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Perceptions of Time-Use in Rural Tanzanian Villages: Working With Gender-Sensitive Tools in Nutritional Education Meetings

Izabela Liz Schlindwein[1], Michelle Bonatti[1,2], Nyamizi Hashim Bundala[3], Kim Naser[4], Katharina Löhr[1,5], Harry Konrad Hoffmann[1], Stefan Sieber[1,2] and Constance Rybak[1]*

[1] The Leibniz Centre for Agricultural Landscape Research ZALF e.V., Müncheberg, Germany, [2] Department of Agricultural Economics, Humboldt-Universität zu Berlin, Berlin, Germany, [3] Department of Food Technology, Nutrition and Consumer Science, Sokoine University of Agriculture, Morogoro, Tanzania, [4] Brot für die Welt, Berlin, Germany, [5] Division Urban Plant Ecophysiology, Faculty of Life Sciences, Humboldt-Universität zu Berlin, Berlin, Germany

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***Correspondence:**
Izabela Liz Schlindwein
izabela.liz80@gmail.com

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Food consumption and nourishment are related to the availability and use of resources by different social groups within a country. Communities experience hunger not just due to biophysical restrictions, but also their socio-cultural conditions. For this reason, international scientific cooperation seeking to improve nourishment must be interdisciplinary and connected to disciplines covering all relevant dimensions, including hunger, health and well-being, gender, and inter-ethnic relations. Studies on constraints and drivers of food consumption in Sub-Saharan Africa indicate that although women make decisions regarding the type of meals consumed, they lack control over food production, especially on small farms. While the term gender equally is commonly found in discourses on nourishment projects, knowledge regarding gender programs and education for men in remote patriarchal villages in Eastern Africa is rare. To close this research gap, this study seeks to understand (1) basic notions of masculinities and femininities of this inter-ethnic group; and (2) how traditional knowledge can influence decisions related to Unpaid Care Work and nourishment. The case study area is inhabited by the Wagogo, a predominantly pastoralist and patrilineal tribe practicing settled agriculture or migrating to urban areas throughout Tanzania. To achieve these research goals, we explicitly develop pedagogical strategies to interact with adults living in the villages, separated into men and women. These pedagogical tools encompass Nutritional Education involving 80 participants, including female and male farmers, community leaders, primary school teachers, and health professionals. Based in time-use field of knowledge and proposed activities based on participatory methods, we established bonds of trust with the community, initiating a truly open dialogue about food consumption and decision-making. This study reinforces the need to address the ethnic identities of the researched regions in order to not just comprehend the traditions and culture, but also the food and nutrition of the indigenous people.

Keywords: gender equality, hunger alleviation, inter-ethnic relations, nutrition education and culture, unpaid care work

INTRODUCTION

Studies on the constraints and drivers of food consumption in the Chinoje and Mzula villages, of Chamwino District, indicate that although women have the sole decision-making power regarding food consumption, they lack decision-making power regarding food production. When focusing on production resources, women still face (strong) limitations related to accessing agricultural inputs and credit (Ogunlela and Mukhtar, 2009). Traditionally, in many parts of the world, men are connected to the public world of work, while women are connected to the private world of, for example, housekeeping and childcare. Because of the disconnect between their labor and the financial rewards women face, women experience alienation and often feel that society does not equally value their work compared to that of men (Appelrouth and Edles, 2010; Feinstein et al., 2011).

One of the 17 Sustainable Development Goals set by the United Nations in 2015, Goal 5 ("Achieve gender equality and empower women and girls"), presents commitments to the achievement of gender equality. Target 5.4 commits States "to recognize and value unpaid care and domestic work through the provision of public services, infrastructure, and social protection policies and the promotion of shared responsibility within the household and the family."

This research paper has two main objectives. It seeks, first, to display and analyze discourses and performances related to gender and inter-ethnic relations that emerged during meetings for Nutrition Education and, second, to understand how traditional knowledge can influence decisions related to time-use and nourishment in two Tanzanian villages located in the Chamwino district. Chinoje and Mzula are located 60 and 30 km, respectively, from Dodoma, the district capital. These villages were selected because of their severe status with respect to nourishment vulnerability. In the **Figure 1** it is possible to see where Dodoma is located.

FIGURE 1 | Map showing Tanzania within Africa, then Dodoma and Morogoro regions/Chamwino District, within Tanzania. Source: Scale-N project.

