WOMEN’S TIME USE, WORK AND WELLBEING IN THE NIGERIA WAY PROJECT: BASELINE STUDY

NIGERIA WAY LEARNING SERIES

MEDA

Canada
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ABSTRACT

Understanding men and women’s time use is important for organizations supporting women’s economic empowerment. While engrained social and gender norms in Bauchi State, Nigeria, hold women responsible for the bulk of household domestic and care work, many women also engage in business in order to financially support their families. As such, women experience multiple competing claims on their time, and workloads which include significant amounts of both paid and unpaid labour. It is important for MEDA to understand how to improve women’s productivity and earning potential in a way that allows women to maintain a manageable workload, taking into account their multiple time uses and responsibilities.

This learning paper shares the key findings of a baseline labour and time use study conducted with Nigeria WAY clients and their husbands prior to the purchase of labour-saving productive technologies. This study was conducted to assess the typical patterns of women and men’s time use over a 24-hour period, paying particular attention to the differences in the time spent on paid and unpaid work, as well as women and men’s levels of satisfaction with their time use. The findings of this baseline study highlight the existence of a strong gender-based division of labour. While men spend almost all of their working time on paid forms of labour, women divide their time between unpaid domestic work and their own business activities. Women also bear a slightly larger labour burden than men, working an average of 54 minutes more per day. While both women and men in the study felt strongly that the amount of domestic and care work they do is appropriate, many women also expressed the desire to work more and have more time for relaxation and personal time.

The findings of this study around women’s use of technology also confirm earlier research commissioned by Nigeria WAY, which found the use of technology among women running agro-processing businesses to be very low. The introduction of productive technologies on the part of the Nigeria WAY project is therefore likely to cause shifts in women’s time use.

A follow-up to this baseline study will be conducted after the women have begun using the technology in order to assess any changes that may have occurred in men and women’s time use, and their satisfaction with their time use.
Youth Entrepreneurship and Women’s Empowerment in Northern Nigeria – Nigeria WAY – supports women and youth agro-processors in three value chains in Bauchi State: rice, soybean and groundnut. The project focuses particularly on women and youth-led businesses, with activities aimed at improving productivity, adopting environmentally sustainable business practices, and increasing access to markets, financial services, market information, business networks, and partnerships.

The Federation of Muslim Women Associations in Nigeria (FOMWAN) and the Association of AgroProducers in Nigeria (ASSAPIN), two member-based alliances operating in Bauchi State, mobilize clients for the project. The project operates in seven Local Government Areas (LGAs), specifically selected because of their importance in Bauchi’s economy, feeding two key markets in Bauchi State – Bauchi and Azare – which bring together buyers, sellers, and processors for soybean, groundnuts and rice, among other crops. Businesses in Bauchi are largely small and informal, and the market remains nascent, with government – not the private sector – as a primary driver.
In this socially conservative state, women and young people face many obstacles in achieving business success. Mobility is limited for many women, and gender norms restrict the roles available to them. At the same time, endemic poverty increases the need for their economic participation. With increased access to productive technologies and business services, greater financial inclusion and inclusive community dialogues, Nigeria WAY supports women and youth-led businesses to transform their contribution to their households and communities.

THE NIGERIA WAY LEARNING SERIES

The WAY Learning Series is an ongoing initiative to share lessons learned as the project is being implemented, with a particular focus on identifying and understanding factors that impact women’s business success and overall wellbeing in Bauchi State. Topics include women’s time use, girls’ self-perception after participating in skill-building opportunities, how cooperatives function as business platforms for women, and women’s perceptions of themselves as entrepreneurs.

The Learning Series is shared widely with the development community and with project stakeholders, including partners, clients, and government.

INTRODUCTION AND BACKGROUND

This learning paper focuses on women’s time use, work and wellbeing in Bauchi State, Nigeria. It shares the key findings of a labour and time use study that was conducted with Nigeria WAY clients and their husbands prior to the purchase of labour-saving productive technologies for their rice, groundnut or soy agro-processing businesses. These findings provide a snapshot of the typical patterns of women’s and men’s time use over a 24-hour period, paying particular attention to the differences in time spent on paid and unpaid work. The findings also include qualitative information about how women and men feel about their time use, including how satisfied they are with their available time for leisure, rest and time with friends and family.

Adopting productive technologies is likely to cause changes in clients’ time use patterns. The Nigeria WAY project works predominantly with women who run small-scale businesses using their own homes as workspaces, and who process their rice, groundnut and soybean products by hand. Manual processing requires a significant amount of time and effort, either on the part of the business-owners themselves or those assisting them. For example, women who produce groundnut oil, a common cooking ingredient in Bauchi State, must sort, deshell, grind and boil the groundnuts manually to extract the oil – a process that can
take up to two hours. Similarly, to parboil rice women must first wash and soak the rice (usually overnight) before parboiling and drying it for six to nine hours before it can be resold. Using standard kitchen pots, the parboiling process alone can take up to eight hours, which is significantly longer than using locally produced rice parboilers. By subsidizing purchasing costs and working with local agricultural equipment manufacturers and Agro-dealers in all three of the project’s value chains, the Nigeria WAY project’s Agrotechnology Fund incentivizes women to purchase specific technologies that simplify production and reduce the time needed to process agricultural products. Over the next year, the clients who participated in this baseline study will similarly be assisted to purchase labour-saving technologies for their rice, soy and groundnut processing businesses. Please see Annex 1 for more information on the Agrotechnology Fund.

This study captures time use among new Nigeria WAY clients and their husbands before they began participating project activities, including the Agrotechnology Fund, and therefore functions as a baseline. A follow-up study will be conducted approximately one year after the adoption of the new equipment, to capture changes in women’s time use. By using both empirical and qualitative methods, the follow-up study will include both how women’s time use changes, as well as how women feel about these changes. This offers the project another way to understand changes to women’s wellbeing as defined by the clients themselves. By including the women’s husbands, the follow-up study will also be well positioned to capture changes in time-use patterns and satisfaction levels that may occur between men and women within the same household, potentially offering valuable insight into the interplay between social norms and women’s economic empowerment at the household level in Bauchi State.

In engaging in this learning effort, MEDA acknowledges that time, like money, is a resource, and that women’s wellbeing and economic empowerment includes exercising agency over their own time use.

**Gender, Time Use and Women’s Economic Empowerment**

Time use studies are an important gender analysis tool, and deeply relevant to efforts to promote women’s economic empowerment. Time is one of the few resources that is evenly distributed: in theory, everyone has an equal amount of time – 24 hours per day – to sleep, work, socialize and produce and consume goods and services. In reality, however, women and men do not experience equal control over how their time is used, particularly with regards to time spent working. Existing time use studies in developed and developing countries alike have been used to highlight the role of social and cultural norms in prescribing time use patterns for women and men according to what is considered
appropriate and desired behaviour for their gender. In the majority of Sub-Saharan African countries including Nigeria, this results in a fairly rigid, gender-based division of labour wherein women and girls are primarily responsible for unpaid domestic and care work, while men are expected to provide for the household's material and financial needs through paid labour.1

Existing time use studies have also shown that women, especially those living in low income countries, carry a disproportionately heavy “labour burden,” engaging in more hours of work and less leisure time on average than men.3 Globally, women undertake between two and ten times as much unpaid domestic and care work as men, while often also engaging in paid labour to help provide financially for the household.4 In 2016, the World Economic Forum’s Global Gender Gap Index found that across 144 countries, women conducted an average of 3 times more unpaid work than men and experienced a longer workday. Time use studies in Nigeria have uncovered similar dynamics, showing that women work longer hours in both rainy and dry seasons when both paid and unpaid labour are combined, and enjoy less leisure and rest

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compared to men. By tracking all types of time use, including both paid work in the labour market and unpaid work in the home, time use studies render visible the contributions that women’s domestic and care work make to household and market economies, as well as their disproportionately greater provision of these services.

Existing studies have also found that due to their “double workday” in the labour market and home, women are more likely to experience “time poverty” as a result of competing and often simultaneous claims on their time. “Time poverty” or being “time poor” is defined as not having enough time to meet basic needs for rest and leisure, and being unable to reduce the amount of time spent working without falling below or further below the poverty line. The Abbreviated Women’s Empowerment in Agriculture Index (A-WEAI) sets the time poverty line at 10.5 hours, meaning that people who work more than 10.5 numbers of hours in a 24-hour period and cannot reduce their amount of work without falling into poverty can be considered time poor.

