LIBERIA 2024 ANNUAL AGRICULTURE SURVEY

WOMEN'S EMPOWERMENT AND NUTRITION MODULE

FINAL REPORT

LIBERIA INSTITUTE OF STATISTICS AND GEO-INFORMATION SERVICES

Food and Agriculture Organization of the United Nations

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Executive Summary

The Women's Empowerment and Nutrition (WEN) module of the Liberia Agriculture Production Survey provides a comprehensive picture of empowerment, women's nutrition, and the relationship between the two in agricultural households across Liberia. The module covered women and men aged 18- 64, with nutrition data specifically collected from adult women aged 18-64.

Women and Men Empowerment

Empowerment among women in Liberia's agricultural households remain limited but shows encouraging signs of progress, particularly in community engagement and financial inclusion. On average, women scored 0.47 on the WEMNS empowerment index, compared with 0.59 among men. This difference indicates that women remain constrained in nearly half of the empowerment dimensions measured, while men are unconstrained in roughly three out of five.

Women's disempowerment is most evident in intrinsic and instrumental domains - attitudes about their rights and influence over household decisions - while they fare better in collective and resource-based dimensions, such as organizational participation and use of ICT.

Women Dietary Diversity

Overall, 54 percent of women met the Minimum Dietary Diversity for Women (MDD-W) threshold of five or more food groups. Women's diets were dominated by staples. About 94 percent consumed grains, roots, and tubers, while 89 percent ate meat, poultry, or fish in the 24 hours prior to the survey. However, consumption of nutrient-dense foods was relatively low: only 17 percent consumed pulses, 15 percent consumed milk or dairy products, and 12 percent consumed eggs. About 56 percent consumed dark green leafy vegetables, while 71 percent ate other vitamin A-rich fruits and vegetables. Red palm oil consumption was widespread (78% of women) across all empowerment categories. At the same time, consumption of unhealthy foods was common: 30% consumed sweets, 25% savoury snacks, and 39% sugar-sweetened beverages, with higher prevalence among younger and more empowered women. Only 6% consumed insects or other small protein foods, mostly among less empowered households.

Relationships between Empowerment and Dietary Diversity

The analysis support strong links between empowerment and diets. Women with documented property rights achieve higher dietary diversity (71% met MDD-W) compared to those without (52%) such rights. Similarly, women with access to financial services (63%) or credit (57%) achieved higher MDD-W than those without (44% and 41%, respectively). Participation in organizations increased the likelihood of meeting MDD-W from 43% to 56%, while leadership roles raised it further to 61%. However, empowerment was not uniformly protective: women with greater financial autonomy and ICT access also reported higher consumption of unhealthy foods - for example, 46% of women with ICT access consumed sugar-sweetened beverages compared to 30% of those without. These findings illustrate that while empowerment is linked to dietary diversity, it is also associated with the consumption of less healthy foods, reflecting both opportunities and risks.

The WEN module highlights that women's empowerment is both a driver and a potential determinant of nutrition in Liberia. Expanding women's decision-making power, property rights, and access to financial services can substantially improve dietary diversity. Yet, empowerment must be complemented by nutrition education and healthier food environments to avoid the unintended rise in unhealthy food consumption.

1 INTRODUCTION

1.1 Background

The Liberia Institute of Statistics and Geo-Information Services (LISGIS), in close collaboration with the Ministry of Agriculture (MoA), with technical support of the Food and Agriculture Organization of the United Nations (UNFAO) and the financial support of the Harmonizing and Improving Statistics in West Africa Project (HISWAP) and the 50x2030 Initiative to Close the Agricultural Data Gap, conducted the 2024 Liberia Agriculture Production Survey. This national survey was designed to provide up-to-date information on the performance of the agricultural sector, which remains the main source of livelihood for most Liberian households. Recognizing the critical role of women in agriculture and the growing need to monitor gender and nutrition dynamics, LISGIS, MOA and the FAO integrated a dedicated module on women's empowerment and nutrition (WEN) into the traditional agricultural questionnaire.

The inclusion of this module was motivated by several key considerations. Women's empowerment and nutrition are fundamental to human rights, equity, and sustainable development. Persistent gender inequality limits women's agency and opportunities, undermining both household welfare and national growth. In addition, women are particularly vulnerable to malnutrition, given their heightened micronutrient needs during reproductive years, coupled with unequal intra-household food distribution common in many developing contexts, including Liberia. At the same time, women play indispensable roles in agricultural transformation, as farmers, traders, and caretakers of household food security, yet cultural and structural barriers continue to restrict their participation and decision-making power. By measuring women's empowerment alongside dietary diversity, the survey provides a unique opportunity to examine the linkages between women's rights, agricultural roles, and nutritional outcomes.

1.2 Objectives

The WEN module was designed with four interrelated objectives:

1. To measure the empowerment of women in agricultural households and assess their dietary diversity, with findings disseminated to ministries and stakeholders for programming and policy design.
2. To document lessons learned in order to refine and strengthen methodologies for measuring women's empowerment within agricultural surveys.
3. To raise visibility of empowerment and nutrition indicators at national and global levels, demonstrating the feasibility of embedding such measures in agriculture-based surveys.
4. To strengthen national capacity to collect, analyze, and use gender- and nutrition-sensitive data for evidence-based decision-making.

1.3 Justification

Women's empowerment is increasingly recognized as a critical determinant of agricultural transformation, household welfare, and nutritional outcomes. Studies in sub-Saharan Africa have shown that empowering women improves household food security, child nutrition, and overall well-being (Quisumbing et al., 2014; Malapit & Quisumbing, 2015). In Liberia, women of reproductive age remain particularly vulnerable to micronutrient deficiencies due to high biological demands and inequitable food distribution within households (UNICEF, 2022). By integrating the WEN module into the AAPS, Liberia not only generates relevant, high-quality data for policy formulation but also contributes to achieving the Sustainable Development Goals (SDGs), especially SDG 2 (Zero Hunger) and SDG 5 (Gender Equality). By pursuing the objectives mentioned above, Liberia positions itself as a pioneer in linking agricultural statistics with social and nutritional indicators, contributing both to national development strategies and global monitoring

frameworks such as the Sustainable Development Goals.

1.4 Structure of the report

This report presents the main findings of the women's empowerment and nutrition (WEN) module of the 2024 Liberia Agriculture Production Survey. It is organized into seven main sections, complemented by detailed annexes. Following this introduction:

1. Section 2 presents the methodologies used to measure both empowerment and nutrition outcomes. The section also presents the limitations associated with the methodologies and the findings of this study.

2. Section 3 provides an overview of women's empowerment as measured by the Women's Empowerment Metric for National Statistical Systems (WEMNS) framework, disaggregated into the four dimensions of claiming rights, making choices, engaging in communities, and mobilizing resources. It summarizes key empowerment indicators, including the overall WEMNS score, the disempowerment headcount ratio, and the mean disempowerment score among disempowered women.

3. Section 4 examines women's dietary diversity, presenting results on the minimum dietary diversity threshold, average food group diversity score, and consumption patterns across different food groups, both nutritious and less nutritious, as well as the role of traditional small protein foods.

4. Section 5 explores the linkages between empowerment and dietary diversity, highlighting how women's decision-making power, access to resources, and social participation is linked to nutritional outcomes.

5. Section 6 reflects on lessons learned from integrating the WEN module into the annual agricultural production survey, focusing on the methodological innovations, fieldwork experiences, and capacity-building.

6. Section 7 draws overall conclusion from the empowerment and nutrition analysis. It provides policy and programmatic recommendations, outlining practical actions for government, development partners, and civil society to strengthen women's empowerment and improve nutrition outcomes.

7. Finally, the report concludes with annexes presenting statistical tables, the full WEN questionnaire, and details of the sampling design, representativity and fieldwork implementation.

This structure ensures that readers can move from the rationale and methodology to the core findings, and ultimately to evidence-based lessons and recommendations.

The sequential presentation, from empowerment dimensions to dietary diversity and their interconnections, offers policymakers, practitioners, and development partners a comprehensive understanding of women's roles and challenges in Liberia's agricultural sector. With this foundation, the report transitions into a detailed examination of women's empowerment, beginning with the dimension of awareness.

1.5 Concepts and definition of Key Terms

The Women's Empowerment and Nutrition (WEN) module combines measures of empowerment with indicators of dietary diversity. The empowerments indicators capture different domains of agency. The nutrition indicators measure women's dietary quality and food access, focusing on diversity and adequacy.

To ensure clarity and consistency, the main concepts and definition of key terms used throughout this report is provided below.

1.5.1 Main concepts

At the core of the framework are composite measures. The empowerment score comes from employing the Women's Empowerment Metric for National Statistical Systems (WEMNS) methodology, which summarizes women's/men's overall level of empowerment across multiple domains. The WEMNS Index combines two measures of disempowerment: the headcount ratio (H), which indicates the proportion of women/men classified as disempowered, and the mean disempowerment score (A) among disempowered, which reflects the average intensity of deprivations among those who are disempowered.

WEMNS measures disempowerment across four domains of agency. Claiming Rights: The first one is intrinsic agency, which captures attitudes and social norms. These indicators are asked only of women, since they reflect women's awareness of and their own critical consciousness. They include the endorsement of women's freedom in livelihood choices (agreement that women should be free to pursue economic activities of their choosing), the endorsement of women's freedom in family formation choices (agreement that women should be free to decide on marriage and childbearing), and the rejection of women's subjugation to sexual harassment (disapproval of harassment or exploitation in work, community, or social settings).

Making Choices: The second domain covers instrumental agency, or the ability to make choices and act upon them. The indicators include decision-making specifically around time, money and health. These are measured for both women and men, allowing for comparison of gender dynamics within households and communities. They include influence over time allocation (how one spends time across work, domestic tasks, and leisure), influence in spending decisions (participation in household financial decisions), and influence in one's own health decisions (autonomy in seeking care and managing personal health)

Engaging in Communities: The third domain encompasses collective agency. The indicators reflect engagement in different types of organizations (community groups, cooperatives, or associations), as well and leadership in these organizations (holding leadership roles or shaping group decision-making), and confidence in community engagement (perceived ability to contribute effectively to community discussions and activities), for both women and men.

Mobilizing Resources: The last dimension captures resources that support agency. The indicators captures access to resources and opportunities, also measured for both women and men. These include the use of information and communication technologies (ICT) (such as mobile phones or internet), use of financial services (savings, mobile money, or insurance), and access to credit.

The key nutrition indicators presented in the report are as follows:

- Minimum Dietary Diversity for Women (MDD-W): A binary indicator measuring whether women consumed at least 5 out of 10 defined food groups in the previous 24 hours, reflecting minimum micronutrient adequacy.
- Food Group Diversity Score: A continuous measure of the number of different food groups consumed by women in the previous 24 hours, ranging from 0 to 10.
- Consumption of Healthy Food Groups: The extent to which women consumed nutrient-rich groups such as fruits, vegetables, legumes, dairy, fish, or meat.
- Consumption of Unhealthy Food Groups: The extent to which women consumed

foods high in sugar, salt, or saturated fat, including sweets, soft drinks, and fried foods

- Consumption of Traditional Small Protein Foods - The degree to which women consumed locally available, culturally significant protein sources (e.g., small fish, insects, or other traditional items).
- Consumption of Red Palm oil: highlighting if women consumed red palm oil, an important local source of vitamin A but also a contributor to overall fat intake.

1.5.2 Definition of Key Terms

Empowerment Score: Composite index summarizing women's overall empowerment across domains.

Disempowerment Headcount Ratio (H): Proportion of women classified as disempowered.

Mean Disempowerment Score (A): Average intensity of deprivations among disempowered women.

Freedom in Livelihood Choices: Agreement that women can freely choose economic activities.

Freedom in Family Formation Choices: Agreement that women can freely decide on marriage and childbearing.

Rejection of Sexual Harassment: Disapproval of harassment or exploitation of women.

Influence over Time Allocation: Ability to decide how one's time is used.

Influence in Spending Decisions: Ability to participate in household financial decisions.

Influence in Own Health Decisions: Autonomy in decisions about personal health care.

Participation in Organizations: Active membership in groups or associations.

Leadership in Organizations: Holding leadership roles or influencing group decisions.

Confidence in Community Engagement: Perceived ability of women/men to engage in community affairs.

Use of ICT: Access to and use of phones, internet, or digital platforms.

Use of Financial Services: Access to and use of savings, insurance, or mobile money.

Access to Credit: Ability to obtain loans or credit.

Documented Property Rights: Legal recognition of ownership of land or housing.

Secure Transfer Rights: Ability to sell, rent, or bequeath property without restrictions.

Secure Tenure Rights: Assurance that land or housing rights will be upheld without dispossession.

Minimum Dietary Diversity for Women (MDD-W): Proportion of women consuming ≥5 of 10 food groups in the last 24h.

Food Group Diversity Score: Number of food groups consumed in the last 24h (0 - 10).

Consumption of Healthy Food Groups: Intake of nutrient-rich groups (fruits, vegetables, legumes, dairy, fish, small animal-source foods).

Consumption of other Food Groups: Intake of foods high in sugar, salt, or saturated fat (e.g., sweets, fried foods, soft drinks).

Consumption of Traditional Small Protein Foods: Intake of culturally significant small protein sources (e.g., small fish, insects, local animal-source foods).

Consumption of Red Palm Oil: Intake of red palm oil, a key local source of vitamin A and dietary fat.

1.6 Lessons Learned

The integration of the Women's Empowerment and Nutrition (WEN) module into the Liberia Agriculture Production Survey provided several valuable lessons. First, it demonstrated that embedding a gender and nutrition module in an agricultural survey is both feasible and cost-effective, offering an opportunity to capture multidimensional insights without the need for a standalone exercise. Fieldwork experiences highlighted the importance of enumerator training, especially in administering sensitive questions. Enumerators who were well-trained and gender-sensitive were better able to gain the trust of respondents and ensure data quality.

Second, the pilot revealed challenges related to cultural perceptions of empowerment questions. In some communities, respondents were initially hesitant to discuss issues of household decision - making, family formation, and sexual harassment. This underscored the need for culturally adapted training materials and awareness sessions for communities prior to data collection. Despite these challenges, the module strengthened collaboration between LISGIS, the Ministry of Agriculture, and development partners, building national capacity to design, implement, and analyze gender-sensitive surveys.

Finally, the exercise demonstrated the value of stakeholder engagement. Consultations with ministries, civil society organizations, and technical experts enriched the design of the module and increased ownership of the results. These lessons highlight the importance of future data collection initiatives.

1.7 Socio-demographic Characteristics of Respondents

Gender: Women accounted for 55 percent of WEN respondents while men constituted 45 percent.

Relationship to Household Head: The largest share of women interviewed for the Women's Empowerment and Nutrition (WEN) module of the Annual Agriculture Production Survey are spouses of the household head (43.2%), followed by female household heads themselves (25.6%). These two categories account for nearly 70% of female respondents. Men respondents were mostly household heads themselves (55.4%). This indicates that the WEN sampling strategy largely captures individuals who either hold primary authority in the household or are directly linked to the decision-maker.

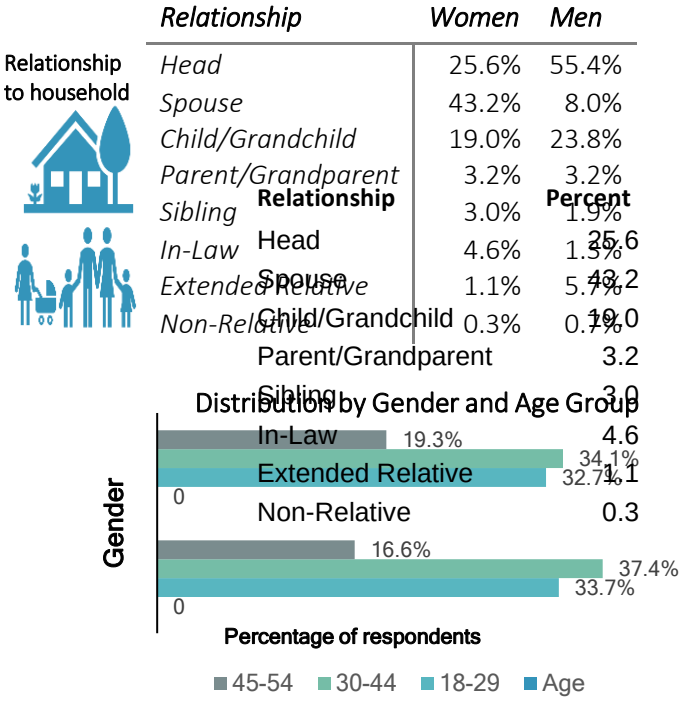
Gender and Age: The majority of respondents was within the 30 - 44 age group, representing 37.4 percent of women and 34.1 percent of men. This highlights that individuals in their prime working and reproductive ages were most represented in the survey. The second-largest age group was 18 - 29 years, accounting for 33.7 percent of women and 32.7 percent of men, highlighting a strong participation of younger adults. Individuals aged 55 - 64 years made up the smallest proportion, with 12.2 percent of women and 13.9 percent of men. This distribution aligns with Liberia's generally youthful population structure.

Gender and Literacy: The majority of female respondents, 58.4 percent, reported being illiterate compared to 31.1 percent of male who reported being illiterate. This indicates that more than half of the women in agricultural household face barriers to reading and writing, which could influence their access to information on nutrition, health practices, and agricultural innovations.

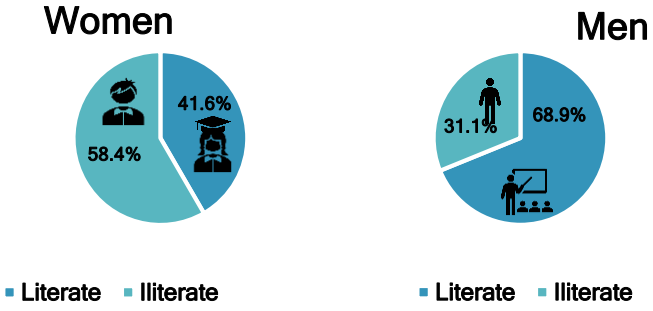
Place of Residence: A significant majority, 76.7%, of individuals interviewed reside in rural areas, while only 23.3% are from urban settings. This is expected, as the WEN module was embedded in the Liberia Agriculture Production Survey, which primarily targeted agricultural households - most of which are located in rural communities[1].

Table 1: Percent distribution of respondents by socio-demographic characteristics

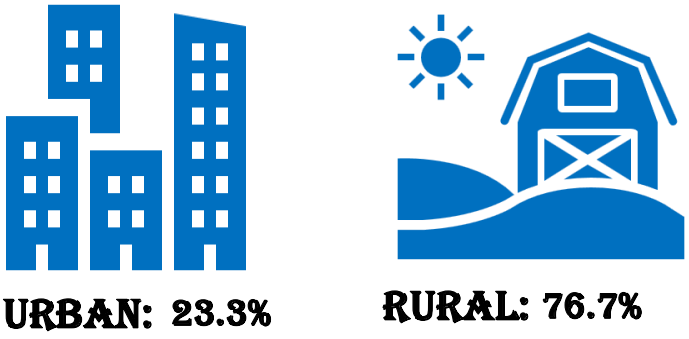
Relationship	Women	Men
Head	25.6%	55.4%
Spouse	43.2%	8.0%
Child/Grandchild	19.0%	23.8%
Parent/Grandparent	3.2%	3.2%
Sibling	3.0%	1.9%
In-Law	4.6%	1.3%
Extended Relative	1.1%	5.7%
Non-Relative	0.3%	0.7%



Distribution by Gender and Literacy



Place of residence

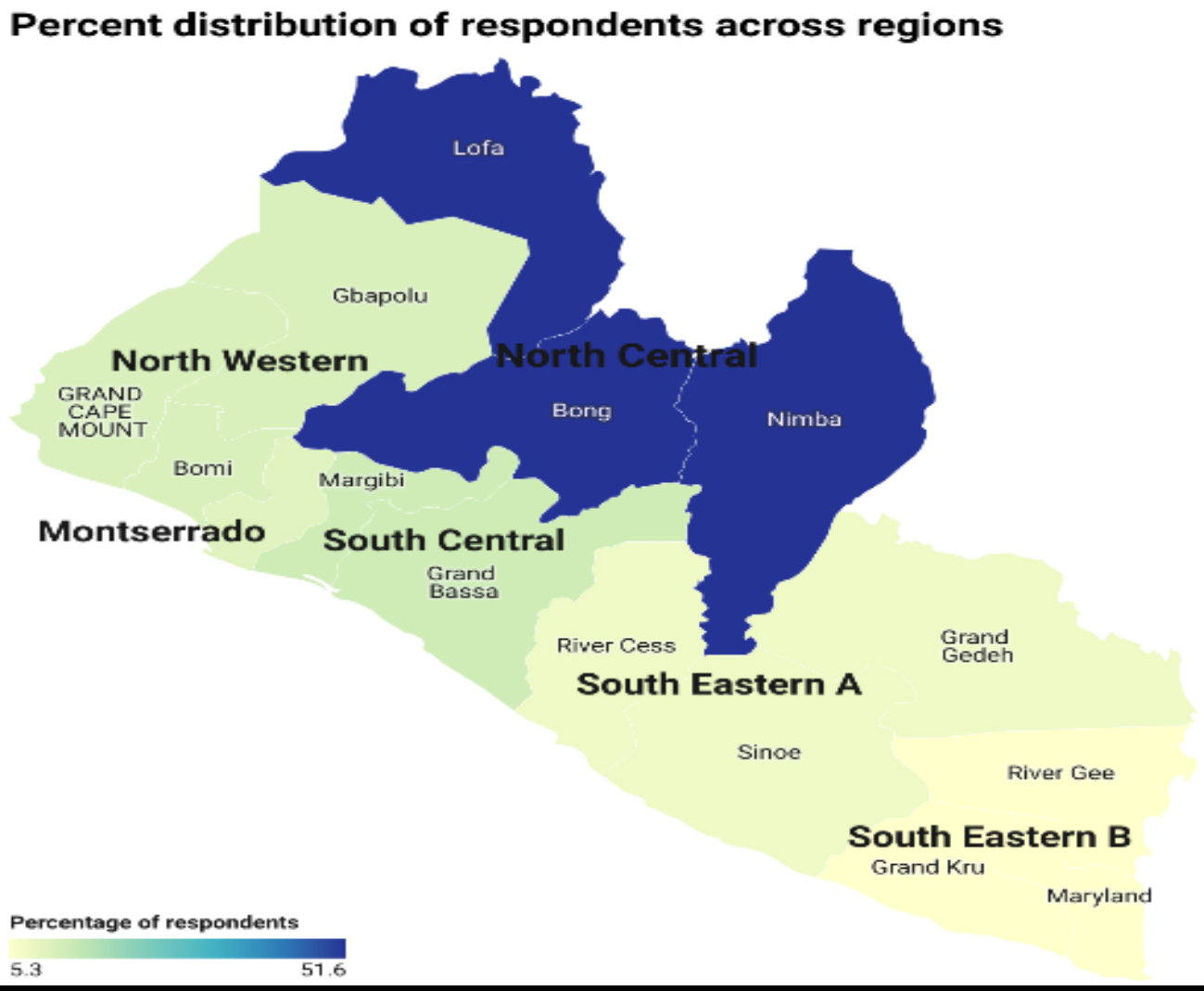


[1] Rural/urban classification is based on the 2022 NPHC definition of enumeration areas (EAs) as rural or urban.