Case of Study Description

The Tanzanian population comprises more than 120 ethnic groups, of which the five largest are the Sukumas, Hayas, Nyakyusas, Nyamwezis, and Chagas (Rigby, 1967; Curtin, 1984; Mazengo, 2011). The population of Tanzania more than tripled between 1967 and 2012: soaring from 12.3 million to 44.9 million (Census 2012).

According to Mnyampala (1995), a researcher born in Chamwino district during the era of East German Africa, Ugogo—"the land of Gogo"—was considered the most food insecure and undernourished in German East Africa, British Tanganyika, and now Tanzania. Therefore, survival adaptation in this environment is what primarily defines the Wagogo.

Chamwino is among the 65 districts in Tanzania with high levels of famine. This area lies on the central plateau of Tanzania in the western bearing along the Dar es Salaam-Dodoma road. The district council is divided into 5 divisions, 32 wards, 78 villages, and 687 hamlets (URT, 2003a,b; Mazengo, 2011).

Chinoje and Mzula have their own hierarchies and customary laws. Key informants are the village executive leader (government position), village chairman (elected by community), hamlet leadership (elected by community—political position), and cell leaders/representatives (appointed by village chairman). These people acted as knowledge multipliers in the communities.

Mnyampala (1995) clarifies that, in the nineteenth century, many strategies were developed by its communities to ease agricultural production in this arid region. Thus, pastoralism was combined with the cultivation of drought-resistant grain crops. Both grains and bran were stored for consumption over time. As living conditions were poor, population densities remained low and settlements were dispersed. Traditionally, households also maintained strong links with relatives in order to guarantee the exchange of (agricultural) products. Further, Mnyampala notes that wars and epidemics further aggravated this situation.

He specifically cites the Mtunya, "the Scramble," from 1916 to 1920, when heavy requisitions by the German and British military forces during the East African campaign—combined with a drought and an influenza pandemic—resulted in the killing of about 30,000 people out of an estimated population of 150,000 (Mnyampala, 1995).

However, household consumption patterns have changed since the nineteenth century. Reciprocal arrangements against food insecurity have developed. These include labor sharing in crop fields; exchanging or loaning food, livestock, and cash; as well as, in some cases, sending members of a distressed family to live with relatives or friends (Zinyama, 1987; Shayo and Martin, 2009).

Food Consumption Profile

Research from the Scale-N project (http://www.scale-n.org)[1] shows that two food groups are regularly consumed in Chamwino: carbohydrates (ugali-bulrush millet) and vegetables (mlenda). Livestock and dairy products are infrequently used as food sources. During activities proposed in nutrition interventions in the region, participating families declared that they consume meat one to three times per month and that men generally have priority in its consumption.

Furthermore, participants mentioned the central role of elder women as source of traditional recipes, even if many are no longer followed, be it for the lack of ingredients or by the dwindling influence of these older women. During the rainy season, the Wagogo women are usually busy harvesting and processing green leaves, including mlenda, cowpea, and pumpkin leaves. The leaves can be seen drying on the ground in their backyards. A common recipe is dried cowpea or pumpkin leaf boiled with onions served with a side of tomatoes.

There is a single deep well in Chinoje that provides safe water for the community, but not everyone has access. Most people extract domestic water from sand rivers. A few families keep cattle or chickens, which are usually sold to help with basic consumer spending (Scale-N, 2007).

METHODOLOGY

To analyze discourses and performances related to gender and interethnic relationships that emerged during Nutrition Education meetings and understand how traditional knowledge can influence day-to-day decisions in the Chamwino District, a 23 day field research project was conducted, involving meetings at the Sokoine University of Agriculture—Morogoro, community centers, and households in Dodoma region.

The nutritional education training sessions were held during May 2017 with farmer families (men and women) in Chamwino District. A total of 80 farmers (men and women were equally included, the majority aged between 35 and 45) attended four workshops in the villages of Chinoje and Mzula. In addition to the active observation of theater scenes mirroring events experienced by locals in the context of nutritional education, both expert interviews and focus group discussions were conducted. The intention was to improve nutrition awareness among primary school teachers, community trainers, health workers, and local leaders. To stimulate critical thinking with regard to power relations in the particular social contexts of the case study villages, the workshops were based on the technique of Theater of the Oppressed (Boal, 1979, 1992, 1995, 1998, 2001).

