



QuaNDiS Report

Qualitative Nutrition and Diet Study

SELEVER (*Soutenir l'Exploitation familiale pour Lancer l'Élevage de la volaille et Valoriser l'Économie Rurale*) Project

May 2017



Table of Contents

Executive Summary	5
Key Findings	5
1. Background and Objectives	7
1.1 Study Objective	7
1.2 Areas of Assessment	7
2. Study Methodology	9
2.1 Study Framework	9
2.2 Sampling Methodology	9
2.3 Data Collection Tools	11
2.4 Data Analysis	13
3. Study Findings	14
3.1 Study Demographics	14
3.2 Control over Income, Decision Making, and Food in the Household	15
3.3 Household Food Practices, Perceptions of Nutrition, and Dietary Intake	22
3.4 Women's Dietary Diversity	25
3.5 Status of Undernutrition in Children	27
3.6 Household Observations	28
3.7 Simulation of the Costs of a Balanced Meal for an Average Household	34

4.	Discussion	36
4.1	Gender Norms and Dietary Diversity in the Household	36
4.2	Household Hygiene	36
5.	Recommendations	38
6.	Bibliography	39

Acronyms

CSPS	Community Health Center (<i>Centre de Santé et de Promotion Sociale</i>)
FAO	Food and Agriculture Organization
MUAC	Mid-upper arm circumference
QuaNDiS	Qualitative Nutrition and Diet Study
RGPH	National General Census of Population and Habitat (<i>Recensement Général de la Population et de l'Habitat</i>)
SD	Standard Deviation
SELEVER	Soutenir l'Exploitation Familiale pour Lancer l'Élevage de la Volaille et Valoriser l'Économie Rurale
SMART	Standardized Monitoring and Assessment of Relief and Transitions

Executive Summary

QuaNdiS (Qualitative Nutrition and Diet Study) is a periodic nutrition study carried out under the SELEVER project (*Soutenir l'Exploitation Familiale pour Lancer l'Élevage des Volailles et Valoriser l'Économie Rurale*). It assesses nutrition and hygiene behaviors and practices and informs the adjustment of project activities to ensure better nutrition behaviors among households in the SELEVER intervention areas. The study takes place twice a year at different periods: at the beginning of the rainy season (May-June) characterized by low cereal stocks which cause restrictions in food consumption, and at the beginning of the harvest season (November-December) characterized by good food availability.

QuaNdiS aims to assess the availability, accessibility, and utilization of food products, as well as hygiene practices, of poultry-producing households. The survey documents the effect of poultry production and local markets on diets for women and children in the SELEVER intervention areas. QuaNdiS focuses on the issues of food acquisition (market access, cost of food in the market, dietary diversity and how household food purchasing decisions are made), household consumption behaviors, and intra-household distribution of food (who eats with whom).

The methodology used is based on mixed methods, combining both quantitative data collection tools (market analysis, 24-hour diet recall, and food frequency questionnaire) and qualitative tools (semi-structured interviews, 24-hour direct observation). A total of 120 households and 10 local markets in 30 villages were selected for data collection.

Key Findings

- The impact of local markets (the marketplace in the village) and of value chains, such as the local poultry chain, affect household capacity to achieve dietary diversity in rural areas of Burkina Faso
- Given the opportunity to produce poultry, poultry-producing households can access stable dietary diversity in rural areas.
- Generally, 10 food groups (from the Minimum Dietary Diversity for Women measurement) are available in the markets. A diversified meal for a six-person household costs FCFA 1,512 (\$2.75).
- The study also noted that there was little or no discussion between spouses on the way that money is used.
- Households that intensified local poultry production may benefit from considerable income flows allowing for greater dietary diversity. However, obstacles due to gender norms around food purchasing and intrahousehold food distribution still have to be overcome.

The results show that there are factors that play a greater role than the availability or the accessibility of food in determining household decisions on dietary diversity.

QuaNdiS reveals that gender roles have a significant impact on household decision-making on what is bought and how food is used and consumed. Regardless of the availability or the accessibility in markets of foods needed for a nutritious diet, women often do not have the power to decide how income will be used, thus limiting their capacity to make purchasing decisions that increase the dietary diversity of households.

Women's empowerment through their participation in the production and sale of poultry and in the control of income from poultry sales, as well as the increase in the capacity to make decisions, are essential in achieving dietary diversity of households and positive nutritional results for women and children under 2.

1. Background and Objectives

The Soutenir l'Exploitation Familiale pour Lancer l'Élevage des Volailles et Valoriser l'Économie Rurale (SELEVER) project is a five-year project funded by the Bill & Melinda Gates Foundation and implemented by Tanager, an ACDI/VOCA affiliate. The project aims to improve the nutritional status of women and children in Burkina Faso through an integrated strategy that: 1) increases household poultry production and incomes and 2) empowers women in society, the economy, and the household. SELEVER seeks to build women's empowerment and entrepreneurship capacity through increased poultry production, which will ensure an increase in women's incomes and capacity to control the income as well as improved nutritional behavior for women, children, and the whole household.

Learning is a key component of the SELEVER project; this focus allows the project to adjust interventions as needed and ensure the project is promoting the best strategies to maximize benefits from poultry production. The May 2017 QuaNDis study was undertaken in 30 SELEVER project villages in the Centre-Ouest and Boucle du Mouhoun regions.

The literature on nutrition offers a wide range of studies and surveys that have mostly focused on quantitative aspects. In several countries, including Burkina Faso, data on the nutritional status of children are regularly collected and allow for tracking of anthropometric indicators, morbidity data, and data on dietary practices of infants and young children. However, qualitative data on nutrition, which would allow greater understanding on household behaviors and decision-making related to nutrition, are insufficient. This research aims to contribute to filling this gap.

1.1 Study Objective

The overall objective of this study is to characterize the availability, accessibility, and utilization of food products and households' hygiene behaviors in order to create targeted messages on the use of income for food and dietary diversity, as well as to inform the project's early warning system.

1.2 Areas of Assessment

- Analyze the spatial distribution and availability of a reference list of food products.
- Determine the level of accessibility of the food products.
- Analyze price fluctuations of these foods in markets.
- Assess the dietary intake of individuals in households, in particular of women of reproductive age.
- Assess the probability of adequate intake of micronutrients and macronutrients in the meals of women of reproductive age.
- Analyze the organization and the steps taken in the preparation and consumption of food within the household.

- Assess the average cost of a meal covering the three food groups and deduce the capacity of households to afford such meals.
- Assess the level of food and personal hygiene and the hygiene of the surrounding environment of households.

2. Study Methodology

2.1 Study Framework

2.1.1 TYPE OF STUDY

This study combines quantitative and qualitative methods and includes: a food survey using the 24-hour recall methodology; a market survey; an analysis of the frequency of foods consumed from local markets; analysis of household discussions, actions, and interactions around food and hygiene.

2.1.2 STUDY PERIOD AND POPULATION

The study took place from May 21 to May 31, 2017. This period corresponds to the start of the farming season.

The study population is comprised of households with at least one child under two years and traders living across 30 SELEVER project villages in the Centre Ouest and Boucle de Mouhoun regions of Burkina Faso.

2.2 Sampling Methodology

2.2.1 GEOGRAPHIC SAMPLING

At the time of the survey, SELEVER was active in 267 villages and sectors across 39 communes. It was decided to collect data in 30 villages and sectors in the two Ouest regions for this study. While the project had recently started activities in the Hauts-Bassins region, this region was not targeted by this study. Half of the villages (15) are situated in zones where the SELEVER project has been working since 2016, and 15 other villages were selected from the villages that are included in the impact assessment being conducted by the International Food Policy and Research Institute (IFPRI).

The number of villages to be surveyed in each arm (SELEVER and Impact SELEVER) was calculated proportionally to the number of villages/sectors currently covered by SELEVER or which are to be included in the impact assessment. Table 1 details the village distribution.

Table 1: Villages included in Study

	Villages participating in SELEVER		Surveyed Villages for QuaNDis	
	SELEVER Villages	SELEVER Impact Evaluation Villages	SELEVER Villages	SELEVER Impact Evaluation Villages
Boucle du Mouhoun	176	10	12	4
Centre Ouest	49	32	3	11
Total	225	42	15	15

Then villages were randomly selected in each arm (current SELEVER and impact SELEVER).

