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THE BOTTOM LINE

Launched in 2011, the Second Sustainable and Participatory Energy Management Project for Senegal has been hailed for effectively mainstreaming a gender perspective into an energy project. Under the project, women have participated more in decision making; developed skills in technical production, entrepreneurship, and organizational management; and benefitted from increased incomes.

Improving Gender Equality and Rural Livelihoods in Senegal through Sustainable and Participatory Energy Management: Senegal's PROGEDE II Project

Alicia Hammond is a research analyst with the Gender Cross-Cutting Solutions Area at the World Bank.

Inka Schomer is a program analyst with the AFREA Gender and Energy program in the World Bank's Energy and Extractives Global Practice.

Alassane Ngom is a household energy specialist and the head of operations of PROGEDE II.

Awa Seck is a senior economist in the Bank's Energy and Extractives Global Practice and the task team leader of the PROGEDE II project and the AFREA Gender and Energy program.

Vanessa Lopes Janik is an operations officer for the Energy Sector Management Assistance Program (ESMAP), leading the Social Inclusion, Gender and Energy program.

Fatoumata Souaré is a hero in Tambacounda, a rural, forested area 250 miles southeast of Dakar. She and her children own and operate a sustainable charcoal production business that nets some $2,800 every three months. The income has allowed Souaré, who lost her husband a few years ago, to build a new house, install a solar panel, send her children to school, and purchase health insurance for her family (World Bank 2014).

Fatouma is one of many Senegalese who have benefited from the Senegal Second Sustainable and Participatory Energy Management Project (PROGEDE II), sponsored by the World Bank and Nordic Development Fund. Building on the success of PROGEDE I, PROGEDE II empowers communities while preserving the forest ecosystems on which many poor rural Senegalese families rely (World Bank 2014).

PROGEDE II has also helped families diversify their household fuel needs through the use of biogas, supported beekeepers to modernize their craft, and brought improved seeds and larger yields to farmers (World Bank 2014). With support from the Energy Sector Management Assistance Program's (ESMAP) Africa Renewable Energy Access Program (AFREA), the project has utilized gender considerations to improve its impact.[1]

The links between poverty, energy, and gender

With a per capita income of $1,046,[2] Senegal has demonstrated consistent economic growth of approximately 4 percent since 2003 (World Bank 2010). Yet almost half of Senegal's 14 million citizens still live in poverty, and 15 percent live in extreme poverty (IDA, IFC, and MIGA 2013).

Poverty, energy, and gender in Senegal are inextricably linked. Poverty is concentrated in rural areas, which have a poverty rate of 57 percent compared with 26 percent in Dakar (IDA, IFC, and MIGA 2013). The rural poor are often disproportionately affected by how environmental resources are managed and used because their livelihoods are more dependent on them. Since women are typically responsible for household activities, including the gathering of firewood for cooking, they bear the brunt of limited access to modern energy services.

Senegal faces significant environmental challenges, including deforestation, soil erosion, and desertification. The country's deforestation issues stem in part from the reliance on charcoal

1 Formed in 2009, the AFREA Gender and Energy Program works toward gender equity through an energy lens. It aims to develop gender and energy expertise by working with governments and their partners to integrate gender equity into energy institutions, programs, and projects. PROGEDE II is one such initiative.

2 http://data.worldbank.org/indicator/NY.GDP.PCAP.CD/countries.

"Senegal has taken steps to improve access to modern energy. Goals include meeting demand for household fuels in an environmentally sustainably manner and promoting participatory community resource management."

in urban areas and excessive wood consumption in rural areas. In fact, 26 percent of households rely on charcoal and 58 percent depend on firewood for their energy needs. The government aims to improve access to modern energy while meeting the population's basic energy needs and using alternative energy sources to relieve pressure on the forests (World Bank 2010). In recognition of these competing demands, community forest management programs are being implemented to promote sustainability and diversification while satisfying energy needs.

Senegal has made advances with respect to gender. The 2013 Global Gender Gap Report (WEF 2013) ranked the country 67 out of 126, a remarkable gain of 23 places from the previous year, chiefly ascribable to growing numbers of women in parliament.[3] Female representation almost doubled from 2011 to 2012, moving from 23 percent to 43 percent as a result of an electoral law that mandates gender parity in candidate lists.[4]

Yet disparities that disadvantage women persist in many domains. For example, only 40 percent of women 15 years and older are literate, compared with 66 percent of men; and 53 percent of women participate in the labor force, compared with 79 percent of men.[5] And while evidence shows that women's ownership of assets can improve well-being at the individual, household, and community levels (Doss and others 2012), Senegalese women lack access to means of production, such as land. Discriminatory laws also limit women's agency. Married women cannot choose where to live in the same way as men; they are generally restricted from many jobs, including construction and factory work; and married women cannot act as heads of household in the same way as men (World Bank and IFC 2013).

