

## Background

According to 2020 UN Human Development Reports data, Niger ranks 189 of 189 on the Human Development Index and 154 of 162 on the Gender Inequality Index.<sup>1</sup> The concurrence of both low scores signifies women and girls in Niger, on average, experience exceptional levels of vulnerability to various macroeconomic, climate, or other shocks. That is, they are disadvantaged even among the disadvantaged.

## Cultural Norms and Legal Regime

There are three sources of law in Niger: Statutory, customary, and Islamic (approximately 99% of the population identifies as Muslim). Though customary law is only supposed to be applicable when it doesn't conflict with statutory provisions, in practice this is not always the case, especially among certain ethnic groups and in areas of family law (i.e., marriage, divorce, custody, inheritance) and property rights. The prevalence of certain customary legal regimes is recognized as constituting a major impediment to gender equality.<sup>2</sup>

There are eight main ethnic groups present in Niger. Slightly over half of the population is Hausa, mostly residing in south-central and southeastern areas, and between a fifth and a quarter are Zarma-Songhai living in southwestern the region. Many of the other ethnic groups are nomadic or semi-nomadic groups, like the Fulani (Peulh) and Touareg, each representing slightly under 10 percent of the population, and Kanouri (slightly under five percent). There are small Arab, Toubou, and Gourmantche minorities as well (less than one percent each).<sup>3</sup>

Ethnic diversity notwithstanding, cultures are typically patriarchal and exhibit gendered division of labor, with women's responsibilities concentrated around domestic chores and caregiving. One exception to this may be the Wodaabe (Mbororo), a small Fulani sub-group, where for example men will assist with household tasks and women have a relatively greater degree of sexual and economic autonomy.<sup>4</sup> Of note, Hausa women have a few avenues to empowerment available to them not generally available to Zarma women, who typically face more constraints in accessing land and agricultural inputs. Hausa women are more often able to decide how to use the proceeds from selling crops from their personal plots and, if economically successful, can be accorded some measure of social status and even be able to purchase additional farmland.<sup>5</sup> Some individuals from both Hausa and Zarma groups practice wife seclusion, whereby married women of child-bearing age are denied access to public spaces and instead may rely on their pre-teen children, especially daughters, for agricultural or domestic chores, or engaging in petty trade.<sup>6</sup> While the use of child go-betweens can create some opportunities for some women, it is often to the detriment of their daughters who may be unenrolled from school and more likely to enter into early marriages.<sup>7</sup>

The incidence of gender-based violence (GBV) is high in Niger. The official GBV prevention strategy (2017) estimated the prevalence among women and youth to be 60% and 63%, respectively.<sup>8</sup> According to AfDB,<sup>9</sup> the government has "not taken adequate measures to ensure prevention and proper management of gender-based violence (GBV) or punish child marriage." Seventy-six percent of young women marry before their 18<sup>th</sup> birthday, though there are regional differences within the country, with adolescent marriage rates higher in the Sahelian areas.<sup>10</sup> According to data from the 2012 Demographic and Household Survey (DHS), 36% of women aged 15-49 were in polygamous marriages. Early marriage, polygynous unions, and intimate partner violence are commonly associated with women having less autonomy and bargaining power within their households.

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<sup>1</sup> <https://hdr.undp.org/data-center/documentation-and-downloads>

<sup>2</sup> AfDB, "Republic of Niger: Country Gender Profile."

<sup>3</sup> "Largest Ethnic Groups in Niger."

<sup>4</sup> USAID, "Summary: Resilience in the Sahel Enhanced (RISE) Gender Analysis."

<sup>5</sup> Some, "Resilience in the Sahel Enhanced (RISE) II Gender Analysis."

<sup>6</sup> Some.

<sup>7</sup> Chumley, "Work, Agriculture, and the Rise of Female House Seclusion in Post-Colonial Hausaland."

<sup>8</sup> République du Niger, Ministère de la Promotion de la Femme et de la Protection de l'Enfant, "Stratégie Nationale de Prévention et de Réponse Aux Violences Basées Sur Le Genre (VBG) Au Niger (2017-2021)."