Table 2: List of Villages Surveyed

List of Villages Surveyed					
Regions	Provinces	Communes	Interview villages	Observation	Market Survey
BOUCLE DU MOUHOUN	BALÉ	Bana	Somona	✓	
		Fara	Koumbia		✓
		Poura	Poura village	✓	
		Oury	Siou		✓
	BANWA	Kossoba	Sanaba	✓	
	KOSSI	Bourasso	Lekuy	✓	✓
		Nouna	Kansara		
	MOUHOUN	Dédougou	Passakongo	✓	
		Kona	Ta		
		Douroula	Kirikongo	✓	
	NAYALA	Safané	Kongoba		✓
		Toma	Secteur 7	✓	
	SOUROU	Gassan	Gassan		✓
		Tougan	Nassan	✓	
		Lankoué	Gourbala		
CENTRE-OUEST	BOULKIEMDÉ	Kokologho	Douré	✓	
		Nandiala	Gourcy		
		Nandiala	Nidaga		✓
		Sabou	Godé	✓	
		Sabou	Savili	✓	✓
		Soaw	Seguedin		
		Sourgou	Sourgou	✓	
		Thyou	Kamse		
		Koudougou	Kolgrogogo		✓
	SANGUIÉ	Poa	Loaga		
		Kordie	Pelcia	✓	
		Kyon	Po		
		Zamo	Bounga	✓	
		Godyr	Kandarzana		✓
		Pouni	Tita	✓	✓

Note: Not all villages have a market. Furthermore, given that markets are held only every three to five days in the two regions, the market survey was only carried out in 10 village markets.

2.2.2 SAMPLE SIZE

Four households were surveyed in each village for a sample size of 120 households in 30 villages. These households met the criteria of including a woman of reproductive age with a child 6-24 months old. In addition to ensuring the existence of the mother-child-6-24-months couple, the study tried to cover a range of marital statuses of women and include women from different positions within polygamous households in the study villages. Both monogamous and polygamous couples are thus included. Table 3 summarizes the characteristics of households covered by the study.

Table 3: Characteristics of Households Surveyed

Characteristics of Households Surveyed in Each Village		
Household Characteristics	Position of the Woman	Number of households interviewed
Monogamous Couple	Woman without a co-wife in the household	1
Polygamous Couple	1 st wife in the household	1
	2 nd , 3 rd , or 4 th wife in the household	1
Spouse Absent	Women with spouse absent (absent for at least 3 months, but not deceased)	1

2.3 Data Collection Tools

The 24-hour recall questionnaire, the interview guide, and a household form were administered to all 120 women identified in the 30 villages. In 15 villages, one household was selected for observation using a structured observation guide.

The market survey was carried out in 10 markets. In each market, whenever possible, three different traders were identified and the weight of each reference food and corresponding unit price were noted.

2.3.1 THE 24-HOUR RECALL QUESTIONNAIRE

The 24-hour dietary recall survey is undertaken through an interview during which the subject is asked to remember and describe all the foods and drinks consumed in the last 24 hours. Through questioning, the interviewer helps the interviewee recall her food consumption while avoiding influencing her responses. The recall, generally done in chronological order of food intake over the course of the previous day, is affected by memory failures of the respondent. Successful administration of the questionnaire depends on five key steps (Johnson 1996): the quick list of the previous day's food intake, the list of foods forgotten, the time and occasions of the various food intakes, the detailed review with the help of standardized questions and tools, and lastly a summary review of all responses.

2.3.1 THE INTERVIEW GUIDE

The interview guide collects information on:

- sociocultural characteristics of the household
- main sources of income, the management of this income, and the division of household expenditures
- division of household labor
- contribution of women in ensuring access to health care for children and themselves
- practices related to food purchase
- preparation, organization, and consumption of meals within the household.

2.3.4 QUESTIONNAIRE ON FOOD CONSUMPTION FREQUENCY

For this study, this questionnaire includes four sections that gather data on household food frequency, the availability of foods during different period, and the household's source of each food.

The questionnaire is structured as follows:

- A closed list of reference foods
- A section that notes the frequency of food intake (once a month, daily, 3 to 5 times a week, once a week, never).
- A section where the periods of availability of foods are noted (throughout the last 6 months, the past 3 months, occasionally, not at all).
- A final section on where foods are sourced from (own production, purchased from the market, gift).

2.3.5 MARKET ANALYSIS QUESTIONNAIRE

The foods available in local markets depends not only on the livelihoods profile of the area, but also on the types of crops produced in the area and supply by local and regional traders. A list of possible local foods was compiled, and data on prices and seasonal availability of all the foods was collected in the markets targeted by the study. The traders use different measuring tools or containers to sell their produce. In each market, researchers measured products sold by three different traders three times at each trader, and the prices of the products were noted.

2.3.6 OBSERVATION GUIDE

The study also used direct observation to supplement the analytical data on practices related to food, nutrition, and hygiene in households (hygiene of the family environment, children's exposure to animal droppings and excrement, food hygiene, etc.).

For the study, direct observations involved seeking consent from members of the household, in particular the head of the household, and then staying in the household to observe practices related to nutrition and hygiene and ascribing them a useful description without causing any disturbance to those being observed. Observation lasted 24 hours from 3pm the first day to 3pm the next day allowing the researcher to be present for all meals. An observation sheet was prepared to structure the observation.

To validate the data collected through direct observation, researchers were asked to keep a field journal in which the conditions under which the researcher was introduced into the household were recorded as well as the relations with the persons observed, and the degree of subjectivity of the researcher in order to identify possible biases and to undertake an objective analysis.

2.4 Data Analysis

Textual analysis (following the field survey all forms were typed up), and generation of tables and infographics were done with the help of Microsoft Word and Excel. The data collected was processed and analyzed with EPI Info 7 software. Measures of frequency were used to assess the level of various indicators. The study limits itself to univariate analysis of variables with a 5% risk of error and a 95% confidence level.

The independence of variables was tested (through the Pearson's Chi squared or the Fisher test) to assess whether links between the variables in the study existed. The tests were undertaken at the 5% significance level.

Given that EPI Info does not allow for much maneuvering for the analysis of qualitative data, the recorded discourses were first categorized to facilitate their identification and allow them to be referred to later for more in-depth analysis.

3. Study Findings

3.1 Study Demographics

3.1.1 WOMEN IN HOUSEHOLDS

The median age of women surveyed is 28, with the minimum and maximum age at 18 and 45 respectively.

The modal age is 30 years. The average age of the youngest living child of the interviewed women is 14 months [CI 95%: 8; 20]. The number of monogamous and polygamous households is respectively 53 and 67.

Table 4 shows the distribution of the number of cowives in polygamous households.

Table 4: Cowives in Polygamous Households

Cowives in Polygamous Households		
Number of Cowives	Frequency	Proportion
1	35	52.24%
2	17	25.37%
3	10	14.93%
4	3	4.48%
5	2	2.99%
Total	67	100.00%

The average number of wives in the polygamous households is 3 (including the interviewed woman from the household).

The study asked women to identify areas of occupation they are involved with (and they were allowed to pick more than one area). Our analysis found (Table 5) that while there is no statistically significant link between marital status and a woman's occupation, animal rearing and petty trade are most common in polygamous couples. This analysis corroborates the fact that in polygamous households, each wife must independently ensure the food needs of her own children.

We note that no woman in a monogamous marriage is involved in animal rearing. In effect, for most of the occupational variables, polygamous wives are more active in the occupation compared to monogamous wives.