For women who already experience financial poverty and lack of access to other assets or assistance, time poverty can have negative effects on both their wellbeing and that of their family. Time poverty can affect women, for example, by preventing them from accessing healthcare in a timely manner when they are ill; keeping them from preparing healthy and nutritious meals; or inhibiting their ability to pursue educational or economic opportunities. Time poverty can also reinforce financial poverty, as women have to divide their time between paid and unpaid work rather than focusing primarily on paid forms of employment. Finally, time poverty can also decrease the amount of time that women have available to participate in communal or political processes, further limiting women’s voices in the public sphere.

Time use studies are therefore deeply relevant to efforts to promote women’s economic empowerment. Women’s economic empowerment refers to women being able to access the resources that allow them to participate fully in economic life, as well as exert agency over economic resources and their use.

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However, given women’s already-sizable labour burdens and the competing priorities of paid and domestic work, some of the core goals of women’s economic empowerment – such as increasing women’s labour market participation – may also result in an increase in women’s overall work burden by adding more tasks and responsibilities to their day.\textsuperscript{11} Time use studies, and particularly those that allow women themselves to describe their optimal time-use scenarios, can help programs understand women’s self-defined ideal levels of economic engagement, as well as identify possible areas for extra support beyond solely economic interventions. Depending on the context, these could include, for example, the alleviation of unpaid domestic work through advocacy for better government-provided public infrastructure, or a more equal distribution of domestic work between men and women.

**Women and Men’s Time Use in Bauchi State**

While no household level or gendered time-use data exists specifically for Bauchi State, the existence of a strong gender-based division of labour is well-documented. Society in Bauchi State is deeply patriarchal, guided by Muslim and Christian religious values and tribal cultural norms. In this context, women are primarily valued for their role as caregivers. They are expected to regard childrearing, food preparation and other domestic work as their first priority, engaging in other activities only with their residual time after these responsibilities have been filled. These norms are particularly strong in Muslim households. In Islam as it is practiced in Nigeria, men are expected to provide for all of the financial needs of the household, while women are preferred, if possible, to remain in purdah, or seclusion from contact with non-relative men. This entails spending the majority of their time in the family compound, performing only domestic and care work. While Christian religious norms in this context do not discourage women from engaging in economic activities, they are similar in that women’s business endeavors are regarded as secondary to their primary role of caring for household.

Despite these strong social and cultural norms, women are economically active. High levels of poverty in Bauchi State mean that many women must engage in business activities in order to earn income to help support their families.\textsuperscript{12}


\textsuperscript{11} Ibid.

Women are largely involved in the informal sector, in agriculture and agro-processing, as well as preparing and selling snacks and ready-made foods. Previous research with Nigeria WAY clients in Bauchi State has found that women feel pride in their identity as businesspeople and confidence in their abilities to operate successful businesses. However, the dominant perception is that women who spend too much time on their businesses, or who move about too frequently, are not spending enough time fulfilling their primary responsibilities of domestic and care work. Both Muslim and Christian clients report feeling disadvantaged or discriminated against for trying to engage in business as women, as it is still largely seen as “men’s work.”

Given this context, this baseline labour and time use study aims to provide empirical evidence on women and men’s time use in Bauchi State, as well as qualitative information about their preferred time use scenarios. This will enable the Nigeria WAY project to gain a deeper understanding of the current labour burdens borne by men and women, including the proportion of time each spends on paid and unpaid forms of labour. This, in turn, will allow the project to assess changes to men and women’s labour burdens following the introduction of technology, as well as men and women’s perceptions, including satisfaction or dissatisfaction, of these changes. Finally, this will allow the Nigeria WAY project, the clients, and other actors promoting women’s economic empowerment in Nigeria to better understand the variety of impacts that economic development interventions such as the introduction of productive technologies can have on women’s wellbeing, beyond purely economic considerations such as income and efficiency.

METHODOLOGY

Research Approach

The study, conducted from December 2019 to January 2020, employed a mixed-methods approach which included the collection of both quantitative and qualitative data about men and women’s time use. Quantitative data collection involved completing a 24-hour “time diary,” which records each activity the respondent undertakes as well as the length of time spend on each activity over a 24-hour period. Often in time use studies, the respondents themselves fill in the time diary over the course of a day. However, because literacy rates in Bauchi State are low, this study engaged enumerators to fill in a time diary with each respondent. by asking them to recall all of activities they had undertaken

13 For a more complete discussion of norms and perceptions of women in business in Bauchi State, see the Nigeria WAY learning paper entitled Perceptions of Women as Entrepreneurs in Bauchi State, Nigeria, found here: https://www.meda.org/s/1001
the previous day, as well as the amount of time they had spent on each of them. Respondents were able to choose from a predetermined list of activities but could also add and describe activities under the category of “other.”

Qualitative data was also collected on respondents’ perceptions of how their time is currently allocated. For example, respondents were asked questions concerning their satisfaction with their available time for sleep, work, leisure and socializing with family and friends. Women respondents were also asked about their satisfaction with the level of assistance they receive on domestic work in the home; how often (or if) they experience extra time that they do not know what to do with; and which activities they would choose to spend more time on if they would. These qualitative measures are important as they allow the respondents themselves to define what constitutes satisfactory time use according to their own needs and priorities, rather than imposing external definitions of what proper time use should look like. Amongst other things, this allows respondents to define for themselves appropriate daily amounts of work and leisure time. This will also allow the follow-up labour and time use survey to capture increases or decreases in respondents’ satisfaction with their time use, both of which could occur depending on how the extra time gained from purchasing more efficient technologies is reallocated.

**Data Analysis**

The amount of time spent per day on each activity was calculated for each participant. These amounts were then disaggregated by gender and averaged across the number of respondents to determine how many minutes women and men spent on average on each activity per day. Activities were then grouped according to six categories of time use to produce Daily Time Activity Allocation Clocks. These clocks show the average amounts of time women and men spent on productive work, reproductive work, community work, personal care, leisure, and sleeping and resting. The labour burden for men and women was calculated by adding how much time men and women spent on both productive and reproductive work during the day.

**Dimensions of Time Use**

This study documents how clients and their husbands allocate their time across six primary dimensions of time use: productive work, reproductive work, community time, personal maintenance, leisure and sleeping and resting.
<table>
<thead>
<tr>
<th>Category</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productive Work</strong></td>
<td>All paid employment (formal and informal sectors)</td>
</tr>
<tr>
<td></td>
<td>Self-employment</td>
</tr>
<tr>
<td></td>
<td>Farming and animal husbandry</td>
</tr>
<tr>
<td></td>
<td>Work-related travel</td>
</tr>
<tr>
<td></td>
<td>Accessing work-related services</td>
</tr>
<tr>
<td><strong>Reproductive Work</strong></td>
<td>Domestic chores</td>
</tr>
<tr>
<td></td>
<td>Home maintenance</td>
</tr>
<tr>
<td></td>
<td>Childcare</td>
</tr>
<tr>
<td></td>
<td>Care for elderly, ill or disabled persons</td>
</tr>
<tr>
<td></td>
<td>Shopping</td>
</tr>
<tr>
<td></td>
<td>Accessing health services</td>
</tr>
<tr>
<td><strong>Community Time</strong></td>
<td>Serving in community leadership positions (unpaid)</td>
</tr>
<tr>
<td></td>
<td>Attending or organizing festivals or ceremonies</td>
</tr>
<tr>
<td></td>
<td>Assisting neighbors</td>
</tr>
<tr>
<td><strong>Personal Maintenance</strong></td>
<td>Eating and drinking</td>
</tr>
<tr>
<td></td>
<td>Essential personal care activities (e.g. bathing, washing hair)</td>
</tr>
<tr>
<td></td>
<td>Prayer and religious activities</td>
</tr>
<tr>
<td></td>
<td>Education and schooling</td>
</tr>
<tr>
<td><strong>Leisure</strong></td>
<td>Hobbies</td>
</tr>
<tr>
<td></td>
<td>Socializing</td>
</tr>
<tr>
<td></td>
<td>Exercising/sports</td>
</tr>
<tr>
<td></td>
<td>Reading, listening to the radio and watching TV</td>
</tr>
<tr>
<td><strong>Sleeping and resting</strong></td>
<td>Sleep</td>
</tr>
<tr>
<td></td>
<td>Daytime resting</td>
</tr>
</tbody>
</table>

**Productive work** refers to all paid forms of employment, including self-employment and entrepreneurship activities, as well as farming and animal husbandry. This also includes time spent travelling specifically related to paid work – moving to and from the place of work, or accessing services that are essential to producing or selling the agricultural product (such as grinding mills or markets).
Reproductive work refers to all domestic and care work necessary to ‘reproduce’ the health and wellbeing of the household and its members on an ongoing basis. This category includes cooking, cleaning, and home maintenance, as well as caring for children, the elderly, and people who are ill. Reproductive work also includes shopping and consuming services necessary for the reproduction of household members, including health services.