<sup>9</sup> AfDB, "Republic of Niger: Country Gender Profile."

<sup>10</sup> UNFPA and UNICEF, "2020 Country Profile: Niger."

## Demographics

Niger has the highest national population growth rate (3.8 percent) in the world.<sup>11</sup> The country also has the highest fertility rate (6.7 births per woman) and adolescent birth rate (177 births per 1,000 girls aged 15-19) of any nation, though both rates have been falling since the early 1980's.<sup>12</sup> High fertility rates increase the dependency ratio of a society, resulting in greater caregiving burdens for women and, in precarious settings, fewer resources able to be devoted to each child. Adolescent childbearing impedes girls' educational and work prospects and gravely endangers their health and that of their children through pregnancy complications. Age at first childbearing is inversely correlated with lifetime fertility. The Government has made the demographic transition and dividend the first strategic pillar of the Economic and Social Development Plan (PDES) 2017-2021.

## Water

Much of Niger exhibits a harsh climate with water scarcity, and the rural population has a high degree of susceptibility to climate variability and weather-related shocks. Women and girl children bear the majority of the daily burden of fetching water in Niger,<sup>13</sup> with water fetching for household use among the reasons that female children are withdrawn from school. Water, for irrigation and livestock watering, is also an extremely important agricultural input that women have less access to than men. In 2004, for instance, women only operated four percent of irrigated land areas.<sup>14</sup> Water is also needed in school and health care settings for washing, sanitation, drinking, and cooking. Only 23 percent of schools have access to drinking water and 27 percent have access to sanitation facilities.<sup>15</sup> Girls and women especially may avoid going to schools or healthcare settings where water, sanitation and hygiene (WASH) services are absent. Girls, in particular, may miss school when they are menstruating. Fee-for-service water pumping and/or purification can be explored as minigrid design elements and, if water can be stored, this can also aid in load profile management.

## Health and Education

Niger's Human Capital Index, measuring the amount of human capital (educational and health status) a child born today can be expected to accumulate over their first 18 years, is 0.32, which is among the lowest in the world.

Mean years of schooling (2019) for the population are 1.4 years for women and 2.8 years for men, though the expected years of schooling for children at present is much higher and the relative gender gap lower (5.7 years expected for girls versus 7.2 years for boys).<sup>16</sup> Older women, in particular, are among those least likely to be literate. Girls face high expulsion rates in middle and high school due to low performance,<sup>17</sup> possibly attributed to missed days while menstruating and/or performing chores or work for the family. The ratio of women to men enrolled in tertiary education (2019) is 0.64.<sup>18</sup>

In terms of health and nutrition, 47 percent of children under five exhibit stunting (low height for age, 2019 data).<sup>19</sup> Due to iron deficiency (caused by inadequate diet, disease, early childbirth, closely spaced births, etc.), 50 percent of women are anemic, compared with 25 percent of men.<sup>20</sup> The proportion of male-headed households

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<sup>11</sup> World Bank, "World Development Indicators | DataBank."

<sup>12</sup> Ibid.

<sup>13</sup> Graham, Jay P., Mitsuaki Hirai, and Seung-Sup Kim. 2016. "An Analysis of Water Collection Labor among Women and Children in 24 Sub-Saharan African Countries."

<sup>14</sup> AfDB, "Republic of Niger: Country Gender Profile."

<sup>15</sup> UNICEF Niger. N.D. "Water, Sanitation & Hygeine."

<sup>16</sup> <https://hdr.undp.org/data-center/documentation-and-downloads>

<sup>17</sup> AfDB, "Republic of Niger: Country Gender Profile."

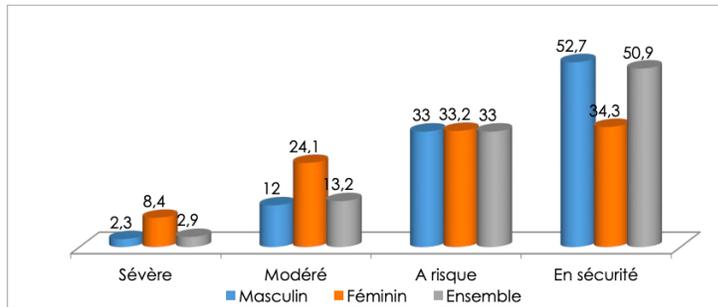
<sup>18</sup> World Bank, "World Development Indicators | DataBank."