Table 5: Women's Occupations

Women's Occupation					
	Trading	Farming/ Gardening	Livestock	Housewife	Petty Trading
Monogamous Wife	52.38%	44.44%	0%	44.26%	33.33%
Polygamous Wife	47.62%	55.56%	100%	55.74%	66.67%

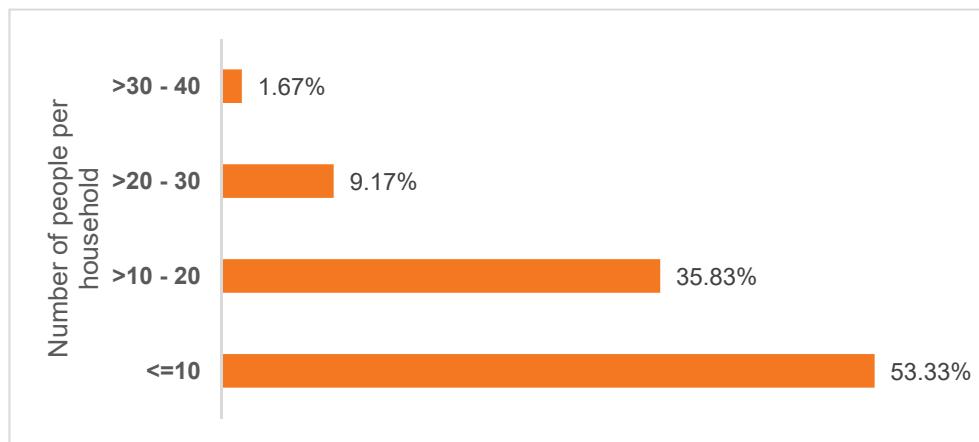
3.1.2 HOUSEHOLD SIZE:

Overall, the average size of the households surveyed is 11 people. Disaggregation according to marital status of the women shows that the average household size for polygamous households is 14 people, while for monogamous households it is 8. More than 45% of households have 10 or more members (Figure 1). These figures are larger than the household sizes from the 2006 National General Census (RGPH) which found an average household size in rural areas of 6 people. This may be explained by the fact that more than half of our sample (55.8%) live in polygamous households.

Thirty-seven percent (37%) of women have more than 4 children; the maximum number of children is 15. The average number of children per woman is 3.5. This figure also slightly differs depending on whether the women is the only wife or has co-wives. In monogamous households, the average number of children per woman is 2.5, and in polygamous households, the average is 4.

Our data shows that women living in polygamous couples have more children than those living in monogamous households. Polygamy plays a significant role in women's decisions to have more children, as more children can often increase a woman's social and political influence within a polygamous household. Husbands are expected to contribute to the achievement of this social goal.

Figure 1: Household size



3.2 Control over Income, Decision Making, and Food in the Household

3.2.1 SOURCES OF AND CONTROL OVER INCOME

The main sources of income for women come from the purchase and resale of cereals, production and sale of *soumbala*¹, sale of fruits and vegetables, sale of local beer (*dolo*), animal rearing and fattening (pigs and small ruminants). While some women reported poultry rearing among their activities, very few recorded it

¹ A preparation of boiled seeds used to flavor rice and other foods in West African cuisine.

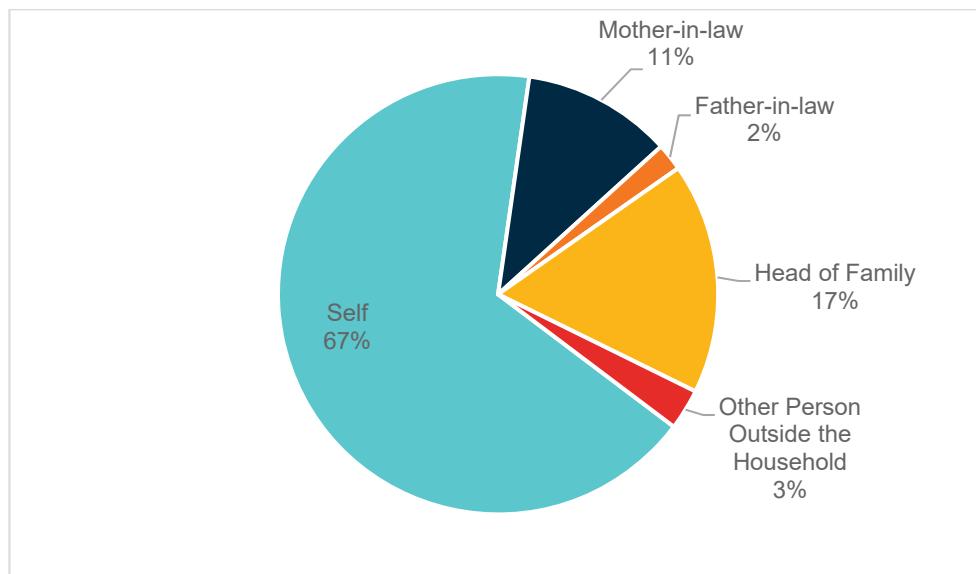
as a source of income. In the Boucle du Mouhoun region and more precisely in the Balés province, women cited gold mining as a source of income.

The survey took place at the beginning of the rainy season, and during this period, women's work consisted primarily of collecting water, cleaning, collecting firewood, minding the children, washing and cooking, caring for domestic animals (water and food), harvesting, small trade, and market gardening.

According to women, men were occupied preparing the farms and with some income-generating activities such as selling cereal, market gardening, or raising poultry and small ruminants. If women receive help in their daily activities, this generally comes from children who help with collecting water, washing up, cleaning, and minding the younger children.

Women value differently how the income derived from their activities is managed (Figure 2). While some women say that they keep their income and have control over it, others note that their income is completely managed by their husband. There are also some women who hand over their income to a third person in the household (other than the husband) or to the head of their group or association who then deposits the money in a savings account for them.

Figure 2: Management of Income Earned by Women



Among those who report keeping their income, some feel that this is the best way for them to ensure that they can access their money whenever necessary and carry-out their activities without any difficulties. Others report that because the amount of income is so low, it cannot be handed over to someone else or deposited in an account.

Other women, however, choose to hand over their money to another household member other than their spouse because they have more confidence that the chosen person can be trusted and can keep their money safe. One woman in the village of Douré (Centre Ouest region) whose husband is absent for long periods

of time declared: "I hand over my income to my mother-in-law when I go out. When I come home, I take my money back from her. It's better like this because my money is safe with my mother-in-law when I am not at home". Regarding the safekeeping of money by mothers-in-law one woman in the village of Bounga (Centre Ouest region) says the following: "If I keep [the money], I will spend it on useless things, if I give it to my husband, he will use to drink *dolo*."

In Fara (Boucle du Mouhoun region), some women opt for a "corridor" system, which consists of giving a part of their income (profits) every day to a trusted woman who keeps it for her until the end of each month. One woman in Fara explained: "Depending on the amount that you save with the *corridor*, the woman gives you back your money at the end of the month and takes a sum equivalent to the daily amount for herself (for example, if you give her 1,000 CFA every day, at the end of the month instead of giving you back 30,000 CFA, she keeps 1,000 CFA and gives you back 29,000 CFA)".

Women prefer this savings model because their money is immediately available at the end of the month allowing them to meet the monthly needs of the family. The woman in Fara adds: "I give my money to the *corridor* to keep for me so that I avoid spending on unplanned expenses. By the time I get my money back at the end of each month, I have had time to think about everything that I must buy. It also allows me to feel like a salaried worker who gets paid at the end of each month. I trust the *corridor* more than any other person. Even more than my husband whom I don't trust because if he refuses to give me my money, I cannot take him to court. But I can take the *corridor* to court if she fails to pay me."

While some women would rather not associate their spouse in the management of their income, others prefer to directly hand over their money to their spouse. They report doing this as a question of security as well as respect for the spouse. One woman in the village of Kandarzana (Centre Ouest region) notes: "Giving my money to my husband to keep allows me to save, protects me from security problems, and creates understanding between my husband and me, and it is also a sign of respect and esteem toward my husband."

In both Boucle du Mouhoun and Centre Ouest, regardless of who keeps the money, women are expected to explain to their husbands what they decide to do with their money and to get his approval before spending the money. While some do not ask for approval for certain small purchases such as buying clothes or shoes for the children, this is not the case for larger purchases such as buying a bicycle or an animal.