This research started with a review of the gender, African studies, and time-use literature (see the Pre-fieldwork activities timeline on the **Figure 2**) (see **Table 1**). This was followed with an in-depth analysis of the empirical material obtained from the "Economics of sustainable Land Use" department of the Leibniz Center for Agricultural Landscape Research (ZALF), which was involved in a research project in the case study villages. Subsequently, a field-level cultural analysis was conducted. To understand the relevant gender and inter-ethnic relations, local literature was reviewed (Mnyampala, 1995; Matunga, 2008; Shayo and Martin, 2009; Mazengo, 2011; Waritay and Wilson, 2012; Kalinjuma et al., 2013; Lyana and Manimbulu, 2014).

As a preparatory measure, before data collection started, different strategies to interact with the community were analyzed by the interdisciplinary group, which comprised researchers from Humboldt University Berlin and Sokoine University of Agriculture (SUA), Morogoro. To guarantee an interdisciplinary research approach, Food Science Graduate students were specifically employed in data collection to interact with locals in the communities focusing on food consumption issues. The Nutrition Teaching Material consisted of posters with basic concepts of gender and inter-ethnic relations, images representing the local agriculture, as well as questions about the everyday life of men and women. These teaching materials were translated into Kiswahili, since the Chamwino District is highly diverse with regards to tribes and languages.

Each ethnic group in Tanzania has its own language, but the majority are also conversant in Kiswahili. Further, to reach non-Kiswahili speakers, collaboration with regional translators was essential for both verbal communication and for cultural translations (Pálsson, 1994; Rubel and Rosman, 2003). Moreover, many elderly women in the region are only able to speak their tribe language, and not Kiswahili[2].

The theater activity (using non-verbal communication) proved very effective in a region where many languages are spoken and where literacy rates are below the world average. Between 2002 and 2012, the number of literate citizens in Tanzania grew from 69 to 78% among the population older than 15. In addition, 83% of men are literate compared to 73% of women (2012 census). However, Chamwino has lower literacy rates: only 57.2% of the population older than 15 in the district is literate (2012 census).

Based on the concepts of Consciousness and Empowerment of Paulo Freire and the Theater of Oppressed Techniques of Augusto Boal (Forum Theater), initially—and as an exercise to better understand the community setting—a debate on gender and nutrition in the homesteads was proposed through a timeline description for men and women. Subsequently, collectively and spontaneously, the women were invited to construct a scene that would show men their daily life from morning until night. The same exercise was proposed for men. For this, the participating individuals set the scene of the environment where the family normally lives. The mediator/translator encouraged the audience to articulate their opinion regarding the division of tasks.

Effective community interactions in nutrition projects requires the use of mediation (tools) that facilitate the

[1] *Scale-N:* Nutrition—Diversified Agriculture for a Balanced Nutrition in Sub-Saharan Africa. Available online at: http://www.scale-n.org (accessed January 10, 2017).

[2] The individual interviews, as well as the workshops, were held in the Chinoje and Mzula villages, in Swahili, through translators/students from Sokoine University of Agriculture (SUA). The information was given in Swahili from respondents, recorded first by translators and then translated to the first author, who wrote the raw data in a field diary. Subsequently, the first author validated the translations with another group of translators/researchers/lectures from SUA.

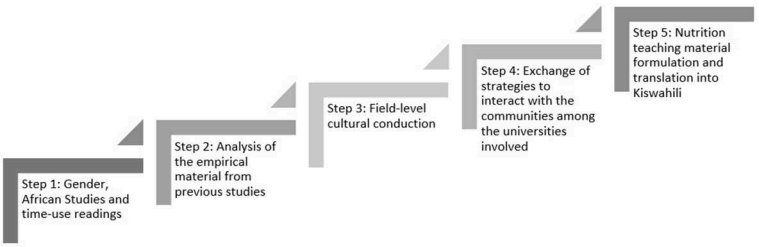

FIGURE 2 | Pre-fieldwork activities timeline. Source: Author's own elaboration.

TABLE 1 | Steps, objectives, and methods combined during the nutritional interventions.