Community work encompasses work intended to maintain and support communal life. This includes serving in formal and informal leadership positions, assisting neighbors, and attending and organizing festivals or ceremonies. Common forms of community work in Bauchi State that are captured in the study sample include attending and preparing for weddings, naming ceremonies and funerals, and paying condolence visits.

Personal maintenance refers to the time that respondents spend undertaking activities which are necessary for their own ‘self-reproduction.’ Following Ringhofer et al., it includes all activities that “cannot be delegated or outsourced to others,” such as eating, drinking, personal care and religious activities (which in this context is largely daily prayers). It also includes time spent studying or in school. Personal maintenance is included as its own category of time, as increases or decreases in the amount of time people have for these activities can have significant impacts on the mental, emotional and physical wellbeing.

Leisure time refers to time over which respondents have complete discretion. It can include hobbies, social activities, exercise or sports, reading and watching television.

Sleeping and resting can similarly be seen as activities that are necessary for self-reproduction. However, sleeping and resting are also isolated in this analysis in order to better capture the possible impacts of productive technologies on the amount of time allocated to these essential requirements for basic wellbeing.

Qualitative data was also collected via surveys on respondents’ perceptions of how they currently allocate their time. Respondents were asked questions concerning their satisfaction with their available time for leisure activities, being with family and friends, and sleep. Women respondents were also asked about whether they receive assistance from family members on domestic work in the home; how often (or if) they ever have time that they do not know what to

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15 In time use studies leisure is typically included under personal time as an essential element of self-reproduction. However, leisure is isolated in this study in order to highlight differences or changes in discretionary time experienced by both men and women respondents.
do with; and what activities they would choose to spend more time on if they could. These qualitative measures are important, as they allow respondents themselves to define whether they are satisfied with how they use their time regardless of the extent of their labour burden, rather than imposing external definitions of what ‘proper’ time use should look like. This will also allow the follow-up time use survey to capture increases and/or decreases in respondents’ satisfaction with their time use. Both increases or decreases in satisfaction could occur, depending on the allocation of time gained from purchasing labour saving technologies.

**Sampling**

A probability random sampling technique was used to draw a statistically representative sample for Nigeria WAY’s client base across the 172 communities and 7 Local Government Areas (LGAs) in which the project is operating. The survey was administered to a total of 651 respondents by four enumerators (two women and two men). Consent was given by 650 of these respondents, resulting in a total sample of 373 women and 277 men.

**Limitations of the Research**

The research findings should be read and interpreted in light of the following limitations:

- Respondents were asked to recall all of the activities that they had undertaken over the previous 24-hour day. Using the recall method can lead to a loss of accuracy, as respondents had to estimate when and much time they spent on each activity, rather than logging the exact start and end times throughout the day.

- While respondents were asked to account for the full 24-hours, they may have omitted or added activities based on perceptions of what activities they felt they should be engaged in and what they felt comfortable reporting to the enumerator.

- The survey only captures time data for one day. It is possible that some of the respondents may have undertaken activities that were unusual for them on the day captured by the survey or spent more or less time on certain activities than they normally do. However, given the sample size, the patterns in men’s and women’s time that emerge will still offer an accurate picture of the general use of time among women and men in Bauchi State on a typical day.

- The survey was administered on a weekday and reflects a very small amount of community work undertaken by both women and men.
This is likely because most communal activities occur on weekends. If the survey had spanned a full week, the average time spent on communal activities for both men and women is likely to have been greater.

- The survey was administered during the dry season, when farming workloads are typically slightly less than in the rainy season. It is possible that Daily Activity Clocks for the rainy season would show more time spent on productive labour for men and women engaged in farming. The difference is likely to be larger for men, who are typically responsible for farming and livestock rearing in Bauchi State.

- The survey did not account for household composition. The labour burden borne by women and men is likely to be heavily influenced by such factors as the presence of infants and small children, as well as older children and adult relatives who might assist with productive and reproductive tasks. Some of the households may also include a husband and multiple wives. This study, and the follow up study cannot assume that the total responsibility for the domestic work for a single household falls between the husband and wife, but may be divided between multiple wives, older children, and other adult relatives living in the home.

RESULTS AND DISCUSSION

The section presents the results of the baseline labour and time use survey according to the following categories of analysis:

A. Demographic Characteristics of Clients
B. Women’s Agro-Processing Activities
C. Daily Time Use Allocation (Daily Activity Clocks)
D. Women’s Perceptions of their Own Time Use
E. Time Use Satisfaction among Women and Men
F. Perception of Type of Work within the Household

It should be noted that data was collected only from the women for sections (A), (B) and (D), except for the data about respondents’ ages in section (A). Data was collected from all respondents, men and women, for categories (C), (E), and (F).
A. Demographic Characteristics of Clients

This section provides background information on the respondents, focusing on the women respondents. This includes men’s and women’s ages, women’s school attendance, and women’s marital status.

A.1. Age of Respondents

A total of 650 respondents participated in the study, including 373 women, and 227 men. The majority of the women (four percent) were between the ages of 14 and 45, with some respondents in the 46 to 65 age range (15 percent) and a very small number over the age of 66 (less than one percent). The majority of the men respondents were between the ages of 26 and 55 (75 percent) with 19 percent of the respondents over the age of 56 and the remainder (less than one percent) between the ages of 14 and 25 (Figure 4).

A.2. Women’s School Attendance

Women respondents were asked if they had ever attended school (Figure 5). This referred to both public schools and Islamiyya schools, which combine Qur’anic education with the national curriculum. The findings for this section mirror patterns in education and school attendance for Bauchi State and Northern Nigeria as a whole. Nearly half (43 percent) of the women interviewed had never been to school, while 54 percent had attended at least some school. Eleven respondents chose not to answer the question, so their school attendance is unknown. The high numbers of women who reported never having been to school is consistent with the unequal access to education for women in Northern Nigeria, where social and gender norms often result in men’s education being prioritized. When girls do attend school, they are often removed at young ages in order to begin assisting in the household. Girls are
also needed to assist with women’s businesses, to hawk ready-made foods and other products on the streets while the older women remain secluded in the home.\textsuperscript{16} Studies estimate that 53 percent of women in Northeast Nigeria have never attended school, compared to five percent in the South South region.\textsuperscript{17}

![Figure 5. Have you ever attended school?](image)

**A.3. Women’s Marital Status**

In the study sample, 76 percent (282) of the women were married and living in the same household as their husbands (Figure 6). Sixteen percent (61) were unmarried, and 8 percent (30) were married but not living in the same household as their husbands. For this study, if the Nigeria WAY client was not living with their husband or the client was unmarried, no interview was held with a male adult from that household.

![Figure 6. Are you married?](image)


B. Women’s Agro-Processing Businesses

This section provides contextual information about the main agro-processing activities that the women respondents were involved in, as well as which aspects of their work took the most time. This data will be important both in terms of which types of technologies women apply to their business operations, as well as in which types of activities they might save the most time.

B.1. Types of Processing and Farming Activities

The Nigeria WAY project’s recruitment strategy targeted women who process agricultural products in the rice, soy and groundnut value chains. In this study, activities related to processing these three crops were the most frequently mentioned activities, though many reported being involved in multiple value chains. A small portion of the women also reported involvement in farming and aggregation. Only two women reported being involved in dealing agro-inputs such as fertilizer and pesticides (Figure 7).

![Figure 7. Types of Processing Activities](image)

Women were asked which task or aspect of their agro-processing usually takes the most time, either for themselves or their employees (Figure 8). The most frequently mentioned task was rice parboiling, which using standard cooking equipment can take up to 8 hours. Extracting groundnut oil was also mentioned frequently as being particularly time consuming. The manual extraction of groundnut oil involves a lengthy process of deshelling, sorting, grinding, boiling and manually separating the oil from the fibrous byproduct – a process that can be greatly simplified with the help of an electric or hand-powered oil extraction machine. The third most-frequently mentioned task was drying rice that had been parboiled. This entails spreading the rice on mats and leaving it to dry. The time-consuming aspect of this task is fending off goats, pigs and other animals while the rice is drying, which, though women can undertake some other tasks at the same time, requires their presence and attention for up to 9 hours.
After completing the labour and time use study, clients interested in purchasing technology could do so with the help of Nigeria WAY’s Agrotechnology Fund. This works with local manufacturers and vendors to subsidize different types of locally fabricated or locally available technologies that reduce the labour required to produce products in all three of these value chains (rice, groundnut and soy). The clients could choose between a variety of different types of technology, including rice parboilers and oil extractions machines. The list also included technology for drying rice, de-husking soybeans, and deshelling groundnuts. The follow-up time use study, planned for December 2021 to January 2022 will track the effects on time use after women have had time to adjust to these technologies.