Figure 3: Profile of People who Keep and Control Women's Income

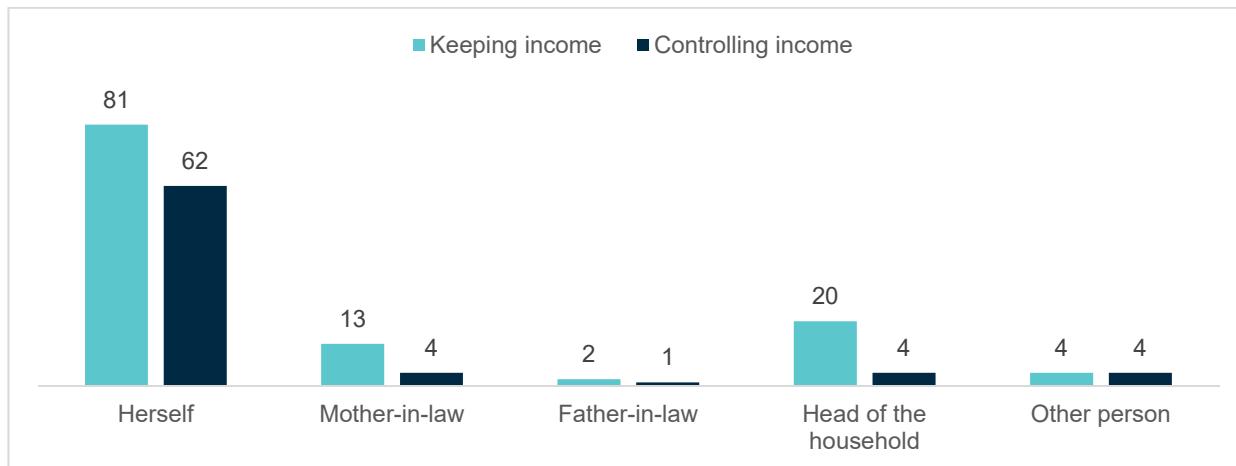


Figure 3 illustrates the differences between how women's income is safeguarded and how it is controlled. Among the women who keep their own income, more than three-quarters (76.5%) declare having control over their income. Among the women who hand over their money to their husbands, only 20% control their income. Furthermore, all women who kept their money outside the household reported managing their income by themselves.

3.2.2 WOMEN'S ACCESS TO HEALTHCARE AND ASSOCIATED COSTS

Most women in the two regions were not accompanied by a household member during their prenatal visits at the community health center (CSPS) during their last pregnancy. Some women in monogamous couples say they were accompanied, but this occurred only in cases when they were sick. In polygamous couples, when the pregnant wife is sick, it's the husband's brother or the eldest son who accompanies her to the health center.

If a prescription is written during the health visit, 50% of women report that they themselves pay for the prescription. For another significant part of pregnant women (20%), it is the father-in-law who buys the medicines. While there are some cases of husbands covering healthcare costs for his family (wife and children), there are several cases in which this is not systematically done, and the rare support provided by others does not in most cases cover all healthcare costs. Thus, the decision to go to health centers or not often depends on the husbands, but the costs associated with such a visit may have to be covered by the wife. Because the decision is taken by men, access to the center and to health care may see long delays.

3.2.3 HOUSEHOLD PURCHASES

The analysis that follows enables us to understand the fields in which women are investing and how they use their money.

Table 6: Women's Purchases

Women's Purchases	
Items	Frequency of women spending money on the item
Purchase of food products	82.75%
Purchase of clothes and personal hygiene products	70%
Laundry soap	87%
Food preparation purchases (ex: costs of milling cereals)	92%
Household and kitchen utensils (ex: broom)	94%
Health care	50%

Women's income is for the most part used for buying fruits and vegetables that go into sauces or soups, soap, children's shoes and clothes, children's school fees, kitchen equipment, healthcare, and sometimes staple cereals. Traditionally, women are entirely responsible for purchasing the fresh produce for meals, while purchasing cereals, school fees, clothing, and healthcare are, in theory, the responsibility of husbands. However, this analysis shows that in several cases, these costs are being covered by women.

Women increasingly participate, sometimes exclusively, in covering the cost of non-food items such as clothing and jewelry. These purchases are particularly important in polygamous households where women spend a part of their income to take care of themselves and make themselves desirable to their husband so that they can have a stronger position, greater consideration, and more social influence in the household. One woman in Boucle du Mouhoun, a third wife in a polygamous household, explains: "When I have money, I buy clothes for my twins (2 boys) and my 5-year old daughter. Because I have two co-wives, I take good care of myself so that I will catch my husband's eye, and so I buy clothes and shoes to dress well, good lotions to make my skin glow, and I regularly (once per month) braid my hair. When it's my turn to cook, I cook." In this account, we can see that there is a form of competition that pushes women to dedicate a significant part of their income to non-food purchases, with potentially detrimental effects on the food budget. For these women, purchasing a diverse diet for herself and her children may be considered secondary to these non-food purchases.

Traditionally, there are certain non-food purchases that should be covered by a man once married, for example, the purchase of the first batch of cloth wrappers, clothes, plates, and kitchen cutlery for the bride². However, these purchases are increasingly covered by women themselves. Jean-Yves Marchal (1987) who researched the Mossi region refers to the Yatenga Mossi customary rule that a husband must feed and clothe his wife and children (article 78). Several studies on

² The size and quantity demonstrate the capacity of a husband to take good care of his wife and to protect her.

household purchases highlight the contribution of women's in purchasing non-food items such as clothing but do not really detail the effect this shift in spending can have on other household purchases.

It thus appears that men may be relieved of this responsibility, in some contexts against their will because as Bilampa Thiombiano (2014) explains: "With the concern of maintaining his status as the head of the family, a husband must also control his wife's spending to reduce the influence of such spending... .For them a powerful man is one who is able to meet the needs of his family (his credibility within the community depends on this). The contribution of women to household spending may result from an agreement between the couple, but the husband will always seek an arrangement which allows him to maintain his position as head of the family and his authority, and above all to control his wife. " (Thiombiano, 2014: 265).

In this case, increasing women's income will not automatically increase the money spent on food, nor on healthcare. This corresponds to what Berman et al. (1997) report; the authors noted that in cases in India where the possibilities for income-generating activities are increased, money spent on caring for children does not necessarily increase: "child-related expenditure may even reduce in some regions of India."³

Decision making around agriculture production and the purchase of agriculture inputs are the man's responsibility. In households where the man still lives in his parent's homestead, fathers-in-law and mothers-in-law participate in the household's food purchases. Mothers-in-law thus contribute to the purchase of fresh produce, bouillon cubes, and dried fish; fathers-in-law purchase cereals when these run out, if they have the money.

In both regions and in most households, there is no discussion between the woman and the head of the household on household spending. Each takes care of "their" purchases. If a man calls on his wife, it is to discuss occasional problems (family health issues, school fees). In the village of Loaga in Boulkiemde province, one woman in a polygamous household believes it is difficult for a husband to discuss things with his wives. She affirms: "Seeing as there are two of us wives, it is difficult for my husband to manage. Each takes care of herself...often I see my father-in-law to talk to him about my expenses."

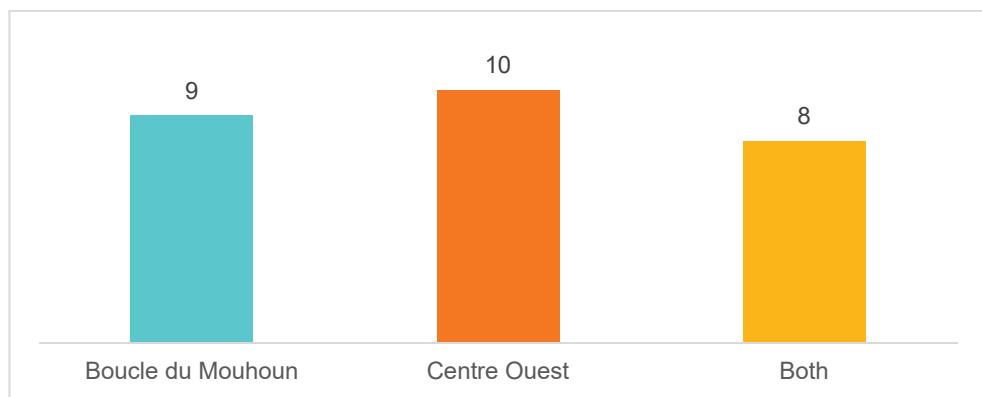
3.5.1 DECISION MAKING AROUND DIETARY DIVERSITY AND FOODPURCHASES

Decision making around food varies from one region to another, and from one household to another. But generally, it appears that cereals are provided by men, while in most cases, condiments (fresh leaves and legumes) to cook with the cereals are provided by the women. After harvest, the cereals are stocked by the husband who each day gives the quantity required for cooking to his wife.