<sup>19</sup> <https://databank.worldbank.org>

<sup>20</sup> Some, "Resilience in the Sahel Enhanced (RISE) II Gender Analysis."

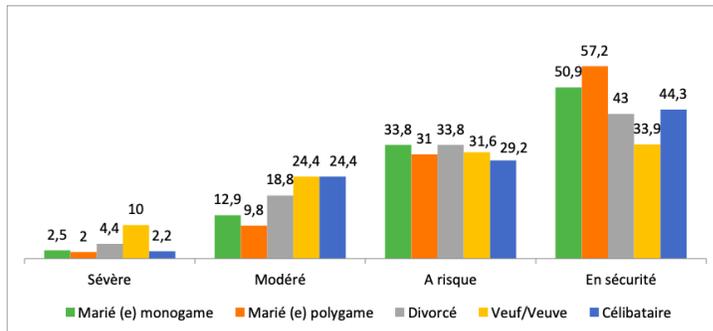
with food security stands at 52.7% compared to 34.3% for female-headed households, and polygamous households are more likely to be food secure,<sup>21</sup> possibly owing to having more household labor available.

Figure 1 Percentage of male-headed, female-headed and total households by level of food security



Source: République du Niger. 2017. "Enquête Conjointe sur la Vulnérabilité à l'Insécurité Alimentaire des Ménages au Niger."

Figure 2 Household food security by family status



Source: République du Niger. 2017. "Enquête Conjointe sur la Vulnérabilité à l'Insécurité Alimentaire des Ménages au Niger."

One part of the solution to Niger's low human capital will lie with investments into social institutions. Health clinics and schools constitute critical infrastructure in a country where 50 percent of the population is under the age of 14. Electrification not only enables lighting, cooling, medical equipment, and information technology in these settings for the benefit of students and patients seeking healthcare, but it also plays a role in attracting and retaining professionals who work in these institutions.

### Agriculture and Land Tenure

Niger's economy is dominated by the agricultural sector, which accounts for about 40 percent of GDP and employs more than 70 percent of the labor force.<sup>22</sup> Ninety-seven percent of rural households earn at least some income from agriculture activities and agriculture accounts for over 60 percent of rural households' income.<sup>23</sup> Millet, sorghum and cowpea are the most common crops cultivated and livestock production, predominantly cattle and goats (with associated dairy), sheep, and poultry, is also substantial.<sup>24</sup> Crop production is largely rainfed and occurs in the southern areas of the country, notably the "breadbasket" provinces of Maradi and Zinder, while pastoralism is more common in the drier northern areas.

<sup>21</sup> République du Niger, "Enquête Conjointe Sur La Vulnérabilité à l'Insécurité Alimentaire Des Ménages Au Niger."

<sup>22</sup> World Bank, "World Development Indicators | DataBank."

<sup>23</sup> Backiny-Yetna and McGee, *Gender Differentials and Agricultural Productivity in Niger*.

<sup>24</sup> FEWS NET, "Niger Staple Food and Livestock Market Fundamentals."

Among agriculturalists, women are disadvantaged with respect to a key input – land. Inheritance is the principal means of access to farmland. Women can and do inherit land under Islamic law, though their share is less than that of male heirs. However, in areas facing high population growth, increasing privatization, and social pressure to ensure that male children have land access, women are frequently dispossessed of their Islamic inheritance entitlements through the application of traditional/customary law.<sup>25 26</sup> Women typically access plots of around half a hectare, working on their husband’s plot (or that of an elder wife) the first year of marriage before receiving their own plot to work. Around 40 percent of men own land individually (and 63 percent jointly) compared to 14 percent of women who own land individually (and 35 percent jointly).<sup>27 28</sup> Informal lending or sharecropping is the principal means of access to land for female agriculturalists, resulting in poor tenure security and negative impacts on productivity.<sup>29</sup>

