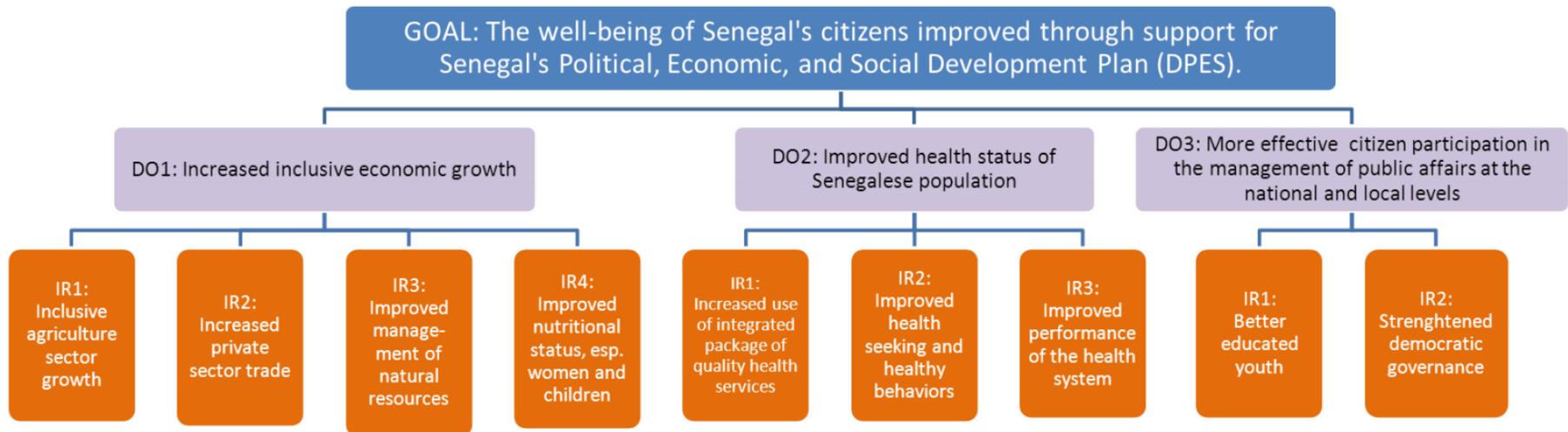
Source: <http://clmsn.org/>, translation by author.