³ Berman, Khumtakar, Zeitlin, Roy, and Sarojini: Does Maternal Employment Augment Spending for children's health care? A test from Haryana, India, Health transition review 7, 1997

The survey sought to specify the amount of influence women have on decisions about diversifying foods in the household. It appears that when women have the necessary income, they can have an impact on positive changes in the family's meals. However, they do not always have the power to decide or to initiate changes at the household level. Figure 4 shows that less than 10% of women make decisions concerning the diversification of the family's diet.

Figure 4: Percentage of Women Reporting Decision-making Power to Diversify Family's Diet



In addition, the survey reveals that households do not have a dedicated budget for food purchases. Cereals generally come from the household granary. Spending on cereals only occurs once the granary is empty.

There is no planning for short- or medium-term food needs. The staple food is cereal and other foods that supplement this are generally provided by the woman depending on the season and her income. The issue of dietary diversity is rarely discussed, and the household generally does not know what will be on the menu each day. The only certainty is that there will be *tô* (a paste made from maize, sorghum, or finger millet flour), but the type of sauce for the *tô* is determined by a woman's personal means each day. Men do not play a part in diversifying the household's food choices.

There is a high level of monotony in the meals consumed in the household. On ordinary days, it is women who take the initiative to seek alternatives to *tô*. One woman in Douré in Boulkiemde province explains; "When I have money, I prepare new meals. My husband does not invest in new meals. When we inform him, he says that he doesn't have money."

Husbands provide money for a staple other than *tô* only when he himself wants such a meal, and in this case, he provides the money and necessary resources. On holiday occasions (Ramadan, Tabaski, Christmas), women report that men make efforts to provide money for cooking, in large part, because of the expected guests.

In addition, support from husbands to diversify the diet of their pregnant wives is not notable. Only 14.6% of women declare that their diets changed slightly during

their pregnancy and delivery. During their pregnancy, they received foods like meat, fish, and fruits. However, after their pregnancy, they no longer had access to these foods.

3.3 Household Food Practices, Perceptions of Nutrition, and Dietary Intake

3.3.1 MAIN MEALS AND ORIGINS OF FOOD

As already noted, the main meals in the study's two regions consist of cereals (maize *tô*, millet, and sometimes rice). These dishes are accompanied with sauces made with baobab, kapok, or sorrel leaves. Legumes such as beans are only eaten occasionally.

"The family does its best to ensure that children have three meals a day".

Interviewee in Balé

In the Boucle du Mouhoun region, the study shows that most food eaten comes from the household granaries. While some households buy foods at the market, this generally does not happen for more than two months of the year and is essentially limited to the lean period of July and August. In the Centre Ouest region, harvests stocked in the granary last only two months. Households thereafter rely on the market or gifts from close or distant relatives to meet their food needs. In some families, farm production does not even cover the month following harvest, and they are thus highly dependent on the resources and food products available in the markets and their own financial capacity to buy from the market.

When families are obliged to buy cereals to feed themselves, the frequency of meals falls. The number of meals per days falls from three to two for adults, in some cases to even just one meal; for children the number of meals is maintained, because as one monogamous woman in Pelcia in Sanguie province explains: "Children cannot handle hunger." One polygamous woman in Somana in Balé province adds: "The family does its best to ensure that children have 3 meals a day".

3.3.2 ORGANIZATION OF MEALS

In polygamous households, meals are prepared in turn by the different wives, and the wife who cooks is the one who serves the meal. There are significant differences between households and villages in how meals are served.

A third wife in a polygamous household in the Boucle du Mouhoun region explains that "The wife who has cooked serves out 4 big portions. The men eat together, the women together, the girls together and the boys together. Each group, except for the men who are served, goes and gets their plate in the kitchen." A first wife in a polygamous household in the Centre Ouest region notes that: "The father-in-law has his plate, the mother-in-law hers, and then there is a plate for the unmarried, a plate for the small children, a plate for the big children, and a plate for the head of the family."

In Tita in the Centre Ouest region, a polygamous woman explains that on market days, there is no cooking in the household. Each woman does what she can for her children.

For monogamous couples, the study reveals that generally when the wife has cooked, she serves out three plates: one for the husband, one for the children, and one for herself. In some cases, the husband eats with the male children and the wife with the female children and youngest child.

The dietary habits of households change very little or not at all. Introduction of new foods or changes in types of food occurs very rarely. When change does happen, it is the woman's responsibility to take care of it. These occasional changes in diet come around mainly because of requests from the children.

Most women specify that they are entirely responsible for preparing the meals for the youngest children. Men don't necessarily give any priority to what the youngest children eat.

Moreover, the survey revealed that women can prepare meals separate from the common meal. However, all the costs linked to the separate meal are to be borne by the woman, and women report that in most cases this financial burden is an obstacle. A polygamous woman in the Boucle du Mouhoun region explains: "With the large number of people [in our household], it is not forbidden to cook a separate meal, but with the meagre means we have, we avoid this because everyone would come with their plate to ask for some."

3.3.3 ROLE OF THE FIRST WIFE

Concerning the role of the first wife in polygamous households, women report that generally there is no difference between wives. The first wife does not have a specific role to play. Each wife cooks when it is her turn to cook. However, we observe that in the Centre Ouest region, in the village of Doure, one co-wife states that: "As a first wife, my role is to show how new meals are to be shared. I am also responsible for managing the cereals [stock]".

3.3.4 ROLE OF MOTHERS-IN-LAW

In most cases, mothers-in-law do not participate in food preparation for the whole family. Their primary role is to prepare food for pregnant and nursing women and for the feeding of very young children. It should be specified that their contribution is mostly focused on what foods are to be avoided by a pregnant or nursing mother (a nursing mother should avoid beans so that the infant does not get bloating or stomach aches) or by a child.

3.3.5 PERCEPTIONS AND TREATMENT OF MALNUTRITION

Malnutrition is viewed as being the fault of the mother. She is pointed to as being responsible for the malnourishment of her child. The wife hides the child's condition from her husband who is unaware that the child is suffering from undernutrition; it is rare that fathers are aware of the state of malnourishment of their children. This can often result in delays in a mother bringing her sick child to the health center because she does not have her husband's approval. The interviews with nutrition and health

focal points⁴ reveal that when women arrive in health centers with malnourished children, the children are already in a very bad state.

Undernutrition is not well viewed by the husband because, as the head of the family, he is supposed to be responsible for "feeding" the household; it is thus not possible for him to accept a state of undernutrition caused by lack of food. Other reasons for undernutrition, such as witchcraft, are generally cited. If the whole family eats, then he has fulfilled his primary obligation to "feed and care" for the family; therefore, it is inconceivable for him that there is a malnourished child in the household. If this occurs, then the mother is directly blamed (either for her incapacity to take care of her child, or in some cases even for witchcraft).

3.3.5 PERCEPTIONS AND REALITY OF GOOD NUTRITION

The food and nutrition survey also focused on the perceptions of the families themselves of what constitutes good nutrition (Table 7). What does it mean and of what does it consist for different members of the household? Is good nutrition something that is sought after in the criteria for well-being? In general, a "good meal" or "eating well" refers to the quality of the meal that is to be eaten. "Eating well" consists of foods that are very frequently consumed, but that are supplemented with food of animal origin (fish, chicken) or food that is not usually accessible (rice, groundnut soup, spaghetti, or macaroni). Eating well holds several meanings depending on whether one is a child, a pregnant woman, a nursing woman, or an adult. There are also differences in meanings across regions.