Regional Distribution: The North Central region contributed the majority of respondents, accounting for 51.6 percent. This distribution reflects the sampling strategy and region's large rural and agricultural population base, which aligns with the survey's focus on agricultural households.

The South-Central region follows with 13.2 percent, making it the second highest contributor, while the North Western region also had a notable share of 11.6 percent. Montserrado, Liberia's most urbanized county, accounted for 10.4 percent of respondents. Although it is heavily populated, its smaller share compared to rural regions further highlights the survey's emphasis on agricultural households rather than urban populations.

At the lower end of the distribution are the South Eastern regions: South Eastern A (7.9%) and South Eastern B (5.3%), which together represent just over 13 percent of the respondents. This lower representation is consistent with the smaller population sizes and scattered settlements in these areas.



2 METHODOLOGY

The WEN module measures empowerment and nutrition using standardized and validated indicators.

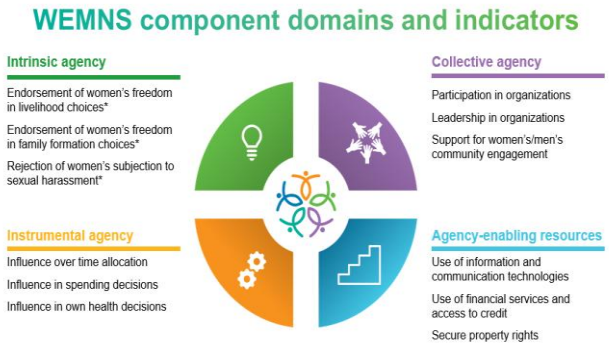
2.1 Methodology used to measure women's empowerment

Numerous metrics have been developed to consider the multidimensional nature of women's empowerment, yet many of these were sector specific or too long for inclusion in multitopic surveys. To address the need for a streamlined multidimensional measure of women's empowerment that is appropriate for nationally representative surveys, IFPRI - together with Oxford and Emory Universities and the World Bank- developed the Women's Empowerment Metric for National Statistical Systems (WEMNS). WEMNS can be applied to respondents regardless of age or livelihood strategy and uses the same methodological approach used in multidimensional poverty indices. It covers three domains of agency - intrinsic, instrumental, and collective - as well as agency-enabling resources, as illustrated in Figure 1. Each domain is comprised of three indicators[2].

1. **Intrinsic Agency - Claiming Rights**: This domain captures women's internal consciousness of their rights. It includes their perceived right to make decisions about livelihoods and family formation, as well as their belief in the right to be free from sexual harassment and any form of coercion that restricts personal choices. Intrinsic agency forms the foundation of other forms of agency.
2. **Instrumental Agency - Making Choices**: Instrumental agency is the power to make strategic decisions. It includes women's influence over time use, household spending, and personal health decisions, representing their ability to act on their preferences in day-to-day life.
3. **Collective Agency - Engaging in Communities**: Beyond the individual focus, collective agency is the power gained from bringing multiple individuals together. It includes involvement and leadership in organizations as well as support of women's and men's community engagement.
4. **Agency-Enabling Resources - Mobilizing Resources**: This component highlights the foundational resources for supporting strategic decisions. Key enabling factors include access to and use of information and communication technologies (ICT), financial services and credit, and secure property rights. These resources are critical for enabling and sustaining empowerment.

For the analysis empowerment is measured adopting a two-step approach as described below.

Step 1: Indicator-level classification



Each indicator functions as a building block of empowerment, capturing a specific aspect of agency such as decision-making, time use, participation in organizations, or access to resources. For each indicator, respondents are classified as:

Unconstrained[3], if they report full autonomy or strong influence in a specific domain (e.g., having a lot of influence over time use, or endorsing women's freedom in livelihood choices).

Constrained, if they report limited or no influence, or do not endorse for example women's rights.

For women, this classification is applied across all four empowerment dimensions. For men, awareness indicators are not collected, therefore men's empowerment is measured across the remaining three dimensions.

Step 2: Aggregating across indicators

Once individual indicators are classified, they are aggregated into a composite sore. To ensure balance, each indicator is given equal weight. Since

[2] Not all domains are applicable to both men and women. While women are assessed across all four domains, the domain on claiming rights is specific to women and is therefore not collected for men.

[3] For example: In the case of livelihood freedoms, a woman is considered unconstrained if she fully agrees with all statements affirming women's right to choose her own economic activities. In the case of time allocation, a person is considered unconstrained if they report having "a lot of influence" in all activities where they participate.

there are equal numbers of indicators for each domain, the domains are also weighted equally.
For women, all four domains are included, and each indicator is weighted at one-twelfth. For men, only three domains are considered (*Claiming Rights* is excluded), and each indicator is weighted a one-ninth.

Step 3: Final empowerment classification

The empowerment score is then calculated for each respondent as the weighted share of indicators in which they are unconstrained. Based on this score, respondents are classified as:

- Empowered overall, if unconstrained in at least 70% of indicators.
- Disempowered, if constrained in more than 30% of indicators.

This final step shows that empowerment depends not on one factor alone, but on being free from constraints on multiple indicators.

2.2 Methodology used to measure nutrition outcome

Alongside empowerment, the WEN module assessed women's dietary diversity using the Minimum Dietary Diversity for Women (MDD-W) and complementary indicators.
Each woman reported all foods consumed in the previous 24 hours. These are grouped into 10 standard food groups (grains, legumes, fruits, vegetables, meat, dairy, fish, eggs, nuts, and oils/fats). From this, two main measures are derived:

- the Food Group Diversity Score, ranging from 0 to 10;
- the MDD-W threshold, met if foods from at least 5 out of 10 groups were consumed.

Additional nutrition indicators are included to capture local dietary practices and quality, including:

- Healthy foods (nutrient-rich groups such as fruits, vegetables, legumes, dairy, and fish & meat),
- Unhealthy foods (unhealthy groups high in sugar, salt, or saturated fat, such as sweets, fried foods, and soft drinks),
- Traditional small protein sources (e.g., small fish, insects, and other culturally significant proteins),
- Red palm oil, given its dual importance as a major source of vitamin A and as a contributor to saturated fat intake.

These indicators make it possible to assess not only whether women's diets are diverse enough to meet minimum micronutrient adequacy, but also the quality and cultural relevance of their food consumption.

2.3 Limitations

Scope and representativeness. Estimates refer to adults in agricultural households; results should not be generalized to non-agricultural populations. The survey's estimation domains were explicitly defined around women 18 - 49, women 18 - 64, and men 18 - 64, with sampling executed as a sub-sample of the national agricultural survey; precision for some subgroups may be limited.

Cross-sectional design. Associations between empowerment and nutrition are descriptive; causal interpretation is not warranted.

Self-report and social desirability. Empowerment indicators (e.g., endorsement of rights, decision influence and harassment rejection) rely on self-reports that may be sensitive to cultural norms and interviewer effects, potentially biasing prevalence upward or downward. Field notes in "Lessons Learned" underscore respondent hesitancy on sensitive topics.

Single-day dietary recall. MDD-W/FGDS are based on 24-hour recall and may not reflect usual intake or seasonality; results capture the period of data collection rather than habitual diets.

Indicator coverage and comparability. Men's empowerment excludes the Claiming Rights dimension by design, which complicates direct comparison across all four dimensions. Secure property rights combine perceived security and documentation; interpretation should consider legal-administrative differences across areas.

Sub-national variability and small cells. Some regional or demographic cells (e.g., insects/small

protein consumption in Montserrado) have very low or zero values; these should be interpreted cautiously given sample variation. In addition, all results for Montserrado should be interpreted with caution, given the relatively small sample size used for this region.

KEY FINDINGS

Gender Gaps in Empowerment

Women are less empowered than men, with an empowerment score of 0.47 compared to 0.59 for men. Disempowered women experience nearly half of all possible deprivations simultaneously

High Organizational Participation but low leadership role

Although 86.4% of women participated in community organizations compare to 85.5% of men, only 42% of women held leadership roles compare to 48% of men.

Staple-Based Diets with Nutrient Gaps

94% of women consumed grains/tubers and 87% of them consumed meat/poultry/fish, but only 17%, 15 % and 12% consumed pulses, dairy, and eggs, respectively.

Moderate Dietary Diversity

Just 54% of women met MDD-W

Widespread Consumption of Red Palm Oil

78% of women consumed red palm oil

Growing Unhealthy Food Consumption

39% of women consumed sugary drinks, with higher prevalence among empowered women

3 WOMEN'S EMPOWERMENT

Liberia has been at the forefront of advancing women's empowerment, making history as the first African nation to elect a female president, who served two consecutive terms, and later voting a female vice president. Beyond political leadership, the government and its partners continue to promote women's rights and opportunities through initiatives such as the Liberia Women's Empowerment Project (LWEP)[4], implemented by the Ministry of Gender, Children and Social Protection with support from the World Bank. In classrooms and training centers, girls are gaining access to scholarships and vocational programs that were once out of reach. In marketplaces and farms, women are receiving grants and climate-smart tools to grow their businesses and feed their families. And in homes and town halls, communities are confronting gender-based violence through awareness campaigns and life skills training.

This section organizes the analysis around the four dimensions of empowerment:

- Claiming rights, which captures attitudes toward women's choices and protection from discrimination;
- Making Choices, which reflects women's influence over time, health, and household resources;
- Engaging in community, which highlights participation, leadership, and confidence in community engagement;
- Mobilizing Resources, which considers women's access to ICT, financial services and property rights (including tenure rights over agricultural land - i.e., SDG 5. a.1).

These domains provide a holistic view of both the progress made and the challenges that remain in strengthening women's empowerment in Liberia. Wherever possible, results are disaggregated by gender to highlight differences between women and men.

3.1 Claiming Rights

Awareness of women rights represents the foundation of empowerment, focusing on whether women are recognized as having the freedom to make choices about their livelihoods and family formation, while also being protected from harmful practices such as sexual harassment.

3.1.1 Endorsement of women's freedom in livelihood choices

In Liberia, agriculture remains the backbone of the economy, providing livelihoods for many households. Women are central to this sector, contributing through smallholder farming, petty trade, and food processing. Despite their vital role, women's freedom to choose their livelihoods is often constrained by traditional gender roles and community expectations. The WEN module therefore examines perceptions of whether women believe they should be able to freely decide which livelihood activities to pursue, independent of male influence or cultural restrictions.

Understanding these perceptions is critical. When women are free to make livelihood choices, they are more likely to engage in income-generating activities that match with their skills and aspirations and market opportunities. This freedom not only enhances women's social and economic status but also contributes to improved household welfare. Findings on endorsement of women's livelihood choices thus provide valuable insight into how communities are responding to changing economic realities and whether social norms are evolving toward greater gender equity.

The conceptual framework used to determine the share of women, aged 18 to 64 years, living in agricultural households who endorsed women's freedom in livelihood choices is provided in Box 1.

[4] Liberia Women Empowerment Project (LWEP) | Liberia Project Dashboard

Box 1. Conceptual Framework

Endorsement of women's freedom in livelihood choices: Believes that every woman has the right to attend school, pursue her preferred livelihood strategies, and use her money as she wishes as demonstrated by fully agreeing with all of the following five statements regarding women's rights in this domain:

A. Every woman should be free to choose whether to complete secondary school.

B. Every woman should be free to choose whether to work for pay.

C. Every woman should be free to choose to prioritize her work for pay over domestic duties.

D. Every woman should be free to choose what to do with any money that she earns.

E. Every woman should be free to choose to purchase land, a house, or other valuable goods.

Respondents: Women aged 18 to 64 years old, living in agricultural households.

The results on the endorsement of women's freedom in livelihood choices as defined in Box 1 above are summarized in Table 1 at the end of this chapter.

The analysis in Table 2 highlights the patterns of endorsement of women's freedom in livelihood choices across demographic groups. At the national level, only about 35.7% of women in agricultural households fully support women's right to make independent livelihood decisions, reflecting the persistence of social and cultural barriers.

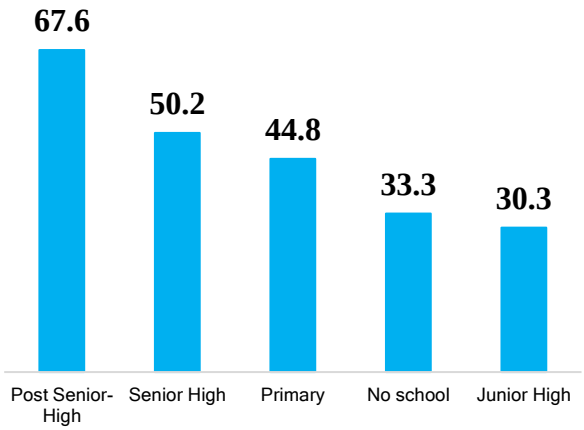
Patterns of endorsement of women's freedom in livelihood choices across demographic characteristics.

- ☑ Regional differences are pronounced, with endorsement highest in South Eastern B (47.5%) and South Eastern A (44.8%), but markedly lower in Montserrado (25.6%) and especially the South-Central region (17.0%). These disparities suggest that traditional and cultural norms remain more restrictive in certain regions than others.

- ☑ Endorsement also varies by socio-demographic characteristics, including age. Younger women (ages 18 - 29) show higher support (44.0%) compared to older women, with endorsement declining steadily with age to just 29.7% among women aged 55 - 64.

- ☑ Education emerges as a strong enabler: only 33.3% of women with no schooling endorse freedom of livelihood choice, compared to 50.2% among those with senior high education and an impressive 67.6% among those with post - senior high education.

Figure 1. Share of women who endorsed women's freedom in livelihood choices by Education Level



Similarly, analysis by literacy shows that endorsement is higher among literate women (40.9%) compared to non-literate women (32.1%), see **Table 2**.

- ☑ Household structure also matter. Women who are heads of household (41.0%) or siblings of the household head (49.8%) are more likely to support freedom in livelihood choices, compared to spouses (30.5%) or parents/grandparents (30.1%).

- ☑ Finally, endorsement is somewhat higher in female-headed households (40.3%) than in male-headed households (33.0%), underscoring the role of household leadership in shaping gender attitudes.

3.1.2 *Endorsement of women's freedom in family formation choices*

Decisions about marriage, childbirth, and household formation are central to women's empowerment, but in Liberia, these decisions are often influenced by family elders, husbands, or cultural traditions. The WEN module investigated societal perceptions of whether women should have equal rights in deciding whom and when to marry, as well as the number and spacing of children.

This issue has significant socio-economic implications. Early marriage, for instance, remains a challenge in rural areas, contributing to school dropout rates among girls and limiting their economic opportunities later in life. Conversely, endorsement of women's freedom in family formation choices is closely associated with better maternal and child health outcomes, higher education attainment for women, and improved household income stability. Findings from this dimension may shed light on the intersection between cultural expectations and women's autonomy in shaping Liberia's demographic and social development. The next set of results highlights respondents' endorsement of women's autonomy in family formation, showing the extent to which social norms allow women equal decision-making in marriage and childbirth. But firstly, we present the conceptual framework of women's freedom in family formation choices (see Box 2 below).

Box 2. Conceptual Framework

Endorsement of women's freedom in family formation choices: Believes that every woman has the right to make decisions related to marriage and childbearing. For a woman to be unconstrained in this indicator, she has to fully agree with all of the following four statements regarding women's rights in this domain:

F. Every woman should be free to choose when to get married.

G. Every woman should be free to choose to divorce or end her marriage.

H. Every woman should be free to choose whether and when to have children.

I. Every woman should be free to choose not to have any more children.

Respondents: Women aged 18 to 64 years old, living in agricultural households.

The findings from the survey show that endorsement of women's freedom in family formation choices is not common among women living in agricultural households in Liberia. The data revealed that only 35.5% of women in agricultural households support full autonomy of women in deciding family formation.

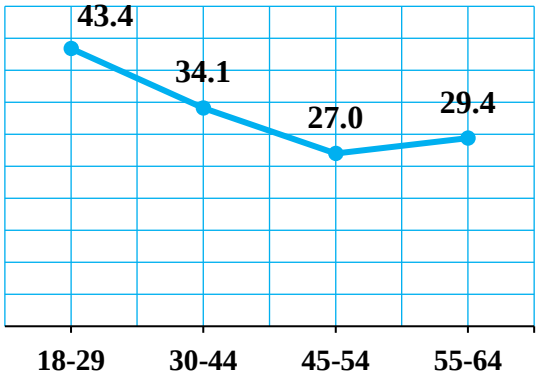
Patterns of endorsement of women's freedom in family formation choices across demographic characteristics.

- ☑ Unlike endorsement of women's freedom in livelihood choices, the highest endorsement rates of women's freedom in family formation choices are found in Montserrado (49.0%) and South Eastern B (46.4%), while endorsement is

considerably lower in South Eastern A (22.0%) and the South-Central region (19.1%).

- ☑ In terms of age, younger women (ages 18 - 29) are more likely to support freedom in family formation decisions (43.4%), while endorsement declines among older women, reaching 27.0% in the 45 - 54 age group.

Figure 2. Share of women who endorsed women's freedom in family formation choices by Age Group



- ☑ Education again emerges as a powerful enabler: endorsement rises from 32.9% among women with no schooling to 52.6% among those with senior high education and 52.9% among those with post - senior high education. Similarly, endorsement is higher among literate women (39.8%) compared to their non-literate counterparts (32.4%).

- ☑ Household roles and dynamics also play a role. Women who are heads of household (41.5%) or children/grandchildren of the household head (38.5%) are more supportive, compared to spouses (32.4%) or parents/grandparents (21.8%). Interestingly, siblings (27.9%) report relatively low endorsement, while non-relatives in agricultural households report no endorsement (0.0%).

- ☑ Endorsement is also somewhat stronger in female-headed households (40.4%) compared to male-headed households (32.6%), reinforcing the link between women's leadership roles and more progressive gender attitudes.

3.1.3 Rejection of women's subjugation to sexual harassment

Liberia, like many countries, continues to grapple with issues of gender-based violence, including sexual harassment in workplaces, schools, and community spaces. The WEN module captures the extent to which respondents reject women's subjugation to harassment, an important indicator of societal intolerance toward gender-based violence.

Box 3. Conceptual Framework

Rejection of women's subjugation to sexual harassment: The woman is unconstrained if she states that none of the five behaviors below is ever acceptable:

L01. A man treats a woman as "lesser" because she is a woman, for example, speaks badly, interrupts, or ignores her?

L02. A man prevents a woman from doing certain kinds of work, even if she wants to?

L03. A man spreads unwanted rumors about a woman's sex life?

L04. A man tries to have a romantic or sexual relationship with a woman when she doesn't want it?

L05. A man offers work-related benefits to a woman with the expectation of receiving sexual favors?

Respondents: Women aged 18 to 64 years old, living in agricultural households.

The rejection of harassment is fundamental not only to women's dignity and rights but also to their active participation in public life. When women are free from harassment, they are more likely to engage in education, employment, and leadership roles. In Liberia, ongoing efforts through national gender policies and advocacy campaigns have raised awareness of these issues. However, the persistence

of harassment underscores the need for continued monitoring and social change.
The level of rejection of women's subjugation to sexual harassment by various socio-demographic characteristics is presented in table 1. The findings offer an important measure of societal intolerance toward gender-based violence.

The results reveal that just over half of women in agricultural households (56.3%) reject women's subjugation to sexual harassment. This result indicates that tolerance for such practices persists in many communities.

Patterns of rejection of women's subjugation to sexual harassment across demographic characteristics.

- Regional variations are striking: rejection is highest in the South-Central region (77.9%) and South Eastern B (67.3%), while it is lowest in Montserrado (30.3%) and South Eastern A (44.2%).

- Younger women (ages 18 - 29) and those in the 30 - 44 age range show relatively higher rejection (57.4% and 59.0%), while endorsement falls slightly among women aged 45 - 54 (47.5%), before recovering somewhat in the oldest group (55 - 64 years, 56.7%).
- Rejection is strongest among women with senior high (70.9%) and post - senior high education (65.6%), compared to only 46.7% for junior high graduates. Interestingly, literacy shows a mixed pattern, with rejection slightly higher among non-literate women (57.7%) compared to literate women (54.2%).

- The data also shows clear variation by household structure. Women who are parents or grandparents (69.7%), in-laws (64.4%), or non-relatives (75.2%) are more likely to reject harassment than household heads (53.9%) or children and grandchildren (51.7%). A similar pattern appears when looking at household headship: women in female-headed households report slightly lower rejection (53.4%) than those in male-headed households (58.0%). These findings suggest that both household role and headship shape women's readiness to oppose harassment, often in unexpected ways

Figure 3: Share of women rejecting subjugation to sexual harassment by type of household

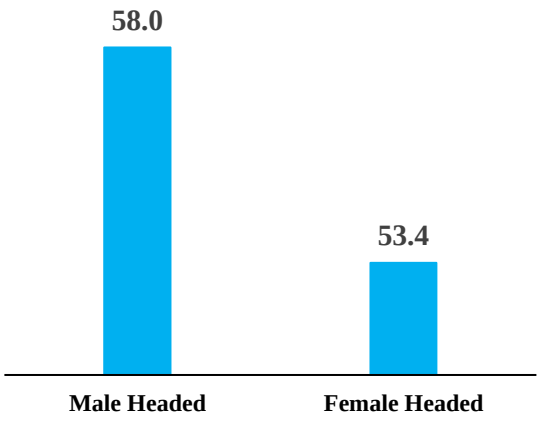


Table 2: Claiming Rights Dimensions by Socio-demographic Characteristics

Share of women supporting women's freedom in livelihood and family formation choices, and those rejecting women being subjected to sexual harassment, broken down by socio-demographic characteristics.

Socio-demographic characteristics		Endorsement of women's freedom in livelihood choices	Endorsement of women's freedom in family formation choices	Rejection of women's subjugation to sexual harassment
	Liberia	**35.7**	**35.5**	**56.3**
Region	North Western	40.9	44.3	49.1
	South Central	17.0	19.1	77.9
	South Eastern A	44.8	22.0	44.2
	South Eastern B	47.5	46.4	67.3
	North Central	38.8	35.4	58.5
	Montserrado*	25.6	49.0	30.3
Place of residence	Urban	36.6	38.1	55.9
	Rural	35.4	34.7	56.4
Age	18-29	44.0	43.4	57.4
	30-44	32.5	34.1	59.0
	45-54	30.6	27.0	47.5
	55-64	29.7	29.4	56.7
Education level	No school/Nursery	33.3	32.9	55.9
	Primary	44.8	36.3	59.7
	Junior High	30.3	39.6	46.7
	Senior High	50.2	52.6	70.9
	Post Senior-High	67.6	52.9	65.6
Literacy	Yes	40.9	39.8	54.2
	No	32.1	32.4	57.7
Relation with HoH	Head	41.0	41.5	53.9
	Spouse	30.5	32.4	57.6
	Child/Grandchild	38.8	38.5	51.7
	Parent/Grandparent	30.1	21.8	69.7
	Sibling	49.8	27.9	58.5
	In-law	38.0	35.8	64.4
	Extended Relative	34.6	36.7	51.0
	Non-relative	24.8	0.0	75.2
Gender of Household Head	Male Head	33.0	32.6	58.0
	Female Head	40.3	40.4	53.4

**Given the relatively small sample size of Montserrado, all results for this region should be interpreted with care.*

3.2 Making Choices

Beyond awareness of rights, empowerment is demonstrated through the ability of women to actively exercise choice, particularly in influencing how their time is allocated, how household resources are spent, and in making decisions regarding their own health. This section provides information on women and men ability to make choices related to their time, personal and collective resources and own health decisions.