B.2. Women’s Use of Technology

This baseline study found an extremely low initial rate of technology use among the women respondents (Figure 9). Of the women sampled, 354 of the 373 respondents (95 percent) reported that they did not currently own and were not currently using any equipment to process their rice, soy or groundnut products. In addition, 273 respondents (73 percent) were not aware of any technology or equipment that would help them reduce the time they spend on processing or farming. These findings are consistent with earlier research commissioned by Nigeria WAY, which similarly found the use of technology among women running agro-processing businesses to be very low. They also suggest that the introduction of productive technologies on the part of the Nigeria WAY project is likely to cause shifts in women’s time use. With less labour and time required to produce the same volume of output, women may reallocate the saved time amongst other activities.

Several interrelated factors may be contributing to low levels of equipment use and ownership. First, women’s agro-processing businesses in Bauchi State tend
to be small-scale, and do not make enough profit to invest in equipment. Access to credit is a significant challenge for women in Bauchi,

![Figure 9. Is there any type of equipment that you own and are using to reduce time spent on your business?](image)

preventing them from making large purchases. Another contributing factor may be that women are not generally regarded as businesspeople, but rather as belonging in the household sphere and controlling fewer assets than men. As a result, the innovators, producers and vendors of agro-processing technologies may not view women-owned businesses and entrepreneurs as viable customers, and therefore do not market their products to women or customize them to meet their specific production needs.

Only ten (three percent) of the women respondents reported owning and using equipment to reduce time they spend on their business activities. The specific types of equipment used were grinding machines, a Honda generator for irrigation, and a sower and harvester. Only 87 of the 373 women respondents (23 percent) were aware of and could name technologies that they felt would help them reduce the amount of time they spend engaged in processing or farming, even if they were not currently using them (Figure 10). These technologies can be seen in Figure 10, along with the number of times they were mentioned by respondents. The most frequently cited technologies were grinding and oil extraction machines. This is likely because grinding machines are a very common technology, used by both agro-processors and by households to grind soy, groundnuts, corn, and other staples. In contrast, very few clients mentioned parboiling equipment, despite the fact that around 40 percent of the clients reported engaging in the parboiling of rice. This could be caused by a lack of awareness of the existence of parboiling technology and its ability to both reduce parboiling time and improve the quality of the finished product.
B.3. Men’s Protection of Women’s Business Interests

In Bauchi State, business and economic activities, including farming, tend to be dominated by men. While women do run their own businesses and hold jobs in the public, private and informal sectors, their primary role or responsibility is largely seen as ensuring the wellbeing of the household through domestic and care work. Men are expected to act as the primary, if not sole provider of the economic and material resources of the household, and to control the households’ land and financial assets.

Despite the presence of these deeply engrained gender norms, many men provide backing or protection for the businesses of wives or women relatives. This protection is important because women are often discriminated against in market interactions, and are thus more likely to experience difficulty in accessing quality inputs, paying fair prices or securing credit. Having a man involved can ensure fairer pricing and easier access to goods and credit, and help to protect business transactions in the absence of a functioning legal system. Many of the businesses owned by women Nigeria WAY clients are backed by men. In the 2018 Nigeria WAY Annual Survey, 74 percent of the women interviewed stated that their businesses were protected by men close to them, including husbands, male relatives, and other male community members. This was seen as a positive indication of men’s support for women-owned businesses in an environment in which women are not generally encouraged to engage in market activities. It also suggests that the economic contributions that women make to household income are recognized and valued by husbands and male relatives.

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18 For a more detailed examination of social and gender norms pertaining to men’s and women’s involvement in business, see Nigeria WAY’s learning paper on perceptions of women in business in Bauchi State: https://www.meda.org/s/1001
Similar to the Annual Survey, 60 percent or 225 of the women respondents in the labour and time use study stated that a man was providing protection to their business, most frequently citing husbands and male relatives (Figure 11). As seen in Figure 12, most of the married women who live with their husbands reported receiving support from either their husband or another male relative, while a handful receive support from a friend or non-relative who is interested in the business. For the 16 married women who are living alone, 11 reported receiving support from male relatives, while five reported receiving support from their husbands. It is likely that even if they are not living with their husbands, their household still includes an adult male relative who is providing protection or backing to their business. Of the 30 unmarried women who receive support from men for their business, 29 reported receiving this support from a male relative. In summary, these findings suggest that while negative perceptions of women in business exist in society at large, many individual men see enough value and hold enough confidence in women’s business activities to support women relatives in their business endeavors.
C. Daily Activity Time Allocation

C.1. Daily Time Activity Clocks

This section offers a snapshot of a typical day for Nigeria WAY clients and their husbands. Both men and women respondents were asked to recall all of the activities they had undertaken the previous day, as well as the amount of time they had spent on each activity. Respondents could choose from a predetermined list of common or standard activities, as well as add their own. The amount of time spent on each activity was disaggregated by gender and averaged across the men and women sample sizes to determine how much time women and men spent on average on each activity over the course of a day. Activities were then grouped into six categories to produce the following Daily Time Activity Allocation Clocks (Figure 13).

![Figure 13. Daily Time Activity Clocks](image)

### Productive Work

Productive time refers to all remunerated or paid forms of employment, including self-employment and entrepreneurship activities, as well as farming and animal husbandry. This dimension of time also includes time spent travelling and commuting, incorporating time spent moving to and from the place or work or accessing services that are essential to producing or selling an agricultural product (such as grinding mills or markets). For women, the average time spent travelling was 15 minutes. The bulk of women’s productive work was dedicated to their agro-processing businesses (3.8 hours on average), followed
by farming and livestock rearing (29 minutes per day on average), as well as paid work for someone else (20 minutes on average). The small amount of time spent in paid employment for someone else can be attributed to the fact that only 54 of the 373 women respondents engaged in this type of work on the day covered by the survey. Of these women, only two spent more than 6 hours working for someone else over the course of the day, while the rest engaged in two hours or less. Averaged across all respondents, this gives an average of 21 minutes per day. Similarly, only 36 of the 373 women spent any time on farming and livestock rearing. In total, women spent an average 4.9 hours on productive work.

For the men, productive work included their own business work (3.6 hours per day), farming and livestock rearing (2.8 hours per day) and working for someone else (1.1 hours per day). The average amount of time spent traveling was approximately 32 minutes for men. In total, men spent an average of 7.9 hours of their day on productive work, which represents 3 hours more on average than the women. It should also be noted that this data was conducted during the dry season, when men typically spend slightly less time on farming work. It is possible that the number of hours men spend farming in the rainy season may be higher.

Reproductive Work

Reproductive time encompasses all domestic and care work undertaken to ‘reproduce’ the household and its members. This includes cooking, cleaning, and home maintenance, as well as caring for children, people who are elderly, and people who are ill. Reproductive work also includes shopping and consuming services necessary for the reproduction of household members, including health services.

Women spent approximately 4.5 hours per day on reproductive work, which is significantly more than the men respondents, who spent approximately 37 minutes per day on average on reproductive work. The bulk of women’s reproductive work consisted of cooking (2.3 hours per day) and domestic chores (1.5 hours per day). When men engaged in reproductive work, this mostly included domestic chores (17 minutes per day on average across the sample) and shopping or acquiring services (15 minutes per day on average). Only 18 of the 277 men respondents reported spending any time caring for children or elderly people, and only 8 reported spending any time cooking. Similar to productive work, these findings are consistent with prevailing religious and tribal norms in Bauchi State, according to which women are expected to regard domestic and care work as their primary responsibility and spend most of their time in the family compound. These findings also indicate the existence of a

Reproductive work refers to the tasks undertaken in the home to keep the household and its members functioning on ongoing basis. This includes caring for people by cooking, watching children, purchasing supplies; and caring for the space, by cleaning and conducting home repair or maintenance.
strong gender-based division of labour, where men spend almost all of their work time focused on paid productive work, while women divide their work time between unpaid reproductive work and paid productive work.

**Personal Maintenance**

Personal maintenance refers to the time that respondents spent undertaking activities which are necessary for their own self-reproduction. Following Ringhofer et al., this includes all activities that “cannot be delegated or outsourced to others,” such as eating and drinking, personal maintenance and religious activities (which in this context is largely daily prayers). It also includes time spent studying or in school.

Women’s personal maintenance time accounted for approximately 3.1 hours per day. The largest portion of this was spent undertaking religious activities (1.5 hours), which likely refers to regular prayer times. Other personal activity time included eating and drinking (52 minutes per day), personal care, including bathing and washing (31 minutes per day), and school or Arabic lessons (14 minutes per day). Men had slightly more personal maintenance time (3.6 hours on average per day), spending 1.9 hours on religious activities, 55 minutes eating and drinking, 28 minutes on personal care, and 16 minutes on attending school or learning Arabic.