Senegal has ratified international and regional instruments that promote women's rights, including the Convention on the Elimination of All Forms of Discrimination against Women and the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa (Maputo Protocol). At the national level, in 2008 the government adopted the National Strategy for Gender Equality and Equity, which aims to promote gender mainstreaming at all levels of government. The policy aims to improve women's social standing, promote their economic empowerment, strengthen their participation in decision making, and improve the impact of interventions related to gender equality and equity. A ministry of gender was established in 2010, and the government recently launched its new National Strategy for Gender Equality and Equity, which comes into effect in 2015.

Senegal has also taken steps to improve access to modern energy, while addressing interconnected environmental, economic, and social issues. In 2008, the government issued a development policy letter on household energy. Specific goals include meeting demand for household fuels in an environmentally sustainably manner, emphasizing participatory community resource management, and reducing poverty (World Bank 2010).

PROGEDE I: A foundation for learning

PROGEDE I was implemented from 1997 to 2004 to combat Senegal's rapidly growing demand for household fuels and the degradation of forests and the rural environment. Objectives included increasing the availability of traditional fuels in a sustainable manner while boosting household incomes and preserving forest ecosystems. The project also promoted inter-fuel substitution in the private sector and NGO-based initiatives to spread the use of improved cookstoves.

PROGEDE I reached and exceeded most of its objectives. Moreover, it was the first forest management program in Senegal to actively engage local communities, which has since served as a model for similar initiatives.

Despite the project's successes, some challenges remained with respect to the equal participation of men and women. Subsequently, it was decided that just-in time support on gender issues was needed. That support was provided under ESMAP's AFREA Gender and Energy program. Gender experts undertook an external review consisting of a desk review, field visits, interviews, and stakeholder meetings. The outputs of this review confirmed that although PROGEDE I had increased the income of beneficiaries overall, gender had been inadequately incorporated in the project, with the result that women had benefited only marginally. Further, women remained concentrated within the narrow segment of commercial gardening, which accounted for only a small share of the project's

[3] Senegal now ranks 77 out of 142 in the 2014 Global Gender Gap Report. It is among the top 10 countries on the "Women in Parliament" indicator.

[4] World Bank Databank, "Proportion of Seats Held by Women in National Parliaments (%)," http://data.worldbank.org/indicator/SG.GEN.PARL.ZS.

[5] World Bank, World Development Indicators, 2011 figures for literacy and 2012 figures for labor force participation, http://databank.worldbank.org/data/views/reports/tableview.aspx#.

Table 1. Key components of PROGEDE II

Reform of the charcoal value chain	Sustainable wood fuels supply management	Promotion and diversification of modern household energy
Support charcoal production through research, outreach, and training on relevant forestry policies and the charcoal concession process.	Support sustainable community forest management by training local actors, establishing nurseries, and restoring degraded land.	Promote efficient cooking equipment and the use of sustainable biomass energy by supporting improved stove manufacturing and dissemination, sensitizing household to these advantages, and providing technical assistance.
Facilitate access to urban markets and charcoal production sites by providing trucks and rehabilitating forest trails.	Consolidate and establish biodiversity community reserves by inventorying forests and pastoral areas and restoring natural habitats and degraded land in existing reserves.	Plan for the demand for household cooking fuels by researching energy consumption, equipment, and wood fuel supply; conduct a gender-sensitive survey on household fuel prices.
Diversify income of charcoal traders by providing business development training and grants for energy-efficient charcoal-processing units.	Promote eco-friendly income-generating activities such as gardening, producing biofuels, beekeeping, and producing honey.	Strengthen the capacity of the Directorate of Petroleum Products and Household Energy by providing technical assistance and training to civil servants.

Source: World Bank.

"Although PROGEDE I had increased the income of beneficiaries overall, gender had been inadequately incorporated in the project, with the result that women had benefited only marginally. Following the review of PROGEDE I, the project team made an effort to incorporate gender mainstreaming recommendations into PROGEDE II."

income-generating activities. Women also played a limited role in decision making. PROGEDE I established community-based forest management systems that built on Senegal's forest policy, but women took part in a minimal capacity and had limited influence.