3.2.1 Influence over time allocation

Time allocation reflects how women balance productive labor, household responsibilities, and personal care. In Liberia, women often face a 'triple burden' of work, domestic duties, and personal welfare. Many rural women have a burden of making farms, taking care of children and elderly household members and ensuring their own welfare. In urban areas, most women participate in informal businesses, take care of their children and ensure their personal wellbeing. In this section, data on the share of men and women who had total influence on the amount of time they allocated to their daily activities is presented. Box 4 presents an understanding of the concept of influence over time allocation, as captured in the WEN survey.

Box 4. Conceptual Framework

Influence over time allocation: The individual is unconstrained if they report having a lot of influence on whether to spend their time on all activities in which they participated in the last 7 days.
Respondents were asked the following question:
During the last 7 days, did you have no influence, some influence, or a lot of influence in decisions about the amount of time you spent on:

A. Household duties, such as cooking, cleaning, washing clothes, or collecting water or cooking fuel

B. Caring for household members, such as children or older family members

C. Going to the market to purchase essential items

D. Non-agricultural work activities, including: working for pay, in cash or in kind, for someone else; running or doing any kind of business or other activity to earn income; and helping in a family business

E. Commercial agricultural production, including: working on family farming or fishing activities to produce crop, livestock or fish products, regardless of where they are produced, mainly for sale

F. Agricultural production for household consumption, including: producing foods and other agricultural products for household consumption.

Respondents: Women and men aged 18 to 64 years old, living in agricultural households.

The proportion of women and men who reported having a lot of influence over how they allocated their time is presented below. The results shed light on women's and men's decisions about how to allocate their time to income-earning and domestic activities.
About 41.2% of women in agricultural households reported having influence over how they allocate their time to daily activities, compared to 49.5% of men. This result revealed a noticeable gender gap in influence over time allocation.

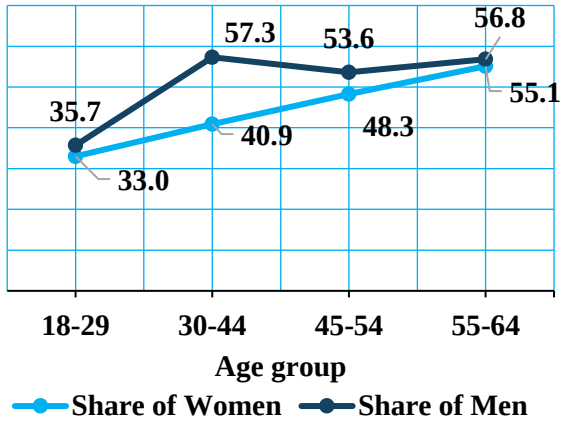
Patterns of Influence Over Time Allocation across demographic characteristics.

- ☑ Women's influence is exceptionally high in South Eastern A (85.8%), where it even surpasses men (78.0%), but it is very low in South Eastern B (25.3%) and South Central (30.7%), pointing to strong regional inequalities in women's ability to control their time.

- ☑ Influence over time allocation increases with age for both women and men, though men consistently report higher levels of influence across most age groups. Among young adults (18 - 29), only 33.0% of women and 35.7% of men report control over their time. The gender gap widens significantly in the 30 - 44 age group, where men's influence rises sharply to 57.3%, compared to 40.9% among women. By ages 45 - 54, the gap narrows, with 48.3% of women and 53.6% of men reporting influence. In the oldest age group (55 - 64), women nearly reach parity with

men, with 55.1% of women and 56.8% of men reporting influence over their time.

Figure 4: Proportion of women and men reporting influence over time allocation by age group (in %).



- ☑ Education also shows relevant associations: while women with junior high education reported low influence (28.7%), those with senior high (50.1%) and post - senior high (51.3%) education were significantly more empowered in this domain.

- ☑ Women who are heads of household (46.9%), parents/grandparents (47.1%), or extended relatives (47.9%) report relatively higher levels of influence, while children/grandchildren (31.4%) and non-relatives (24.8%) report the least.

- ☑ Women in female-headed households were also more likely to have influence over time allocation (41.9%) compared to those in male-headed households (40.8%), though the difference is modest.

3.2.2 Influence in spending decisions

Control over household spending is one of the drivers of women's empowerment because it reflects their ability to influence financial priorities and resource allocation. In many Liberian households, men traditionally dominate financial decision-making, particularly in rural settings where income is tied to farming activities and land ownership. The WEN survey collected information on the degree of influence that women and men have on spending decisions. The results, based on the conceptual framework in Box 5, provide interesting information on the constraints faced by women in agricultural households as it relates to financial empowerment.

Box 5. Conceptual Framework

Influence in spending decisions: The individual is unconstrained if they report having a lot of influence over any source of income and over large household purchases and their own healthcare.
Respondents were asked the following questions:

1. How much influence do you have regarding control over any source of income; no influence, some influence, or a lot of influence?

2. Please tell me whether you have no influence, some influence, or a lot of influence in decisions about the following items:

A. Large household purchases

B. Own healthcare

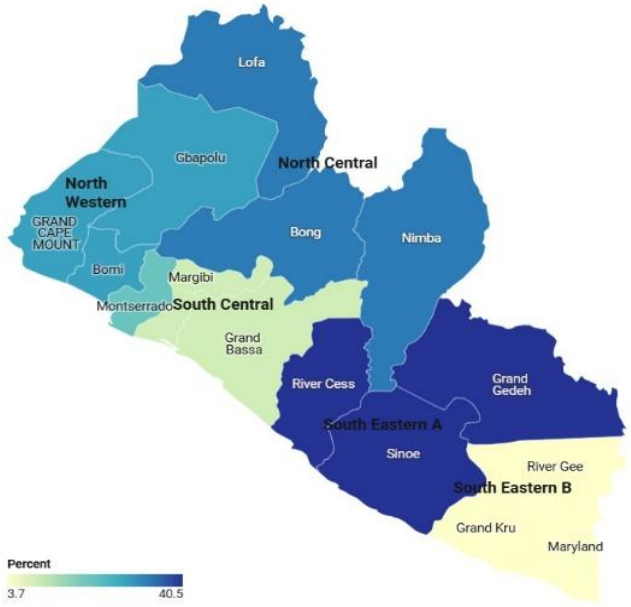
Respondents: Women and men aged 18 to 64 years old, living in agricultural households.

The data shows that women in agricultural households generally exercise less influence over household spending decisions compared to men, with only 27.2 percent of women reporting a lot of influence versus 37.9 percent of men at the national level. This disparity underscores the persistence of gender gaps in financial decision-making within agricultural households.

Patterns of influence in spending decisions across demographic characteristics

- Women in South Eastern A (40.5 percent) and North Central (33.4 percent) report higher levels of influence, whereas South Central (9.7 percent) and South Eastern B (3.7 percent) show extremely limited control, perhaps due to strong cultural and structural barriers in these areas.

Figure 6: Proportion of women reporting influence in spending decisions by region (in %).

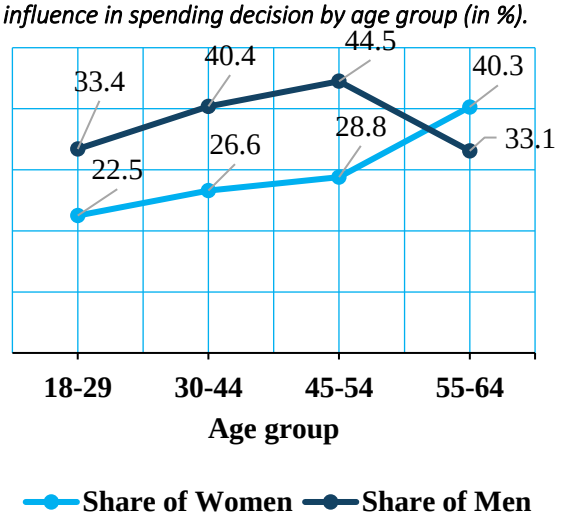


- Age patterns suggest that women's financial influence increases with maturity, as younger women aged 18 - 29 report only 22.5 percent, while women aged 55 - 64 report 40.3 percent, even surpassing men in that age group.

- While women with junior high education report the lowest influence (19.6 percent), those with post - senior high education record the highest (50.8 percent), nearly equal to men (50.7 percent).

- Female household heads (37.1 percent) and extended relatives (45.6 percent) report relatively higher influence, compared to spouses (19.6 percent).

Figure 5: Proportion of women and men reporting influence in spending decision by age group (in %).



3.2.3 Influence in own health decisions

While financial decision-making is a critical measure of empowerment, it is equally important to consider women's influence in decisions that directly affect their personal well-being. The WEN module therefore extends the analysis to examine women's influence in their own health decisions, providing further insight into the extent of control women have over essential aspects of their daily lives. The survey analysis classified individuals as having influence in own health decisions if they had a lot of influence on their own healthcare decisions at the time of the survey (see Box 5).

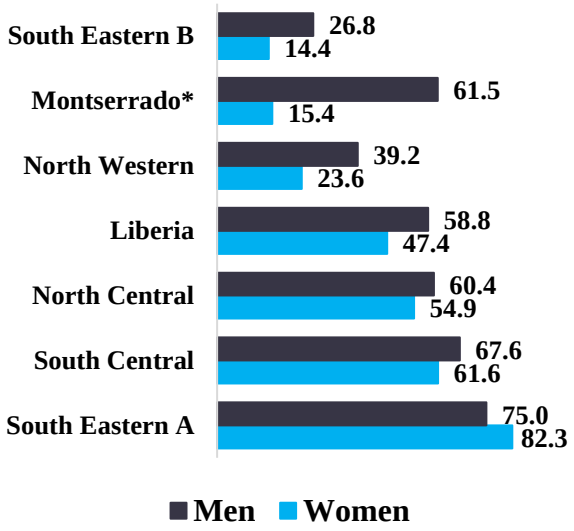
The findings, presented in Table 2, show that women in agricultural households reported a lower level of influence in health decision-making compared to men. At the national level, 47.4 percent of women indicated that they had a lot of influence over their own healthcare decisions, compared to 58.8 percent of men. This result highlights a persistent gender gap in this critical dimension of empowerment.

Patterns of influence in own health decisions across demographic characteristics

- As with previous dimensions, regional variations are particularly noteworthy. Women in South Eastern A (82.3 percent) and South Central (61.6 percent) demonstrate high levels of influence, in some cases surpassing men, while women in

South Eastern B (14.4 percent) and Montserrado (15.4 percent) show very limited influence.

Figure 7: Proportion of women and men reporting influence in own health decision by region (in %)



- The results also reveal patterns by age and education. Women's influence in health decisions tends to rise with age, from 47.7 percent among 18 - 29-year-olds to 52.3 percent among those aged 55 - 64, suggesting that maturity and household status are associated with decision-making influence.

- Education was also strongly associated with influence in own health decisions: women with senior high (52.4 percent) and post - senior high education (52.2 percent) were more often classified as adequate compared to those with only junior high schooling (32.9 percent).

- More women living in female-headed households (48.2 percent) reported been unconstrained in own health decision-making compare to those in male-headed households (46.9 percent). Women who were extended relatives to their household heads (52.6 percent) and those who were children/grandchildren to their household head (52.5 percent) also enjoy relatively greater say in health matters compared to spouses (45.3 percent), see Table 3 below.

Table 3:Women and Men Ability to Choose by Socio-demographic Characteristics

Proportion of women and men reporting influence over time allocation, spending and health decisions by socio-demographic characteristics (in %).

Socio-demographic Characteristics		Influence over time allocation		Influence in spending decisions		Influence in own health decisions	
		Women	Men	Women	Men	Women	Men
	Liberia	**41.2**	**49.5**	**27.2**	**37.9**	**47.4**	**58.8**
Region	North Western	31.1	40.7	28.6	40.4	23.6	39.2
	South Central	30.7	37.7	9.7	36.8	61.6	67.6
	South Eastern A	85.8	78.0	40.5	57.5	82.3	75.0
	South Eastern B	25.3	53.9	3.7	15.7	14.4	26.8
	North Central	43.6	51.8	33.4	37.4	54.9	60.4
	Montserrado*	31.5	36.0	21.2	32.6	15.4	61.5
Place of residence	Urban	33.8	38.0	26.0	34.5	41.1	57.4
	Rural	43.6	52.6	27.6	38.8	49.4	59.1
Age	18-29	33.0	35.7	22.5	33.4	47.7	52.6
	30-44	40.9	57.3	26.6	40.4	45.4	62.9
	45-54	48.3	53.6	28.8	44.5	47.4	61.8
	55-64	55.1	56.8	40.3	33.1	52.3	58.9
Education level	No school	42.6	54.6	29.8	37.2	49.4	56.7
	Primary	41.3	45.3	23.1	34.3	48.2	59.7
	Junior High	28.7	57.5	19.6	43.3	32.9	64.0
	Senior High	50.1	38.7	23.3	38.0	52.4	58.3
	Post Senior-High	51.3	39.5	50.8	50.7	52.2	59.1
Literacy	Yes	36.4	46.4	23.2	37.3	45.3	58.8
	No	44.6	56.1	30.1	39.3	48.8	58.7
Relation with HoH	Head	46.9	55.0	38.3	40.0	47.2	62.2
	Spouse	42.4	60.1	19.6	27.2	45.3	59.5
	Child/Grandchild	31.4	36.2	26.9	36.9	52.5	53.4
	Parent/Grandparent	47.1	74.4	34.7	52.2	45.9	58.4
	Sibling	33.5	46.3	32.8	35.2	44.2	54.2
	In-laws	39.0	51.7	27.7	34.2	50.8	65.5
	Extended Relative	47.9	34.3	45.6	42.1	52.6	48.5
	Non-relative	24.8	58.1	0.0	14.8	0.0	66.2
Gender of Household Head	Male	40.8	51.4	21.3	39.3	46.9	60.0
	Female	41.9	43.2	37.1	33.3	48.2	54.9

3.3 Engaging in Communities

Moving beyond decision making in the household, equally important is women's ability to participate in public life, take leadership roles, and engage confidently in community affairs. The next section explores how women's participation in organizations, leadership opportunities, and community engagement reflect their broader role as agents of change in Liberian society.

3.3.1 Participation in organizations

Participation in organizations is a key dimension of women's empowerment, as it reflects their ability to engage in collective action, broaden social networks, and access opportunities beyond the household. In Liberia, women's involvement in community-based groups (such as farmer cooperatives, savings clubs, women's associations, and faith-based organizations) provides critical platforms to voice concerns, influence community decisions, and strengthen resilience against economic and social vulnerabilities. These groups often serve as entry points for women to gain leadership experience, improve access to resources, and enhance their bargaining power both within and outside the household.

To assess the extent of such participation, women and men in agricultural households were asked whether they had engaged in at least one type of community organization in the 12 months preceding the survey. The results shed light on the degree of inclusion and highlight existing gender gaps in collective action. Specifically, they show whether women are equally represented in social and economic groups or whether men continue to dominate membership and decision-making. By linking participation to empowerment, the data not only illustrate women's opportunities for social engagement but also reveal whether structural barriers restrict their full involvement''.

Box 6. Conceptual Framework

Participation in organizations: The individual is unconstrained if they participated in at least one type of community organization in the last 12 months (from among government councils or agencies, groups that provide local services, formal or informal savings or credit groups, groups related to livelihood activities, and other groups).

The results show that participation in organizations is high among both women and men in agricultural households: 86.4% of women and 85.5% of men reported involvement in at least one type of community group in the 12 months preceding the survey.

This finding strongly supports the introductory point that community-based groups in Liberia serve as important platforms for collective action, social networking, and empowerment, as participation is nearly universal and relatively gender-balanced.

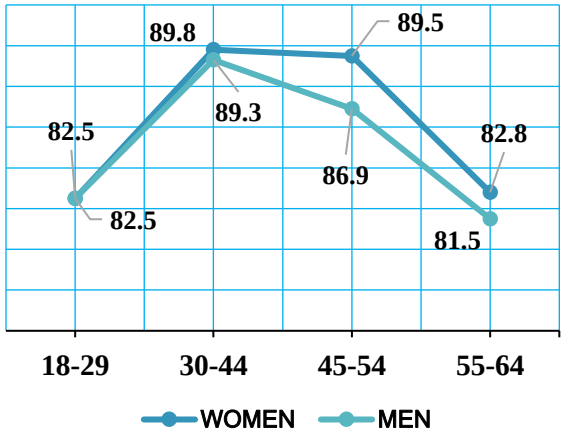
Patterns of participation in organizations across demographic characteristics

- ☑ At the regional level, participation rates are consistently high, though notable variations exist. The North Western region stands out, where almost all women (97%) and men (95%) participate in organizations. Conversely, Montserrado records the lowest women's participation (76.4%), nearly 10 percentage points below men (85.2%). Interestingly, in South Central, women (87.4%) outpace men (71.4%) by a wide margin.

- ☑ When disaggregated by residence, participation is broadly consistent, with urban women slightly ahead of men (86.0% vs. 80.4%), while in rural areas participation is nearly equal (86.6% vs. 86.9%). This challenges the assumption that rural women may be excluded from community engagement; instead, it shows that women in both urban and rural agricultural households are equally engaged in organizations.

- Across age groups, participation peaks among those aged 30 - 44 (around 90% for both sexes), while younger (18 - 29) and older (55 - 64) adults show lower engagement (around 82%). The proportion of women participating in organization remains consistently high up to aged 54 while that of men show a declining trend from age 44. This pattern suggests that individuals in their prime working and reproductive years are most likely to seek the support, networks, and opportunities that organizations provide.

Figure 8. Proportion of women and men reporting participation in organization by age group (in %).



- Education is strongly associated with participation. Women with senior high (90%) and post - senior high education (100%) report near-universal participation, compared to 84.8% among those with only primary education. This shows that higher educational attainment not only expands women's opportunities but also motivates them to engage in collective action. Similarly, literacy has little effect on participation, as both literate (85.8%) and non-literate (86.9%) women report near-equal involvement.

- Relationship to the head of the household also reveal important patterns. Spouses (89%) and parents/grandparents (89.3%) show very high engagement, while children/grandchildren (79.2%) participate less. This finding suggests that organizational involvement may increase with household authority and maturity. Notably, women who are non-relative in agricultural households report 100% participation, underscoring the importance of community groups as critical support structures for those women outside the immediate family circle.

- Finally, by gender of household head, women in both male-headed (86.8%) and female-headed (85.8%) households show nearly identical levels of participation. Thus, household leadership status seems not to significantly constrain women's ability to engage collectively.

3.3.2 Leadership in organizations

Leadership in organizations demonstrates whether women's participation translates into decision-making authority. Taking on leadership roles in farmer cooperatives, community associations, and other groups allows women not only to represent their own interests but also to influence broader community priorities. This sub-section introduces results on the proportion of women who have taken on leadership positions within organizations, compared to their male counterparts.

Box 7. Conceptual Framework

Leadership in organizations: The individual is unconstrained if they acted as a leader in at least one type of community organization in the last 12 months (same groups as mentioned in Box 5)

The WENS results show that while participation in organizations is widespread among women and men in agricultural households, translating this participation into leadership positions remains more

limited for women. Overall, fewer women than men reported holding leadership roles. About 42.1 percent of women in agricultural households reported holding leadership roles in at least one organization, compared to 48.0 percent of their male counterpart (see **Table 4**).

Patterns of leadership in organizations across demographic characteristics

- ☑ The gender gap in leadership role, in favor of men, is particularly evident in most regions. In fact, only in North Western (46.5 percent) and South Central (31.9 percent) women report relatively high levels of leadership compare to men. Fewer women in agricultural households in Montserrado (21.9 percent) reported holding leadership role in organizations compare to any other region.
- ☑ Residence, age, and education also influence leadership opportunities.
- ☑ Women in rural households (45.0 percent) are more likely to hold leadership positions than their urban counterparts (33.4 percent).
- ☑ Leadership rises with age, peaking among women aged 45 - 54 (52.0 percent) before declining slightly among those aged 55 - 64 (42.4 percent).
- ☑ Education shows one of the strongest effects: women with post - senior high education (96.0 percent) report more leadership roles, compared to only 36.5 percent among those with junior high schooling.
- ☑ In female-headed households, about 41.8 percent of women report having leadership role compared to 39.0 percent of male in the same type of household.

3.3.3 Confidence in women's/men's community engagement

The statements outlined in Box 6 provide the basis for measuring women's confidence in community engagement, capturing both their self-perceptions and how they are perceived by others within their communities. Together, these indicators reflect the extent to which respondents feel their own gender is capable of understanding community issues, contributing to collective activities, and influencing local decision-making processes. They also highlight the importance of recognition and support from community leaders, which is essential for ensuring that women's voices are heard and valued. The results in this sub-section present the proportion of women and men who expressed confidence in their own gender's active participation in community life, offering insights into attitudes toward civic engagement across different socio-demographic groups.

Box 8. Conceptual Framework

Confidence in women's/men's community engagement: Individuals are unconstrained if they report that their own gender is capable of participating actively in community groups (i.e., women report on perceptions of women and men report on perceptions of men). This means that, the individual needs to fully agree with each of the following five statements:

A. Women/men can really understand what is going on with your community

B. Women/men have the ability to participate effectively in community activities

C. Women/men have the ability to participate effectively in decision-making

D. It is important to women/men that women/men actively participate in local women's/men's issues

E. Most community leaders would listen to women/men

The results, presented in Table 4 below, show that overall confidence in women's community

engagement remains low among women themselves, with only 16.8 percent reporting confidence compared to 31.6 percent of men. While men are more likely to express belief in men's ability to engage actively in community matters, women themselves are expressing a contrary view. This result presents a complex picture. The observed gap between men's and women's reported confidence suggests that cultural attitudes and self-perceptions may be limiting women's voice in community affairs, even where participation in organizations is widespread.

Patterns of confidence in women's community engagement across demographic characteristics

- ☑ In Montserrado, confidence among women is exceptionally high (75.6 percent), exceeding even men's (64.0 percent). By contrast, in South Eastern B, women reported confidence is almost non-existent, and in South Central, just 2.0 percent of women did so compare to more than half of men (53.9 percent). These sharp contrasts reflect how local norms and community dynamics shape perceptions of women's roles.

- ☑ Urban women (28.1 percent) report higher confidence than rural women (13.1 percent), though the gap between men and women persists across both settings.

- ☑ Age-related patterns are mixed, with women's confidence ranging between 14.2 percent among the youngest group (18 - 29) and 20.8 percent among the oldest (55 - 64), while men's confidence peaks in the middle age groups (30 - 54 years).

- ☑ Education shows particularly interesting results. Women with junior high education (45.3 percent) display higher confidence than those with senior high (3.8 percent) or post - senior high (6.3 percent). Men's confidence, by contrast, rises steadily with education, reaching 38.9 percent at senior high. This suggests that formal education boosts men's confidence in women's engagement, while women's self-confidence may depend on other social and cultural factors.

- ☑ Parents and grandparents (11.8 percent) and spouses (15.9 percent) report lower confidence, while non-relatives living in households show unusually high female confidence (24.8 percent) and male confidence (66.6 percent).

- ☑ Household headship has only a modest effect, with women in female-headed households (19.7 percent) reporting slightly higher confidence than those in male-headed households (15.1 percent).

Table 4. Women's and Men's Engagement in Communities by Socio-demographic Characteristics

Proportion of women and men participating in organizations, having leadership role and expressing confidence in community engagement by socio-demographic characteristics (in %).