Appendix E: Results Frameworks for USAID Country Development Strategy in Senegal

Overall Framework

DO = Development Objective

IR = Intermediate Result

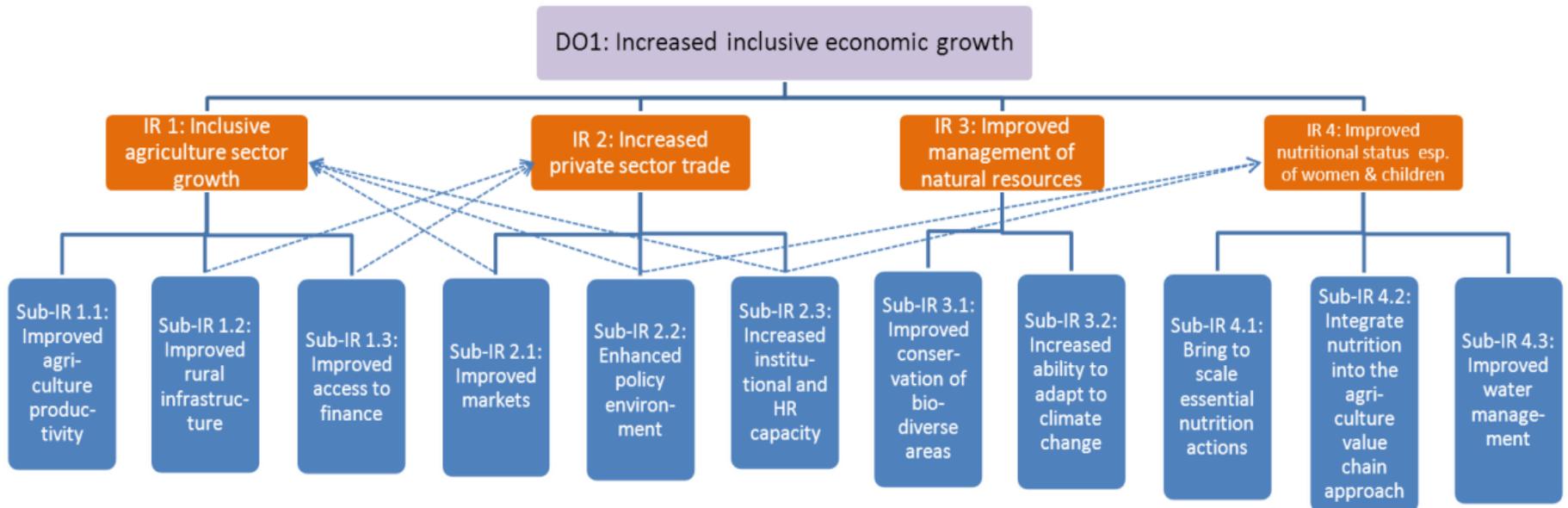


(USAID 2012)

Framework for Development Objective I

DO = Development Objective

IR = Intermediate Result



(USAID

2012)

Appendix F: Active FTF Projects in Senegal Funded by the U.S. Government

Yaajeende, Nutrition-Led Agriculture (USAID)

Links:

- <https://www.ncba.coop/usaaid-yaajeende-agriculture-and-nutrition-development-program-for-food-security-in-senegal>
- <http://www.ngoaidmap.org/projects/5339>
- <http://www.counterpart.org/our-work/projects/yaajeende>

Timeline: 11/2010-9/2017

Prime Awardee: National Cooperative Business Association Cooperative League of the USA (NCBA-CLUSA)

Partners: Counterpart International (nutrition), Heifer International (livestock), Shelada Associates (irrigation and monitoring), and Manobi (market information)

Locations: Regions of Matam, Bakel, Kedougou, and Kolda

Goal: Accelerate the participation of the very poor in rural economic growth and improve their nutritional status.

Objectives:

- 50,000 hectares under improved technologies or management practices
- 25 local food security plans developed and implemented
- Engage in country-led approach to accelerate participation of 500,000 farmers
- Reduce malnutrition in children under 5: 25% reduction in underweight and 20% reduction in stunting

Target beneficiaries: Mothers and children under 5 years old

Total number of beneficiaries: 1,000,000 people (100,000 homes, 60 communities)

Progress to date:

- 31,361 hectares under improved technologies/management practices
- 24 local food security plans developed and implemented
- 45,789 farmers applied new agricultural techniques in fertilizer and soil management
- 76,675 individuals have received short-term agricultural sector productivity or food security training
- 13.5% prevalence of underweight women (compared to 15.7% in baseline)

Key Activities (2015-2017): Scale up the Nutrition-led Agriculture approach primarily through local institutions: Commune-level governments and technical services, Citizen Working Groups and their constituent Village Steering Committees, the Community Based Solution Providers, the Community Nutrition Volunteers and the Debbo Galle Mother-to-Mother groups.

Contact: Todd Crosby (Chief of Party) | 221-77-333-4001 | tcrosby@usaaid-yaajeende.org

Amy Coughenour (COO of NCBA CLUSA's International Program) | acoughenour@ncba.coop

Education and Research in Agriculture (USAID)

Link: <http://www.oired.vt.edu/Senegal/welcome-era-senegal/>

Gender Strategy:

http://www.oired.vt.edu/Senegal/files/6113/7269/2848/USAID_ERA_Gender_Strategy.pdf

Prime awardee: Virginia Tech

Partners: Four U.S. universities and over a dozen Senegalese institutions (see <http://www.oired.vt.edu/Senegal/welcome-era-senegal/partners/>)