Following the review of PROGEDE I, the project team made an effort to incorporate gender mainstreaming recommendations into PROGEDE II. They focused on increasing female participation in decision-making bodies, particularly forest management systems, and on ensuring that women benefited more equitably from income-generating activities.

PROGEDE II: More women as decision makers, income producers, and sustainable forest managers

PROGEDE II aims to contribute to the increase in availability of diversified household fuels in a sustainable and gender-equitable way, and to raise the income of participating communities while preserving the forest ecosystems. Main project components include reform of the charcoal value chain; sustainable wood fuels supply management; and promotion and diversification of modern household energy (table 1).

Promoting equitable decision making

To decentralize the management of environmental and natural resources while reducing rural poverty, Senegal's forest policy stipulates that local governments and communities take charge. In support of that goal, PROGEDE I founded informal inter-village management and development committees. On average, however, women comprised only about 16 percent of the committee members.

With this disparity in mind, PROGEDE II initiated a reform of these local management structures, which are referred to as CIVGFs (inter-village forest management committees). The three CIVGFs—for southern, central, and eastern Senegal—have four components: the village contact group, the general assembly, the management committee, and the executive committee.

After a concerted effort, women now make up between 33 and 50 percent of these various components.

The village contact group serves as the main point of contact for the community. Members of the group, half of whom are women, are tasked with sharing information and mobilizing community members for project-related activities. The high rate of participation by women has encouraged other women to take part in project-related activities and provided them with a direct source of information; they no longer have to negotiate access to information through their male partners.

"Evidence suggests that the shift to more balanced leadership roles between men and women has already led to a rapid increase in the number of women engaging in various income-generating activities, such as charcoal production, which has had positive effects at the individual, household, and community levels."

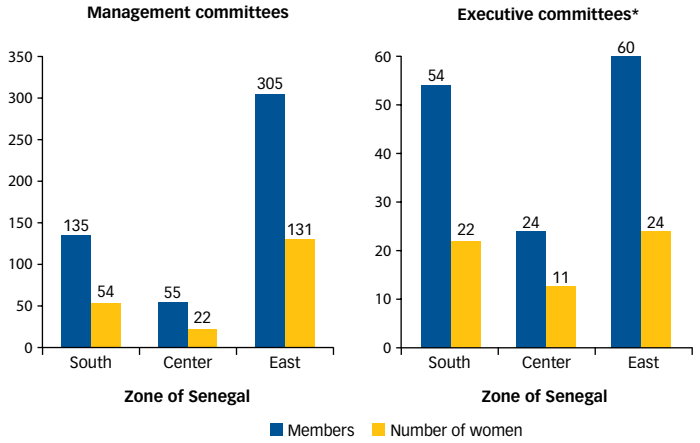
Women also make up half of each CIVGF general assembly. This group approves the organization's budget and sets guidelines for implementation. In addition to having a direct role in the control of their committee's resources, women now also participate in making the rules that govern its functioning.

The share of women on the CIVGF management committees is approximately 40 percent (figure 1). At this level of leadership, among other responsibilities, women serve as intermediaries between the local authorities and their communities. In this capacity, they have the opportunity to serve publicly as representatives and role models for other women who may aspire to similar positions.

The executive committees are the primary management arm of the CIVGFs, with the share of women ranging between 35 and 42 percent (figure 1). In the three key positions on the executive committee (chairperson, secretary general, and treasurer), one observes a boost for women, who previously were underrepresented and occupied less central positions. They now occupy 17 percent of the positions of chairperson, 43 percent of the positions of secretary general, and 70 percent of the positions of treasurer (table 2).

Anecdotal evidence suggests that the shift to more balanced leadership roles between men and women has already led to a rapid increase in the number of women engaging in various income-generating activities, such as charcoal production, which has had positive effects at the individual, household, and community levels.

Figure 1. Women's participation in CIVGF management and executive committees



*Figures are based on table 2 but do not include block supervisors.

Source: World Bank.