Socio-demographic characteristics		Participation in organizations		Leadership in organizations		Confidence in women's/men's community engagement	
		Women	Men	Women	Men	Women	Men
	Liberia	**86.4**	**85.5**	**42.1**	**48**	**16.8**	**31.6**
Region							
	North Western	97	95	46.5	43.1	8.7	14.3
	South Central	87.4	71.4	31.9	27.2	2	53.9
	South Eastern A	80.7	83.4	46.6	50.8	10.8	32.5
	South Eastern B	81.4	81.2	26.6	31	0	26.7
	North Central	87.3	87.9	49.2	58.2	12.6	23.7
	Montserrado*	76.4	85.2	21.9	34.3	75.6	64
Place of residence							
	Urban	86.0	80.4	33.4	40.8	28.1	33.8
	Rural	86.6	86.9	45	50	13.1	31
Age							
	18-29	82.5	82.5	33.4	36.5	14.2	27.1
	30-44	89.8	89.3	45.5	51.1	18.4	34.9
	45-54	89.5	86.9	52	58.8	15.6	35.2
	55-64	82.8	81.5	42.4	52.4	20.8	29.4
Education level							
	No school	86.4	84.2	43	42.2	13.8	32.5
	Primary	84.8	84.5	43.7	51.7	12.1	27.9
	Junior High	86.4	88.3	36.5	47.9	45.3	29.7
	Senior High	90	86.1	37.1	50.6	3.8	38.9
	Post Senior-High	100	98.1	96	83	6.3	23.7
Literacy							
	Yes	85.8	86.1	41.9	51.4	19	29.5
	No	86.9	84.2	42.3	40.5	15.3	36.4
Relation with HoH							
	Head	88.5	86.7	44.1	53.9	19.8	32.9
	Spouse	89	85.5	44.3	53.4	15.9	30.6
	Child/Grandchild	79.2	82.7	32.9	34.9	16.5	28.3
	Parent/Grandparent	89.3	84.7	56.4	73.8	11.8	42.6
	Sibling	83.1	84.5	33.6	55.8	12.8	32.1
	In-law	80.7	87.2	46	52.6	14.2	27.6
	Extended Relative	82.2	87.6	26	28	21.4	28.8
	Non-relative	100	95.9	75.2	26.3	24.8	66.6
Gender of Household Head							
	Male	86.8	86.2	42.3	50.8	15.1	31.6
	Female	85.8	83.2	41.8	39	19.7	31.5

3.4 Resources

Access to resources may set pathways for becoming empowered or determine the extent to which women can translate their choices and agency into meaningful outcomes. Resources serve as the building blocks that enable women to participate effectively in economic and social life, while also strengthening their bargaining power within households and communities. In the context of agricultural households, access to information, finance, land, and property rights is particularly critical, as these assets directly influence productivity, food security, and resilience. This section of the WENS report presents information on agency-enabling resources, including the prevalence of ICT use among women and men, access to financial services and credit as well as access to secure property rights.

3.4.1 Use of information and communication technologies (ICT)

The first component explored under the resource dimension of empowerment is the use of information and communication technologies (ICT), which has become indispensable in modern society. Mobile phones, internet connectivity, and related ICT tools provide women with access to markets, financial services, and information that expand their opportunities and reduce isolation.

Both women and men in agricultural households were asked how often they use mobile phone or internet (whether daily, weekly, monthly, less than monthly or never). The share of women and men who used mobile phone or internet on a daily basis is analyze in this sub-section.

The detail results of the prevalence of ICT use among women and men, disaggregated by socio-demographic characteristics are presented in Table 5.

As shown in Table 5, the prevalence of ICT use (use of mobile phones or internet) is higher among men in agricultural households compare to their women counterpart. At the national level, 55.3 percent of women in agricultural households reported daily use of ICT, compared to 66.2 percent of men.

Patterns of ICT use across demographic characteristics

At the regional level, women's ICT use is highest in Montserrado (74.0 percent), where it substantially exceeds that of men (34.6 percent), showing an unusual reversal of the gender gap in this region. In other regions, men consistently outpace women, such as in North Central (69.4 percent vs. 49.7 percent) and North Western (74.7 percent vs. 60.1 percent). These results suggest that location plays a strong role in shaping digital access, with some regions providing more equal opportunities than others.

- ☑ Residence also matters. Women in urban areas (78.1 percent) are far more likely to use ICT daily than their rural counterparts (47.7 percent), though men in both settings report high usage (75.1 percent urban vs. 63.8 percent rural). This demonstrates that urbanization enhances ICT accessibility for both sexes but disproportionately benefits women, narrowing the digital divide in cities.

- ☑ Age-related trends show that ICT use declines with age for women, from 61.1 percent among young women aged 18 - 29 to only 39.0 percent among those aged 55 - 64. Men's ICT use, by contrast, remains relatively stable across age groups, with the highest rates among older men (67.5 percent for ages 55 - 64). These differences suggest that generational and gender-specific barriers limit women's sustained engagement with ICT as they age.

- ☑ Nearly all women with post - senior high education (93.7 percent) and senior high (91.1 percent) report daily ICT use, compared to just 44.4 percent of women with no schooling. Similar trends are observed among men, though the gap between educational levels is narrower. Literacy also plays a major role: 73.0 percent of literate women use ICT daily, compared to 42.6 percent of non-literate women, mirroring men's literacy divide.

- ☑ Women who are children/grandchildren (65.1 percent) report higher ICT use than

spouses (51.2 percent) or parents/grandparents (41.0 percent). It appears that women outside immediate family structures face the steepest access barriers.

- ☑ Women in female-headed households (57.4 percent) report slightly higher ICT use than those in male-headed households (54.0 percent).

3.4.2 Use of financial services and access to credit

Access to ICT alone is not sufficient without the means to invest and participate fully in economic activities. Access to Financial Services plays a pivotal role in empowering individuals, especially within agricultural households, by enabling secure, efficient, and inclusive financial transactions. This section explores the extent to which women and men have engaged with formal and digital financial tools over the past 12 months, shedding light on their economic participation and financial autonomy. It examines four key indicators of financial service usage: mobile money transactions, bank account activity, use of debit or ATM cards, and credit card payments. These services are not just conveniences, they are gateways to broader economic opportunities, resilience against financial shocks, and pathways to financial inclusion. Understanding who uses these tools, and how often, reveals critical insights into gender disparities and the accessibility of financial infrastructure in agricultural settings. The below results show the comparison between the usages of financial services for women and men. The conceptual framework below gives an insight into the derivation of indicators related to the use of financial services.

Box 9 Conceptual Framework

Access to Financial Services

Sub-indicator 1: Use of financial services

The individual is unconstrained if they used at least one financial service in the last 12 months

With respect to the use of financial services, women and men were asked if in the past 12 months they ever:

A. used any mobile money account, either yours or anyone else's, to make a payment, buy something, or send money to someone?

B. deposited or received money into or withdraw money from any bank account, either yours or anyone else's?

C. used any bank card, ATM card or debit card, either yours or anyone else's, to make a purchase or pay a bill such as a utility bill?

D. used any credit card, either yours or anyone else's, to make a purchase or pay a bill such as a utility bill?

Sub-indicator 2: Access to credit

The individual is unconstrained if they report they would be able to take a loan from at least one formal or semi-formal lending source

Regarding access to credit, individuals were asked if they could access credit from any of the below financial services, if they so desire:

A. Bank or formal financial institution

B. Cooperative

C. Group based micro-finance

D. Informal credit / savings groups, such as a village savings and loan group, merry-go-rounds, Susu, or funeral societies

E. Other NGO program

The proportion of women and men who used financial services as well as those who had access to financial services is analyze below.

Over half of individuals (both women and men) living in agriculture households reported using at least one type of financial services during the last 12 months before the survey. Men consistently use financial services more than women across almost all socio-demographic characteristics, with an average of 65.0% for men compared to 53.7% for women.

In terms of access to credit, average access to credit is nearly the same for both genders, with 81.6% of women having access compared to 82.2% of men.

Patterns of use of financial services across Demographic characteristics

- In urban areas, 83.6% of men used financial services compare to 73.4% of women. But women have slightly higher access to credit (82.7%) compared to men (77.2%). In rural areas, however, the trend reverses. More men have access to credit (83.6%) compared to women (81.2%). This indicates that in rural areas, men tend to have a better ability to access credit compared to women.

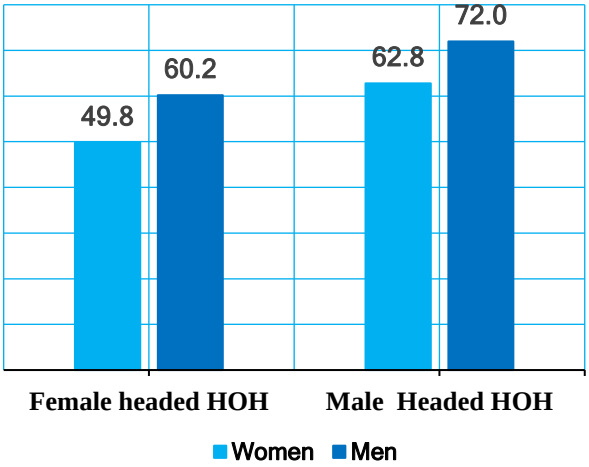
- Women in Montserrado (80.2%) use financial services far more than those in South Central (34.9%). However, those in the South-Central region report more access to credit (90.9%), compared to those in Montserrado (88.8%). Disparity in access to credit between women and men is more pronounce in South Eastern B as 98.7% of men report access compared to 89.0% of women.

- Access to credit across different age groups, show some fluctuations in access to credit for women as age increases. Women aged 18-29 years have the lowest access to credit, as 78.9% of them report access. As women move into the 30-44 age group, access to credit increases significantly, with 84.8% of those in this age group reporting access. As age increase beyond this age group, access to credit decreases, reaching as low as 78.3% of women aged 55-64 reporting access. These results indicate that access to credit may be more challenging for both the youngest and oldest women age groups, with women in their 30s to early 40s having the most favorable access to credit.

- Financial service usage increases with education, particularly for those with post-senior high education (93.7% women vs. 91.9% men). Literate women use financial services significantly more (66.9%) compared to illiterate women (44.3%). Relative to access to credit, women with post-senior high education report having more access (96.0%), significantly outpacing their male counterparts (75.3%). Interestingly, even illiterate women and those with no formal schooling show high access to credit (81.5% and 80.7%), respectively. This indicates that informal financial systems, such as Susu and yearly clubs may be widely accessible regardless of education.

- Women in female-headed households report using financial services more frequently than those in male-headed households (60.2% vs. 49.8%). The data comparing access to credit by gender of the household head reveals a no significant differences. About 82.4% of women in male-headed households report access to credit compare to 82.7% of their male counterpart. In female-headed households, 80.2% of women have access to credit while 80.9% of men do.

Figure 9. Percentage of Women and Men who used financial services by type of households (male or female headed).



3.4.3 Secure property rights

Secure property rights are central to women's empowerment in agricultural households, as they provide stability, strengthen bargaining power, and create pathways to greater economic opportunity. Ownership of land or housing not only ensures long-term security for women and their families but also enhances their ability to access credit, invest in farming, and participate in household and community decision-making. The WEN module assessed women's property rights using three sub-indicators that capture the breadth of security in ownership, tenure, and transferability.

- **Sub-indicator 1: Documented property rights**

This indicator measures whether an individual's name is listed on a land rights document for at least one parcel of land or dwelling. Documentation is critical because it formalizes ownership, provides legal protection, and increases women's ability to leverage property for collateral or inheritance claims. For women, being named on land or property documents is a powerful signal of recognition in legal and customary systems.

- **Sub-indicator 2: Secure tenure rights**

Beyond documentation, security of tenure is equally important. This sub-indicator reflects whether respondents feel confident that they are not at all likely to involuntarily lose ownership or use rights to at least one parcel of land or dwelling. Tenure security reduces vulnerability to eviction, displacement, or exclusion from productive land, particularly in contexts where land is scarce or contested. It also enhances women's confidence in making long-term investments in agriculture or housing.

- ☑ **Sub-indicator 3: Secure transfer rights**

The ability to transfer property, whether through sale or inheritance, is another key dimension of secure property right. This sub-indicator captures whether women are able to sell or bequeath at least one parcel of land or a dwelling. Transfer rights strengthen women's autonomy, allowing them to exercise full control over their assets and ensure that property can be passed on to children or heirs according to their wishes.

Thus, these three sub-indicators provide a comprehensive picture of women's property rights. Documentation ensures recognition, tenure security provides assurance, and transfer rights imply control. When combined, they form the foundation of women's economic empowerment in agricultural households, linking directly to broader objectives such as financial inclusion and progress toward global commitments like SDG. The conceptual framework used to derive these three sub-indicators are presented in Box 8 below.

The results on secure property rights show that women in agricultural households are disadvantaged compared to men across all three sub-indicators of property rights (documentation, transfer, and tenure security). At the national level, only 10.7 percent of women reported having their names on documented property rights, compared to 12.8 percent of men. This low rate of documentation for both men and women derives from the predominance of customary tenure in Liberia. However, men have somewhat higher rates of documentation, which can provide legal protection and collateral for credit.

When it comes to secure transfer rights, which reflect the ability to sell or bequeath property, the gap between women (55.7 percent) and men (59.7 percent) is narrower. This suggests that while relatively few women have documented ownership, a majority nonetheless perceive that they have some authority to transfer property. However, the figures mask regional disparities. For example, women in South Eastern B (65.7 percent) and North Central (61.7 percent) report relatively high levels of secure transfer rights, while women in Montserrado (27.6 percent) report much lower rates, although slightly higher than men (24.7 percent).

Tenure security (i.e., confidence in not losing ownership or use rights) presents a similar picture. Nationally, 45.1 percent of women reported secure tenure, compared to 49.9 percent of men. Women in North Western (63.4 percent) and North Central

(48.3 percent) expressed relatively higher levels of tenure security, while women in South Central (31.1 percent) and South Eastern A (33.3 percent) reported weaker security. These findings highlight that property security is uneven across the country, reflecting both customary practices and regional socio-cultural contexts.

Patterns of secure property rights across Demographic characteristics

- Socio-demographic factors also play an important role in having access to secure property rights. The data shows that 25.8 percent of women in urban areas report having documented rights compared to 5.8 percent rural women who report having documentation. These results reflect the greater accessibility of documentation of land or dwelling in urban settings while customary tenure arrangements still predominate in rural areas. Customary systems provide a sense of security: 44.5 percent of rural women report perceptions of tenure security, although still lower compared to urban women (46.8 percent for urban women).
- Age and education patterns reinforce the links between these factors and secure property rights. Older women, particularly those aged 55 - 64, are more likely to have documented rights (19.6 percent) and higher tenure security (51.6 percent). Education magnifies these advantages: literate women are significantly more likely to have documented rights (13.9 percent) compared to non-literate women (8.5 percent). Women with post - senior high education reports the highest levels of documentation (49.7 percent) and secure transfer rights (77.1 percent), underscoring the critical role of education in expanding documentation and tenure security, even without documentation.
- Women who are heads of household (12.8 percent) or spouses (11.7 percent) are more likely to have property documented in their names than children/grandchildren (9.5 percent) or in-laws (1.1 percent). Analysis of individuals' relationship to the head of household further shows that parents/grandparents (72.6 percent) reported the highest transfer rights, reflecting their authority over property within family structures. Interestingly, non-relatives show no documentation (0.0 percent) but the highest transfer rights (75.2 percent), pointing to unusual cases where control over property does not stem from formal ownership, especially in customary settings.

- Women in female-headed households report slightly higher documentation (11.0 percent) compared to those in male-headed households (10.6 percent), but the latter enjoy higher levels of tenure security (45.4 percent) and transfer (58.0 percent).

The results above show that women's access to property rights remains constrained overall. However, the three sub-indicators of secure property rights reveal distinct dynamics, as documentation is rare, transfer rights are more widely perceived, and tenure security varies significantly by region, education, and household role. These results of the WENS confirm the importance of strengthening women's legal recognition through documented property rights while also addressing the cultural and structural barriers that undermine their full control over land and housing.

Box 10. Conceptual Framework

Secure property rights

Sub-indicator 1: Documented property rights

The individual is unconstrained if they have their name listed on a document that states their lawful use or ownership for at least one land parcel or dwelling.

Sub-indicator 2: Secure tenure rights

The individual is unconstrained if they report that they are not at all likely to involuntarily lose ownership or use rights to at least one land parcel or dwelling.

Sub-indicator 3: Secure transfer rights

The individual is unconstrained if they report that they are able to sell or bequeath at least one land parcel or dwelling.

The below set of questions were used to compute each of the above indicators.

H01. Do you own or have the right to use *any agricultural parcels of land*, either alone or jointly with someone else? (agricultural land includes also backyard gardens)
H02. Do you have the right, either alone or jointly with someone else, to sell *any agricultural parcels of land?*
H03. Do you have the right, either alone or jointly with someone else, to give any agricultural parcels of land, by oral or written will, to other persons after your death?
H04. Is there a document for any agricultural parcels that is issued by or registered at the Land Registry/ Cadastral Agency, such as a purchase certificate or a lease or rental contract?
H05. Is your name listed on any of these documents as an owner or rights holder, either alone or jointly with someone else?
H06. How likely are you to involuntarily lose ownership or use rights to any land you own, or have the right to use in the next 5 years?
H07. Do you own or have the right to use the **dwelling** in which you live, either alone or jointly with someone else?
H08. Do you have the right, either alone or jointly with someone else, to sell the dwelling in which you live?
H09. Do you have the right, either alone or jointly with someone else, to give your dwelling, by oral or written will, to other persons after your death?
H10. Is there a document for the dwelling in which you live that is issued by or registered at a government agency, such as a purchase certificate, a site plan, a building permit or a lease/rental contract?
H11. Is your name listed on any of these documents as an owner or rights holder, either alone or jointly with someone else?
H12. How likely are you to involuntarily lose ownership to the dwelling in which you live, in the next 5 years?

3.5 Empowerment

Empowerment is a multidimensional process that reflects the degree to which women and men can understand their rights, make choices, and access the resources necessary to act on those choices. In the WEN framework, empowerment is not viewed as a single characteristic but as the combined outcome of several interrelated dimensions explored in earlier sections - claiming rights, ability to choose, engaging in communities, and access to resources. These dimensions provide a holistic view of how individuals navigate their personal, household, and community environments.

To capture this complexity in a way that allows for comparison across groups, the WEMNS methodology aggregates the individual indicators into a composite measure of empowerment. These metrics are designed not only to highlight the average levels of empowerment achieved, but also to expose the proportion of individuals who remain disempowered and the extent of their disadvantage. In doing so, they provide a comprehensive picture of empowerment outcomes that moves beyond descriptive indicators to a synthesized framework for monitoring progress.

The subsections that follow present three core measures: The Women's Empowerment Metric for National Statistical System Score (WEMNS Score), which summarizes overall empowerment achievement; the Disempowerment Headcount Ratio, which reflects the prevalence of disempowerment; and the Mean Disempowerment Score among the Disempowered, which reveals the intensity of deprivation among those left behind. Together, these indicators offer both a broad overview and a nuanced understanding of empowerment, setting the stage for interpreting how empowerment is distributed across Liberia's agricultural households.

3.5.1 Women's Empowerment Metric for National Statistical System Score (WEMNS Score)

The WEMNS Score provides a comprehensive measure of empowerment, combining all the dimensions examined in previous section together into a single index. The score is constructed as an index ranging from 0 to 1, where 0 represents no empowerment and 1 represents full empowerment. This cumulative metric sets the stage for interpreting overall empowerment levels. The figures and tables that follow illustrate how WEMNS scores vary across different populations, highlighting areas where empowerment is strongest and where it remains limited. It provides a concise summary of empowerment that enables comparison across groups, while remaining grounded in the detailed findings of the previous sections.

The WENS data reveals that overall empowerment remains limited in Liberia's agricultural households. On average, women achieved a score of 0.47, compared to 0.59 for men. This gap indicates that women lag behind men across multiple empowerment dimensions, confirming patterns observed earlier in the report where women consistently reported to be more constrained than men. Regionally, women's empowerment is highest in the North Western (0.46) and North Central (0.47) regions, but falls sharply in South Central (0.41) and South Eastern A (0.44), showing that cultural and structural barriers remain strongest in southern Liberia. Men outperform women in every region, with the widest differences in South Central, suggesting that women there are particularly disadvantaged. These results highlight that empowerment deficits are not only gendered but also geographically uneven, shaped by local norms and access to services.

3.5.2 Disempowerment Headcount Ratio

The Disempowerment Headcount Ratio indicates the prevalence of disempowerment within the population, essentially the share of individuals who do not meet the minimum empowerment criteria. An individual is classified as disempowered if they are constrained in more than 30% of the indicators that make up empowerment. By looking at the headcount ratio, we clearly see and understand how widespread these empowerment gaps are. A higher headcount ratio therefore means that a larger share of the population falls below this empowerment threshold, reflecting the cumulative effect of shortfalls across awareness, agency, and resources (Sections a, b, and d). In the results, the disempowerment headcount ratio is presented alongside the WEMNS Score to show what percentage of women and men remain disempowered. Together, these measures provide a fuller picture: while the empowerment score summarizes average levels of empowerment, the

headcount ratio reveals how many people are still being left behind.

The Disempowerment Headcount Ratio for Liberia shows that 93.4% of women in agricultural households are classified as disempowered, compared to 77.5% of men. In practice, this means that nearly all women face shortfalls in one or more dimensions of empowerment. Regional patterns reveal even sharper disparities: in South Central, 98.6% of women are disempowered versus 84.2% of men, while in South Eastern B the rate for women remains above 90%. The headcount ratio underscores how widespread empowerment gaps remain, pointing to the urgent need to strengthen women's empowerment in Liberia's agriculture sector.

3.5.3 Mean Disempowerment Score among Disempowered

While the headcount ratio shows how many individuals are disempowered, the Mean Disempowerment Score among the disempowered captures the severity of their deprivation. This metric focuses only on the disempowered subgroup and calculates the average share of empowerment indicators in which they face constraints. In other words, it reflects how far below the empowerment threshold they are. A lower value suggests that many individuals are just above the cutoff - constrained in slightly more than 30% of indicators - whereas a higher value indicates much deeper deficits, up to being constrained across all empowerment dimensions.

In agricultural households, disempowered women and men are deprive of over half of empowerment dimensions. On average, disempowered women are deprived in 56.6% of empowerment dimensions, compared to 52.5% for men. In some regions, such as South Central (59.4%) and South Eastern A (57.1%), women's scores indicate deeper levels of disempowerment, meaning they are lacking in more than half of the dimensions simultaneously. Even in regions where women's overall empowerment scores are somewhat higher, like North Central, the disempowered subgroup still faces severe deficits, averaging nearly 55% of dimensions unmet. for many women, challenges are cumulative rather than isolated. Limited awareness, weak decision-making power, and scarce resources combine to disadvantage them across multiple fronts. Addressing this requires not only reducing the number of disempowered women but also tackling the depth of their disadvantages, to ensure that empowerment gains are both comprehensive and sustainable.