Timeline: 2011-2016

Locations: St. Louis, Dakar, Thies, south-western riverlands of Casamance

Goal: Strengthen agricultural education, research, and outreach to support poverty and hunger reduction and inclusive economic growth

Gender-related activities:

- Developed comprehensive gender equity framework
- Graduated 100 women food processors from a long-term training program at the Senegalese Food Science Institute

Other activities/Progress to date:

- Upgrades to partner facilities (computers, videoconferencing and laboratory equipment, vehicles)
- Workshops on public-private partnerships, curriculum development, conservation agriculture
- Review of the labor supply in Senegalese agricultural sector

Contact: era@oired.vt.edu; Dr. Larry Vaughan, larryjv@vt.edu (More contact info here: <http://www.oired.vt.edu/Senegal/welcome-era-senegal/about-era-senegal/contact-us/>)

FTF Innovation Labs (USAID)

Feed the Future Innovation Labs draw on the expertise of top U.S. universities and developing country research institutions to tackle some of the world's greatest challenges in agriculture and food security. This section discusses four labs which have research activities in Senegal. Please visit <http://feedthefuture.gov/lp/feed-future-innovation-labs> for the full list of all 24 Innovation Labs. The following four labs have research activities in Senegal.

Adapting Livestock Systems to Climate Change (Colorado State University)

Link: <http://lcccrsp.org/>

Goal: Increase resilience and augment the income of livestock producers

Activities: Research on how climatic conditions affect mobility patterns of pastoralists in Senegal, Gender report, nutrition report

Contact: Diana Fahrenbruck (administrative support) | Diana.Fahrenbruck@colostate.edu

Grain Legumes (Michigan State University)

Link: <http://legumelab.msu.edu/>

Goal: Increase grain legume (ex: bean, cowpea, tepary beans, etc.) productivity through sustainable intensification of smallholder farm systems to increase the availability of affordable grain in domestic markets, increase consumption of legumes by the poor, and improve nutrition and nutritional security.

Activities (in Senegal): Three new cowpea varieties released, improved cowpea seed storage, training workshop for local scientists on utilizing molecular breeding modules.

Contact: Irvin Widders (Director) widders@msu.edu

Integrated Pest Management (Virginia Polytechnic Institute and State University)

Link: <http://www.oired.vt.edu/ipmil/>

Goal: Reduce damage caused by pests and diseases, while dealing with issues such as gender, health, nutrition, equitable use of resources, and agricultural education

Activities (in Senegal): Research on the sweet potato whitefly and the potato tuber moth

Contact: Muni Muniappan (Director) | rmuni@vt.edu | (540) 231-3516

Sorghum and Millet (Kansas State University)

Link: <http://www.k-state.edu/smil/>

Goal: Improve the adaptation and resilience of sorghum and pearl millet

Activities (in Senegal): Research initiatives related to genomics-enabled breeding, trait development, biotic stress-resistant cultivars, and others

Contact: smil@k-state.edu

Peace Corps Master Farmer Program (USAID)

Link: <http://www.peacecorps.gov/media/forpress/press/2253/>

Timeline: (Ongoing?) Began in 2010

Goal: Improve the lives of farmers and their families by improving food security through the adoption of improved agriculture and agroforestry technologies.

Activities: Peace Corps Volunteers hold a series of trainings at Master Farms (a plot of land used for demonstration) that offer community members the opportunity to learn basic agriculture and agroforestry techniques and basic accounting. Training participants receive funds and seeds (such as rice, millet, corn, sorghum, and cowpeas) to start a demonstration plot of their own. Each Master Farmer commits to demonstrating the improved techniques they've learned to train other community members.