**Leisure Time**

Leisure time refers to time spent engaging in hobbies, socializing, exercise or sports, reading and watching television. Similar to personal time, men spent slightly more time engaged in leisure. This included approximately 1.5 hours reading or watching television, and 47 minutes engaged in exercise, hobbies or social activities, for a total of 2.3 hours on average per day. Women experienced 1.6 hours of leisure time per day on average and spent the bulk of it (1.2 hours) socializing with others, as well as watching television or reading (23 minutes).

**Sleeping and Resting**

Sleeping and resting includes both sleep during the night, as well as daytime napping or resting.

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amount of time allocated to these essential requirements for basic wellbeing. This information will be generated through the follow-up study, after women start using the technologies.

This study shows women and men spending similar amounts of time sleeping and resting per 24-hour day, with 8.5 hours on average for women and 9 hours for men. This includes both sleep during the night, as well as daytime napping or resting.

**Community Time**

Community time refers to serving on committees, occupying local leadership positions (unremunerated), and organizing or attending public or community events including religious events, naming ceremonies, funerals and weddings. Community time also includes obligatory responsibilities towards the maintaining community cohesion and community relationships, such as assisting neighbors, visits paid to the sick, or condolences visits. Both men and women in the sample spent an average of about 1 percent or 15 minutes per day engaged in community activities. This is likely due to the fact that the survey was administered on a weekday, while many community events such as weddings or public ceremonies are usually held on weekends. If the survey had averaged time use over a week-long period, a larger amount of time spent on community work might have been seen.

**C.2. Women’s and Men’s Labour Burdens**

An important function of time use analysis is to assess the labour burden borne by different types or groups of people. To calculate an individual or group’s labour burden, the total time spent on productive work and reproductive work is added, resulting in the total time spend on work. In this study, men spent an average of 7.9 hours on productive work and 0.6 hours on reproductive work, for a total labour burden of 8.5 hours per day. The women’s labour burden consists of an average of 4.9 hours on productive work and 4.5 hours on reproductive work, for a total of 9.4 hours per day (Figure 14). According to this analysis, women clients of the Nigeria WAY project bear a slightly larger labour burden than their husbands, working an average of 54 minutes more per day.

According to this analysis, the average labour burdens born by both men and women in the sample fall beneath the time poverty line set by the Abbreviated Women’s Empowerment in Agriculture Index (A-WEAI) of 10.5 working hours in a 24-hour period. However, the women’s average labour burden is only 1.1 hours below the line. This finding suggests that economic development initiatives in Bauchi State, particularly those aimed at women involved in agro-processing activities in the rice, soy and groundnut value chains, should take

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**Community time** refers to occupying community leadership positions, attending or organizing festivals and ceremonies, and activities to maintain community cohesion such as assisting neighbors, visiting the sick, or paying condolences visits.
special care not to increase the time women spend on productive work without considering the time women spend on other types of labour. It also suggests that interventions which increase women’s productive efficiency, such as labour-reducing productive technologies, may allow women to decrease their labour burden, if the saved time is not absorbed into other forms of work.

D. Women’s Perceptions of their Own Time Use

Women respondents were also asked qualitative questions about their time use. These questions were intended to provide deeper insight into women’s levels of discretionary time, the amount of support they receive for domestic labour in the household, and which activities they would like to spend more time on if they could.

First, respondents were asked how often they have time on their hands that they do not know what to do with (Figure 15). A large portion of the women sampled (40 percent) reported that they had such time on their hands either every day or a few times per week. The majority of the respondents (69 percent) reported having time on their hands at least once per week. These findings could suggest that many clients regularly experience days where their work and other obligatory activities do not take up all of their time, and they can decide how to use this time. However, some respondents (12 percent) find themselves with this extra time on their hands only once or a few times per month. A further 16 percent of the sample reported never having this kind of time. This finding suggests that Nigeria WAY clients experience different levels of unallocated time. This could be affected by multiple factors, such as the presence of small children, or the number of older children, adult relatives or co-wives living in the household who are able to assist with domestic or business-related tasks.
Women respondents were also asked how they would choose to spend their time if they had more of it to allocate amongst different activities (Figure 16). Half of the respondents (50 percent) reported that they would choose to spend more time working if they could. This could refer either to work in the household, their own business work, or wage labour. Interestingly, the same women who reported never having extra time on their hands and women who reported having such time every day both expressed the desire to work more if they had more available time.

The desire to work more may be arising from the need to earn more income for personal use or household expenses, regardless of women’s current time use.
Forty-five percent of women respondents shared the desire to spend more time with family and friends or on relaxation and personal time, if they had the chance. This suggests that while women want to work more, possibly to meet personal and household income needs, they must balance this need with the desire to spend more time on social and leisure activities. This in turn suggests that with increases in available time, women might experience difficult tradeoffs between meeting household and income needs and meeting their own personal needs for rest and leisure.

Finally, women respondents were asked if they ever received assistance from family members on domestic labour in the home (Figure 17). The majority of the respondents (76 percent) reported receiving assistance, with 41 percent of the respondents reporting that they ‘often’ receive support, and 35 percent reporting that they ‘sometimes’ receive support. This support likely comes from children, other adult relatives in the household, or co-wives if it is a Muslim household practicing polygamy. Twenty-one percent of the respondents (77 in total) stated that they ‘rarely’ or ‘never’ experienced help from family members with domestic tasks in the home. Of these respondents, 55 also reported being married and living with their husbands, suggesting that in at least some households, husbands do little to no domestic work. Of these respondents, 50 percent reported wanting to spend more time on relaxation or spending time with family and friends if they could, while 49 percent wanted to spend more time working. Again, this could suggest that women may experience difficult tradeoffs when making decisions about how to spend their time. With little assistance from family members, they may want to spend more time working in order to meet all of their domestic and productive responsibilities. On the other hand, women also express the desire for more relaxation and social time.

Figure 17. How often do you feel that your family members help you with domestic tasks in the home?

- Rarely: 8%
- Sometimes: 3%
- Often: 13%
- Never: 41%
- No response: 35%
The extent to which women’s time use changes, as well as the extent to which these changes align with the activities on which women want to spend more time will be explored further in the follow-up labour and time use study.

E. Time Use Satisfaction among Women and Men

Besides understanding how women and men currently allocate their time, the survey included qualitative questions to explore how women and men feel about how they spend their time. This provides an understanding of how satisfied men and women are about how they currently spend their time, and the Nigeria WAY team will monitor whether this changes with the introduction of labour saving productive technology in the coming years of the project.

E.1. Social Time

Men and women were asked if they feel worried that they do not spend enough time with their family or friends (Figure 18). For the women, 51 percent (192 women) reported that this is not a concern for them, while 44 percent (164 women) felt that this was a concern. This is interesting, given that only 19 percent (52 women) of the women earlier reported the desire to spend more time with family and friends. This finding may suggest that although 44 percent of the women are concerned that they do not spend enough time with family and friends, almost half of them would still choose to work more if they had more time. This in turn suggests that financial need or the need to fulfill household responsibilities may be a strong determinant of women's time use in some households.

Figure 18. Do you feel worried that you do not spend enough time with your family or friends?

Similarly, men show a fairly even divide between feeling that they do or do not spend enough time with their family or friends, with 47 percent (130 in total)
reporting that they do not feel worried, and 50 per cent (140 in total) reporting that they do feel worried. These findings indicate that almost half of both men and women feel some level of concern that they are not spending enough time with their families and friends. The similar numbers could reflect the fact that both men and women spend similar, and fairly long hours working every day (8.5 hours for men and 9.4 hours for women).

**E.2. Sleep**

The majority of women and men respondents (80 percent each) indicated that when they need more time for other activities, they tend to cut back on their sleep (Figure 19). While this does not reveal the frequency with which men or women do experience a lack of time, it does indicate that a common tradeoff when time-pressed is to reduce sleep. This is important, as adequate sleep represents a vital component of physical and mental health. If the introduction of technology causes women to become less time constrained, they may not need to reduce sleep as frequently. This could contribute to an overall increase in wellbeing.

![Figure 19. When you need more time, do you tend to cut back on your sleep?](image)

**E.3. Leisure Time**

The majority of women (67 percent) and men (65 percent) respondents were either satisfied or very satisfied with the amount of time they have available for leisure activities (Figure 20). This corresponds well to the earlier finding that 50 percent of women respondents would like to spend more time working if they could, rather than on relaxation or social time. These findings also appear to suggest that the majority of study respondents experience what they regard as adequate levels of leisure time. Slight differences, however, can be seen between men and women. While a greater percentage of women expressed
feeling either ‘satisfied’ or ‘very satisfied’ overall (67 percent versus 65 percent for men), a greater percentage of men fell in the ‘very satisfied’ category (51 versus 42 percent for women). This could be related to the findings of the daily activity time allocation exercise, which showed that men spent slightly more time at leisure on average than women, which could cause them to express greater satisfaction with their leisure time. Only 12 percent of women respondents and 11 percent of men respondents reported being ‘somewhat dissatisfied,’ ‘dissatisfied’ or ‘very dissatisfied’ with the amount of time they have available for leisure activities.