4 WOMEN'S DIETARY DIVERSITY

Women's dietary diversity is a crucial indicator of nutritional well-being, especially for those of reproductive age. Diets that include a wider range of food groups are more likely to provide essential micronutrients and promote better health outcomes for women and their families. One commonly used metric is the Minimum Dietary Diversity for Women (MDD-W), defined as consumption of at least five out of ten predefined food groups in the previous 24 hours. Meeting this minimum diversity threshold is associated with higher likelihood of meeting micronutrient adequacy in the diet, making MDD-W a valuable proxy for diet quality in resource-constrained settings. In contexts like Liberia where women's diets often rely heavily on starchy staples with limited animal-source foods or fresh produce, achieving adequate dietary diversity is vital to combat micronutrient deficiencies and improve maternal nutrition. Indeed, research in sub-Saharan Africa has shown that when women are more empowered - through greater decision-making power and control of resources - their households enjoy better food security and nutrition outcomes. This underscores the significance of both women's empowerment and dietary diversity as intertwined factors influencing women's nutrition.

4.1 Women consuming at least 5 food groups (achieving MDD-W) and average number of food groups consumed (FGDS score)

This section presents two important measures of women nutrition;

1) the proportion of women aged 18 to 64, living in agricultural households (with a special focus on women aged 18-49), who consumed at least five out of the ten predefined food groups in the last 24 hours

(also called the Minimum Dietary Diversity for Women (MDD-W)) and

2) the number of food groups consumed in the last 24 hours (measured by the Food Group Diversity Score (FGDS)).

The detail results of this section are presented in the annex section.

The analysis shows that dietary diversity among Liberian women aged 18 - 64 living in agricultural households is moderate, with 54% consuming at least five food groups and an average FGDS score of 6 out of 10. Women aged 18 - 49 show slightly better outcomes, with 56.1% of them achieving the MDD-W threshold and a slightly higher FGDS score of 6.3. Between age groups, younger women (18 - 29) demonstrate the highest proportion achieving dietary diversity with 61.8% meeting the threshold and a FGDS of 6.4. MDD-W among agricultural women steadily declines with age, reaching its lowest among women aged 50 - 64, where only 46.5% meet the threshold and the FGDS score drops to 6. At the regional level, the data highlights significant variations in dietary diversity among women in Liberia. Northwestern and South Eastern B regions stand out with the highest proportions of agricultural women achieving MDD-W, with rates of 74.3% and 68.7%, respectively, suggesting better likelihood of nutrient adequacy in their diets. In contrast, South Central and South Eastern A report the lowest proportions of women achieving dietary diversity, with rates of 36.9% and 45.1% respectively. South Eastern A also records the lowest FGDS score of 5.9. Montserrado, despite being a key urban center, shows surprisingly low diversity among women in agricultural households at 49.1%.
In general, women in urban areas had a more diverse diet, with 61.7% of them meeting the Minimum Dietary Diversity for Women (MDD-W) threshold and an FGDS score of 6.3, compared to rural areas where only 51.7% of women meet the threshold.

Finally, the data point to an association between education and dietary diversity among women in Liberia. Women with no formal education show the lowest proportion achieving minimum dietary diversity, with only 47.9% meeting the MDD-W threshold and an FGDS score of 6. In contrast, those with junior-level education exhibit the highest diversity, with 71.1% meeting the threshold and a score of 6.6, followed closely by those with upper-level education at 64.1% and a score of 6.4. Similarly, literacy status plays a significant role: literate women have a notably higher MDD-W rate of 61% and FGDS score of 6.4, compared to 49.4% and 6.1 among non-literate women. These findings suggest that education and literacy are key drivers of improved nutritional outcomes, likely due to increased awareness of and access to information regarding nutrition and health, and better decision-making regarding food choices.

4.2 Level of consumption of different food groups

The consumption of diverse food groups plays a critical role in ensuring adequate nutrition, diversity and healthy diet. This section focuses on the consumption patterns of the 10 predefined food groups recorded as part of the Minimum Dietary Diversity for Women (MDD-W) framework.

4.2.1 Consumption of Grains, white roots and tubers, and plantains

Grains, white roots and tubers, and plantains represent a widely consumed component of the daily diet. This group is essential in providing energy and is the base of many diets globally. Foods in this group such as maize, rice, wheat, cassava, yams, potatoes, and plantains are primarily rich in carbohydrates, which are the body's main source of energy. Foods in this group, especially rice and cassava (which are two staple foods in Liberia) constitute the daily diet of most Liberian households.
The data confirm this trend, showing that 94 percent of women interviewed had cereals in the previous 24 hours of the interviews.

- ☑ By region, the highest rate of consumption is observed in North Central (97.4%) and South Eastern B (97.2%), while Montserrado (84.4%) reports the lowest. Age-wise, women aged 40 - 49 have the highest intake (97.2%), while those aged 50 - 64 have the lowest (91.2%).
- ☑ A clear rural-urban gap exists, with rural women (97.1%) consuming more than urban women (84.6%).

- ☑ Education level shows an inverse trend, where women with no education (94.3%) or lower education (97.4%) report higher proportion that consumed grains, white roots, and tubers and plantains than those with upper-level education (79.3%).
- ☑ Literacy shows minimal variation, with more non-literate women (94.5%) consuming this group slightly more than literate women (93.3%)

4.2.2 Consumption of pulses (beans, peas and lentils)

Pulses such as beans, peas, and lentils are a vital component of a nutritious diet, offering a rich source of plant-based protein, dietary fiber, and essential micronutrients like iron and folate. Widely consumed across cultures, they play a key role in promoting food security and sustainable agriculture due to their affordability, long shelf life, and soil-enriching properties.

The data shows relatively low overall proportion of women consuming pulses (beans, peas, and lentils) among women, with a national average of 16.8%.

- ☑ Regionally, North Western region (25.3%) and Montserrado (23.1%) report the highest consumption. South Eastern A (6.7%) and South Central (8.8%) show the lowest. The high consumption rate of pulses in these two regions might be link to their proximity to markets in Monrovia, where beans and peas are readily available throughout the year.
- ☑ Consumption is high among younger women (18 - 29), who report the highest intake at 20.2%. Consumption decreases slightly with age, reaching 14.1% among women aged 50 - 64.
- ☑ Urban women (21.7%) consume more pulses than rural women (15.2%).

- ☑ In terms of education, women with higher education level have the highest consumption rate at 26.7%, compared to just 14.8% among those with no education. Similarly, literate women (18.5%) consume slightly more pulses than non-literate women.

4.2.3 Consumption of nuts and seeds

Nuts and seeds are nutrient-dense foods that offer a powerful combination of healthy fats, protein, fiber, and essential vitamins and minerals such as vitamin E, magnesium, and zinc.

The data reveals that overall consumption of nuts and seeds among women aged 18 - 64 in Liberia stands at 30.4%.

- ☑ Regionally, most women consumed nuts and seeds in the North Western region (45.1%) and North Central (35.9%), while Montserrado (15.2%) and South Eastern B (16.2%) report notably lower uptake.
- ☑ Looking at age groups, younger women (18 - 29) exhibit higher likelihood of consumption (33.6%), which gradually declines to 23.9% among those aged 50 - 64.
- ☑ Urban women consume slightly more nuts and seeds more frequently (33.4%) than rural women (29.4%).
- ☑ Education level appears to correlate positively: women with junior education show the highest rate of consumption at 41.1%, followed by those with upper-level education at 38.9%, whereas women with no formal education report just 25%.
- ☑ Lastly, literate women have a higher consumption rate (35.1%).

4.2.4 Consumption of milk and milk products

Milk and milk products are among the most nutritionally dense foods available, offering a powerful combination of essential nutrients that support overall health and development. Rich in high-quality protein, calcium, vitamin D, vitamin B12, and phosphorus, these foods play a role in maintaining strong bones and teeth, supporting muscle function, and promoting metabolic health. This section highlights the behavior of consumption pattern among women in Liberia.

The data reveals significant disparities in milk and milk product consumption among Liberian women

aged 18 - 64, by region, age, residence, education, and literacy.

- ☑ Urban women (31.9%) consume far more dairy than rural women (9.1%),
- ☑ Those with higher education (Upper: 39.9%) or junior-level schooling (33.4%) show markedly higher intake compared to women with no education (8%).
- ☑ Literacy also plays a key role, with literate women (24.2%) consuming nearly three times more dairy than illiterate women (8.2%).
- ☑ Regionally, Montserrado leads with 24.1%, while South Eastern A lags at just 7.4%.
- ☑ Younger women (18 - 29) have the highest consumption at 20.8%, which declines steadily with age. These patterns suggest that region education, and socioeconomic factors play a role in dairy consumption.

4.2.5 Consumption of meat, poultry & fish

Meat, poultry, and fish in the diet help to combat micronutrient deficiencies, supports immune function, and can improve dietary adequacy through availability of essential nutrients, making them valuable components of a balanced and diverse nutritional profile.

This section presents data on the percentage of women in agricultural households in Liberia (aged 18 - 64) who consumed meat, poultry, and fish, broken down by demographics. Nationally, 88.9% of those aged 18 - 64 consume these foods, with a slightly higher rate (89.5%) among the 18 -49 age group.

- ☑ Regionally, South Central shows the highest consumption (98.6%), while South Eastern A reports the lowest (76.3%).
- ☑ Younger age groups (18-29 and 30 - 39) are more likely to consume flesh food than older ones, with 18 - 29 at 90.6% and a drop to 86.8% in the 40 - 49 group.
- ☑ Urban women have a higher consumption rate (92.1%) compared to rural women (87.9%).
- ☑ Education level shows that those with upper-level education (senior/vocational/tertiary) have the highest rate of meat, poultry and fish consumption (96.4%).
- ☑ Similarly, literate individuals (91.2%) consume more meat, poultry, and fish than illiterate ones.

4.2.6 Consumption of Eggs

In Liberia, the consumption of eggs varies significantly across different regions and demographic groups, reflecting disparities in access, affordability, dietary preferences, and nutritional awareness. Understanding these patterns is crucial for informing public health strategies, food security policies, and nutrition education programs aimed at improving dietary diversity and nutritional outcomes for women, especially those in the agricultural household groups.

The data on egg consumption among Liberian women aged 18 - 64 reveals clear disparities by region, age, education, residence, and literacy.

- ☑ Women in South Central (19.8%) and North Western (19.4%) regions show the highest prevalence of eggs consumption, while Montserrado (7.4%) and South Eastern A (7.3%) stand behind.
- ☑ More younger women (18 - 29 and 30 - 39) consume eggs (13.7%) than older age groups, with a notable drop among those aged 40 - 49 (6.9%).
- ☑ Significantly more urban residents (17.9%) consumed eggs than rural women (9.4%), and education appears to be a strong determinant; those with upper-level education consume eggs at more than triple the rate (24.7%) of women with no education (8.1%).
- ☑ Literate women are nearly twice as likely to consume eggs as (15.8%) as their non-literate counterparts (8.6%).

4.2.7 Consumption of dark green leafy vegetables

Regular consumption of dark green leafy vegetables contributes to dietary adequacy through high levels of Vitamin A, Vitamin C and folate, the latter of which is especially important during reproductive years and beyond, as it contributes to improved maternal health, bone strength, and overall dietary adequacy.

This section examines the patterns and prevalence of dark green leafy vegetable intake among Liberian women, highlighting key demographic factors that influence access and consumption.

Overall, 56.4% of women aged 18-64 consumed dark green leafy, with a slightly higher prevalence among younger women aged 18 - 49 (57.9%).

- ☑ Regional differences are pronounced: South Eastern B shows the highest consumption (67.6%), while South Eastern A and Montserrado lag behind (45.6% and 46.9%, respectively).
- ☑ Significantly more urban women (60.4%) and those with junior-level education (75.5%) consumed dark green leafy vegetables compared to their rural (55.1%) and non-educated (54.6%) counterparts.
- ☑ Literacy also correlates with a slightly increased likelihood of consumption, as literate women report a 57.9% prevalence versus 55.4% among non-literate women. These trends suggest that education, urban residence, and regional access may play critical roles in dietary diversity and nutritional adequacy among women in Liberia.

4.2.8 Consumption of other vitamin A-rich fruits and vegetables

Vitamin A-rich fruits and vegetables are vibrant sources of beta-carotene, which the body converts into vitamin A to support vision, immunity, and skin health. Beyond the well-known carrots and sweet potatoes, this food group considers leafy greens like collard greens, as well as foods like pumpkin and red bell peppers. On the fruit side, mangoes, papayas and grapefruit offer a sweet way to boost food intake.

The data reveals notable variation in the consumption of other vitamin A-rich fruits and vegetables across demographic and regional groups in Liberia. Nationally, women aged 18 - 49 show slightly higher intake (72.3%) than the broader 18 - 64 age group (71.2%). At the Regional level, South Eastern B accounted for (89.3%) and Montserrado (88.3%) lead in consumption, while South Central lags significantly at just 31.6%.

- ☑ Younger women (18 - 29) report the highest intake (74.8%), with a gradual decline in older age brackets.
- ☑ Rural women (71.8%) slightly outpace urban women (69.5%),
- ☑ Education appears to influence other vitamin A-rich fruit and vegetable consumption - women with lower primary education (77.9%) consume more vitamin A-rich produce than those with no education (66.8%).
- ☑ Literacy also plays a role, with literate women (75.4%) showing higher consumption than non-literate ones (68.3%).

4.3 Consumption of red palm oil

Red palm oil is a culturally significant cooking ingredient in Liberia and an important dietary source of provitamin A carotenoids. In food systems such as those of Liberia, where seasonal availability and market access can constrain fruit and vegetable intake, red palm oil often contributes to micronutrient adequacy - particularly vitamin A - Because it is consumed across regions and socio-economic groups, red palm oil provides a practical lens to examine how tradition, affordability, and food environments shape everyday diets. This section presents the prevalence of red palm oil consumption among women in agricultural households, disaggregated by region, age, residence, education, and literacy.

To contextualize interpretation, we show national and subgroup estimates for all women interviewed (18 - 64) and then those in reproductive age (18 - 49) (Table 7). We then stratify the same indicator by dietary diversity status - women who met the MDD-W threshold (Table 8) and those who did not (Table 9) - to examine whether red palm oil functions as a complement to diverse diets or as a compensatory source of micronutrients when overall diversity is lower. These results combine help clarify how widespread use intersects with socio-demographic factors and dietary quality.

As expected, red palm oil consumption is highly prevalent in Liberia. Survey results indicate that 77.9% of women aged 18 - 64 consumed red palm oil in the 24 hours prior to the interview, with comparable levels among women of reproductive age (18 - 49 years). This positions red palm oil as one of the most consistently consumed foods nationwide, underscoring its central role in Liberian diets. Regional patterns, however, reveal variation: consumption ranges from 43.4% of women in South Eastern A to 98.3% in the South-Central region.

More women in rural areas (78.7%) consumed red palm oil than their urban counterparts (75.5%), Consumption prevalence remains above 77% across age groups, showing no significant differential. Literate women (79.4%) consume slightly more red palm oil compare to illiterate women (76.8%).

The results also show that red palm oil is consumed by women regardless of whether they meet the MDD-W threshold. Among women achieving minimum dietary diversity, 80.9% reported consuming red palm oil, compared with 74.4% among those who did not. This suggests that palm oil functions as a staple complement rather than a driver of dietary diversity - remaining accessible even to households with otherwise limited food variety.

Table 5: Red Palm Oil consumption prevalence among women by nutritional status and socio-demographic characteristics

Socio-demographic characteristics		All women	Women who met MDD-W threshold	Women who did not meet MDD-W threshold
Country	Liberia (18-64)	77.9	80.9	74.4
	Liberia (18-49)	78.0	80.6	74.6
Regions	Montserrado	66.9	51.9	81.5
	North western	78.5	81.2	70.9
	South central	98.3	100.0	97.2
	South Eastern A	43.4	62.4	27.7
	South Eastern B	61.1	65.1	52.4
	North central	81.8	87.5	74.9
Age	18-29	78.1	81.8	72.1
	30-39	78.9	79.5	78.2
	40-49	76.6	79.6	73.5
	50-64	77.6	82.0	73.7
Residence	Urban	75.5	71.2	82.3
	Rural	78.7	84.6	72.3
Education Level	None	78.3	83.3	73.8
	Lower *	76.6	80.9	70.5
	Junior	85.5	85.6	85.3
	Upper**	71.9	64.3	85.4
Literacy	Yes	79.4	80.5	77.6
	No	76.8	81.2	72.6

**Lower level of education consists of pre-school, nursery and elementary.*
***Upper level of education consists of senior high, vocational and tertiary levels of education.*

4.4 Consumption of other food groups

While dietary diversity emphasizes inclusion of nutrient-dense food groups, monitoring the intake of other foods, such as savory snacks, sweet foods, and sugar-sweetened beverages (SSBs), is equally important for policy and program design. Frequent consumption of these energy-dense/nutrient-poor items can displace healthier foods, raise added sugar, sodium, and saturated fat intake, and elevate the risk of diet-related noncommunicable diseases. Understanding who consumes these products, and in what contexts, provides actionable insight for nutrition education, food environment interventions, and fiscal or regulatory actions.

This section presents the prevalence of these specific foods disaggregated by key socio-demographic characteristics. The section first reports national and subgroup estimates for all women (18 - 64) and women 18 - 49 (Table 10). To explore how "unhealthy" intake coexists with overall diet quality, the section then shows the same indicators among women who met the MDD-W threshold (Table 11) and among those who did not meet it (Table 12). Reading these tables together enables stakeholders to distinguish patterns of occasional, diversity-compatible consumption from patterns that may signal higher exposure and potential crowd-out of nutrient-dense foods.

At the national level, about one in four women (25.2%) reported eating savoury snacks, nearly one in three (30.7%) consumed sweet foods, and close to two in five (38.9%) consumed sugar-sweetened beverages (SSBs). The higher prevalence of SSB consumption highlights the increasing penetration of sugary drinks into women's diets. Regional variations are pronounced, with South Central and Montserrado standing out with very high SSB intake (69.3% and 56.7%, respectively), while South Eastern A reports the lowest prevalence (17.1%). Urban women consume substantially more unhealthy foods (41.1% savoury snacks; 53.8% SSBs) than their rural counterparts. Age and education also shape patterns: younger women (18 - 29 years) and women with higher education levels are more likely to consume these foods, while older women and those with no schooling show markedly lower prevalence. Literate women also consistently report higher intake than non-literate women. These findings suggest greater consumption of unhealthy food group is correlated with urban residence, higher education levels, and youth.

The results among women who achieved minimum dietary diversity (MDD-W) reveal that dietary diversity and unhealthy food groups consumption often coexist. Among women who achieved MDD-W, one-third (33%) also consumed savoury snacks, 44.4% ate sweet foods, and nearly half (46.5%) consumed SSBs. Unhealthy food consumption was lower among women who failed to meet the MDD-W threshold. Nationally, 15.9% consumed savoury snacks, 14.5% consumed sweet foods, and 30% consumed SSBs. These findings highlight that even women with adequate dietary diversity may be simultaneously at risk of diet-related noncommunicable diseases, reflecting a double dietary burden in which higher dietary diversity does not automatically equate to better diet quality.

Table 6: Unhealthy food group consumption prevalence among women aged 18-64 by nutritional status and socio-demographic characteristics (in %)

Socio-demographic characteristics	All women	Women who met MDD-W threshold	Women who did not meet MDD-W threshold

		Savoury snacks	Sweet foods	Sugar sweetened beverages	Savoury snacks	Sweet foods	Sugar sweetened beverages	Savoury snacks	Sweet foods	Sugar sweetened beverages
Country	Liberia (18-64)	25.2	30.7	38.9	33	44.4	46.5	15.9	14.5	30
	Liberia (18-49)	26	30.5	40.1	32.4	43.6	47.1	17.8	13.7	31.2
Regions	Montserrado	26	32.5	56.7	36.5	41.3	65.7	16	24	48.1
	North western	25	34.6	41.7	29.9	44.3	48.7	10.6	6.7	21.6
	South central	28.8	21.8	69.3	34.3	39.4	64.6	25.6	11.6	72
	South Eastern A	23.8	27.2	17.1	40.3	52.1	34.8	10.3	6.8	2.5
	South Eastern B	20.2	41.6	25.8	21	45.5	36.2	18.5	33.1	2.9
	North central	24.9	30.9	31.5	34	44.9	41.9	14	14.1	18.9
Age	18-29	31	34	43.4	35.9	47.4	52.3	23.2	12.3	29
	30-39	24.8	26.1	40.1	30.8	38.3	43.3	18.1	12.2	36.4
	40-49	19.3	30.1	34.7	27.7	42.9	41.5	10.7	17.1	27.8
	50-64	21.9	31.5	34.4	35.8	48.1	43.7	9.9	17.1	26.3
Residence	Urban	41.1	37.9	53.8	48	49.5	60.9	29.8	19.3	42.4
	Rural	20	28.3	34.1	27.1	42.4	40.9	12.3	13.2	26.8
Education Level	None	19.4	27.3	31.7	28.1	41.5	36	11.4	14.2	27.8
	Lower*	26.1	32.5	38.9	34.1	47.8	49.4	14.9	11.3	24.4
	Junior	38	39.1	58.2	46.5	46.4	63.5	17.2	21.2	45.1
	Upper**	45.9	38	65.3	38.1	46.3	68.9	59.8	23.3	58.8
Literacy	Yes	32.5	36.1	48.1	37.6	48.7	56	24.5	16.2	35.7
	No	20.1	26.9	32.6	29.1	40.7	38.3	11.3	13.5	26.9

**Lower level of education consists of pre-school, nursery and elementary.*
***Upper level of education consists of senior high, vocational and tertiary levels of education.*

4.5 Consumption of insects and other small protein foods

Dietary diversity in Liberia does not only depend on conventional food groups such as cereals, fruits, vegetables, dairy, and meat; it also includes traditional protein-rich foods that are locally available and culturally significant. Among these are insects, small fish, and other small protein sources that could contribute meaningfully to women's micronutrient intake, especially in rural and resource-constrained settings. These foods are often high in protein, iron, and essential fatty acids, making them a valuable complement to household diets. Understanding their prevalence within women's diets provides insight into how local and traditional foods support food security and nutrition. In this section, the WEN module examines the proportion of women consuming insects and other small protein foods, disaggregated by socio-demographic characteristics, and explores whether these foods remain an important dietary source across regions, age groups, education levels, and between rural and urban households.

The results, presented in Table 13, shows that overall, 6.3% of women aged 18 - 64 consumed insects or other small protein foods, with a slightly higher prevalence (6.5%) among women of reproductive age (18 - 49). Consumption is highest in South Eastern B (21.6%) and North Central (8.0%), but nearly absent in Montserrado (0%) and South Central (1.1%). This reflects both cultural dietary preferences and availability of such foods across Liberia.

Analysis by age reveal that younger women (18 - 29 years, 7.2%) are somewhat more likely to consume these foods compared to older groups (5.5% among ages 50 - 64). Urban women show markedly lower

consumption (3.3%) compared to rural women (7.3%), reinforcing the role of traditional food habits in rural settings. Regarding education, women with upper-level education (senior/vocational/tertiary) show almost no intake (0.7%), compared to 6 - 7% among women with no or junior schooling. Literacy status, however, shows minimal differences (6.3% vs. 6.2%).

Table 9 further highlights that among women meeting the Minimum Dietary Diversity for Women (MDD-W) threshold, the prevalence of insect/small protein consumption increases to 8.8% (8.9% for ages 18 - 49). This suggests that these foods are often consumed alongside more diverse diets rather than as substitutes. Again, South Eastern B records the highest share (21%), while Montserrado and South-Central report negligible consumption. Rural women (10.1%) remain more reliant on these protein sources than urban women (5.2%). Education patterns mirror Table 13: women with higher education levels consume them the least (1.1%).