Excluding livestock tending and post-harvest processing, women supply about 24% of the labor for crop production.<sup>30</sup> Woman-managed plots are on average 19% less productive than men’s, mostly due to women’s challenges using male labor and the large amounts of women’s being time devoted to childcare,<sup>31</sup> both of which are a result of prevailing gender norms. In communities where wife seclusion is more strictly practiced, women must hire others to perform certain agricultural tasks for them. Market gardening, as well as fruit, flower and flood-recession farming,<sup>32</sup> are predominantly male activities and women have limited access to markets to sell their products, instead remaining largely confined to markets within their own village.<sup>33</sup> Small-scale poultry raising and dairy production are both common activities of women.<sup>34</sup>

Electricity investments can boost women’s productivity when used for efficient irrigation of high value off-season crops, watering certain livestock, poultry brooders, post-harvest processing, packaging, and conservation (e.g., chilling/cold storage)—but caution is warranted. For one, women need sufficient “empowerment mindsets,”<sup>35</sup> business acumen,<sup>36</sup> complimentary productive inputs,<sup>37</sup> and access to markets<sup>38</sup> to succeed and thrive. Second, discriminatory gender norms and structural barriers can conspire at any stage to undermine the success of these initiatives if not accounted for.

### **Multi-Function Platform (PTFM) as a model worth revisiting**

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<sup>25</sup> Some, “Resilience in the Sahel Enhanced (RISE) II Gender Analysis.”

<sup>26</sup> Slavchevska et al., “Beyond Ownership.”

<sup>27</sup> Slavchevska et al.

<sup>28</sup> Sex-disaggregated estimates of land ownership vary widely among authors depending on definitions used and survey methodologies. No estimates, however, depict women exhibiting on average higher levels of ownership than men.

<sup>29</sup> AfDB, “Republic of Niger: Country Gender Profile.”

<sup>30</sup> Palacios-Lopez, Amparo, Luc Christiaensen, and Talip Kilic. 2017. “How Much of the Labor in African Agriculture Is Provided by Women?”

<sup>31</sup> Backiny-Yetna, Prospere, and Kevin McGee. 2015. “Gender Differentials and Agricultural Productivity in Niger.”

<sup>32</sup> Flood-recession farming makes use of moisture retained by the soil and occurs on land that floods annually.

<sup>33</sup> FAO and Commission de la CEDEAO, “Profil National Genre Des Secteurs de l’agriculture et Du Développement Rural – Niger.”

<sup>34</sup> Some, “Resilience in the Sahel Enhanced (RISE) II Gender Analysis.”

<sup>35</sup> This includes a belief in one’s own worth and future success, a willingness to invest time and resources in oneself even if doing so runs counter to social expectations around behavior and family/community responsibilities.

<sup>36</sup> This includes intuitive know-how related to concepts like value addition, cost-accounting, marketing, growth strategies (e.g., through scale or diversification).

<sup>37</sup> This includes things like finance, equipment and appliances, land and buildings, raw materials and inventory, etc.

<sup>38</sup> This could be direct access to markets or indirect access (through male intermediaries, like relatives or community leaders, who do not exploit women’s lack of mobility to extract excessive profits from the transaction).

Piloted in 2012 with support from UNDP, the PTFM program in Niger resulted in hundreds of installations. A PTFM usually consists of a motor to which various agro-processing attachments, or even an electrical generator, can be attached. They are managed by local women's cooperatives who receive training and support from the program. As reported in the 2019 National Gender and Energy Action Plan, the PTFM trained 1,920 rural women in financial and technical management and supported the creation of 320 Women's Management Committees, which each in turn led a village-level enterprise.<sup>39</sup>

Similar PTFM programs—for example in Mali, Burkina Faso, Senegal—spawned studies and evaluations examining the gender impact of PTFMs, the long term technical and economic viability of the arrangements, and more. Several of these studies concluded there were trade-offs that occurred between meaningful progress on inclusion and gender goals versus commercialization, profitability and eventual reduction of subsidy support.