Figure 20. How satisfied are you with the time you have for leisure activities?

E.4. Domestic Tasks

Respondents were asked how satisfied they were with the amount of help they get from family members in the home (Figure 21). Overall, the majority of both women and men reported feeling either satisfied or very satisfied with the amount of help they receive.

One possible explanation for this finding is that households in Bauchi State are generally large, and adult men and women likely receive support with housework from elder children or other relatives living in the home. Women’s high levels of satisfaction may also relate to social and gender norms in Bauchi State, under which women are expected to be responsible for the bulk of the reproductive domestic and care work. As such, women may not expect significant assistance on domestic tasks, and are satisfied with small amounts of help.
However, similar to the findings around satisfaction with leisure time, there were differences between the exact levels of satisfaction between women and men. A greater percentage of the men – 64 percent – reported feeling very satisfied with the amount of help they receive on domestic tasks, versus 51 percent of the women. Furthermore, a greater percentage of men reported feeling either satisfied or very satisfied – 80 percent versus 70 percent for women. Slightly more women (13 percent) reported feeling somewhat to very dissatisfied with the amount of help they receive compared to men (8 percent). A possible factor contributing to this finding might be that men only undertake small amounts of domestic work, and therefore may not need assistance, or need assistance often.

One possible explanation for higher levels of satisfaction among men relates to the Daily Activity Clocks, which found that men spent only about 19 minutes on average per day on domestic work, versus 3.95 hours for women (Figure 22). Men may therefore feel less dissatisfied with the amount of assistance they receive on domestic tasks because they are engaged in them less frequently or for less time on average.
E.5. Paid Labour

Finally, respondents were asked about their levels of satisfaction with the time they spend on the activities they use to earn money (Figure 23). Seventy-six percent of both men and women reported feeling either satisfied or very satisfied with the time they spent earning money. For women, this finding is interesting given that 50 percent of the respondents also reported wanting to spend more time working if they could (and 45 percent wish to spend more time relaxing or socializing). One possible explanation is that the women who reported wanting more time to work are currently satisfied with the time available for paid work, but would like more time available for domestic and care work. Another possible explanation is that they are currently satisfied with the amount of time on paid work, but would still choose to work more, if they could.

Figure 23. How satisfied are you with the time you spend on activities you use to earn money?
This finding is also interesting given the gendered division of labour captured in the Daily Time Activity Clocks (Figure 13), which showed that women spent 22 percent of their reported time on productive (paid) work and 20 percent of their reported time on reproductive (unpaid domestic and care) work, while men spend 33 percent of their reported time on paid work, and only 3 percent of their time on unpaid reproductive work. The fact that the majority of both men and women respondents report satisfaction with their current amounts of time spent on paid work could suggest that they are generally satisfied with the current division of labour between men and women, in which women undertake most of the reproductive work, and men most of the productive.

F. Perception of Household Work

The survey included qualitative questions concerning men and women’s perceptions of different types of work undertaken within the household. Respondents were asked to offer their perceptions of why they do the amount of domestic and care work that they currently do. Both men and women were read a series of statements, with which they could either strongly disagree, disagree, agree or strongly agree.20

F.1. Women and men respondents’ perceptions of the amount of domestic and care work they do

First, respondents were asked whether they undertake the amount of care work they do because that is what they think is right or appropriate (Figure 24). The majority of respondents ‘agreed’ or ‘strongly agreed’ with this statement, with most (71 percent of women and 72 percent of men) strongly agreeing. This is notable given findings of the Daily Activity Clocks, which showed that men spent very little (three percent) of their time on reproductive work, which includes both care and domestic work, while women spent about 20 percent of their reported time on these tasks. Only a small minority of men and women either ‘disagreed’ or ‘strongly disagreed’ with this statement.

20 These averages were calculated by adding the total number of minutes men and women reported spending on domestic and care activities in their time diaries. The totals were averaged across the number of men and women respondents to find the average number of minutes per day for men and women.
Figure 24. I do this amount of care work because I think it is the right thing to do.

Given the relative rigidity of norms around what constitutes women’s and men’s work in Bauchi State, this could suggest that the majority of men respondents agree with prevailing social norms, that they should do very little care work. At the same time, in answering this question, men may have overestimated the amount of care work they actually undertake, or the amount they undertake compared to their wives, causing them to answer as if they undertake more care work than they actually do. See Figure 25 for a summary of the relative amounts of time men and women spent on average undertaking domestic and care work, as reported in their time diaries.
Similar to the men, the large percentage of women who agreed with this statement may suggest that women are similarly in agreement with prevailing social norms under which they are responsible for the bulk of domestic and care work. The reason for their agreement is outside the scope of this research; however, women may want to undertake the bulk of unpaid care work because they view themselves as inherently more suited for it, or more capable of doing it well. They may therefore agree that the amount of care work they do is appropriate, because they see it as most beneficial for the household. Another possibility is that women’s status in Bauchi State is likely tied at least partially to whether they successfully fulfill social and cultural expectations of them. Women may therefore view the care work they undertake as necessary for them to be seen as a good wife and mother.

A similar pattern can be seen with regards to domestic work (Figure 26). The majority of both men and women reported either ‘agreeing’ or ‘strongly agreeing’ that the amount of domestic work they do is because they personally believe it is appropriate. Again, with men only spending three percent of their reported time on average on domestic and care work combined, versus 20 percent for women, this could suggest that men and women view it as normal or right for women to do more domestic work than men. Interestingly, it was largely the same women who disagreed for both questions, numbering 15 of the 373 women respondents.

Figure 26. I do this amount of domestic work because I personally think it is the right thing to do.
F.2. Men respondents’ perceptions of their domestic and care work in relation to other men

Men respondents were asked to give their perceptions of the amount of domestic and care work they undertake in relation to how much they think other men do (Figures 27 and 28). The intention behind this question was to gain a deeper understanding of the gendered division of labour in Bauchi State, and the attitudes or perceptions that might be reinforcing the ways domestic and care work are divided.

All of the men respondents were asked whether the amount of domestic and care work they do is because they think this is what other men do. Interestingly, for both types of work, the majority of the men respondents either disagreed or strongly disagreed. That is, they do not see the amount of domestic and care work that they do being motivated by their perceptions of what other men are doing. This finding is striking given the fact that the Daily Activity Clocks showed men undertaking very small amounts of these types of work; only 37 minutes or three percent of their reported time.

A possible interpretation of this finding relates to local social and gender norms, particularly concerning labour. As noted earlier, religious and cultural norms for both Muslims and Christians in Bauchi State place strong expectations on men to act as the primary provider of the household. Similarly, women are primarily responsible for childrearing, caring for the elderly, and domestic work such as cooking and cleaning. This gendered division of labour is particularly strong for Muslim households, who compose the majority of clients in the Nigeria WAY project. Given these norms concerning women’s and men’s work in Bauchi State, it is possible that the men in the sample viewed even the small amounts of domestic and care work they undertake as deviating from what is expected of men in general, and that other men may spend even less or no time on these activities at all. They would therefore disagree that they do the amount of domestic and care work they do because they think this is what other men do.

Another possible interpretation of this finding is that the men based their responses on other reasons why they undertake the amount of domestic work that they do, beyond the fact that they think other men are doing so. For example, there may be needs in the household that demand domestic and care work from the respondents, which they consider more strongly or attribute more importance to than what they think other men are doing.

Some men respondents also ‘agreed’ or ‘strongly agreed’ with these statements. For care work, 33 percent of men reported that they undertake the amount that they do because they think this is what other men are doing. Twenty percent of the men similarly reported they undertake the amount of care work...
they do because they think this is what other men do. What these findings appear to suggest is that despite strong expectations on women to be primarily responsible for domestic and care work, they do think that other men are also involved to some degree, and this contributes to their decision to spend the amounts of time that they currently spend in these activities.

F.3. Men and women’s perceptions of the care work that is expected of them by others.

Both men and women respondents were asked whether they undertake the amount of care work that they do because they think this is what others expect of them (Figure 29). Interestingly, the majority (58 percent) of the women respondents either ‘disagreed’ or ‘strongly disagreed’ with this statement. This is notable given the strong social and gender norms in Bauchi State, according to which women are expected to undertake the bulk of the household’s care work. This finding appears to suggest that the majority of the women respondents actually undertake this work for reasons other than the expectations of others. If the women reporting indifference to this statement are included, the percentage increases further to 69 percent.