Steps	Objective	Methodology
I. Introduction of the nutrition team and explanation of the interventions steps and Scale-N implementation phases.	To build jointly a trustful environment in the community.	Participatory method (classroom was organized as a circle and everyone could be heard and seen)
II. Debate on gender and nutrition at home through a timeline for men and women, so the local citizens could describe their daily tasks (from sunrise to sunset) (see Results and discussions).	• To understand how the tasks are shared inside the home as well as how men and women consume and produce food (food distribution and food related household tasks among family members). • To recognize food and hygiene behavior as well as how to improve it.	Participatory method (engaging the plurality of community voices/social actors)
III. Setting a daily life scene for women/men and then swapping the roles.	To stimulate the thinking of power relations in particular social contexts.	Activity inspired by the Theater of the Oppressed
IV. Discussion about the main categories that emerged from the activities (see Debate on gender and domestic work).	To understand the previous and traditional knowledge related to gender and the sexual division of labor.	Participatory method
V. Reading and learning together with auxiliary material, like posters on gender translated into Swahili.	To introduce basic concepts of gender	Participatory method
VI. Opening questions about being women/men in the Wagogo tribe (see Debate on gender and domestic work). E.g.,: • The feeling of belonging to ethnic groups; • Who has the priority to eat inside the families; • Sexual Division of Labor; and • Public policies focused on gender issues.	• To activate memories of childhood scenes in the relationship with parents, everyday dialogues at home of ways to raise children or of episodes seen in the villages; • To stimulate the dialogue on gender, allowing the interviewees to think about their own actions and their speeches, promoting reflection on the implications of their subjectivities on the food practice. • To find which discourses produce invisibilities, promote and reproduce hierarchies between the sexes and reinforce hegemonic patterns.	Participatory method

Source: Authors' own elaboration.

engagement of the plurality of community voices/social actors who are involved in the situation (Bonatti et al., 2018). For the activity with the community, the perspective of Brazilian educator Paulo Freire (Freire, 2018) was chosen. This methodology provides tools to understand the food consumption, facilitating a process that improves life conditions.

RESULTS AND DISCUSSIONS

The daily work pattern of women and men in the Wagogo tribe differ significantly. In general, women are found to work longer hours with more varied tasks and responsibilities than men. In the Chinoje and Mzula villages, the exercise showed that women's roles are mainly attached to the preparation of food, including the collection of fuelwood. Generally, women are responsible for feeding the family, resulting in less free time to work, study, or meet friends.

Before reporting how daily Tanzanian life unfolds, it is important to understand how Swahili time works. It is a local method of telling time. Since the sun typically rises around 6 a.m. and sets around 6 p.m., Tanzanians tell time by counting the 12 h of light and the 12 h of darkness. For example, for both one and another the first hour of light and darkness (7 a.m., 7 p.m.) are called first hour ("saa moja").

Women wake up when the sun rises (6 a.m. in clock time) to clean the house and prepare breakfast for the children. Subsequently, the couple moves toward the fields ("schamba"), returning home in the afternoon. Most of the time, men have lunch at the sixth hour of the day, which is noon in clock time, and couples do not always eat lunch together. Fetching water is also a female activity, which can be done either in the morning or in the afternoon, according to the participants. If there are children who are old enough, they will fetch water while mothers stay home working on other household chores.

When there is no water available nearby, water fetching is equal to traveling to a neighboring village (three times per week, if not daily), which can take up to 3 h—one way—walking. If the well is too far and if a bicycle is available, men will fetch the water. During the rainy season, both men and women rest after lunch before going back to the farms until around eleventh or twelfth hour (5 or 6 p.m.). In the afternoon, women also collect firewood and crops to cook.

During sunset, the family eats dinner for roughly 30 min. During the first hour of night (7 p.m.), meals are complete, but more (female) household chores need to be finished before bed. At the third hour of night (9 p.m.), women and children go to sleep, while men go out and socialize until fourth hour (10 p.m.), if not later, at the kilabu (club or meeting point in the villages).

Debate on Gender and Domestic Work

Time-use research became popular in the early twentieth century in Europe and the United States for demographic and industrial studies of urban and rural populations. Psychological studies on hours spent on leisure activities in companies or among the unemployed were also commonly conducted. Starting in the 1970s, research on time use began entering the feminist agenda, highlighting the importance of unpaid domestic work. Currently, surveys on the use of time are applied periodically in countries like Canada, Denmark, France, the Netherlands, and the United Kingdom. In Latin America, 19 countries conduct independent time-use surveys or added question modules in household and employment censuses (Razavi, 2007; Antonopulos, 2008; Barajas, 2016).

In Tanzania, some authors address this topic, including Shayo and Martin (2009) and Feinstein et al. (2011). In some countries, legislators and decision makers are also engaged in the formulation of laws requiring information on time-use and unpaid work nationally, through time-use surveys and unpaid work accounts. Although there is progress in the production of statistics on time-use and unpaid work, it should be noted that advances in public policies to address inequalities in labor markets remain limited.