The cooperative-based model of mechanized agro-processing addresses or sidesteps multiple barriers faced by rural Nigerien women. It provides structure, solidarity, peer support, and a higher-level channel to access needed investments and markets. The arguments in favor of this approach are also partly strengthened by a recent Willingness to Pay (WTP) study of a village in Niger found that collaborative consumption (i.e., shared use and control of electric appliances and equipment, closely related to the concept of energy as a service) could be a pathway to increased affordability for minigrid customers.<sup>40</sup>

In sum, there may be two competing forces in play. Working with an ownership or PUE model similar to that of the PTFM may entail higher upfront costs (e.g., in the form of potentially greater CapEx subsidies and program soft costs to support women's groups). On the other hand, the study mentioned above found that local maintenance of a PV minigrid could increase WTP two-fold, and collaborative consumption and community ownership could increase WTP by a factor of 3.5 (for a combined result of a village WTP 4.7 times higher than baseline).<sup>41</sup>

### **Other Economic Considerations**

Female Gross National Income (GNI) per capita is USD 536 compared to USD 1,859 for men,<sup>42</sup> and approximately three out of four poor Nigeriens are women.<sup>43</sup> The female labor force participation rate for individuals 15 and over is 62 percent (2022 estimate) compared to 84 percent for males 15 and over.<sup>44</sup> Women on average spend fewer hours in employment every week (28 versus 43 for men) and receive lower wages.<sup>45</sup> Reducing gender inequality in Niger could boost GDP per capita by over 25% by 2030 according to the World Bank.<sup>46</sup>

Ninety-eight percent of employed women are self-employed and/or contributing family workers and thus considered to have vulnerable employment (92 percent of employed men are such).<sup>47</sup> Only eleven percent of firms had a female top manager.<sup>48</sup> Women are found in various fields, the most important of which are food processing and marketing, hospitality and restaurants, and services. They also participate in high rates in the handicraft sector; of the 23 percent of the active population engaged in handicrafts, 53 percent of those are women.<sup>49</sup>

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<sup>39</sup> Nassourou, "Plan d'Action National Pour l'Intégration Du Genre Dans l'Accès à l'Énergie - Niger."

<sup>40</sup> Bhandari, Sessa, and Adamou, "Rural Electrification in Africa – A Willingness to Pay Assessment in Niger."

<sup>41</sup> Bhandari, Sessa, and Adamou.

<sup>42</sup> United Nations Development Programme, *Human Development Report 2020*.

<sup>43</sup> Some, "Resilience in the Sahel Enhanced (RISE) II Gender Analysis."

<sup>44</sup> ILO, "ILO Data Explorer."

<sup>45</sup> GCF, "Gender Assessment and Action Plan: The Africa Integrated Climate Risk Management Programme: Building the Resilience of Smallholder Farmers to Climate Change Impacts in 7 Sahelian Countries of the Green Great Wall."

<sup>46</sup> World Bank, "Economic Impacts of Gender Inequality in Niger."

<sup>47</sup> AfDB, "Republic of Niger: Country Gender Profile."

<sup>48</sup> AfDB, "Republic of Niger: Country Gender Profile."

<sup>49</sup> Some, "Resilience in the Sahel Enhanced (RISE) II Gender Analysis."

In terms of access to finance, women experience additional hurdles compared to men, some of which stem from inequities in the ownership of land that can serve as collateral. “Although not a written rule, financial institutions tend to grant loans to married women only with their husband’s authorization.”<sup>50</sup> Seven tenths of one percent of women had access to credit (compared to 2.1 percent of men).<sup>51</sup> Women’s financial access barriers are especially pronounced in rural areas, where institutions struggle to operate because of cultural norms, high transactions costs, and unclear property rights.<sup>52</sup> Overall, female entrepreneurs in Niger are constrained by low capacity, low levels of education and literacy, limited access to financing, especially because of collateral and/or guarantee requirements, and poor access to facilities and markets. Group-based production business models, as mentioned above, offer some solutions for dealing with these barriers.