Furthermore, women increasingly participate in training sessions on forest cutting and carbonization techniques, pursuits formerly dominated by men in accordance with traditional gender roles governing the division of labor. For example, women typically used wood for household activities, such as meal preparation, rather than

Table 2. Women's representation on CIVGF executive committees

Zone	No. of CIVGFs	Number of women occupying positions						
		Chairperson	Vice chairperson	Secretary general	Assistant secretary general	Treasurer general	Assistant treasurer general	Block supervisor
South	9	1	4	6	4	3	4	5
Center	4	0	2	3	0	4	2	0
East	10	3	0	1	5	9	6	0
Total	23	4	6	10	9	16	12	5

Note: Each CIVGF has 6 positions. For example, in the South there are 54 positions (9 CIVGFs x 6 = 54).

Source: World Bank.

for commercial purposes. However, approximately 649 women in the eastern zone and 369 women in the southern zone now operate commercially in this sector.

"Under the project, the number of women trained in cutting and carbonization techniques for charcoal production has risen substantially, allowing more women to engage in the commercial exploitation of wood energy."

Building technical and leadership skills

PROGEDE II has offered training sessions to enable women to benefit equitably from the project. The training falls under two main themes.

- **Developing technical skills.** Sessions focus on various techniques and methods, such as charcoal production, commercial gardening, beekeeping, production of seedlings, and forest monitoring.
- **Strengthening leadership capacity.** Sessions build organizational and management skills that enable women to serve as effective leaders on forest management committees.

Under the project, the number of women trained in cutting and carbonization techniques for charcoal production has risen substantially—from 0 percent to 21 percent overall (table 3)—allowing more women to engage in the commercial exploitation of wood energy. Women continue to request additional training because of the profitability of subsequent activities.

Women also continue to dominate market gardening, as they did under PROGEDE I, with a 100 percent training rate. Vegetables such as tomatoes, beans, and pumpkins are used both for household and commercial purposes. In addition to providing an income stream, market gardening has begun to shift household gender dynamics, as women increasingly act as the providers of food for the family. Furthermore, the availability of these vegetables at the household level has increased access to nutritious foods.

Boosting incomes and improving livelihoods

Overall, the activities initiated under PROGEDE II enabled beneficiaries to increase their income and make tangible improvements in their lives. These activities included wood energy production using sustainable forest management techniques as well as various agriculture and pastoral activities such as horticulture, beekeeping, and improved poultry raising.

Previously, local communities benefited from only 6 percent of the total income derived from sustainable forest management and income-generating activities. Of that share, less than 3 percent reached women, who were virtually excluded from the commercial exploitation of charcoal. Reforms to forest management initiated by the project have increased the share that communities receive to

Table 3. Women trained under PROGEDE II

	Types of training, number of women trained, and total number of people trained in each of five activities									
	Charcoal production		Market gardening		Hydroponic culture		Beekeeping		Forest monitoring	
Zone	Women	Total	Women	Total	Women	Total	Women	Total	Women	Total
South	369	1,308	30	30	n.a.	n.a.	0	0[a]	1	29
Center	0	0	25	25	0	8	8	30	0	0[b]
East	649	3,466	30	30	n.a.	n.a.	7	32	1	46
Totals	1,018	4,774	85	85	0	8	15	62	2	75

a. Training in beekeeping has since begun in the South zone.

b. Training in forest monitoring has since begun in the Center zone.

Source: World Bank.

"Gender-disaggregated indicators helped the team capture quantitative differences between men and women as well as qualitative changes, reflecting shifts in women's empowerment or changes in attitudes towards gender equality."

Table 4. Total income from major activities and women's share, 2011–13 (in CFA francs)

Zones	Total income	Women's share
East	2,379,939,715	419,766,965 (18%)
Center	17,884,015	13,774,245 (77%)
South	5,862,684,865	595,662,765 (10%)
Total	8,260,508,595	1,029,203,975 (12%)

Note: The activities covered in this table are charcoal production, market gardening, intensified agriculture, and beekeeping.

Source: World Bank.

52 percent, mainly from charcoal production. In fact, 1,018 women have become charcoal producers because of PROGEDE II. Further, women earned a 12 percent share of the total income from major project activities between 2011 and 2013 (table 4).

Although additional increases are expected in the years to come, women still command a small share of project activities. This is primarily because the most profitable activity, the commercial exploitation of charcoal, is still dominated by men. But the strong demand from women for training in forest exploitation demonstrates that it is possible to correct this gender imbalance.[6]

Success factors and constraints

Several success factors and a few constraints have been identified with respect to gender mainstreaming in the implementation of PROGEDE II (figure 2).