Table 7: What It Means to Eat Well

Category	Centre Ouest Region	Boucle du Mouhoun Region
Man	<ul style="list-style-type: none">Rice with groundnut soup<i>Tô</i> with sorrel sauce with peanut and fish	<ul style="list-style-type: none">Rice <i>tô</i> with <i>plassas</i> (sauce made of leaves) with fresh fish and soumbala as well as crushed groundnuts
Woman	<ul style="list-style-type: none">Chicken or fresh fish accompanied by hot millet or maize <i>tô</i><i>Tô</i> with sorrel sauce with peanut and fishRice with groundnut soup	<ul style="list-style-type: none">Chicken or fish soup with long grain riceGood groundnut soup with chicken and local riceRice with a good groundnut soup or vegetable stew or pasta jollof style.
Pregnant or Nursing Mother	<ul style="list-style-type: none">Rice with groundnut soup and <i>zom kom</i> (a drink made from millet flour and sugar)<i>Tô</i> with baobab leaf <i>plassas</i>	<ul style="list-style-type: none"><i>Tô</i> with baobab leave <i>plassas</i> with mutton or offalGround finger millet mixed with bean leaves and steamed,

⁴ During institutional visits to the regional health directorates.

	<ul style="list-style-type: none"> <i>Balanites</i> and eggplant leaves <i>Plassas</i> Porridge or if child has nursed well, breast milk If the child has eaten <i>tô</i> and their belly is big, they have eaten well Millet porridge and <i>tô</i> with dried baobab leaf sauce 	<ul style="list-style-type: none"> eaten with oil (known as <i>gnonkon</i> in Dioula or Bwamu) Millet porridge Good light <i>tô</i> accompanied by a sticky sauce and soumbala Light <i>tô</i> with baobab leave sauce with soup
Infant under 6 months		
Child 6-24 months		

It is important to note that in the Tita, Doure, and Savili areas, women place little importance to the quality of meals; what counts most is the quantity. Indeed, several women insist that "A woman has eaten well if her stomach is full. Even if the meal was not good." This perception is important to note because it puts specific attention on the quantity of food that women generally have access to. Observation shows that when meals are distributed, women are served last and very often women have to think about keeping some of their food for the youngest children. Thus, both the type of food and the quantity (whether it is sufficient) of food is a reality that needs to be observed and analyzed for women.

For pregnant women, we note that all women declare that it is difficult to specify the preferences of a pregnant mother. They say: "A pregnant mother is complicated and as difficult as a baby. She does not have any food preferences. Her food needs change according to her mood."

3.4 Women's Dietary Diversity

Table 9 shows the Minimum Dietary Diversity Score for women along 10 food groups per the FAO (2016). More than one-third of women have a dietary diversity score of less than 5, where 5 indicates an acceptable level of diversity. The average number of food groups consumed by women is 4.84. The lowest number of food groups consumed is 2 and the highest is 8 food groups.

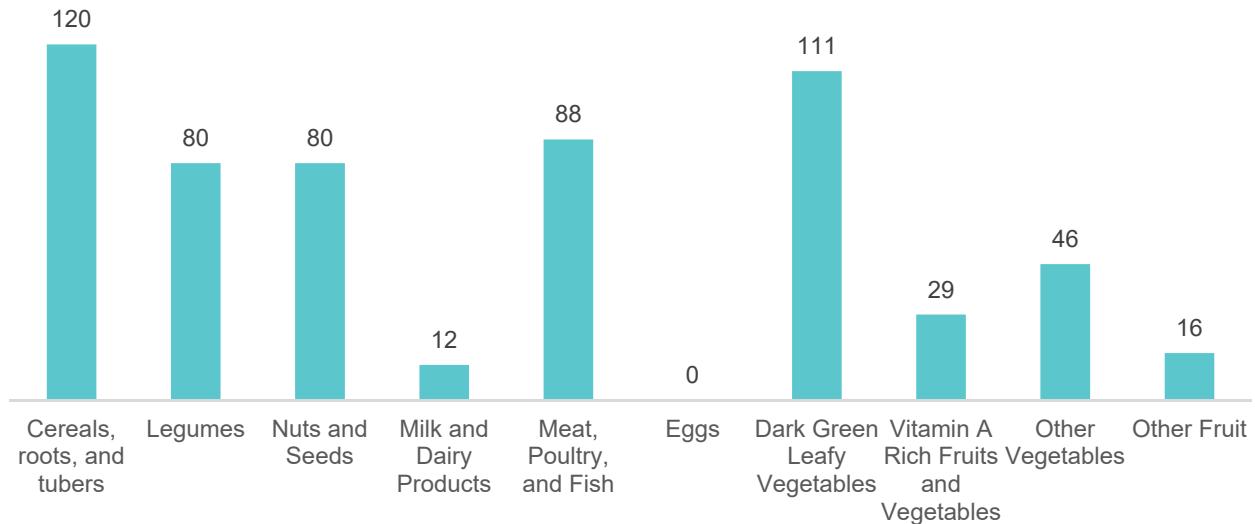
Table 9: Dietary Diversity Score of Women Surveyed (120 women)

Women Making Decisions on the Diversification of the Family's Diet		
Diversity Score Interval	N	Percentage
[2-4]	45	38%
[5-6]	64	53%
[7-8]	11	9%

Figure 5 highlights that there are shortcomings in the diets of mothers, in particular with regard to adequate intake of macronutrients and micronutrients. This can be

explained by the fact that women's diets are essentially based on the food available in the household, and the staple food of households is cereals.

Figure 5: Consumption Frequency for 10 Food Groups



In effect, all women report having eaten cereals the day before the survey, 73% of women report having eaten meat, poultry, or fish (mostly dried fish added to a sauce). No women reported having eaten eggs.

Table 10 presents household consumption of various cereals as reported by women respondents.

Table 10: Household Consumption of Various Cereals

	Consumption Frequency in The Last Month						Availability					Food Source			
	Once a month	Daily	3 to 5 times per week	Once a week	Never	Other (specify)	Throughout the 6 months before the survey	1 to 3 months in the past 6 months	4 to 5 months in the past 6 months	Occasionally	Not at all	Own production	Purchased in the market	Gift	Own production and purchases
Whole maize	14	2	9	8	73		53	13	1	3	39	52	12	3	8
Millet, finger millet	9	29	34	17	24		65	16	4	16	10	79	17	0	11
Sorghum	10	27	24	18	35		52	11	7	7	27	59	11	2	
Rice	23	7	31	37	8		21	12	4	46	8		90	2	6

3.5 Status of Undernutrition in Children

To calculate the proportion of children that were undernourished at the time of the study, the mid-upper arm circumference (MUAC) was measured for children age 6-59 months in surveyed households.

Table 11: Proportion of acutely malnourished children age 6-59 months based on MUAC measurement

Region	Number of children measured	Acute Malnutrition (moderate & severe)	Moderate Acute Malnutrition	Severe Acute Malnutrition
Boucle du Mouhoun	60	5%	5%	0%
Centre Ouest	60	5%	1.67%	3.33%
Both	120	5%	3.33%	1.67%

The results show that 5% of children have a MUAC measurement of less than 125mm and/or edemas. This includes 1.67% of severe cases with a MUAC

measurement of less than 115mm and/or edemas. The results obtained in this study are much higher than those from the 2016 Burkina Faso National SMART Nutrition Survey, which found a 2.5% rate of overall malnutrition and 0.4% rate of severe acute malnutrition.

3.6 Household Observations

Direct observation gave us an open window to understand the daily practices and hygiene and sanitation behaviors of the households and of mothers of children less than two years. It also provided an opportunity to triangulate information on the distribution and the intake of meals within the households with what had been reported by mothers during the interviews.

3.6.1 OPPORTUNITIES FOR HANDWASHING

Observations revealed that the opportunities for washing hands are few and far between in the households. Generally, the only opportunity occurs at the time of the evening meal when all members of the family wash their hands with just water, no soap. Soap was not observed in most households during the entire observation period.

Handwashing with plain water is done in a shared bowl. Some household heads also washed their hands after having handled poultry; however, this was also done without soap or ashes. The equipment available for handwashing observed are buckets, basins, kettles, and water cups.

Men, young children, wives, mothers-in-law, and brothers' wives were all observed with regard to their hygiene practices in the household. Analysis shows that the age of the persons observed does not have a notable impact on the practice of handwashing. The practices observed are carried out by young people and adults, by first wives and third wives, by heads of family and by children of varying ages. Ethnicity and religion also do not have any influence on the practices and behaviors observed.