### **Energy**

As recently as 2019, a near total lack of both academic literature and sex-disaggregated data on gender and energy in Niger was noted,<sup>53</sup> and it is especially hard to find good data and analyses from rural areas. For example, a recent study tabulated the energy services deemed most important in one Nigerien village (lighting, 30 percent of respondents; TV, 24 percent; radio, 22 percent; refrigerators, 15 percent; and fan/ventilation, 9 percent),<sup>54</sup> but neglected to examine whether male/female preferences within or between households diverged significantly, as they have been found to do in other contexts.

The paucity of data forces the project preparation team to rely primarily on anecdotal information and will require yet more gender and energy fact-finding and data collection during the implementation phase. On the other hand, it signifies that any gender-specific or sex-disaggregated data collected by project as part of its monitoring and evaluation process may have outsize value, even for other practitioners in the sector.

#### **Masters’ thesis on gender and energy access in a Nigerien village**

Though in 2019 there was a reported lack of academic literature on gender and energy in Niger,<sup>55</sup> one such article was published a year later examining the role of gender in village energy transitions in Sekoukou using a survey of 50 households and sex-segregated focus group discussions (FGD).<sup>56</sup>

In it, the author concludes that Niger may be at a “take-off” stage for gender equity. This was deduced from men’s opinions, which were overall supportive of their wives undertaking economic activities, along with at least some women (13 percent) having clear ideas about which business ventures they could most profitably engage in once electricity became available. This included selling cold items like local drinks (sobolo and ginger), ice, cold water, and fish, as well as nighttime vending of mobile recharge cards and general merchandise.

Noted barriers to women’s productive use of electricity included female time poverty. Women generally lack enough time for income generating activities because of the domestic demands placed on them, one of the more notable of which is finding and collecting firewood for cooking. The author notes that if women could be partially freed from certain household chores, they could raise their incomes, which could allow them to pay for energy services, services which could help reduce the burden of household chores.

<sup>50</sup> Some, “Resilience in the Sahel Enhanced (RISE) II Gender Analysis.”

<sup>51</sup> AfDB, “Republic of Niger: Country Gender Profile.”

<sup>52</sup> GCF, “Gender Assessment and Action Plan: The Africa Integrated Climate Risk Management Programme: Building the Resilience of Smallholder Farmers to Climate Change Impacts in 7 Sahelian Countries of the Green Great Wall.”

<sup>53</sup> Nassourou, “Plan d’Action National Pour l’Intégration Du Genre Dans l’Accès à l’Énergie - Niger.”

<sup>54</sup> Bhandari, Sessa, and Adamou, “Rural Electrification in Africa – A Willingness to Pay Assessment in Niger.”

<sup>55</sup> Nassourou, “Plan d’Action National Pour l’Intégration Du Genre Dans l’Accès à l’Énergie - Niger.”

<sup>56</sup> Antwi, “The Trade-off between Gender, Energy and Climate Change in Africa.”

Rural electrification rates have increased steadily over the past decade and now stand above 13 percent (2020).<sup>57</sup> Rural access to clean cooking is practically non-existent, however; almost all households use fuelwood, charcoal, dung, or agricultural residues, and women and children are deeply implicated in its collection. In addition to the well-known global impacts of biomass-based cooking (e.g., morbidity, mortality, deforestation, black carbon), survey work in Sekoukou village revealed the following:<sup>58</sup>

- A female villager said, “I must ensure that there is firewood in the house every day before I think of any other thing when I first wake up.”
- Many households had switched to cooking only once or twice per day because of fuelwood scarcity (lack of time/energy to travel farther and/or local sellers were out of stock).
- Women and children most often collected fuelwood, with girl children’s school attendance particularly affected.
- Some villagers spend 6-7 hours at a time searching for firewood.