Progress to date: (As of May 2013) 26 open field days hosted by 14 Master Farmers

Contact: Senegaldesk@peacecorps.gov

Millet Business Services (USDA)

Links:

- http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Millet%20has%20many%20faces_Dakar_Senegal_11-23-2011.pdf
- <http://www.ngoaidmap.org/projects/8091>

Timeline: 9/2014-9/2017

Prime Awardee: NCBA-CLUSA

Locations: Fatick, Kaolack, and Kaffrine regions

Goal: Improve millet yields while encouraging collaboration among established organizations and promoting good governance.

Activities:

- Capacity building for agricultural extension services, producers, and the private sector
- Facilitating agricultural lending
- Improving infrastructure for post-harvest handling and storage
- Improving infrastructure for post-harvest processing
- Developing agrodealers and input suppliers
- Facilitating buyer-seller relationships
- Training in improving agricultural production techniques
- Training in improving marketing and branding
- Training in post-harvest handling

Target beneficiaries: Millet farmers

Total number of beneficiaries: 16,750

Contact: Laurent Gomis (Chief of Party) lgomis@ncba.coop

Farmer-to-Farmer (USAID)

Links:

- <http://www.ngoaidmap.org/projects/5342>
- <http://www.ncba.coop/coop-jobs/volunteer>

Timeline: 9/2013-7/2018

Prime Awardee: ACDI/VOCA

Locations: Matam, Kaolack

Goal: Promote sustainable economic growth and agricultural development

Activities: American farmers and agribusiness professionals are sent on 2-3 week agricultural development assignments. Volunteer technical assistance from U.S. farmers, agribusinesses, cooperatives and universities helps smallholder farmers in developing countries improve productivity, access new markets and conserve environmental and natural resources. Farmer-to-Farmer assignments in Senegal focus on technical assistance in three sub-sectors: environmental conservation, horticulture, and the millet value chain.

Progress to date: Since 2010 85 volunteers have offered more than three years' worth of volunteer days, impacting thousands of smallholder farmers. Volunteers have provided trainings in marketing strategies, business skills, organizational capacity building, organic farming techniques, conservation agriculture, vegetable processing and storage, and value addition activities such as soap-making and cheese-making.

Target groups: Women farmers

Total number of beneficiaries: 5,747

Contact: Megan Wall (Program Manager) mwall@ncba.coop

Nataal Mbay (USAID)

Links:

- <http://www.prnewswire.com/news-releases/engility-wins-24-million-contract-to-provide-technical-assistance-to-usaidsenegal-agricultural-program-300066852.html>
- <https://www.usaid.gov/senegal/press-releases/usaid-launches-new-agriculture-project>

Timeline: Began April 2015

Prime Awardee: Engility

Locations: Senegal river valley, groundnut basin, Casamance

Goal: Support the wide dissemination of technologies and best practices successfully introduced by Nataa; Mbay's predecessor, USAID/PCE, so that a larger number of producers are benefitted in the rice, corn, and millet value chains

Activities: Provide on-the-ground support to strengthen and improve agricultural production, natural resource management, and marketing in key agricultural value chains.

Contacts: Eric Ruff (Engility - Corporate Communications) eric.ruff@engilitycorp.com; Andrea Capellan (USAID/Senegal) acapelan@usaid.gov

InnovATE (USAID)

Links:

- <http://www.hubrural.org/Senegal-USAID-oeuvre-pour-l.html?lang=fr>
- <http://www.oired.vt.edu/innovate/>

Goal: Achieve sustainable food security, reduce poverty, promote rural innovation and stimulate employment by building human and institutional capacity. The program focuses on all aspects of agricultural training and education including: youth, gender, and workforce development, at the primary, vocational/technical, university and post-graduate levels.