Unpaid work is attached to informal agreements and commitments within families or social circles. In addition to ordinary household chores, these include: (1) the care of household members with symptoms, malaise, or illness; (2) care of family members with physical, mental, chronic illness, advanced age, and permanent disabilities; (3) tasks in support of another household (relatives or friends); and (4) volunteer activities for organizations, churches, and other non-governmental organizations (Esquivel, 2014).

Equality between men and women is an essential item in international public policies for the protection of the family. This principle is seen in the Universal Declaration of Human Rights [Article 16 (1)], the International Covenant on Civil and Political Rights [Article 23 (4)], and the International Covenant on Economic, Social, and Cultural Rights, which ensure equality between men and women (Committee on Economic, Social, and Cultural Rights, General comment No. 16, para. 27).

Gender equality is an objective of the Convention on the Elimination of All Forms of Discrimination against Women.

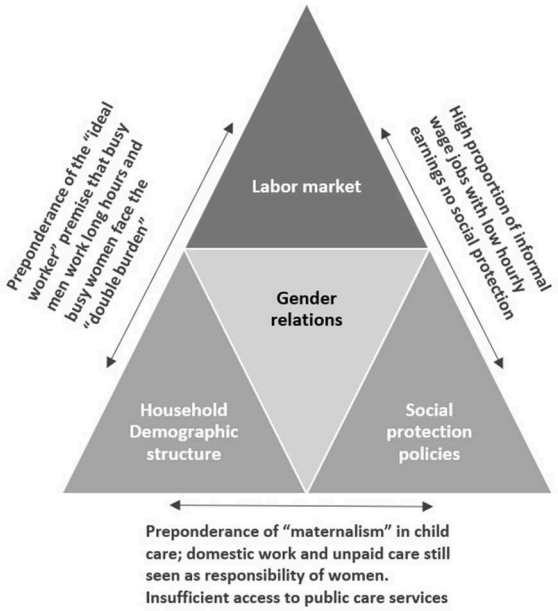

FIGURE 3 | The interconnected dimensions of deprivation, under the gender focus. Source: reprinted from Esquivel (2014).

TABLE 2 | Perceptions on femininities and masculinities.

Men and women in the audience—Chinoje and Mzula
♂QCM 1*–The man is the decision-maker. He takes care of the family and owns the land.
♂QCM 2—The husband has the full decision (issues related to the land).
♂QCM 3—Most men should have a lot of energy to take care of the family. Men should get animals for hunting.
♂QCM 4—A woman should take care of the family.
♂QCM 5—The woman should respect her husband at home and in the community.
♀QMC 6—Women remain silent during the discussion.

*Source: Field research 2017. Based on discussions with farmers and groups in the two villages. All direct quotes in the article are translated from Swahili to English by the authors. *QCM: Quotes Chinoje and Mzula.*

The Convention calls for the modification of practices based on traditional roles or based on social and cultural standards, recognizing common responsibility in the education and development of children (Article 5) (Human Rights Committee, General comment No. 28; Committee on Economic, Social, and Cultural Rights, General comment No. 16; Committee on the Discrimination against Women, General recommendations No. 21 and No. 29). The **Figure 3** shows the interconnected dimensions of deprivation, under the gender focus.

For the Nutritional Education Meeting participants, being a man in society means (1) getting married; (2) having a place to live; and (3) earning money. The masculinities are also linked with (4) the right to speak in public spaces. The discourses and silence of women about the topic of masculinity are shown in **Table 2**.

Studies of masculinities (Mead, 1970; Scott et al., 1989; Grossi et al., 1998; Louro, 2000; Silberschmidt, 2005) show the existence of pressures on men, who are seen as responsible for providing for the family and as the ideal type of worker to occupy decision positions or jobs that require physical strength. A superior position is reaffirmed, since male discourse has priority in public spaces. One community-elected female village leader in the Chamwino district had difficulties expressing herself and using the position's official powers. During her term, she received much criticism and even suffered violence, noting that, "Men do not want to be controlled by a woman."

During the activity, men responded on behalf of women. The silence of women is also an important result in this context, representing the lack of opportunity to think about their own conditions. The design of the educational tool based on the Theater of Oppressed seemed relevant in supporting local participants to voice their interpretations about daily life (Freire, 2018). Community people have important ideas (voices) to solve their own problems (effective, diversified, and related to all the components of the food value chain). From a sustainable development perspective, integrating these ideas in project activities may promote empowerment (Bonatti et al., 2018). However, this process cannot be done without simultaneously raising awareness. To shrink differences in voice between households and society, it is necessary to encourage women to participate in decisions in both the public and private spheres.