Though women devote significant amounts of labor towards procuring and managing cooking, in terms of employment, leadership, and business ownership in the formal energy sector, women lag behind men. Of 10 public sector energy agencies canvassed in 2019, women occupied 19 percent of jobs, mostly clustering in non-technical and non-managerial positions.<sup>59</sup> Data on women’s participation in the private energy is hard to acquire, mostly because companies can be registered under different legal forms and registries may not get updated if they go out of business, however anecdotally the ministries and the Maison de l’Entreprise reported there were very, very few women-led energy companies; of the 52 solar PV companies contracted with the Ministry of energy, for example, only one was female-led.<sup>60</sup>

The government, though, in partnership with Plan International, the European Union, and others has launched the Développement Economique et Social des Femmes à travers les Energies Renouvelables au Sahel (DESFRS) project, which aims to mainstream women into the renewable energy sector. Implemented across three countries (Senegal, Mali and Niger), DESFRS states it will support 21,000 women through the development of 4,650 small renewable energy businesses in 600 villages.<sup>61</sup> There is also the National Center for Solar Energy (CENES) training for both men and women in solar installation.<sup>62</sup> There may be opportunities to leverage the work of these initiatives to connect their beneficiaries with employment or entrepreneurship opportunities fostered by AMP.

Generally speaking, local civil society organizations, such as CONGAFEN and CODDAE, and international development partners (e.g., CARE, SNV, Plan International, MCC, and UN organizations) are pro-active about integrating gender concerns into their energy-related programming.

### **Institutions and Policy**

Niger maintains numerous policies and commitments to reducing gender inequality. The National Gender Policy (PNG), as revised in 2017, its 2017-2021 Action plan, and the Economic and Social Development Plan (PDES) 2017-2021 all emphasize the importance of gender mainstreaming in decision-making and in implementation. They are admittedly, however, are constrained by the lack of quality gender data and sex-disaggregated data, especially around access to water, sanitation, hygiene and energy.<sup>63</sup> The National Gender Policy makes very explicit conceptual connections between energy and its role in housework, income generation, health, education, communication, transportation, and water. It notes that women and men have differing energy needs and that

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<sup>57</sup> World Bank, “World Development Indicators | DataBank.”

<sup>58</sup> Antwi, “The Trade-off between Gender, Energy and Climate Change in Africa.”

<sup>59</sup> Nassourou, “Plan d’Action National Pour l’Intégration Du Genre Dans l’Accès à l’Énergie - Niger.”

<sup>60</sup> Nassourou.

<sup>61</sup> EU, “New EU Project Will Support Development of over 4 000 Small Renewable Energy Women-Led Businesses in the Sahel Region.”

<sup>62</sup> Antwi, “The Trade-off between Gender, Energy and Climate Change in Africa.”

<sup>63</sup> AfDB, “Republic of Niger: Country Gender Profile.”

women are often left to provide the energy they need to accomplish their tasks, whether that is collecting fuel for cooking or processing cereals manually.

By contrast, references to gender are virtually absent from energy policies, even if the underlying values that inspire those policies are consistent with gender equality and universal energy access.<sup>64</sup> The twin documents, Document de Politique Nationale de l'Electricité (DPNE)<sup>65</sup> and the Stratégie Nationale d'Accès à l'Electricité (SNAE),<sup>66</sup> both declare the government's objective to be creating a "profitable and vibrant electricity sector by 2035 in the service of economic development, notably agricultural productivity, access to health, drinking water, and education, thus also women's empowerment..." At the same time, neither document concretely explains what gender mainstreaming entails and what specific actions are called for in that regard, even though they were promulgated in 2018, after the ECWOAS regional policy on gender and energy was adopted and the ECOWAS regional regulation on gender assessments for energy infrastructure had been drafted (possibly because awareness of these new regional instruments was low at the time).<sup>67</sup>

The year 2012 saw the creation of a gender focal unit in the Ministry of Energy.<sup>68</sup> It was tasked to: mainstream gender into energy plans and projects; conduct advocacy within the Ministry; create and execute a gender action plan; strengthen capacities within the Ministry; and liaise with other ministries; among other actions. Though the focal unit, by decree, is supposed to receive state budget allocations, in practice this has not consistently occurred.<sup>69</sup> The creation of the Home Energy Department within the Ministry of Energy is also evidence of the Government's desire to promote energy access for rural households and to address women's energy needs, not only for cooking but also for the development of small rural businesses.