Table 7: Percentage of women that consumed Insects and other small protein foods by nutritional status and socio-demographic characteristics.

Socio-demographic characteristics		All women	Women who met MDD-W threshold	Women who did not meet MDD-W threshold
Country	Liberia (18-64)	6.3	8.8	3.3
	Liberia (18-49)	6.5	8.9	3.4
Regions	Montserrado	0.0	0.0	0.0
	North western	3.2	4.3	0.0
	South central	1.1	0.8	1.2
	South Eastern A	5.5	8.4	3.2
	South Eastern B	21.6	21.0	22.7
	North central	8.0	11.5	3.9
Age	18-29	7.2	10.1	2.6
	30-39	5.7	8.7	2.2
	40-49	6.3	6.7	5.8
	50-64	5.5	8.1	3.2
Residence	Urban	3.3	5.2	0.1
	Rural	7.3	10.1	4.2
Education Level	None	6.5	9.3	4.0
	Lower*	7.3	10.6	2.6
	Junior	7.3	8.9	3.5
	Upper**	0.7	1.1	0.0
Literacy	Yes	6.3	8.9	2.3
	No	6.2	8.6	3.9

**Lower level of education consists of pre-school, nursery and elementary.*
***Upper level of education consists of senior high, vocational and tertiary levels of education.*

5 RELATIONSHIPS BETWEEN EMPOWERMENT AND DIETARY DIVERSITY

The Minimum Dietary Diversity for Women (MDD-W) serves as an important indicator of micronutrient adequacy, with women meeting the threshold of at least five food groups considered more likely to have nutritionally adequate diets. By comparing empowerment domains, such as decision-making in household spending, participation in organizations, property rights, and confidence in community engagement against dietary diversity outcomes, we can identify empowerment pathways that are strongly associated with improved nutrition. This evidence not only informs policy on women's empowerment but also guides agricultural and nutrition interventions toward integrated approaches. In this section, a descriptive analysis of the relationship between empowerment and dietary diversity in Liberia is presented. The detail results, presented in the annex, show that empowerment domains are highly associated with dietary diversity.

5.1 MDD-W and empowerment domains

The relationship between women's empowerment and dietary diversity in Liberia mirrors global patterns observed across other countries. Empowered women are generally better positioned to make decisions about food, allocate household resources effectively, and access markets, which together contribute to improved dietary outcomes.

As shown in Table 8, women who achieved minimum dietary diversity (MDD ≥ 5) had a significantly higher mean empowerment score (0.50, 95% CI: 0.49 - 0.51) compared with those who did not (0.45, 95% CI: 0.44 - 0.46). The mean difference of - 0.07 ($p < 0.001$) confirms a positive and statistically significant association between women's empowerment and dietary diversity. This indicates that empowered women are more likely to consume a diverse diet, reinforcing the critical link between agency and nutrition quality.

Table 8: Mean Empowerment Scores by MDD-W Status (Women 18-64)

	Obs	Emp. Score	95%CI		p-value
Not meeting MDD W	1,115	0.45	0.44	0.46	
Meeting MDD W	1,343	0.50	0.49	0.51	
Combined	2,458	0.47	0.47	0.48	
Difference		-0.04	-0.06	-0.03	< 0.001

To better understand which aspects of empowerment are most closely linked to women's dietary diversity, correlations were estimated between MDD-W and the specific empowerment dimensions (Table 9). The results show that the strongest associations are found within the mobilizing resources domain, particularly for access to credit (r = 0.161), use of financial services (r = 0.133), and use of ICT (r = 0.083) . These results highlight the strong association between indicators of resources for empowerment and better quality diets..

Engaging in communities domain also shows moderate correlations - especially leadership in organizations (r = 0.113) and participation in organizations (r = 0.108) - suggesting that collective action and participation in community groups play an enabling role in improving diet quality.

In contrast, the claiming rights and making choices domains show weaker or inconsistent associations. While endorsement of women's freedom in family formation (r = 0.115) and livelihood choices (r = 0.080) are positively linked with dietary diversity, the indicator on rejection of women's subjugation to sexual harassment shows a small negative correlation (r = -0.099), possibly reflecting broader contextual factors rather than direct nutrition effects.

Overall, these findings indicate that control over economic resources and collective agency are the strongest pathways linking empowerment to improved dietary outcomes in Liberia.

Table 9: Correlation between empowerment dimensions and MDD-W (Women 18-64)

	Empowerment Dimension	MDD-W
Claiming Rights	Endorsement of women's freedom in livelihood choices	0.0802
	Endorsement of women's freedom in family formation choices	0.115
	Rejection of women's subjugation to sexual harassment	-0.0992
Making Choices	Influence over time allocation	0.0156
	Influence on spending decisions	0.0013
	Influence on own health decisions	-0.0593
Engaging in communities	Participation in organizations	**0.1076**
	Leadership in organizations	**0.1131**
	Confidence in women's/men's community engagement	-0.0239
Mobilizing resources	Use of ICT	0.0831
	Use of financial services	**0.1332**
	Access to credit	**0.1607**
	Documented property rights	0.075
	Secure transfer rights	0.0254
	Secure tenure rights	0.0287

Table 10 presents the share of women consuming each food group, disaggregated by empowerment level. The data reveals that dietary diversity tends to improve slightly with higher empowerment, though patterns vary across food categories.

Consumption of staple foods such as grains, white roots, and tubers is nearly universal across all empowerment levels (above 90 percent), indicating that these foods remain a dietary constant irrespective of empowerment.

By contrast, consumption of nutrient-rich foods shows clearer gradients. Highly empowered women report greater intake of nuts and seeds (37.5%) and dark green leafy vegetables (60.0%) compared with those in the lowest empowerment group (25.8% and 54.4%, respectively). Similar positive patterns emerge for other vitamin A-rich fruits and vegetables (79.9% among the highly empowered versus 69.6% among the least empowered) and meat, poultry, and fish (93.4% vs. 87.0%).

Milk and milk products and eggs display non-linear trends. Consumption of milk rises sharply from low to medium empowerment (9.0% to 21.1%) but slightly declines among the highly empowered (15.8%). Egg consumption follows a similar pattern, increasing from 7.7% to 16.2% before falling to 11.7% in the highest group. These fluctuations may reflect differences in affordability, market access, or regional dietary preferences.

Finally, fruit consumption, both "other fruits" and "other vegetables", rises modestly with empowerment, from 31.5% to 42.2% among medium-empowered women before stabilizing at around 40%.

Taken together, the findings suggest that higher empowerment is associated with broader dietary diversity and greater access to nutrient-dense foods, particularly animal-source and vitamin-rich foods. However, the non-linear patterns for milk and eggs highlight that empowerment interacts with other factors such as income, location, and cultural norms, influencing women's actual food choices.

Table 10: Percentage of women consuming each food group, by empowerment level

	Low Empowerment	Medium Empowerment	High Empowerment
Grains, white roots and tubers, and plantains	93.6%	92.4%	97.4%
Pulses (beans, peas and lentils)	15.2%	18.9%	16.7%
Nuts and seeds	25.8%	31.9%	37.5%
Milk and milk products	9.0%	21.1%	15.8%
Meat, poultry and fish	87.0%	88.6%	93.4%
Eggs	7.7%	16.2%	11.7%
Dark green leafy vegetables	54.4%	56.8%	60.0%
Other vitamin A-rich fruits and vegetables	69.6%	68.0%	79.9%
Other vegetables	66.6%	68.2%	69.8%
Other fruits	31.5%	42.2%	40.3%

Note: *Low Empowerment value (0-0.42), Medium Empowerment (0.42-0.58), High empowerment (0.58-1)*

Table 11: Percentage of women consuming other foods, by empowerment level

	Low Empowerment	Medium Empowerment	High Empowerment
Fried and salty food	20.5%	28.1%	29.8%
Sweet Food	27.0%	31.3%	37.4%
Sweet beverages	35.8%	43.1%	38.3%

Note: *Low Empowerment value (0-0.42), Medium Empowerment (0.42-0.58), High empowerment (0.58-1)*

Table 12: Percentage of women consuming small proteins and red palm oil, by empowerment level

	Low Empowerment	Medium Empowerment	High Empowerment
Insects and small protein foods	5.71%	6.08%	7.80%
Red palm oil	79.05%	76.46%	77.91%

Note: *Low Empowerment value (0-0.42), Medium Empowerment (0.42-0.58), High empowerment (0.58-1)*

Table 11 presents the consumption of other foods, fried and salty foods, sweet foods, and sweet beverages, by empowerment level. Unlike staple or nutrient-rich foods, these items reflect greater exposure to processed and convenience foods, often linked to urbanization and market access.

Consumption of fried and salty foods rises steadily with empowerment, from 20.5 percent among women with low empowerment to nearly 30 percent among those with high empowerment. A similar upward pattern is observed for sweet foods, increasing from 27.0 percent to 37.4 percent across empowerment groups.

Interestingly, sweet beverage consumption peaks among women with medium empowerment (43.1 percent) before slightly declining among the highly empowered (38.3 percent), suggesting possible moderation in consumption among women with stronger agency or higher nutrition awareness.

Overall, these findings suggest that empowerment can facilitate greater access to both nutritious and processed foods. As women become more economically active and connected to markets, they gain the means to purchase a wider range of products - both beneficial and less healthy. This underscores the importance of pairing empowerment initiatives with nutrition education to guide healthier dietary choices.

Table 12 presents the consumption of indigenous and culturally significant foods - specifically insects, small protein foods, and red palm oil - by empowerment level.

Consumption of insects and small protein foods shows a modest but steady increase with empowerment,

rising from 5.7 percent among women with low empowerment to 7.8 percent among highly empowered women. This suggests that empowerment may slightly enhance women's ability to access or choose these protein sources, though overall consumption remains low.

By contrast, red palm oil is widely consumed across all empowerment levels, with little variation, ranging between 76 and 79 percent. Its widespread use reflects its deep cultural and culinary significance in Liberia, where it remains a staple ingredient regardless of empowerment status.

These findings indicate that empowerment has limited influence on the consumption of traditional foods, which are more closely tied to geographical availability, cultural preferences, and food traditions than to women's decision-making power or market access.

Women's empowerment in Liberia is positively associated with improved dietary diversity, particularly through greater access to financial resources, credit, and collective participation. Empowered women are more likely to consume nutrient-rich foods such as meat, fish, nuts, and vitamin A - rich vegetables, underscoring the importance of agency and economic inclusion for better nutrition. However, empowerment also increases exposure to processed foods and sweetened products, reflecting the dual nature of market access. Traditional foods like red palm oil remain largely unaffected by empowerment, driven instead by culture and geography. These findings highlight that strengthening women's access to resources and decision-making must go hand in hand with nutrition awareness and food environment interventions to ensure empowerment translates into healthier diets.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The Women's Empowerment and Nutrition (WEN) module of the Liberia Agriculture Production Survey provides critical insights into how gender dynamics can shape food security and nutrition among agricultural households. While Liberia has made progress in expanding women's empowerment and access to resources, substantial disparities persist - directly influencing dietary outcomes and household wellbeing.

Empowerment gaps remain a barrier

Liberian women in agricultural households continue to experience limited influence in critical household decisions. Less than half reported having a say in spending and health decisions, compared to much higher shares of men. Participation in organizations - one of the main avenues for collective action is similarly high for both gender but taking on leadership role is lower for women compare to men Access to and control over land and property, a fundamental resource for agricultural livelihoods, is still largely skewed toward men. These findings underscore how entrenched gender norms and structural inequalities limit women's autonomy and ability to influence household welfare.

Dietary diversity is insufficient despite reliance on staples

The survey highlights that most women's diets are still heavily based on staples such as rice, cassava, and plantains, consumed by over 90% of respondents. While these foods ensure caloric sufficiency, they provide limited micronutrients. Consumption of nutrient-rich foods - pulses (16%), dairy (12%), and eggs (11%), remains worryingly low. Even fruits and vegetables, which are locally available in many parts of Liberia, were consumed by fewer than 40% of women. Although 54% meet the MDD-W threshold, nearly one in two still fail to achieve adequate dietary diversity - reflecting persistent economic barriers, limited market access, and weak nutrition-sensitive food systems.

Empowerment improves dietary outcomes, but risks persist

Women's empowerment is associated with dietary diversity and nutrition in Liberia. Empowered women - those with access to productive assets, credit, financial services, and leadership opportunities - are significantly more likely to achieve minimum dietary diversity. For example, 71 percent of women with documented property rights met the MDD-W threshold compared to only 52 percent of those without. Similar advantages are observed for women

with access to financial services (63 percent versus 44 percent) and participation in organizations (56 percent versus 43 percent). These patterns align with the correlation analysis, which highlights access to credit (r = 0.161), use of financial services (r = 0.133), and leadership in organizations (r = 0.113) as having the strongest associations with diverse diets.

Empowerment enables women to make strategic choices about food, allocate household resources more effectively, and engage with markets to secure a wider range of foods. As a result, empowered women tend to include more nutrient-rich foods - such as meat, fish, nuts, and vitamin A - rich vegetables - in their diets, directly contributing to improved household nutrition. Yet empowerment is also associated with some characteristics of unhealthy diet., and more empowered women consume more processed and energy-dense foods, particularly sugary beverages and snacks. This shift mirrors Liberia's ongoing nutrition transition, where rising income and urbanization are reshaping food environments and increasing the availability of ultra-processed products.

Therefore, while empowerment strengthens women's capacity to make and act on food-related decisions, it must be accompanied by strong nutrition education, food environment interventions, and promotion of locally available, healthy foods. Without such measures, the benefits of empowerment may be undermined by the unintended rise of unhealthy dietary patterns, contributing to a "double burden" of malnutrition - nutrient deficiencies alongside growing diet-related diseases. Ensuring that empowerment translates into healthy and sustainable diets requires an integrated approach that aligns gender equality, food systems, and nutrition-sensitive policy action.

Implications for Liberia's development agenda

The results of the WEN module carry important implications for Liberia's efforts to achieve its National Food and Nutrition Security Policy, the Arrest Agenda for Inclusive Development (AAID), and international commitments such as the Sustainable Development Goals (SDGs). Without closing gender gaps in empowerment and resource ownership, progress in nutrition and food security will remain limited. Furthermore, Liberia must address the rising consumption of unhealthy foods, which, if left unchecked, could exacerbate the burden of non-communicable diseases and strain the country's health system.

In conclusion, the WEN survey confirms that empowering women in Liberia is both a matter of equity and a pathway to improved nutrition and food security. However, empowerment must be coupled with supportive food systems, nutrition-sensitive agriculture, and education to ensure that women's increased agency translates into healthier diets and better outcomes for households and communities. Only then can Liberia harness the full potential of women's empowerment to drive sustainable development.

6.2 Recommendations

Based on the findings of the WEN module, the following policy and programmatic recommendations, aimed at strengthening women's empowerment and improving nutritional outcomes are proposed to government, development partners, and civil society:

- Strengthen women's access to resources: Expand access to financial services, credit, and documented property rights, which strongly correlate with improved dietary diversity.

- Promote women's participation in organization and leadership: Support women's involvement in organizations and leadership positions to enhance collective empowerment and nutrition outcomes.

- Integrate empowerment with nutrition education: Pair empowerment programs with targeted campaigns promoting healthy diets to reduce rising consumption of unhealthy foods.

- Improve food system availability: Increase production and affordability of nutrient-rich foods such as pulses, dairy, eggs, and fruits to close dietary gaps.

- Address cultural and household decision-making barriers: Design interventions that foster equitable influence for women in health and spending decisions.

- Harness social norms change: Promote attitudes supporting women's freedom in livelihood and family formation to complement structural empowerment.

- Monitor nutrition transition risks: Track both healthy and unhealthy food consumption to ensure empowerment policies deliver balanced dietary outcomes.

7 ANNEXES

7.1 Annex I: Statistical Tables

Annex 1: Percentage of women consuming various food groups by women's empowerment domains

Empowerment Domains		Healthy Food Groups												Unhealthy Food groups				
		Grains, white roots and tubers, and plantains	Pulses (beans, peas and lentils)	Nuts and seeds	Milk and milk products	Meat, poultry and fish	Eggs	Dark green leafy vegetables	Other vitamin A-rich fruits and vegetables	Other vegetables	Other fruits	Insects and other small protein foods	Red Palm Oil	Savoury snacks	Sweet foods	Sugar sweetened beverages	MDD-W Prevalence	FGDS score
Influence over time allocation	Yes	94.2	13.3	30.3	12.8	87.2	10.1	50	76.5	71.7	37.5	6.3	72.3	24.2	29.9	34	54	4.8
	No	93.8	19.3	30.5	16.1	90.1	12.5	60.9	67.5	65.2	36.9	6.3	81.8	25.9	31.3	42.4	54.3	4.9
Participation in organization	Yes	93.5	17.7	31.4	15.7	90	11.8	58	72.3	68.6	37.8	6	79.3	25.9	32.2	39.5	55.9	5
	No	96.9	11.1	24.1	8.6	82.4	10.2	46.6	63.9	62.8	32.8	8.2	69.1	20.8	20.9	35.5	43	4.4
Leadership in organizations	Yes	96.3	18.5	35.5	14.5	90.5	10.4	61.1	76.1	69	39.1	6.7	77.8	25.9	31.2	37.3	61	5.1
	No	92.3	15.7	26.7	14.9	87.8	12.3	53	67.7	67	35.7	6	78	24.7	30.3	40.1	49.2	4.7
Confidence in women/men's community engagements	Yes	87.7	15.4	20.7	11.8	87.2	4.8	46.5	88.5	66.3	25.5	2.3	69.8	22.2	26.7	40.6	48.9	4.5
	No	95.2	17.1	32.4	15.4	89.3	12.9	58.4	67.7	68.2	39.5	7.1	79.5	25.8	31.5	38.6	55.2	5
Endorsement of women's freedom in livelihood choices	Yes	94.6	21.7	36.4	19.3	88.7	13.8	59.5	76	63	48.1	8.7	82.7	28.5	39.7	38	60.5	5.2
	No	93.6	14.1	27.1	12.2	89.1	10.3	54.7	68.5	70.5	31.1	4.9	75.2	23.3	25.7	39.5	50.6	4.7

Empowerment Domains		Healthy Food Groups												Unhealthy Food groups				
		Grains, white roots and tubers, and plantains	Pulses (beans, peas and lentils)	Nuts and seeds	Milk and milk products	Meat, poultry and fish	Eggs	Dark green leafy vegetables	Other vitamin A-rich fruits and vegetables	Other vegetables	Other fruits	Insects and other small protein foods	Red Palm Oil	Savoury snacks	Sweet foods	Sugar sweetened beverages	MDD-W Prevalence	FGDS score
Endorsement of women's freedom in family formation choices	Yes	92.9	18.5	36.2	16.6	88.5	14.2	56.7	79.8	69.4	43.6	7.3	80.7	25	38.9	41.9	59.6	5.2
	No	94.6	15.9	27.2	13.7	89.2	10.1	56.3	66.5	67	33.6	5.7	76.3	25.3	26.1	37.3	51.2	4.7
Use of financial services	Yes	94.3	19.8	35	18.4	91.8	13.8	62.6	75.9	69.4	41.8	5.8	79.2	27.4	37	41.3	63	5.2
	No	93.6	13.4	25.1	10.6	85.6	8.9	49.2	65.8	66	31.7	6.9	76.4	22.6	23.4	36.2	43.9	4.5
Access to credit	Yes	93.5	17.9	32.3	15.7	91	12.8	56.9	73.3	71.5	37	6.3	77.9	27	31.3	42.2	57.1	5
	No	96.3	12.2	21.8	10.5	79.6	6.1	54.4	61.8	51.6	37.7	6.1	77.8	17.3	27.9	24.5	40.9	4.3
Influence in spending decisions	Yes	96.2	15.2	32.7	14.2	88	9.4	52	77.3	71.1	36.6	7.9	73.1	25.4	30.4	35.7	56	4.9
	No	93.1	17.4	29.6	15	89.3	12.3	58.1	68.9	66.6	37.4	5.7	79.7	25.1	30.8	40.2	53.4	4.9
Influence in own health decisions	Yes	95	13.3	27.9	14.9	89.4	11.2	51.9	64.5	70.1	33.2	7.5	76	28.8	24.9	38.9	49.4	4.7
	No	93.1	20	32.6	14.6	88.5	11.9	60.5	77.3	65.8	40.7	5.2	79.6	22	35.9	39	58.4	5
Use of information communications technol	Yes	94.1	18.1	34.5	20	92.3	14.9	59.8	71.4	68	40.4	5.9	77.8	28.3	36.2	46.1	59.5	5.1
	No	93.8	15.3	25.3	8.3	84.8	7.4	52.3	71	67.7	33.1	6.7	78	21.4	23.9	30	47.6	4.6

Empowerment Domains		Healthy Food Groups											Unhealthy Food groups				
		Grains, white roots and tubers, and plantains	Pulses (beans, peas and lentils)	Nuts and seeds	Milk and milk products	Meat, poultry and fish	Eggs	Dark green leafy vegetables	Other vitamin A-rich fruits and vegetables	Other vegetables	Other fruits	Insects and other small protein foods	Red Palm Oil	Savoury snacks	Sweet foods	Sugar sweetened beverages	MDD-W Prevalence	FGDS score
ogies (ICT)																		
Documented property rights	Yes	88.7	19.8	40.5	38.3	90.9	27.7	64.9	64.3	77.1	48.6	3.4	81.6	43.9	37.3	53.7	71.3	5.6
	No	94.6	16.5	29.2	11.9	88.7	9.6	55.4	72	66.7	35.8	6.6	77.4	22.9	29.9	37.2	52.1	4.8
Secure tenure rights	Yes	94.1	18.9	35.1	15.3	88.9	13.5	58.4	72	65.8	37.2	5.7	77	24.7	32.6	36	56.9	5
	No	93.8	15.2	26.5	14.3	89	9.9	54.8	70.5	69.6	37.1	6.8	78.6	25.6	29.1	41.4	51.9	4.8
Secure transfer rights	Yes	95.3	16.6	33.5	14.9	88.3	13	55.9	70.2	68.1	39.8	6.2	78.5	26.7	30.9	38.1	55.5	5
	No	92.3	17.2	26.5	14.6	89.7	9.7	57	72.4	67.5	33.8	6.3	77.1	23.3	30.4	40	52.5	4.8
Rejection of women's subjugation to sexual harassment	Yes	94.9	18	29	17	89.4	14.6	57.5	62	63.9	40.2	6.7	82	27.7	29.5	41.8	51.1	4.9
	No	92.8	15.3	32.2	11.8	88.4	7.6	55	83	72.9	33.3	5.8	72.6	21.9	32.2	35.3	58	4.9

Annex 2: Percentage of women who met MDD-W threshold by various food groups consumed and women's empowerment domains