Activities in Senegal:

- Workshop on strategies and tools for integrating gender into the agriculture and nutrition curriculum
- Pilot exercise in community participatory curriculum development (CPCD) for the agroforestry program at Universite Assane Seck de Ziguinchor (UASZ)

Contact: Sandra Russo (University of Florida) srusso@ufic.ufl.edu

Appendix G: Active Non-U.S.-Government-Funded Initiatives Relating to Food Security in Senegal

Projet d'Appui à la Sécurité Alimentaire (PASA Lou-Ma-Kaf)

Link: <http://pasaloumakaf.sn/>

Locations: Regions of Louga, Matam, and Kaffrine

Goal: Promote food security and rural poverty reduction through livestock and crop production in vulnerable zones, including investments focused on provision of water management systems, rural roads, and animal vaccination centers. Particular focus on women.

Objectives:

- Increase crop production by 22,000 tons
- Increase livestock production by 5,000 tons
- Increase income (especially for women) from 80,000 CFA to 240,000 CFA per year for agro-pastoralists and from 900,000 CFA to 1,200,000 CFA for farm operators

Total number of beneficiaries: 390,000 (60% women)

Activities:

- Implementation of drip irrigation systems supplied by borehole wells
- Build anti-salt dykes to establish rice and horticultural crops in lowlands
- Improve breeding habitats and produce storage
- Construct rural roads
- Collaborate with extension services

Contact: 37, Avenue Pasteur BP 67 Dakar | +221 33 889 1416 | pasaloumakaff@gmail.com

Creating Homestead Agriculture for Nutrition and Gender Equity (CHANGE)

Links:

- <http://ngoaidmap.org/projects/4211>
- <http://www.ifpri.org/project/creating-homestead-agriculture-nutrition-and-gender-equity-change>

Timeline: 3/2013-3/2016

Donor: Canadian International Development Agency

Prime Awardee: Helen Keller International

International Partner: International Food Policy Research Institute (IFPRI)

Goal: Improve the nutritional status of infants and young children and their mothers through homestead food production and nutrition behavior change.

Objectives:

- Increasing access to nutrient-rich fruit, vegetable and animal-source foods
- Diversify diets
- Increase household incomes
- Improve intra-household allocation of resources to favor women
- Empower women with sound knowledge, attitudes, practices and greater control over resources
- Improve nutrient intakes and infant and young child feeding and care practices
- Increase the use of preventive health services.

Activities:

Target beneficiaries: Households with young children

Total number of beneficiaries: 74,250

Contact: Claire Coveney (Communications Coordinator) | (212) 532-0544 | ccoveney@hki.org
Small-Holder Income and Nutrition Enhancement Project (SHINE)

Links:

- <https://www.childfund.org.au/sites/default/files/publications/Senegal%20Country%20Field%20Report%20-%20FY14.pdf>
- <http://ngoaidmap.org/projects/3860>

Timeline: 7/2012-6/2017

Implementing Partner: Heifer Senegal

Locations: Thies, Diourbel

Goal: Improve nutrition levels and livelihoods of vulnerable families in target villages

Objectives:

- Improve food security and household nutritional status
- Improve household income
- Empower women and youth to assume central roles in planning and attaining sustainable livelihoods for their families

Target beneficiaries: Smallholder families

Total number of beneficiaries: 5,700 families (12 villages)

Activities: Place animals with identified families.

Progress to date: (as of 2014) Animals placed with 1,995 families

Contact: Heifer International Senegal

Cite El Hadji Malick Sy, Derriere le Lycee, Thies B.P. 811, Thies, Senegal

T: (221) 33 939 59 20 E: heifer.senegal@heifer.org

The Hunger Project

Link: <http://www.thp.org/our-work/where-we-work/africa/senegal/>

Locations: 13 “epicenters” (towns) in the regions of Saint-Louis, Louga, Diourbel, Kaolack, and Kolda

Goal: To end hunger and poverty by pioneering sustainable, grassroots, women-centered strategies and advocating for their widespread adoption

Activities:

- Mobilize community volunteers to help develop leadership and microfinance
- Construct buildings and demonstration farms and gain recognition from banks
- Implement food & nutrition security, health, education, sanitation, and adult literacy programs
 - A women’s empowerment program provides education on women’s legal, reproductive, and property rights (unclear if these take place in Senegal)
- Foster income generation and gender-balanced leadership of local committee to ensure program self-reliance