## Discussion

Empowering and supporting women is a key channel through which to raise the human capital stock (health and educational status) of the youngest generation, which is a critical development challenge for Niger where 50% of the population is under the age of 14. Studies from other settings reveal that women divert much higher percentages of their earnings towards investments in the well-being of their children as compared to men. Thus, a rural mini-grid program in Niger can consider ways of helping women invest in their children through first investing in themselves and their own productivity,<sup>70</sup> in parallel with investments in community infrastructure and social institutions.

In the rural settings where the Niger minigrid program will be implemented, women and girls are central to three key electricity service delivery opportunities that can reduce gender gaps, increase human capital, and provide foundations for economic growth: Water, agriculture, and social institutions.

These three spheres of opportunity—water, agriculture, social institutions—will be included as gender focus areas of Component 2 (Business Model Innovation with Private Sector) and Component 3 (Scaled-up Financing), especially as it relates to demand-side solutions. Cost-reduction levers (and benefit maximization ones) are critical to these areas, and perhaps more so for women because women have less disposable income, access to finance, and decision-making power. One such lever could be a group-based and/or collaboration consumption model, with which there is already some experience in the country.

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<sup>64</sup> Nassourou, "Plan d'Action National Pour l'Intégration Du Genre Dans l'Accès à l'Énergie - Niger."

<sup>65</sup> Décret N°2018-742/PRN/M/E du 19 octobre 2018

<sup>66</sup> Décret N°2018-743/PRN/M/E du 19 octobre 2018

<sup>67</sup> Nassourou, "Plan d'Action National Pour l'Intégration Du Genre Dans l'Accès à l'Énergie - Niger."

<sup>68</sup> L'arrêté N°0060/ME/P/SG/DRH du 23 octobre 2012

<sup>69</sup> Nassourou, "Plan d'Action National Pour l'Intégration Du Genre Dans l'Accès à l'Énergie - Niger."

<sup>70</sup> If returns to women's productivity and girls' human capital accumulation are high enough, this could theoretically influence age at first marriage and lifetime fertility.

The relationships between intrahousehold dynamics (e.g., fertility rates and dependency ratios, gender norms governing time use and bargaining power), reproductive work, and economic productivity, can be further explored through this project. A workable business model for improved water or cooking fuel provisioning, for example, is hard to achieve so long as the shadow price of those goods is unaccounted for and household members can be compelled to supply “free” labor to fetch them. Alternatively, it may be impossible for women to devote enough time to succeed with productive uses of electricity until they can first free up their time from domestic chores, either by receiving more help from other family members or by adopting new appliances. Both these examples demonstrate that gender equality, in particular valuing women’s time and labor, can function as a key for unlocking the economic potential of electricity sector investments; thus the project can tackle gender equality from the outset rather than assume it will be a natural byproduct of providing energy access.

For Component 1 (Policy and Regulation), efforts will be made to meaningfully include women in the national dialogue (for participation and decision-making) and training activities, especially practical, hands-on learning activities. Work on regulations and tariffs will be informed by and grounded in realities faced by women, such as widowhood, divorce, or living in polygynous arrangements. To the extent possible, gender-relevant data layers will be added to complement existing pre-feasibility studies of minigrid sites to inform design choices and appropriate levels of program support/concessionality.

Component 4 (Digital and knowledge management) can seek innovative ways to capture data beyond the meter. This includes understanding users (not just customers) and their behaviors and needs. Possibilities include low-cost phone-based surveys (e.g., via interactive voice recordings or SMS) or the use of female community liaisons to collect information on users, appliances, payment responsibilities, and more. Gender mainstreaming is among the topics where insights can be shared to/from the regional AMP.

#### Component 5

One important risk to the Niger mini-grid program is that in seeking to promote women’s empowerment, e.g., by fostering income generating activities, that result in displacing women’s domestic burden onto female children, potentially contributing to them withdrawing from school.