Only approximately one third of the women (31 percent) reported either ‘agreeing’ or ‘strongly agreeing’ with this statement, suggesting that the expectations of others do play a role in the amount of care work they undertake. Again, this finding is interesting given the strong social and gender norms in Bauchi State and the likelihood that women’s status is at least to some extent dependent on their ability to fulfill their religious and socially prescribed gender roles. What this finding appears to suggest is that only one third of
the women respondents see the expectations of others is playing a role in the amount of time they spend caring for others. While this is not to say that the expectations of others are not important, they do not appear to be a defining factor. Women may, for example, undertake their current levels of care work because they feel it is required by the household, not because of external expectations.

Figure 29. I do this amount of caring for people because I think this is what others expect me to do.

Compared to the women, more men (44 percent versus 31 percent of the women) either ‘agreed’ or ‘strongly agreed’ that they undertake the amount of care work they do because that is what others expect of them. At first glance, this finding is surprising. Only 18 of 277 men interviewed reported having spent any time caring for another person (adult or child) the previous day, and only one of those 18 spent more than 30 minutes on this activity. It is possible that these men may have agreed with this statement, recalling the care work they had performed. However, similar to findings in other sections, this finding may also suggest that many men in the sample are agreeing that they undertake small amounts of care work because this is what is expected of them.

Forty-five percent of the men ‘disagreed’ or ‘strongly disagreed’ with this statement, suggesting that the amount of care work they undertake is not primarily influenced by others. When those expressing indifference are added, this increases to 56 percent. Similar to other findings, the fact that the majority of men respondents did not view the expectations of others as the reason why they undertake the amount of care work that they do may be because men are not generally expected to undertake care work. They also may not relate to this statement, viewing other factors as more important drivers of their time allocation to these tasks.
SUMMARY OF KEY FINDINGS

1. **Most of the women did not own equipment to reduce the amount of time required to process their rice, soy or groundnut products before joining the Nigeria WAY project.** Manually processing rice, groundnuts and soybeans into usable products such as parboiled rice, groundnut oil, *kuli kuli* (groundnut cake), *arawa* (fried tofu) and soy milk take significant time and effort on the part of women business owners. Only ten of the 373 women interviewed for this study reported owning and using equipment to help with this process, such as grinding machines and generators. In addition, only 87 respondents (less than one quarter) were aware of and could name technologies that might help.

While technologies that reduce the time and effort required to process these products exist and can be purchased in local or state markets, these findings suggest that they are not making it into the hands of women. This could be related to broader social dynamics and norms in Bauchi State. The tendency for women, particularly Muslim women, to be less mobile and less visible in business activities in public spaces, as well as the perception that women are not suited for or generally successful in business, may cause equipment manufacturers and vendors to overlook women as potential customers. In addition, women in Bauchi State generally do not hold as many assets as men due to land distribution practices and social norms which encourage them to spend most of their time engaged in unpaid domestic work, rather than paid employment. Without access to land or financial resources, women may find it difficult to access the credit needed to purchase equipment, further discouraging vendors from targeting them as potential customers.

Finally, the low levels of technology use found in this study indicate that the productive efficiency of many small, women-owned agro-processing businesses would benefit from labour-reducing technologies. Such technologies would reduce the amount of time required to process the same amount of product, at a higher quality. This, in turn, could reduce the amount of time that women spend on productive work during the day, allowing more time to be spent on other activities. Women may also reallocate the saved time back into their businesses, increasing their daily output. The effect of the technology on women’s overall labour burdens and wellbeing will depend on the extent to which the saved time is reallocated to productive or reproductive work, as well as the extent to which women report increases or decreases in satisfaction with the changes in how they spend their time.
2. **Women and men’s Daily Time Activity Clocks point to a strong gendered division of labour.** According to their Daily Time Activity Clocks, the men spent an average of only 37 minutes per day on reproductive work, which includes cooking, cleaning, domestic chores, and caring for children or the elderly. Instead, the majority of the men interviewed spent their labour time exclusively on productive, paid forms of work including farming and their own businesses. The women’s Daily Time Activity Clocks, on the other hand, show that women spent an average of 4.9 hours per day on reproductive work, which is almost eight times as much as men. Women also divide their daily labour time between productive and reproductive work, balancing both their own business activities and their domestic responsibilities. This strong gendered division of labour results in women spending less time engaged in paid forms of labour than men, perpetuating their disproportionate access to financial resources, and further limiting their access to credit and other inputs for their business. While it cannot be assumed that all women have the goal of growing their business, this division of labour could be preventing those who do want to expand.

3. **Women bear a slightly larger labour burden than men.** In addition to a strong gendered division of labour, the Daily Activity Time Clocks showed that when productive and reproductive work were combined, the women spent an average of 9.4 hours per day working, compared to 8.5 hours for the men. While both men and women fell beneath the A-WEIA’s time poverty line of 10.5 hours per 24-hour period, the women only fell below by an average of 1.1 hours. These findings suggest that development initiatives in Bauchi State which target economically active women in the rice, groundnut and soil value chains should take special care not to increase the time women spend on productive work without considering the time women spend on other types of labour. It also suggests that interventions which increase women’s productive efficiency, such as labour-reducing productive technologies, may allow women to decrease their labour burdens if the saved time is not absorbed by other forms of labour.

4. **Qualitative data on women’s desired time use reveals that women are balancing the desire (or need) to work more with the desire to spend more time relaxing or with family and friends.** While 44 percent of the women interviewed reported feeling worried that they do not spend enough time with their family or friends, only 19 percent of the women

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21 The Abbreviated Women’s Empowerment in Agriculture Index (A-WEAI) sets the time poverty line at 10.5 hours, meaning that people who work more than 10.5 numbers of hours in a 24-hour period and cannot reduce their amount of work without falling into poverty can be considered time poor. See Malapit, H., Kovarik, C., Sproule, K., Meinzen-Dick, R., & Quisumbing, A. R. (2015). *Instructional Guide on the Abbreviated Women’s Empowerment in Agriculture Index (A-WEAI).* Washington, DC: International Food Policy Research Institute.
said that if they had more available time, they would choose to spend it with family or friends. Instead, the majority said that they would spend more time working if they could. In addition, just over one quarter said they would spend it on relaxation and personal time. These dynamics point to the trade-offs that Nigeria WAY’s women clients may make in allocating their time use between work and social or relaxation time. While women want to work more, possibly to meet personal and household income needs or their domestic responsibilities, they must balance this need with the desire to spend more time on social activities and relaxation. This in turn suggests that with increases in available time, women might experience difficult tradeoffs between meeting household needs and their own personal needs for time with family and friends, and rest.

5. **Women and men feel strongly that they undertake their current levels of domestic and care work because it is the right thing to do.**

The majority of women and men either ‘agreed’ or ‘strongly agreed’ that their current level of domestic and care work is the right thing to do. This is interesting given that the Daily Activity Time Clocks showed that when domestic and care work are combined, the women undertook almost 8 times more than men on average. Indeed, very few of the men reported spending time on these activities at. One possible interpretation of this finding is that men and women are expressing agreement with prevailing social norms, under which women are responsible for the majority, if not all of the domestic and care work, while men are expected to provide for the household’s financial and material needs. It is also possible; however, that in answering this question, the men may have overestimated the amount of domestic and care work that they do, or that they do relative to the amount undertaken by women. It is often the case in time use studies that the division of labour or relative labour burdens borne by people of different identities is only rendered clear after an exercise such as calculating Daily Time Activity Clocks, which presents this information in a clear and visual manner. As such, this exercise can be used as a starting point for discussion on men’s and women’s time use, and the ways in which women and men’s time in the same household can be used to ensure wellbeing for everyone.
CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

This learning paper has provided a snapshot of the patterns of women and men’s time use in Bauchi State, as well as qualitative information about how women and men feel about their time use. The findings reveal a strong gender-based division of labour. While men spend almost all of their labour time on paid forms of labour, women divide their time between unpaid domestic work and their own business activities. Women also bear a larger labour burden than men, which falls only 1.1 hours below the time poverty line of 10.5 hours per 24-hour period. While both women and men felt strongly that they undertake the amount of domestic and care work they do because it is the right thing to do, many women also expressed the desire to work more and have more time for relaxation and personal time.