Total number of beneficiaries: 178,904 (211 villages)

Contact: Jenna Recuber (Director of Communications) | jenna.recuber@thp.org

(212) 251-9110 | Local Tel: +256 414 232 060 | *Can contact others through form on website*

Community Health Project (ChildFund)

Links:

- <https://www.childfund.org/senegals-commitment-to-community-health/>
- <https://www.childfund.org/Senegal-Community-Health-Grant/>

Timeline: 2011-2016

Goal: Establish 2,151 (government-run) health huts and 1,717 outreach sites nationwide, focusing on primary healthcare (including nutrition education among many other topics). Will reach 9 million people.
Activities: (Among many others): Work to improve community members' knowledge of basic nutrition
Contact: questions@childfund.org

Agricultural Value Chains Support Project (IFAD)

Links:

- http://operations.ifad.org/web/ifad/operations/country/project/tags/senegal/1693/project_overview
- <https://webapps.ifad.org/members/eb/110/docs/EB-2013-110-R-19-Rev-1.pdf>

Goal: Contribute to a sustainable improvement in the livelihoods of family farms through their incorporation into diversified, profitable value chains

Objectives: Sustainably improve the food security and income of small-scale farmers and herders. Create remunerative, sustainable jobs in rural communities. Expand access of smallholders and their organizations to effective services and production infrastructure, appropriate technologies, and markets.

Locations: Regions of Louga, Diourbel, Fatick, Kaolack, and Kaffrine

Target groups: Small-scale farmers and herders. "will ensure the incorporation of the most vulnerable households, the young, the women, and their organizations."

Activities: Many. Activities that directly affect women and youth: Market garden production, poultry and small ruminant rearing, processing of products, artisans, upkeep and repair of farm equipment, providers of mechanized services (ploughing, threshing), input suppliers, members of agricultural production intensification groups.

Contact: Luyaku Loko Nsimpasi (Country Program Manager) l.nsimpasi@ifad.org, +221 33 859 6757

Projet Nutrition Enfant et Sécurité Alimentaire (NESA)

Link: <http://clmsn.org/index.php/projet-et-programmes/projet-nutrition-enfant-et-securite-alimentaire-de-la-cellule-de-lutte-contre-la-malnutrition>

Objectives:

- Contribute to the achievement of the MDGs in Senegal
- Eradicate extreme poverty and hunger through the national nutrition policy, which aims to improve the status of vulnerable groups

Beneficiaries: 4.3 million people, including 817,000 children under five years and pregnant and lactating women

Programme de Renforcement de la Nutrition (PRN)

Link: <http://clmsn.org/index.php/projet-et-programmes/programme-de-renforcement-de-la-nutrition-prn-de-la-cellule-de-lutte-contre-la-malnutrition>

Objectives:

- Improve children's growth
- Strengthen institutional and organizational capacity to implement and evaluate nutrition interventions

Activities: Promote the integration of nutrition goals into the plans of government ministries involved in nutrition. Implement interventions focused on pregnant and lactating women and children under 5 years through the Community Enforcement Agencies (AEC)

Target groups: Children under 5, pregnant and lactating women, community members

Project to Support the Promotion of Employment for Youth and Women (PAPEJF)
(African Development Fund)

Link: http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Senegal_-_Project_to_support_the_Promotion_of_Employment_for_Youth_and_Women_PAPEJF_-_Appraisal_Report.pdf

Goal: Contribute to the country's economic development by encouraging the emergence of youth and women's small- and medium-sized enterprises, mainly within the value chains.

Activities: Promotion of youth and women's entrepreneurship in rural and semi-urban areas, technological infrastructure to support enterprises, create a financing mechanism accessible to youth and women.

Target groups: women and youth