Empowerment Domains		MDD-W>=5 food groups														
		Healthy Food Group												Unhealthy Food		
		Grains, white roots and tubers, and plantains	Pulses (beans, peas and lentils	Nuts and seeds	Milk and milk products	Meat, poultry and fish	Eggs	Dark green leafy vegetables	Other vitamin A-rich fruits and vegetables	Other vegetables	Other fruits	Insects and other small protein foods	Red Palm Oil	Savoury snacks	Sweet foods	Sugar sweetened beverages
Influence over time allocation	Yes	98.5	21.6	51.8	19.9	97	14.8	71.7	92.9	81.5	60.7	9	80.9	32.8	44.2	39.3
	No	97.5	27.6	49.5	28.5	97.1	22.5	81.2	84.4	82.7	59.6	8.6	80.8	33.2	44.6	51.6
Participation in organization	Yes	97.9	25.4	51.2	25.6	97	18.9	77.9	88	82.1	59.9	8.2	81.5	33.2	45.2	46.9
	No	98.3	23.1	44.3	19.5	97.6	22.7	72.3	86.9	83.6	61	13.1	75.9	31.7	37.7	43.6
Leadership in organizations	Yes	98.2	25.5	54.8	22.5	96.9	16.9	78.2	89.5	83.1	56.8	8.9	80.9	32.6	41.8	45.7
	No	97.7	24.8	46.5	27.2	97.2	21.5	76.4	86.4	81.4	63	8.6	80.8	33.4	46.8	47.3
Confidence in women/men's community engagements	Yes	93.6	20.1	35.8	24	97.9	9.3	73.1	97.7	82.5	46.7	4	61.7	31	33.3	49.4
	No	98.7	26	53	25.1	96.9	21.1	78	86.1	82.2	62.4	9.6	84.3	33.4	46.4	46
Endorsement of women's freedom in livelihood choices	Yes	97.2	30	54	30.8	97.9	22.1	77.2	89.6	77.1	68.3	11.4	86.1	34.6	53.7	47.4
	No	98.4	21.9	48.1	21	96.5	17.5	77.4	86.7	85.6	54.6	7	77.4	32	38.2	45.9
Endorsement of women's freedom in family formation choices	Yes	97.3	26.6	56	26.8	95.8	23.4	76.1	88.9	81.1	63.8	8.9	85.3	32.2	50.4	49.4
	No	98.3	24.1	46.8	23.8	97.9	16.7	78	87.2	82.9	57.7	8.7	78	33.6	40.6	44.7
Use of financial services	Yes	98	24.8	51.6	28.3	98.3	21.2	77.9	87.8	83.1	58.8	7.3	81.4	33.1	47.4	50.3
	No	97.8	25.6	48.5	19.4	94.9	16.2	76.2	88.1	80.8	62	11.1	79.9	32.9	39.5	40.2
Access to credit	Yes	97.6	26	51.7	25.2	97.3	20.3	77.5	87.4	83.2	58.9	8.2	80.6	34.5	44.4	48.2
	No	100	19.5	42.4	23.1	95.7	13.3	76	91	76	67	12.3	82.3	23.8	44.3	36.3
Influence in spending decisions	Yes	99.5	25	54.4	24.8	97.4	16.2	73	89.6	82	56.3	10.1	82.4	37.6	44.6	46.4
	No	97.3	25.2	48.9	25	96.9	20.5	79	87.2	82.3	61.5	8.2	80.2	31.2	44.4	46.5
Influence in own health decisions	Yes	98.4	23	51.6	26.3	97.7	18.4	76.4	84.8	82.4	57	11.3	81.5	37.9	40.3	45.6

Empowerment Domains		MDD-W>=5 food groups														
		Healthy Food Group												Unhealthy Food		
		Grains, white roots and tubers, and plantains	Pulses (beans, peas and lentils	Nuts and seeds	Milk and milk products	Meat, poultry and fish	Eggs	Dark green leafy vegetables	Other vitamin A-rich fruits and vegetables	Other vegetables	Other fruits	Insects and other small protein foods	Red Palm Oil	Savoury snacks	Sweet foods	Sugar sweetened beverages
Use of information communications technologies (ICT)	No	97.6	26.7	49.5	23.9	96.5	20	77.9	90.2	82.1	62.4	6.8	80.3	29.3	47.6	47.2
	Yes	97.8	24.2	52.4	30.4	98.4	21.9	76.8	86.7	80.7	60.3	7.8	79.4	34.3	48	52.3
Documented property rights	No	98	26.5	47.4	16.5	95	15.3	78	89.8	84.6	59.7	10.3	83.1	31	38.9	37.6
	Yes	97.5	26.7	54.7	43.2	96.5	28.5	75.8	70	83.2	65.2	3.9	81.2	49.7	43.8	57
Secure tenure rights	No	98	24.8	49.7	21.9	97.1	17.8	77.5	90.8	82.1	59.2	9.6	80.8	30.3	44.5	44.8
	Yes	98.5	26.6	52.7	23.2	96.9	20.1	76.9	86.8	79.9	57.2	7	82.3	32.2	46.9	45.3
Secure transfer rights	No	97.4	23.7	48.4	26.5	97.2	18.6	77.6	88.8	84.3	62.6	10.3	79.6	33.7	42.2	47.6
	Yes	99.3	26.2	54.7	23.5	97.1	20.4	76.3	85	81.8	62.9	8.4	82.5	34.5	44.5	48.9
Rejection of women's subjugation to sexual harassment	No	96.1	23.7	44.8	26.9	97	17.9	78.7	91.7	82.8	56.2	9.2	78.6	31.1	44.3	43.3
	Yes	97.7	27.7	50.8	29.2	97.2	25.2	80.8	82.4	80	66.7	9.2	86.1	38.1	47.8	49.3
	No	98.1	22.2	49.9	20.1	96.9	12.7	73.3	94	84.7	52.5	8.2	74.9	27.3	40.6	43.4

Annex 3: Percentage of women who did not meet MDD-W threshold by various food groups consumed and women's empowerment domains

Empowerment domains		MDD-W<5 food groups														
		Healthy Food Group												Unhealthy Food Group		
		Grains, white roots and tubers, and plantains	Pulses (beans, peas and lentils)	Nuts and seeds	Milk and milk products	Meat, poultry and fish	Eggs	Dark green leafy vegetables	Other vitamin A-rich fruits and vegetables	Other vegetables	Other fruits	Insects and other small protein foods	Red Palm Oil	Savoury snacks	Sweet foods	Sugar sweetened beverages
Influence over time allocation	Yes	89.2	3.6	5.1	4.4	75.8	4.7	24.6	57.2	60.1	10.4	3.1	62.3	14	13	27.9
	No	89.4	9.5	7.9	1.5	81.8	0.7	36.8	47.5	44.4	9.9	3.5	82.9	17.2	15.5	31.5
Participation in organization	Yes	88	8.1	6.3	3.2	81	2.7	32.7	52.5	51.6	9.8	3.1	76.5	16.6	15.8	30.1
	No	95.8	2.1	8.9	0.5	70.9	0.7	27.1	46.6	47.1	11.6	4.5	64	12.6	8.2	29.4
Leadership in organizations	Yes	93.4	7.5	5.2	2	80.5	0.2	34.3	55	46.9	11.5	3.3	72.8	15.2	14.5	24.3
	No	87.1	6.8	7.6	3.1	78.7	3.5	30.3	49.6	53.1	9.3	3.4	75.3	16.3	14.4	33.2
Confidence in women/men's community engagements	Yes	82	11	6.2	0.1	77	0.5	21.1	79.6	50.8	5.1	0.8	77.6	13.7	20.4	32.2
	No	91	6.2	6.9	3.3	79.9	2.8	34.2	45	50.9	11.2	3.9	73.6	16.4	13.1	29.5
Endorsement of women's freedom in livelihood choices	Yes	90.7	9.1	9.4	1.7	74.6	1.1	32.3	55.2	41.3	17.1	4.7	77.5	19.1	18.2	23.5
	No	88.7	6.2	5.6	3.2	81.5	2.9	31.5	49.8	55.1	7	2.7	73	14.5	12.8	32.9
Endorsement of women's freedom in family formation choices	Yes	86.4	6.5	7	1.6	77.7	0.8	27.9	66.3	52.2	13.9	5	74	14.5	22.1	30.9
	No	90.7	7.3	6.7	3.2	80.1	3.1	33.5	44.8	50.3	8.4	2.6	74.6	16.6	11	29.6
Use of financial services	Yes	88	11.4	6.7	1.5	80.7	1.1	36.6	55.7	46.1	12.9	3.1	75.4	17.7	19.4	26
	No	90.3	3.8	6.8	3.7	78.3	3.3	28.1	48.3	54.5	8	3.5	73.6	14.6	10.7	33.1
Access to credit	Yes	88	7.1	6.5	3	82.7	2.7	29.4	54.6	55.9	7.8	3.8	74.3	16.9	13.9	34.3
	No	93.7	7.1	7.5	1.8	68.5	1.1	39.4	41.6	34.7	17.4	1.8	74.7	12.8	16.5	16.4
Influence in spending decisions	Yes	92	2.8	5	0.7	75.9	0.7	25.2	61.5	57.3	11.4	5.2	61.2	9.7	12.2	21.9
	No	88.4	8.6	7.4	3.5	80.6	2.9	34.1	48	48.6	9.6	2.7	79	18.1	15.3	32.9
Influence in own health decisions	Yes	91.7	3.8	4.8	3.9	81.3	4.1	27.9	44.6	58	10	3.8	70.6	19.8	9.9	32.4
	No	86.7	10.7	8.9	1.5	77.2	0.5	36	59	43	10.2	2.8	78.5	11.7	19.5	27.4

Empowerment domains		MDD-W<5 food groups														
		Healthy Food Group												Unhealthy Food Group		
		Grains, white roots and tubers, and plantains	Pulses (beans, peas and lentils)	Nuts and seeds	Milk and milk products	Meat, poultry and fish	Eggs	Dark green leafy vegetables	Other vitamin A-rich fruits and vegetables	Other vegetables	Other fruits	Insects and other small protein foods	Red Palm Oil	Savoury snacks	Sweet foods	Sugar sweetened beverages
Use of information communications technologies (ICT)	Yes	88.5	9.1	8.3	4.7	83.3	4.5	34.7	48.9	49.3	11.3	3.2	75.4	19.4	18.8	37.2
	No	90.1	5.1	5.3	0.9	75.6	0.3	28.9	54	52.4	8.9	3.4	73.4	12.6	10.4	23.2
Documented property rights	Yes	66.7	2.7	5.4	26	77	25.6	37.8	50.4	62.2	7.2	2.3	82.5	29.3	21.3	45.6
	No	91	7.4	6.9	1	79.5	0.7	31.3	51.6	50.1	10.3	3.4	73.8	15	14	28.9
Secure tenure rights	Yes	88.4	8.6	11.9	5	78.4	4.7	33.9	52.5	47.1	10.7	3.9	70.1	14.7	13.7	23.7
	No	90	5.9	3	1	80	0.6	30.2	50.8	53.7	9.6	2.9	77.5	16.8	15	34.7
Secure transfer rights	Yes	90.3	4.6	7.1	4.2	77.4	3.7	30.6	51.8	51	11	3.5	73.4	16.9	13.9	24.7
	No	88.2	10	6.4	1	81.6	0.8	33.1	51.2	50.7	9	3.1	75.5	14.8	15.1	36.3
Rejection of women's subjugation to sexual harassment	Yes	91.9	7.9	6.2	4.3	81.1	3.6	33.2	40.7	47.1	12.4	4	77.7	16.9	10.4	34
	No	85.4	5.9	7.6	0.4	76.6	0.5	29.6	67.7	56.5	6.7	2.4	69.4	14.5	20.5	24

7.2 Annex II: WEN questionnaire

Table of Contents

Module A - Start of interview

INSTRUCTIONS:

- GO TO THE HOUSEHOLD AND ATTEMPT TO START THE INTERVIEW.
- TO START THE INTERVIEW, SEEK OUT A COMPETENT RESPONDENT. A COMPETENT RESPONDENT MUST BE 15 YEARS OF AGE OR OLDER AND MUST HAVE KNOWLEDGE OF THE HOUSEHOLD MEMBERS. THE HOUSEHOLD HEAD SHOULD BE PREFERRED, IF POSSIBLE.
- FOR EACH HOUSEHOLD, MAKE AT LEAST THREE CONTACT ATTEMPTS. KEEP TRACK OF YOUR ATTEMPTS IN YOUR ASSIGNMENT LOGBOOK.

A01a. Time stamp
DD / MM / YYYY - HH / MM / SS

A01b. Is the household head or any other competent respondent present?
1 - Yes >> question A04
2 - No >> question A05

A04. ENUMERATOR: Please read the introduction and consent statement below.

Hello, my name is [ENUMERATOR NAME] from LISGIS and the Ministry of Agriculture. We are conducting a national agricultural survey, and your household has been chosen to participate in this survey. The survey includes a questionnaire on the capacity of men and women to pursue their own goals, to influence decisions in the household and in the broader community, etc.
First, I will ask you to list all the household members. Then, up to three **adult members** will be randomly selected and I shall interview them on the topics I just mentioned. This information will be used the Government and other organizations for planning purposes. The household will not receive any benefit because of this interview. The information is strictly confidential, and respondents may skip questions that make them feel uncomfortable.

Can I go ahead with the list of household members?

1 - Yes >> Module B
2 - No >> question A05

A05. ENUMERATOR: Reason why the household cannot be interviewed

1 - REFUSED
2 - NO COMPETENT RESPONDENT AT TIME OF THE VISIT
3 - NONE AT HOME FOR AN EXTENDED AMOUNT OF TIME
4 - HOUSEHOLD NOT FOUND OR MOVED ELSEWHERE
5 - DWELLING DESTROYED
6 - TIME IN THE EA IS OVER
9 - OTHER (SPECIFY)

(if A04=2) **A06. ENUMERATOR: Enter manually the time and date of the first attempt**

(if A04=2) **A07. ENUMERATOR: Result of first attempt**

1 - REFUSED
2 - NO COMPETENT RESPONDENT AT TIME OF THE VISIT

(if A04=2) **A08. ENUMERATOR: Enter manually the time and date of the second attempt**

(if A04=2) **A09. ENUMERATOR: Result of second attempt**

1 - REFUSED
2 - NO COMPETENT RESPONDENT AT TIME OF THE VISIT

>> GO TO END OF INTERVIEW (QUESTION O05)

Module B - Household Member Roster

B00. Start of module B: time stamp

DD / MM / YYYY - HH / MM / SS

IN ORDER TO MAKE A COMPREHENSIVE LIST OF INDIVIDUALS CONNECTED TO THE HOUSEHOLD, USE THE FOLLOWING PROBE QUESTIONS:
First, give me the names of all the members of your immediate family who normally live and eat their meals together here.
WRITE DOWN NAMES, SEX, AND RELATIONSHIP TO HH HEAD. LIST HOUSEHOLD HEAD ON LINE 1.
Then, give me the names of any other persons related to you or other household members who normally live and eat their meals together here.
Are there any other persons not here now who normally live and eat their meals here? For example, household members studying elsewhere or traveling.
Then, give me the names of any other persons not related to you or other household members, but who normally live and eat their meals together here, such as servants, lodgers, or other who are not relatives.
DO NOT LIST SERVANTS WHO HAVE A HOUSEHOLD ELSEWHERE, AND GUESTS WHO ARE VISITING TEMPORARILY AND HAVE A HOUSEHOLD ELSEWHERE.
IF MORE THAN 15 INDIVIDUALS, USE SECOND QUESTIONNAIRE. MAKE SURE TO MARK BOX ON FIRST PAGE OF BOTH QUESTIONNAIRES.

	1.	2.	3.	4.	5A.	5B.	6.
ID CODE	NAME MAKE A COMPLETE LIST OF ALL INDIVIDUALS WHO NORMALLY LIVE AND EAT THEIR MEALS TOGETHER IN THIS HOUSEHOLD, STARTING WITH THE HEAD OF HOUSEHOLD. (CONFIRM THAT HOUSEHOLD HEAD HERE IS SAME AS HOUSEHOLD HEAD LISTED ON COVER	What is the sex of [NAME]? MALE.... 1 FEMALE ...2	What is [NAME]'s relationship to the head of household? HEAD .. .. 1 WIFE/HUSBAND ..... 2 CHILD/ADOPTED CHILD ..... 3 GRANDCHILD ..... 4 NIECE/NEPHEW .....5 FATHER/MOTHER .....6 SISTER/BROTHER .....7 SON/DAUGHTER-IN-LAW .....8 BROTHER/SISTER-IN-LAW .....9 GRANDFATHER/MOTHER ..... 10 FATHER/MOTHER-IN-LAW .....11 OTHER RELATIVE .....12 SERVANT OR SERVANT'S RELATIVE .....13 LODGER/LODGER'S RELATIVE .....14 OTHER NON-RELATIVE 15	How old is [NAME] in completed years? IF LESS THAN 1 YEAR, WRITE 0 AND GO TO NEXT PERSON	Has [NAME] been away from this household during the past 12 months (since MONTH/YEAR)? YES ...1 NO ...2 ►6	For how many months during the past 12 months (since MONTH/ YEAR) has [NAME] been **away** from this household? IF NUMBER ABOVE 6, GO TO NEXT PERSON	How many days did [NAME] eat in this household in the past 7 days?
		CODE	CODE	YEARS	CODE	NUMBER	NUMBER
1							
2							
3							
4							
5							
6							
7							
8							
9							

10							

	7.	8.	9.	10.	11.	12.
ID CODE	ENUMERATOR: IS THIS PERSON FIVE YEARS OLD OR OLDER? YES..1 NO...2 ► NEXT PERSON	What is [NAME]'s present marital status? MONOGAMOUS MARRIED OR NON-FORMAL UNION..... 1 POLYGAMOUS MARRIED OR NON-FORMAL UNION.....2 SEPARATED.....3 DIVORCED.....4 WIDOW OR WIDOWER.....5 NEVER MARRIED.....6	Can [NAME] read and write in any language? YES..1 NO...2	Has [NAME] ever attended school? YES....1 NO.....2 ►12	What is the highest educational level [NAME] has completed? NURSERY/PRE-SCHOOL.....1 ELEMENTARY.....2 JUNIOR HIGH .....3 SENIOR HIGH .....4 VOCATIONAL .....5 TERTIARY.....6 OTHER (SPECIFY).....7	Has [NAME] ever received any formal training on agriculture? YES....1 NO.....2
	CODE	CODE	CODE	CODE	CODE	CODE
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

	12B.	12C.	13.	14.
ID CODE	**(only asked if Age >= 15)** Is [NAME] a Holder in this household? YES.....1 NO.....2	**(Only asked to 18-64 years)** Is [NAME] currently present in the dwelling or will he/she be back by tomorrow? CURRENTLY PRESENT IN THE DWELLING....1 NOT CURRENTLY PRESENT IN THE DWELLING, BUT WILL BE BACK BY TOMORROW.....2 NOT CURRENTLY PRESENT IN THE DWELLING AND WILL NOT BE BACK BY TOMORROW.....3	Is [NAME] responsible for the household's farm? A PERSON RESPONSIBLE FOR THE HOUSEHOLD'S FARM DECIDES WHAT SHALL BE CULTIVATED, WHICH ANIMALS SHALL BE RAISED AND WHAT INPUTS TO SHALL BE USED	Does [NAME] organize the daily work on the farm? YES....1 NO.....2
	CODE	CODE	CODE	CODE
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

PRIMARY RESPONDENT ID: |__|

Module C - Start of Individual Interview

INSTRUCTIONS:

- **SCHEDULE AN INTERVIEW WITH ALL THE INDIVIDUALS RANDOMLY SELECTED BY THE APPLICATION.**
- INTERVIEW IMMEDIATELY THE SAMPLED INDIVIDUALS THAT ARE AT HOME. SCHEDULE AN APPOINTMENT WITH THE ONES THAT ARE NOT AT HOME.
- **MAKE AT LEAST THREE ATTEMPTS WITH EACH PERSON.** KEEP TRACK OF YOUR ATTEMPTS IN YOUR ASSIGNMENT LOGBOOK.
- NEVER REPLACE AN INDIVIDUAL WITH ANOTHER ONE AND DO NOT ALLOW ANOTHER HOUSEHOLD MEMBER TO RESPOND ON BEHALF OF THE SELECTED PERSON OR TO LISTEN TO THE INTERVIEW.

C01a. Time stamp
DD / MM / YYYY - HH / MM / SS

C01b. is [INDIVIDUAL] available for the interview?
1 - Yes >> question C04
2 - No >> question C05

C04. INTERVIEWER: Please read the introduction and consent statement below.
Hello, my name is [ENUMERATOR NAME] from LISGIS and the Ministry of Agriculture. We are conducting a national agricultural survey, and your household has been chosen to participate in this survey. The survey includes a questionnaire on the capacity of men and women to pursue their own goals, to influence decisions in the household and in the broader community, the use of technology, property rights, etc. Further, we ask about women's diet.
You have been randomly selected to respond to this questionnaire. The interview will last approximately 20 minutes. The collected information will be used by the government and other organizations for planning purposes. The household will not receive any benefit because of this interview. The information will be kept strictly confidential, and you may skip the questions that make you feel uncomfortable. Please let me know if I can go ahead with the interview.
1 - Yes >> Module D
2 - No >> question C05

C05. ENUMERATOR: Reason why [INDIVIDUAL] cannot be interviewed
1 - NOT FOUND AT HOME
2 - NO TIME TO PARTICIPATE TO THE INTERVIEW
3 - RESPONDENT REFUSED
4 - HOUSEHOLD HEAD DID NOT ALLOW HIM/HER TO PARTICIPATE TO THE INTERVIEW
5 - PERSON IS SICK OR PHYSICALLY / MENTALLY IMPAIRED
6 - TIME IN THE EA IS OVER
9 - OTHER (SPECIFY)

(if C04=2) **C06. ENUMERATOR: Enter manually the time and date of the first attempt**

(if C04=2) **C07. ENUMERATOR: Result of first attempt**
1 - NOT FOUND AT HOME
2 - NO TIME TO PARTICIPATE IN THE INTERVIEW

(if C04=2) **C08. ENUMERATOR: Enter manually the time and date of the second attempt**

(if C04=2) **C09. ENUMERATOR: Result of second attempt**
1 - NOT FOUND AT HOME
2 - NO TIME TO PARTICIPATE IN THE INTERVIEW / REFUSED

>> END OF INTERVIEW. INTERVIEWER MOVES ON WITH ANOTHER INDIVIDUAL

Module D: Paid and unpaid activities

D_START. Start of module D date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

INTERVIEWER, READ ALOUD: Now I am going to ask you about the activities you did over the past 7 days and how much influence you had over the time you spent on these activities.		
ACTIVITIES **NOTE TO INTERVIEWER: When examples are given, they should be read exactly as written and should NOT be skipped.**	**D01**. During the last 7 days, did you spend any time on [ACTIVITY], even if for one hour? 1 = Yes 2 = No >> NEXT ROW	[CAPI: IF D01A/B/C/D/E/F/G/H/I==1/Yes] **D02.** During the last 7 days, how much influence did you have in deciding the amount of time you spent on [ACTIVITY]? **READ RESPONSE OPTIONS** 1 = No influence 2 = Some influence 3 = A lot of influence *(97 = DO NOT READ: Don't know)* *(98 = DO NOT READ: Refused)*
A. Household duties, such as cooking, cleaning, washing clothes, or collecting water or cooking fuel		
B. Caring for household members, such as children or older family members		
C. Going to the market to purchase essential items		
D. Non-agricultural work activities, including: working for pay, in cash or in kind, for someone else; running or doing any kind of business or other activity to earn income; and helping in a family business		
E. Commercial agricultural production, including: working on the household farm to produce crop, livestock or fish products, mainly for sale		
F. Agricultural production for household consumption, including: producing crop, livestock or fish products for household consumption.		
G. Leisure activities, such as taking a walk, spending time with friends, reading, watching TV, listening to radio, music		

D_END. End of module D date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

Module E: Participation and leadership in community

E_START. Start of module E date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

INTERVIEWER, READ ALOUD: Now, I will ask you about your participation in different types of organizations during the last 12 months.			
ORGANIZATIONS		**E01.** In the last 12 months, have you participated in [ORGANIZATION]? Yes ..... 1 >> GO TO E02 No .....2 >> NEXT ROW *(DO NOT READ: Refused …98 >> NEXT ROW)* *(DO NOT READ: Organization not present in this community 99>> NEXT ROW)*	**E02.** In the last 12 months, have you acted in a leadership position in [ORGANIZATION]? Yes .....1 No .....2 *(DO NOT READ: Refused ....98)*
A	Government councils or agencies		
B	Groups that provide local services, such as resource user groups, community health and education service groups, or mutual aid groups		
C	Formal or informal savings or credit groups, such as microfinance groups, village savings and loan associations, or merry-go-round savings schemes		
D	Groups related to livelihood activities, such as agricultural groups, cooperatives, and craft or trade associations		
E	Other groups, such as religious groups, women's groups, or sports groups, etc.		