Considering and incorporating gender, particularly during the planning stage, has been a key factor of success. PROGEDE II specified gender equality goals at various levels. Gender was identified in the project development objective (PDO), which is part of the formal partnership agreement between the World Bank and government of

Figure 2. Success factors and constraints in gender mainstreaming

Factors for Success

- Mainstreaming gender considerations in planning, particularly at the level of the development objective
- Budget for gender mainstreaming
- Recruiting personnel with gender expertise
- Training locally elected representatives and opinion leaders in gender issues

Constraints

- The strong influence of customs and traditions
- Low levels of education among women
- The negative perception of gender as a "Western" concept

Source: Authors.

Senegal (table 5). Including gender in the PDO informed the overall approach to project implementation and made it possible to address gender concerns at various levels of implementation.

Additionally, women were targeted in the intermediate outcome indicators, as outlined in table 5. Some project components also incorporated sex-disaggregated measures to track women's participation, with the aim of obtaining between 50 and 80 percent participation in various project activities. Gender-disaggregated indicators helped the team capture quantitative differences between men and women as well as qualitative changes, reflecting shifts in women's empowerment or changes in attitudes towards equality (ESMAP 2013).

The availability of a budget for mainstreaming also contributed to the success of PROGEDE II. Adequate funding enabled activities targeted to women, such as the aforementioned training opportunities and support for market gardening. Ensuring that the project team included personnel with gender expertise also facilitated success: PROGEDE II recruited three gender experts to assist in identifying, implementing, and monitoring project activities. Viewing the project through a gender lens helped the team understand the ways in which more gender-equitable outcomes could be achieved.

Another success factor was the full participation of target communities. Rather than treating communities as homogeneous entities, the team made an effort to understand that each community consists of people of varying opinions and needs. Special

[6] Although Senegal's Center zone accounts for a small share of the total income from project activities, the women's share in that income is more than three-quarters. Women receive a much smaller share of income in the East and South zones, the absolute amount earned is high, suggesting that many women are benefitting.

"Since I started producing charcoal in 2010, I have achieved many things thanks to my work. I have bought a house. I have started building. I have even bought a motorcycle and also a TV set. I have purchased a solar panel and installed it on the house. I also pay for the studies of my children at school."
—Fatoumata Souaré

Table 5. Gender sensitivity reflected in PROGEDE II's objective and indicators

Project Development Objective To increase the availability of diversified household fuels in a sustainable and gender-equitable way, and to increase the income of participating communities while preserving forest ecosystems	
Gender-Sensitive Outcome Indicator	Use of the Indicator
Income of participating communities (broken down by women, men and youth), with a target of $34 million at the end of the project from the baseline of $18 million/year	To better understand the contribution of sustainable wood fuel strategies for rural poverty alleviation, particularly for women
Number of direct/indirect beneficiaries of sustainable community forest management activities, with targets of 260,000 (from a baseline of 108,000), half of whom are women	To measure how women are benefiting from the project
Number of direct/indirect beneficiaries from income-generating activities with a target of 575,000 from a baseline of 250,000, 80 percent of whom are women	

Note: The activities covered in this table are charcoal production, market gardening, intensified agriculture, and beekeeping.
Source: World Bank.

efforts were made to use gender-sensitive communications to engage women and to schedule meetings and training sessions with women's needs in mind.

Engaging community and opinion leaders was also as an important enabling factor in the successful implementation of activities. Elected representatives and other opinion leaders received training in gender issues and were then able to educate others about the importance of gender equality in their communities.[7]

Although PROGEDE II emerged as a model for community engagement and gender equality in energy projects, it was not without constraints. Deep-rooted customs and traditions had a strong influence on communities and have persisted as barriers to women's participation. Further, many community members perceived gender as a "Western" concept that contradicted their belief systems. Low levels of education among women also impeded their full and meaningful participation.

The need to consolidate gains is paramount so that women and men continue to benefit more equally from the positive outcomes brought about by PROGEDE II. In the context of its partnership with AFREA, PROGEDE II will continue to:

- Raise awareness and advocacy among opinion leaders at the local and national levels
- Reinforce the technical and organizational capacities of women
- Evaluate the socioeconomic effects of gender mainstreaming.

[7] Further details on the overall project can be found in the video entitled "Energy to Change Women's Lives in Africa," https://www.youtube.com/watch?v=_f_On6SaFbY.

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