3.6.2 MOTHERS OF YOUNG CHILDREN

When the information from mothers of children in the two regions (Boucle du Mouhoun and Centre Ouest) is isolated, one can see that the practices observed are very similar (Table 12). Women wash their hands with plain water (no soap or ashes) after cleaning a child that has defecated, after sweeping the yard, before preparing porridge for their children, before feeding porridge to a child, and before preparing dinner. However, handwashing among women did not happen in the following situations:

- before nursing their child
- before giving their child something to drink
- before putting water in the drinking water jar

- before starting to cook⁵
- before cutting fresh produce
- before preparing the morning maize porridge when waking up
- after having touched a baby's feces"⁶.

Table 12: Household Handwashing Habits

Situation	Hands Washed		Washed with water only		Washed with Water & Soap/Ashes	
	Yes	No	Yes	No	Yes	No
After having defecated (had a bowel movement)	✓		✓			✓
After having cleaned a child's bottom (or after contact with human excrement, including that of babies and children)		✓		✓		✓
Before starting to cook or to prepare food		✓		✓		✓
Before serving food or drink to the family		✓		✓		✓
Before eating	✓		✓			✓
Before feeding a child	✓		✓			✓
Before nursing a baby		✓		✓		✓
After having touched poultry or after contact with domestic animals		✓		✓		✓
After cleaning the chicken coop	✓		✓		✓	
After having touched or taken care of poultry		✓		✓		✓
After sweeping/cleaning the yard		✓		✓		✓

3.6.3 HANDWASHING IN CHILDREN

There are several situations in which a mother should wash the hands of her child. These situations for children include after having defecated, before eating, after hand contact with the ground, after all contact with poultry, or after contact with

⁵ The specific practice is: "she simply cleaned her hands on a cloth hanging on a rope. This cloth was not clean."

⁶ Cleaning bottom with a cloth.

domestic animals. Only two mothers were observed washing the hands of their children with soap and water before eating and after having played on the ground. The other situations listed did not lead to a child's hands being washed with soap and water. Even after a child had defecated, handwashing is not observed. In addition, it is important to note that children do not wash their hands after any contact with poultry or contact with domestic animals.

The most common practice is to wash hands with just water before eating. It is the only practice that is strictly observed in most households. We note also that some mothers often count on the child's evening bath for handwashing. Field observations noted: "Children play and have fun with the dog without being told to wash their hands afterwards. At meal time, water in a single bowl used for hand-washing is what is used, and it ends up dirty. "Children play on the ground touching the soil, but hands are only washed at meal time. Children's hands are often washed using a kettle and also in a bowl with plain water before and after the meal."

3.6.4 OTHER CAREGIVERS

Other caregivers in the family, such as mothers-in-law, were observed to not wash their hands or to wash hands with plain water and no soap before feeding the children. Handwashing without soap by mothers-in-law caring for children was noted during the observations.

3.6.5 POULTRY AND HOUSEHOLD HYGIENE

Almost all observed households had chicken coops inside their compound. The chicken coops are not improved models and thus do not have any compartments. Only four households possessed coops with compartments and a small inner yard. The observation data further shows that from early morning, birds are left to run freely in the courtyard, and they walk around both in the yard and under the trees outside the yard.

Close contact between chickens and humans is a concrete reality for households in these two regions. Some observations point out how, for example, chickens pick food from children's plates in some households. This situation is encouraged by the fact that during the observation period, no household member gave anything to eat or to drink to the poultry: "During the observation period, we did not see any member of the household take care of the poultry (food and water). Consequently, the chickens picked food from children's plates; they put their beaks to whatever they can find." "In the morning when the household awakes, the poultry was not fed. Some chickens come and eat from the children's meals when they are eating."

Handwashing when handling poultry is done only with water, no soap is used. The heads of household and mothers-in-law who were observed handling and taking care of poultry and of the chicken coop did not wash their hands with soap.

3.6.6 POTABLE WATER

Access to a source of potable water is very low for the households. Only 4 out of 15 households were observed getting water from a borehole, and one household got its water from a tap. The rest of the households used wells as their drinking water source. Water is stored in jars, barrels, buckets, and jerrycans, which are very often left uncovered. Only 4 out of 15 households were observed covering their jars and jerrycans.

Furthermore, the behavior and practices at home do not always guarantee that the water used and consumed is potable, even in the households that have access to boreholes or tap water. Children are observed using cups picked up from the ground to take water from uncovered jars, jerrycans, and buckets; parents use cups and calabashes to take water, drink directly from them, and then use them again to take out water. The field data reports note, for example: "Children serve themselves water and put the rest back in the jar." "Children do not wash their hands before drinking and put the rest of the water back in the jar." "They take out water with dirty hands and stop to drink it hovering directly over the jar, and often some water falls back in the jar." "Adults also don't wash their hands before drinking. They pick up water bowls from the ground to take out water."

3.6.7 LOCATION FOR FOOD PREPARATION AND MEAL CONSUMPTION

The location of food preparation is situated either inside a kitchen built specifically for cooking, outside such a kitchen, or next to the house. These places are generally swept and cleaned. Ashes are regularly removed and disposed of outside the compound.

Cooking utensils, on the other hand, are not put away and remain strewn around in different places throughout the day. Plates and kitchen dishes are only washed when it is time to cook. When they are washed, they are washed only with water; no soap is used. "After cooking the used utensils are not washed and are put back on the ground. Animals wandering around the compound lick these utensils."

Often, the water used to wash dishes is kept until the next day to be used for other things. It must be noted that keeping dirty water for re-use was observed in a household that had access to tap water. In some households, dirty water is kept within the reach of young children who play with this water. Therefore, the issue of access to water is not just linked to whether there is a functional source of potable water, but also to issues such as payment or purchase of water and women's workloads.

Moreover, in other households, food preparation takes place without the site having been swept. It is also interesting to note that with the presence of poultry who are not housed in appropriate chicken coops, as soon as meals are served, the serving dishes are invaded by chickens looking for food, although at this point in the evening, the chickens should have already eaten and be locked up in their coops. The example below describes the situation: "The place for meal preparation is located next to the woman's house. There are dishes strewn around, with the wooden spatula leaning against the wall, the mortar and pillar lying on the ground covered in sand, and the

chickens are going around the plates that are lying everywhere. We note a marked presence of fresh chicken droppings in the meal preparation site, due to the number of chickens roaming around. When the woman serves the meal, the chickens rush around and take advantage of the moments of inattention of the woman to pick from the meals already served and ready to be distributed to the other members of the family."

3.6.8 LEFTOVER FOOD

Leftover food remains in uncovered dishes but are placed indoors away from flies. Often leftover food is left exposed to dust, flies, animals, and insects that crawl on the food. Seeing as leftover food is not covered, dogs and pigs who have access to the interior of the house sometimes eat food directly from the utensils or the pots that were used for cooking the food. In three households, however, it was observed that leftover food was kept indoors and well covered. Leftover food is also often left on the walls near each courtyard.

We examined whether there were links between the clean and well-maintained compounds and how leftovers were managed. In effect, the handling of leftover food was better in households where the yard appeared to have been swept and cleaned.

3.6.9 ACCESS OF ANIMALS TO THE HOUSE, HANDLING OF POULTRY AND OTHER ANIMAL DROPPINGS

The entrance of houses cannot prevent animals from entering. In addition, the size of compounds and proximity of chicken coops results in close and shared space between humans and animals. Small ruminants and chickens can enter the houses at will. Animals entering the house are only chased away if they make something fall. They thus have access to all parts of the compound: "pigs and sheep roam freely in the compound; often they enter the house and lick kitchen utensils." Chickens are found roaming freely in the compound and inside the houses.

We noted proximity between chickens and the inhabitants of the households, especially children, at meal times. Sometimes children fight with chickens over their food, like in the following example from one household: "a two-year old child was eating with his plate of rice on his lap, and a chicken put his beak in his plate grabbing a piece of meat that was on it. The grandmother who was nearby chased the chicken who let the piece of meat fall to the ground; the grandmother picked up the meat and put it directly back onto the child's plate with the sand it had picked up."