INTERVIEWER: The question below is asked only if the randomly selected individual is a female (B04==2)

E03. INTERVIEWER, READ ALOUD: Please listen to the following statements and **indicate** how often this happens in your community		
A	Women in this community can really understand what is going on within their community (e.g., main social and political changes, etc.)	Never ..... 0 Sometimes (once in a while) ..... 1 Often (more frequently than not) .. 2 Always ..... 3 DO NOT READ: Don't know ..... 97 DO NOT READ: Refused..... 98
B	Women have the ability to participate effectively in community activities	
C	Women have the ability to participate effectively in decision-making	
D	It is important to women in this community that they actively participate in local women's issues	
E	Most community leaders listen to women	

INTERVIEWER: The question below is asked only if the randomly selected individual is a male (B04==1)

E04. INTERVIEWER, READ ALOUD: Please listen to the following statements and **indicate** how often this happens in your community		
A	Men in this community can really understand what is going on within their community (e.g., main social and political changes, etc.)	Never..... 0 Sometimes ..... 1 Often ..... 2 Always ..... 3 DO NOT READ: Don't know ..... 97 DO NOT READ: Refused..... 98
B	Men have the ability to participate effectively in community activities	
C	Men have the ability to participate effectively in decision-making	
D	It is important to men in this community that they actively participate in local men's issues	
E	Most community leaders listen to men	

E_END. End of module E date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

Module F: Life transitions and awareness of rights

INTERVIEWER: Module F is asked only if the randomly selected individual is a female (B04==2)

F_START. Start of module F date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

F01. INTERVIEWER, READ ALOUD: Please listen to the following statements and indicate your level of agreement with each statement. **READ RESPONSE OPTIONS**		
A	Every woman should be free to choose whether to complete secondary school.	Fully disagree ..... 0 Partly disagree ..... 1 Partly agree.....2 Fully agree..... 3 *(DO NOT READ: Don't know ..... 97)* *(DO NOT READ: Refused ..... 98)*
B	Every woman should be free to choose whether to work for pay.	
C	Every woman should be free to choose to prioritize her work for pay over domestic duties.	
D	Every woman should be free to choose what to do with any money that she earns.	
E	Every woman should be free to choose to purchase land, a house, or other valuable goods.	
F	Every woman should be free to choose when to get married.	
G	Every woman should be free to choose to divorce or end her marriage or relationship.	
H	Every woman should be free to choose whether and when to have children.	
I	Every woman should be free to choose not to have any more children.	

F_END. End of module F date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

Module G: Financial services and credit

G_START. Start of module G date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

INTERVIEWER, READ ALOUD: Now, I am going to ask about your use of different financial services.		
G01. In the past 12 months, have you ever:		
A	Used any mobile money account, either yours or anyone else's, to make a payment, buy something, or send money to someone?	Yes ..... 1 No..... 2 *(DO NOT READ: Refused ..... 98)*
B	Deposited or received money into or withdrawn money from any bank account, either yours or anyone else's?	
C	Used any bank card, ATM card or debit card, either yours or anyone else's, to make a purchase or pay a bill such as a utility bill?	
D	Used any credit card, either yours or anyone else's, to make a purchase or pay a bill such as a utility bill?	
INTERVIEWER, READ ALOUD: Now, I am going to ask you about loans from different types of lenders. **G02.** If you needed it, could you take a loan from:		
A	A bank or formal financial institution	Yes .....1 No.....2 *(DO NOT READ: Refused .....98)*
B	A cooperative	
C	A Group based micro-finance/micro-credit	
D	Informal credit/savings groups, such as private moneylenders, a village savings and loan group, merry-go-rounds, or funeral societies	
E	Other NGO program	

G_END. End of module G date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

Module H: Property ownership

H_START. Start of module H date and time stamp: | DD | MM | YYYY | HH: | MM: | SS |

INTERVIEWER, READ ALOUD: Now I am going to ask you about your rights over agricultural land and your dwelling		
H01	Do you own or have the right to use *any agricultural parcels of land*, either alone or jointly with someone else? (agricultural land includes also backyard gardens) **READ RESPONSE OPTIONS**	Yes, alone ..... 1 Yes, jointly ..... 2 Yes, both alone and jointly ..... 3 No.....4>>H07 *(DO NOT READ: Refused ..... 98)*
H02	Do you have the right, either alone or jointly with someone else, to sell *any agricultural parcels of land?* **READ RESPONSE OPTIONS**	Yes, alone ..... 1 Yes, jointly ..... 2 Yes, both alone and jointly ..... 3 No..... 4 *(DO NOT READ: Don't know..... 97)* *(DO NOT READ: Refused .....98)*
H03	Do you have the right, either alone or jointly with someone else, to give any agricultural parcels of land, by oral or written will, to other persons after your death? **READ RESPONSE OPTIONS**	Yes, alone ..... 1 Yes, jointly ..... 2 Yes, both alone and jointly ..... 3 No..... 4 *(DO NOT READ: Don't know..... 97)* *(DO NOT READ: Refused .....98)*
H04	Is there a document for any agricultural parcels that is issued by or registered at the Land Registry/ Cadastral Agency, such as a purchase certificate or a lease or rental contract? **READ RESPONSE OPTIONS** **NOTE:** *Land documents can be: purchase documents (or certificates) or lease/rental contracts. Other forms of properties do not have a formal certification.*	Yes ..... 1 No.....2 >>H06 *(DO NOT READ: Don't know..... .97 >>H06)* *(DO NOT READ: Refused ..... 98 >>H06)*
H05	Is your name listed on any of these documents as an owner or rights holder, either alone or jointly with someone else? **READ RESPONSE OPTIONS**	Yes, alone ..... 1 Yes, jointly ..... 2 Yes, both alone and jointly ..... 3 No..... 4 *(DO NOT READ: Don't know..... .97)* *(DO NOT READ: Refused ..... 98)*
H06	How likely are you to involuntarily lose ownership or use rights to any land you own, or have the right to use in the next 5 years? **READ RESPONSE OPTIONS**	Not all likely.....1 Slightly likely.....2 Moderately likely.....3 Very likely.....4 Extremely likely.....5 *(DO NOT READ: Don't know..... .97)* *(DO NOT READ: Refused ..... 98)*

H07	Do you own or have the right to use the **dwelling** in which you live, either alone or jointly with someone else? **READ RESPONSE OPTIONS**	Yes, alone ..... 1 Yes, jointly ..... 2 No.....4>> END MODULE *DO NOT READ: Refused 98>> END MODULE)*
H08	Do you have the right, either alone or jointly with someone else, to sell the dwelling in which you live? **READ RESPONSE OPTIONS**	Yes, alone ..... 1 Yes, jointly ..... 2 No..... 4 *(DO NOT READ: Don't know..... .97)* *(DO NOT READ: Refused ..... 98)*
H09	Do you have the right, either alone or jointly with someone else, to give your dwelling, by oral or written will, to other persons after your death? **READ RESPONSE OPTIONS**	

H10	Is there a document for the dwelling in which you live that is issued by or registered at a government agency, such as a purchase certificate, a site plan, a building permit or a lease/rental contract? **READ RESPONSE OPTIONS** **NOTE**: *Documents for dwelling can be: purchase documents (or certificates), site plans, building permits or lease/rental contracts. Other forms of property do not have a formal certification.*	Yes ..... 1 No.....2 >>H12 *(DO NOT READ: Don't know.97 >> H12)* *(DO NOT READ: Refused 98 >> H12)*
H11	Is your name listed on any of these documents as an owner or rights holder, either alone or jointly with someone else? **READ RESPONSE OPTIONS**	Yes, alone ..... 1 Yes, jointly ..... 2 No..... 4 *(DO NOT READ: Don't know..... .97)* *(DO NOT READ: Refused ..... 98)*
H12	How likely are you to involuntarily lose ownership to the dwelling in which you live, in the next 5 years? **READ RESPONSE OPTIONS**	Not all likely.....1 Slightly likely.....2 Moderately likely.....3 Very likely.....4 Extremely likely.....5 *(DO NOT READ: Don't know..... .97)* *(DO NOT READ: Refused ..... 98)*

H_END. End of module H date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

Module I: Decision-making and control over income

I_START. Start of module I date and time stamp: | DD | MM | YYYY | HH: | MM: | SS |

INTERVIEWER, READ ALOUD: Now I am going to ask you about how much influence you have in decisions and control over income.		
I01	How much influence do you have regarding the use of money earned or received by yourself or other family members? READ RESPONSE OPTIONS.	No influence .....1 Some influence.....2 A lot of influence.....3 *(DO NOT READ: Don't know.....97)* *(DO NOT READ: Refused ..... 98)*
I02. Now, please tell me how much influence you have on:		
A	Making large household purchases, such as cars, motorbikes, boats, furniture, electric appliances. READ RESPONSE OPTIONS.	No influence .....1 Some influence.....2 A lot of influence.....3 *(DO NOT READ: Don't know... .97)* *(DO NOT READ: Refused ..... 98)*
B	Your own healthcare READ RESPONSE OPTIONS.	

I_END. End of module I date and time stamp: | DD | MM | YYYY | HH: | MM: | SS |

Module J: Information communication technologies (ICT)

J_START. Start of module J date and time stamp: | DD | MM | YYYY | HH: | MM: | SS |

J01. INTERVIEWER, READ ALOUD: Next, I am going to ask you **how often** you use **different types of technology.**		
A	How often do you use a Mobile phone? READ RESPONSE OPTIONS	Daily..... 1 Weekly ..... 2 Monthly ..... 3 Less than monthly..... 4 Never ..... 5 *(DO NOT READ: Refused ..... 98)*
B	How often do you use Internet (including WhatsApp, Telegram, Messenger, (X) Twitter, Instagram, Facebook, Tik-Tok and other social media)? READ RESPONSE OPTIONS	

J_END. End of module J date and time stamp: | DD | MM | YYYY | HH: | MM: | SS |

Module L: Sexual harassment

INTERVIEWER: The module L is asked only if the randomly selected individual is a female (B04==2)

L_START. Start of module L date and time stamp: | DD | MM | YYYY | HH: | MM: | SS |

L00. INTERVIEWER DO NOT READ ALOUD: PLEASE MAKE SURE THERE IS NO PERSON 5 YEARS AND OVER WHO COULD OVERHEAR THE INTERVIEW.		
L01. INTERVIEWER READ ALOUD: Now, I will ask you some questions about experiences women in your community may have. In your opinion READ RESPONSE OPTIONS		
A	Is it acceptable that a man treats a woman as "lesser" because she is a woman, for example, speaks badly, interrupts, or ignores her?	Never acceptable..... 1 Sometimes acceptable .... 2 Usually acceptable ..... 3 *(DO NOT READ: Don't know..... .97)*
B	Is it acceptable that a man prevents a woman from doing certain kinds of work, even if she wants to?	

C	Is it acceptable that a man spreads unwanted rumors about a woman's sex life?	*(DO NOT READ: Refused ..... 98)*
D	Is it acceptable that a man tries to have a romantic or sexual relationship with a woman when she doesn't want it?	
E	Is it acceptable that a man offers work-related benefits to a woman with the expectation of receiving sexual favors?	

L_END. End of module L date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

Module M: Food and Drinks Consumed in Last 24 Hours

INTERVIEWER: The module M is asked only if the randomly selected individual is a female (B04==2)

M_START. Start of module M date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

M01. INTERVIEWER, READ ALOUD: Now I'd like to ask you some yes-or-no questions about foods and drinks that you consumed yesterday during the day or night, whether you had it at home or somewhere else.

First, I would like you to think about yesterday, from the time you woke up through the night. Then, think about the first thing you ate or drank after you woke up in the morning. Then, think about where you were when you had any food or drink in the middle of the day. Then, think about where you were when you had any evening meal. Then, think about any food or drink you may have had in the evening or late-night and any other snacks or drinks you may have had between meals throughout the day or night.

I am interested in whether you had the food items I will mention even if they were combined with other foods.

Please listen to the list of foods, and if you ate or drank any one of them, say yes. Yesterday during the day or at night, did you eat or drink:

soft rice, moni kalama, cream of wheat, bread, corn meal, macaroni, or spaghetti?	YES.....1 NO 2
country rice, Quaker oats, corn, popcorn, or bulgur wheat?	
carrots, pumpkin, red pepper, or palm nut or palm butter?	
cassava or deepa, fufu, dumboy, GB, garri, plantain, eddoes, potato, or yam?	
beans?	
accra groundpea, peanut butter, groundpea soup, benny seeds, breadnuts, walnuts, or almonds?	
fresh or powdered milk?	
cheese, yogurt, or sour milk?	
chicken gizzard, liver, heart, intestines, or cow tongue?	
cow, pig/hog, goat, sheep, dog, or bush meat?	
sausages, canned meat, luncheon meat, corned beef, or ham?	
chicken, duck, guinea fowl, turkey, pigeon, or frog?	
fish, sardines, crab, crab fish, lobster, or clams?	
eggs?	
cassava leaves, potato greens, collard greens, eggplant leaves, careless greens, or chicken greens?	
palava sauce, okra leaves, water greens, fever leaves, or bitter leaves?	
cucumber, bitterball, eggplant/kittley, okra, cabbage, lettuce, tomatoes, or green pepper?	
plums (mango), pawpaw, or ripe golden plum?	
orange, grapefruit, lemons (tangerine), banana, apple, guava, or butter pear?	
soursop, coconut, watermelon, pineapple, grapes, crisor, or monkey apple?	
packaged chips such as chipsy, pringles, or cheese balls?	
fried plantain, fried fish, fried chicken, fried potato, fried fish balls, fried cassava, or French fries?	
noodles?	
Monroe chicken, or other places that serve pizza or burgers?	
cakes, cookies such as chips ahoy, kala, donuts, candy, chocolates, or ice cream?	
juice, soft drinks such as Coca-Cola, Fanta, or Malta Guiness, or energy drinks such as Buffalo or 3X?	
tea or coffee with sugar or honey?	

grasshopper, cricket, bamboo worm, or snail or kiss meat?	
torborgee oil or country oil?	

M_END. End of module M date and time stamp:

DD	MM	YYYY	HH:	MM:	SS

Module N: Information on respondent

N01	INTERVIEWER: What is [NAME]'s sex?	MALE.....1 FEMALE 2
N02	What is your age? *(Age should be in complete years)*	
N03	Can you read and write in any language?	Yes ..... 1 No..... 2
N04	Have you ever attended school?	Yes ..... 1 No..... 2>>MODULE O
N05	What is the highest educational level you completed?	NURSERY/PRE-SCHOOL.....1 ELEMENTARY.....2 JUNIOR HIGH .....3 SENIOR HIGH .....4 VOCATIONAL .....5 TERTIARY.....6 OTHER (SPECIFY).....7

Module O: Result of interview

INTERVIEWER: DEAR INTERVIEWER, THE FOLLOWING QUESTIONS ARE FOR YOU. YOU DO NOT NEED TO READ THEM ALOUD.

O01	INTERVIEWER: Was the respondent interviewed alone?	Yes.....1>> O03 No, one person attended the interview.....2 No, more than one person attended the interview.....3
O02	INTERVIEWER: Who attended the interview? TICK ALL THAT APPLY.	Children.....1 Adult males .....2 Adult females 3
O03	INTERVIEWER: Was the interview with [NAME] completed or partially completed?	Interview completed .....1>> Q05 Interview partially completed 2
O04	INTERVIEWER: Reason for incomplete interview	Respondent had to leave .....1 Respondent was busy .....2 Other (spec _____) 9
O04a	INTERVIEWER: Enter your name and surname	_____
O04b	INTERVIEWER: Enter your sex	MALE.....1 FEMALE 2
O05	END OF INTERVIEW DATE/TIME STAMP	

7.3 Annex III: Sampling design

7.3.1 Reference population and estimation domains

The reference population of the WEN survey were women and men between 18 and 64 years living in agricultural households at the time of the interview. The dietary diversity section of the questionnaire was administered only to women because the MDD-W indicator is validated on women in reproductive age.

Given the measurement objectives explained in the Introduction and Methodology above, the WEN survey adopted the following estimation domains:

- Women (18-49)
- Women (18-64)
- Men (18-64)

Two partially overlapping estimation domains were created for women to ensure a good level of precision for the population group concerned by the MDD-W indicator - i.e., women between 18 and 49 years old. The sample size of the WEN survey was calculated with the aim to generate the following indicators with an expected 5 percent error for each domain:

Reference group	Indicators
Women 18-49	• individual empowerment indicators • summary empowerment metric • % consuming at least five of the MDD-W food groups • Consumption of each individual food group
Women 18-64	• individual empowerment indicators • summary empowerment metric • % consuming at least five of the MDD-W food groups • Consumption of each individual food group
Men 18-64	• individual empowerment indicators • summary empowerment metric

7.3.2 Sampling design

The sampling methodology consisted in i) randomly subsample a fraction of households from the Liberia national agricultural survey and ii) randomly select a fixed number of adults within the sub-sampled households. Despite it features a high design effect (3.5), this method generated a reasonable sample size.

The subsampling of households was performed through a simple random selection in each stratum of the national agricultural survey. Hence, the sampling of the WEN survey adopted the same stratification criteria as the agricultural survey sample. The subsampling of individuals within the selected households was performed in the field after having listed all household members[5] and was a simple random sampling within the following strata: i) women 18-49; ii) women 50-64; iii) men 18-64.

7.3.3 Sample size

First a minimum sample size of adult individuals was calculated, then the minimum number of households was determined.

The sample size of individuals was calculated for each domain of interest (women 18-49, women 18-64 and men 18-64). Since the indicators informed by the WEN module are proportions, the standard formula for proportions was used for each domain:

$$n' = \frac{1}{g} \times Deff \times \mathcal{Z}_{\alpha/2}^2 \frac{\hat{p}(1-\hat{p})}{\varepsilon^2} \qquad (1)$$

Where:

- $\hat{p}$ is the value or estimation of a target population proportion
- $\mathcal{Z}_{\alpha/2}$ is the z score for (1−α)100% confidence interval. It was set equal to 1.96.
- ε is the maximal absolute error accepted. It was set equal to 5%
- g is the expected response rate. It was set equal to 80 percent (after verification with similar studies)
- $Deff$ the design effect. A $Deff$ of 3.5 has been considered.

Plus, a finite population correction (fpc) was applied as follows:

$$n = \frac{n'}{1 + \frac{n'-1}{N}} \qquad (2)$$

[5] The individual sampling was automatically done by the CAPI application.

The following indicators collected in the Liberia Demographic Health Survey 2019/2020 were considered as good proxies of empowerment and they were used as $\hat{p}$ in the formula above. No dietary diversity indicator was found in the literature, so the study assumed the most conservative percentage equal to 50 percent.

Table 13. Proxies of empowerment used for sample size computation

PROXY INDICATORS	DIMENSION
• Percentage of individuals with influence on spending decision[6]	• INSTRUMENTAL AGENCY
• Percentage of individuals with influence on health decisions[7]	• INSTRUMENTAL AGENCY
• Percentage of individuals aware of rights over sexual harassment[8]	• INSTRINSIC AGENCY
• Percentage of individuals using financial services[9]	• RESOURCES
• Percentage of individuals with access to credit[10]	• RESOURCES
• Percentage of individuals with legally documented land ownership of land[11]	• RESOURCES

The number of households (m) for each population of interest was then calculated as below.

$$m = \left[\frac{1}{1-\rho}\frac{n}{m^*}\right] + 1 \qquad (6)$$

Where:

- m^* is the fixed number of targeted adult individuals planned to be selected per household.
- ρ is the proportion of households without any of the targeted adult individuals.

The final number of households to be subsampled for the WEN module was computed as the maximum of the sample sizes computed for each population of interest (domain). To limit sampling errors, the sampled households were allocated to the Enumeration Areas (EAs) of the national agricultural survey in a homogeneous way, ensuring all EAs were covered. Result of the calculation can be found below. They suggested selecting at least 2,336 households.

[6] Variable question [v739]: person who usually decides how to spend respondent's earnings

[7] Variable question [v743a]: person who usually decides on respondent's health care

[8] Variable question [v744d]: beating justified if wife refuses to have sex with husband

[9] Variable question [v170]: has an account in a bank or other financial institution

[10] Variable question [v169b]: use mobile telephone for financial transactions

[11] Variable question [v745b]: owns land alone or jointly

Maximum rel error (eps)	**5.0%**
Design effect	**3.5**
Expected response rate	**80%**
Zscore	**1.96**
Final sample size of households	**2,336**

Proportion of households with no man (Age 18-64)	28.5%	*FROM HIES 2014/15 + 5%*
Proportion of households with no woman (Age 18-49)	28.0%	
Proportion of households with no woman (Age 18-64)	19.7%	

Women Population (Age 18-49)

Target Indicators	Proportions	Sample size (individuals)	number of women 18-49 to be selected per household	Sample size (households)
% with influence on spending decision	26%	1,293	1	1,796
% with influence on health decisions	46%	1,670	1	2,318
% with awareness of rights over sexual harassment	10%	605	1	840
% with use of financial service	14%	809	1	1,124
% with access credit	27%	1,325	1	1,840
% with legally documented ownership	14%	809	1	1,124
% eating at least 5 food groups	50%	1,681	1	2,333
Final sample size of households for women 18-49 (max)		**1,681**		**2,333**

Women Population (Age 18-64)

Target Indicators	Proportions	Sample size (individuals)	number of women 18-64 to be selected per household	Sample size (households)
% with influence on spending decision	26%	1,293	1	1,610
% with influence on health decisions	46%	1,670	1	2,079
% with awareness of rights over sexual harassment	10%	605	1	754
% with use of financial service	14%	809	1	1,008
% with access credit	27%	1,325	1	1,650
% with legally documented ownership	14%	809	1	1,008
% eating at least 5 food groups	50%	1,681	1	2,092
Final sample size of households for women 18-64 (max)		**1,681**		**2,079**

Men Population (Age 18-64)

Target Indicators	Proportions	Sample size (individuals)	number of adult men (18-64) to be selected per household	Sample size (households)
% with influence on spending decision	40%	1,613	1	2,257
% with influence on health decisions	46%	1,670	1	2,336
% with awareness of rights over sexual harassment	4%	258	1	362
% with use of financial service	25%	1,261	1	1,764
% with access credit	34%	1,509	1	2,111
% with legally documented ownership	33%	1,486	1	2,080
Final sample size of households for adult men (max)		**1,670**		**2,336**

Final sample size of households for the WEMN module				**2,336**

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