These findings also show that the current use of technology amongst women for agro-processing businesses is low, and that the introduction of productive technologies on the part of the Nigeria WAY project is likely to cause shifts in women’s time use. The nature of these shifts, however, remains unclear. Given the high rates of financial poverty in Bauchi State, women may choose to spend the time saved per unit of output producing more of their rice, soy and groundnut product, in order to increase their personal or family incomes. Similarly, given the strong social and gender norms holding women responsible for the bulk of the household’s reproductive work, women may allocate the time saved to completing more of their domestic responsibilities. Finally, with 45 percent of the women expressing the desire to spend more time either with family and friends or relaxing if they could, many women will likely have to balance the need to meet financial needs and domestic responsibilities with the desire for social time and rest.

In order to support women’s economic empowerment, it is recommended that time use data for the follow-up labour and time use study capture not only changes in women and men’s time use, but also the degree to which they are satisfied with the changes that occurred in their time use. In this way, whether women’s or men’s reproductive work, productive work, or leisure time increases or decreases, it is their own preferences for their time use that determines the impact on their wellbeing.
Annex 1: Nigeria WAY Agrotechnology Fund

Nigeria WAY’s Agrotechnology Fund (ATF) is designed to provide increased access to and usage of productive technologies for women processors. The project facilitates increased usage of technology by stimulating demand among women, ensuring every piece of equipment is accompanied by training for its proper usage. Access is increased by forging market linkages between women processors and the agro-vendors who sell the equipment. Nigeria WAY’s Agrotechnology Fund is similar to the Technology Fund implemented as part of MEDA’s GAC-funded GROW project. Using smart incentives, GROW successfully made available specific equipment to support women in their soybean production and processing which they purchased.

Selected technologies were piloted during WAY’s second year of implementation in order to understand how best to ensure that women can own and use these technologies, as well as assess the impact on their time and labour. During this pilot phase it was found that the technologies tend to increase women’s agricultural efficiency, mainly by reducing the burden of labour.

The ATF offers women a chance to purchase from a menu of 10 technologies, each under $500. Interested women are linked to vetted and contracted agro-vendors at a range of awareness raising events, trainings and other promotional activities conducted by WAY partners. As part of their contract with WAY, the vendors agree to train all woman purchasers on the use, care and upkeep of their equipment. In addition, timing is important; the technologies must be available during the appropriate part of the agricultural cycle, and farmers or processors frequently lack capital at the planting or growing phases.

Even with increased access to supply, the technologies are expensive for the women processors, many of whom would be unable to purchase even a single item of equipment without financial support. MEDA’s smart incentives enable women to purchase technology at a discounted rate, with all transactions tracked by vouchers. Women purchase vouchers for their chosen technologies during specific training events, and redeem them from agro-vendors, who then invoice MEDA for the remaining portion of the price. If women need credit to acquire the technologies, they are linked to MEDA-supported MFIs, who will take part in the events organised to showcase productive technology.

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22 MEDA’s Greater Rural Opportunities for Women (GROW) project improved market access, food security and nutritional status for 23,368 women smallholder farmers and their families in Ghana’s Upper West Region through integration into the soybean sector. The project was implemented from 2012 to 2018.

23 The GROW project’s Technology Fund facilitated women’s access to labour-saving equipment through local private sector providers. In total, 5,196 women purchased 7,376 technologies. The Technology Fund successfully catalyzed change, stimulating adoption of new technologies among women and encouraging suppliers to expand to new client segments, namely women farmers. For more information, see the GROW Learning Series document Putting Technology into the Hands of Women: https://www.meda.org/s/1010

24 In WAY’s year 3, women paid 40% of the equipment cost and MEDA paid 60%. In subsequent years, MEDA hopes to increase the amount that women pay, gradually withdrawing the subsidy so women are paying closer to the market rate, in anticipation of the subsidy’s eventual end.
### Annex 2: Technologies Available under the Nigeria WAY Agrotechnology Fund

#### Rice, Soy and Groundnut Technologies Subsidized by the Agrotechnology Fund

<table>
<thead>
<tr>
<th>S/N</th>
<th>Agro-Technology</th>
<th>Description</th>
<th>Availability</th>
<th>Value Chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tarpaulin</td>
<td>A waterproof canvass used for matting and sealing agroproducts from impurities and water. Preferably 15-20 square meters.</td>
<td>Local Market 3 types quality available 60 ft long And different widths by costs</td>
<td>Rice/Groundnut/ Soy</td>
</tr>
<tr>
<td>2</td>
<td>Aflasafe</td>
<td>A biotechnology to control aflatoxins</td>
<td>Akoma Gona, harvest field.</td>
<td>Rice/Groundnut</td>
</tr>
<tr>
<td>3</td>
<td>Rice Destoner</td>
<td>A machine that removes stones from rice</td>
<td>Local Fabricators, Local market/ vendors</td>
<td>Rice</td>
</tr>
<tr>
<td>4</td>
<td>Rice Parboiler</td>
<td>A technology that simplifies soaking and steaming of paddy in a fuel efficient and labour-saving way.</td>
<td>Local fabricators, Local market/ vendors: Roshan Industries, XGV</td>
<td>Rice</td>
</tr>
<tr>
<td>5</td>
<td>False Bottom &amp; cover</td>
<td>A technology that prevents water contact with paddy during parboiling which improves the quality of parboiled rice</td>
<td>Local Fabricators, XGV</td>
<td>Rice</td>
</tr>
<tr>
<td>6</td>
<td>Ecostoves</td>
<td>A cost and fuel efficient cookstove.</td>
<td>Local Market, Roshan Industries, Envirofit, ICEED, Local potters (Noflay), Dadin Kowa,</td>
<td>Rice</td>
</tr>
<tr>
<td>No.</td>
<td>Item Description</td>
<td>Description</td>
<td>Location/Supplier</td>
<td>Sector/Commodity</td>
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<tr>
<td>7</td>
<td>Nodumax Biofertilizer</td>
<td>Biofertilizer capable of boosting yield</td>
<td>Kano market</td>
<td>Groundnut/Soy</td>
</tr>
<tr>
<td>8</td>
<td>Decorticator Manual</td>
<td>Manual decorticator or machine that deshells groundnut.</td>
<td>Local Fabricators, Local market/vendors</td>
<td>Groundnut</td>
</tr>
<tr>
<td>9</td>
<td>Manual Oil Extracting</td>
<td>A hand powered machine that extract oil from processed groundnut.</td>
<td>Local fabricators, local market/vendors</td>
<td>Groundnut</td>
</tr>
<tr>
<td>10</td>
<td>Motorized Oil Extracting</td>
<td>A mechanically powered machine that extracts oil from processed groundnut.</td>
<td>Local fabricators, local market/vendors</td>
<td>Groundnut</td>
</tr>
<tr>
<td>11</td>
<td>Grinding Machine</td>
<td>A mechanically powered grinder that grinds groundnut, soybean into powder or paste for further processing</td>
<td>Umar and Sons Ltd, Manu Mai engine,</td>
<td>All value chains</td>
</tr>
<tr>
<td>12</td>
<td>Threshing Machine</td>
<td>A machine that dehusks soy seeds from pods</td>
<td>Local fabricators, local market/vendors</td>
<td>Soy</td>
</tr>
<tr>
<td>13</td>
<td>Complete Awara Kit</td>
<td>A complete set-up for all technologies used for processing soy to Awara including: grinder, sieve, basins, cookstove, frying pan and spoons.</td>
<td>Local market/vendors,</td>
<td>Soy</td>
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<td><strong>14</strong></td>
<td>PPEs</td>
<td>Personal protective equipment to protect from soy processing. (Nose mask, elbow long hand gloves and aprons)</td>
<td>Local market/vendors.</td>
<td>Soy</td>
</tr>
<tr>
<td><strong>15</strong></td>
<td>Soy Milk making machine</td>
<td>A set up to extract soil milk from soybeans.</td>
<td>Local Fabricators (Possibly), Kano market, vendors with export capabilities.</td>
<td>Soy</td>
</tr>
<tr>
<td><strong>16</strong></td>
<td>Sunking Boom Solar Lamp</td>
<td>A solar powered/charged lamp with Lighting, radio and MP3 player capable of giving market information to women.</td>
<td>Redset Services Limited,</td>
<td>All value chains</td>
</tr>
<tr>
<td><strong>17</strong></td>
<td>Parboiling pots</td>
<td>Big sized Locally fabricated aluminum pots</td>
<td>Local vendors</td>
<td>All Value chains</td>
</tr>
<tr>
<td><strong>18</strong></td>
<td>Moisture meters</td>
<td>A device to monitor moisture in grains</td>
<td>Akoma Gona, JICA</td>
<td>All value Chains</td>
</tr>
<tr>
<td><strong>19</strong></td>
<td>PICs storage bags</td>
<td>Purdue Improved Crop Storage bags</td>
<td>Akoma Gona</td>
<td>All Value chains</td>
</tr>
</tbody>
</table>
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