Chicken droppings are frequently seen all around the compound and even inside houses. Chickens, fowls, goats, and pigs are often found in the compounds and in the houses without any surveillance. They leave behind rubbish and excrement, which are not quickly picked up or cleaned.

There is practically no management of chicken droppings. The chicken coop remains filled up with droppings, which then overflow into the compound: "As the

chicken coop is an old house, it has a large door: children easily enter the coop and play with chicken dropping." "Children and adults walk on them and the seven-month old baby is sitting among the droppings, his hands in direct contact with the ground, and no one is paying any attention." In rare cases, chicken droppings are collected and put in bags to be taken to the farms.

The excrement of other animals is also not well managed in the households. For example, cow dung and sheep and goat droppings are in big piles in the main compound. Children are constantly in contact with these excrement as they cross through them to enter or leave the house.

3.6.10 CARE OF CHILDREN

The data shows that children's hygiene practices do not receive much supervision and guidance from adults. Children are left to themselves, and they make their own choices about where to pass their time during the day. Throughout the day, barefoot and in just underwear, children are left in direct contact with rubbish found on the ground, with excrement of various animals, and with animals themselves inside and outside the compound.

For their naps, the youngest children are lain on outside on mats, cereal bags, or pieces of cloth, inside the compound, or in front of shops for those whose fathers own a shop. Some younger babies are kept on the backs of their mother or their grandmother.

It is important to note that in most households, the state of children's bodies and clothes does not appear clean. They are dressed in clothes noted as being "very dirty" and often go to sleep without taking an evening bath. Mothers do not always bathe their children. Sometimes children (6 and 7 years old) take their baths all alone and bathe the smaller children. However, in one household, children were observed to have been bathed in the evening. They were bathed and dressed in clean clothes by their mother. Their feet, however, were not protected by shoes.

Children were very often observed putting their hands in their mouths during the course of the day, and often in inappropriate places such as where rubbish is present, inside and outside the compound. Various objects were also observed being put in children's mouths.

3.6.11 EATING OF ANIMAL EXCREMENT OR CHICKEN DROPPINGS BY CHILDREN

Only two incidents of children putting animal excrement or chicken droppings in their mouths were noted during the observation period. In these cases, children were observed handling excrement and chicken droppings and then putting them in their mouths. "The 9-month old child of the interviewee was sitting on the ground next to the wall with his hands in a pile of goat droppings. She was playing with the droppings, which she picked up. At a certain moment, she lay on her stomach and picked up the droppings with her right hand and put them in her mouth." "The child of the interviewee was sitting on the ground playing with her sister while her

mother was pouring manure on the field. He scattered a pile of manure with his hands, picked some up, and put it in his mouth."

3.6.12 DISTRIBUTION OF FOOD AT MEALTIMES

In both monogamous households and polygamous households, it was observed that the distribution of evening meals in the household was done according to the status and ages of family members. In monogamous households, the head of the family and other men present eat together, as do women and young girls. The male children are grouped together to eat from the same dish.

In polygamous households, adults commonly eat individually each with their own dish (husband, wife, co-wives), while the children eat from shared dishes according to their age group. In cases where several heads of families live together (lineage brothers), each man eats in front of his door. Women also each eat in front of their doors. In some households, all children eat their meals alone. There were very few cases observed of meals coming from outside.

3.7 Simulation of the Costs of a Balanced Meal for an Average Household

The definitive results of the 2006 General Census (RGPH 2006)⁷ gave the average household size as being composed of six people. The market analysis enabled us to estimate the average cost in the market of various products consumed by households. The 24-hour recall survey showed that 100% of households consumed cereals, 92.5% green leaves, 73.3% meat, poultry, and/or fish. We identified a reference balanced meal consumed by people in each region:

- **Centre Ouest:** maize *tô* with sorrel sauce made with crushed groundnuts and dried fish
- **Boucle du Mouhoun:** millet *tô* with fresh okra sauce made with *dawa dawa* seeds and dried fish

Table 13 provides estimates for each region of the cost of a balanced meal for a typical family of six people.

Table 13: Estimated Cost of a Meal in Centre Ouest

Ingredients	Cost in FCFA ⁸ for 4 people	Cost in FCFA for 6 people
Maize Flour	600	900
Sorrel	50	75
Crushed Groundnuts	50	75

⁷ http://www.insd.bf/n/contenu/enquetes_recensements/rgrp-bf/themes_en_demographie/Theme10-Menages_et_Habitations.pdf

⁸ 1 USD = 607 FCFA

Dried Fish	100	150
Salt	25	25
Onion	50	50
Oil	50	50
Other (firewood, etc.)	100	100
Total	1,025	1,425

Table 14: Estimated Cost of a Meal in Boucle du Mouhoun

Ingredients	Cost in FCFA for 4 people	Cost in FCFA for 6 people
Millet Flour	450	675
Okra	300	450
Dawa dawa	50	75
Dried Fish	100	150
Salt	25	25
Onion	50	50
Oil	50	50
Other (firewood, etc.)	100	100
Total	1,125	1,575

4. Discussion

4.1 Gender Norms and Dietary Diversity in the Household

In general, the household members' diets are not diversified. Food eaten is essentially composed of cereals and leaves. The three food groups of energy-giving foods, body-building foods, and protective foods are rarely found together in a meal. In some cases, animal protein comes from dried fish. Meat (chicken or goat meat) rarely feature in meals. The food that children and women eat depends essentially on what is cooked in the home.

Prevailing social norms discourage a woman from buying foods to eat outside of the home (market). Men have more opportunities to access a wider diversity of food in the market and in big towns, while women make do with what is cooked at home.

While in most cases men provide the cereals, often women have contributed to the growing of these cereals. Furthermore, men do not concern themselves with the provision of fresh produce to cook with the cereals. In a context where households, and women in particular, lack financial resources, the difficulty that women have to "put the pot on the fire" can easily be understood. In addition, when children refuse to eat because of the monotony of meals, it is up to the women to draw from their resources to buy alternative foods for the child. This means that the good or poor nutritional status of children remains linked to the economic power of women. Yet, women's economic power in the household is generally limited, resulting in malnutrition in children and a low dietary diversity score for women.

4.2 Household Hygiene

Hygiene in the households is overall quite precarious. Regular contact between humans and animals (poultry, goat, dogs, etc.) is observed, and this does not encourage good health conditions for the family. There are high risks that children regularly consume chicken and animal droppings, and animals themselves eat from children's dishes and drink drinking water meant for humans.

There is a strong relationship between nutrition and hygiene. While the households have access to the various food groups, they consume them in unsavory settings and under inadequate hygienic conditions. This situation not only exposes household members to potential illnesses but may also cancel out beneficial effects of dietary diversification for women and children. The good health of older children and children depends on their nutrition and health status during their early childhood. Chronic malnutrition in children has profound consequences on their future psychological and psychomotor development.

In poultry-producing households, increasing poultry flocks may have negative effects due to increased production of chicken droppings, which are currently badly managed. Recent studies show that washing hands is by far the best way to avoid the spread of various diseases. However, our study has shown that household members have a low propensity to wash their hands at critical moments. While

handwashing with soap is strongly recommended, the reality is that soap is not available in the households, and it is generally women who have the responsibility to buy soap; so, when they do buy some, they tend to use the soap with great frugality.

5. Recommendations

This study has characterized the nutritional profile of households and assessed the dietary intake of women and children. The survey also highlighted hygiene and sanitation practices of the households.

TO BETTER GUIDE PROJECT INTERVENTIONS, WE MAKE THE FOLLOWING RECOMMENDATIONS:

- Facilitate access of women to income-generating activities like poultry production to improve their economic power.
- Encourage technical training and sharing of best practices in poultry production, including proper poultry housing, vaccination, nutrition, and access to market price information.
- Strengthen the technical capacity of households in the field of nutrition and hygiene by insisting on dietary diversification and on the importance of handwashing.
- Encourage men to support women in improving household diets by making financial resources available to buy fresh produce and animal protein.
- Advocate to community leaders to encourage the participation of women and their acceptance in various sectors of employment.
- Advocate to community leaders to encourage greater control of income by women themselves.
- Support women in improving their living environment in their household by contributing to the purchase of soap and cleaning of compounds, chicken coops, and better supervision of children.

6. Bibliography

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