In this case, the meaning of being a married woman is still attached with having children, morals, and values. In the following, typical answers of participants regarding the question "What does it mean to be a man or a woman?" are displayed.

Traditions still play an important role among the Gogos, especially among elderly people who were raised under these rules. Typically, Gogo children are primarily instructed to follow the taboos and customs of their father's lineage, only incorporating minor aspects of their mother's lineage. In families with only daughters, the daughter will transmit the right to rule to her husband when getting married. In general, the first male child has the authority to rule the house, with his siblings required to comply. He is the one who inherits the house, receives the upinde (bow), and sits in the chair to take care of all his relatives (Mnyampala, 1995).

During puberty, the Wagogo practice how to perform their gender role—a sort of life skill training. Even before turning 18, girls and boys go through their rites of passage. The grandmother has the responsibility to teach the female grandchildren her traditions, while the grandfather teaches his male grandchildren how to take care of the family and how to build a house. Occasionally, girls participate in a kind of "internship" in another family's home to learn about common household chores, a process called unyago, that will be reproduced after marriage. This feature is not exclusive to Gogos, with studies confirming that women continue to feel that they are primarily responsible for reproductive labor (caregiving and domestic roles including cleaning, cooking, and child care). Furthermore, women are more willing to give up or change their work and private life to accommodate these activities (Appelrouth and Edles, 2010; Feinstein et al., 2011).

TABLE 3 | Perceptions on fixed gender roles.

Men and women in the audience—Chinoje and Mzula
♂QCM 6—Women are better doing what they are doing. It has been always like that.
♂QCM 7—People are studying and things are changing.
♂QCM 8—When the woman is in the hospital, the man takes care of the children.
♀QCM 9—But they don't do it!

*Source: Field research 2017. Based on discussions with farmers and groups in the two villages. All direct quotes in the article are translated from Swahili to English by the authors. *QCM: Quotes Chinoje and Mzula.*

TABLE 4 | Perceptions on traditions in marriage.

Men and women in the audience - Chinoje and Mzula
♂QCM 10—Traditionally, nothing is oppressing women. Because we are working together.
♂QCM 11—It is too much work, but we must do.
♂QCM 12—Without rules, life is impossible.
♂QCM 13—The man cannot take care of the kids. The woman can do man's work, but not the opposite. The man cannot survive without the woman, but the woman can survive without the man.

*Source: Field research 2017. Based on discussions with farmers and groups in the two villages. All direct quotes in the article are translated from Swahili to English by the authors. *QCM: Quotes Chinoje and Mzula.*

There is also a social expectation, even among women, that women are responsible for managing the family and household. In most cultures, women do more unpaid housework than men, with the vast majority of men—and women—considering this arrangement fair. As shown in **Table 3**, participants understand that the fixed gender roles are a social behavior learned from tradition. After the practical exercise, when the question was, "What is your opinion about how the household tasks are divided," an interesting dialogue between the two genders in the audience emerged.

On the other hand, the participants do not believe that traditions cause oppression, as shown in **Table 4**.

Marriage and Family Configurations

The Total Fertility Rate in Tanzania is 5.5 per woman. This means that the average woman residing in Tanzania will give birth 5.5 times (Nuptiality and Fertility Monograph of the 2012 Population and Housing Census). In the vast majority of African families, men are considered to be household heads. However, some reports, like the Tanzania Household Budget Survey (HBS) (2011–2012)[3], reveal a significant proportion of female-headed households. The percentage increased from 18 percent in 1991/92 to 25 percent 2011/12, perhaps motivated by an increase in the number of women who are divorced, separated, or widowed (HBS, 2011–2012).

[3]Tanzania National Bureau of Statistics, Tanzania Household Budget Survey (HBS) 2011–2012.

The daily patterns of work of men and women do vary, depending on the type of economic activities, local cultural norms, and family configurations. Many Gogo rites disappeared after being forbidden by the colonial European governments, as they did not suit the conditions of the time. New religions also played a central role in changing this cultural aspect of the Wagogo. Nowadays, each member of the tribe has the freedom to choose whether to follow the "younger" monotheistic religions (mainly Christianity or Islam) or to continue with the ancient customs. However, Christianity, specifically Anglicanism, prevails in Chinoje and Mzula. Marriage (mostly in the Anglican church) typically occurs when individuals are 16–18 years old, after the father chooses a man for his daughter. For most societies, in addition to being a religious rite, marriage represents economic security and is the main requirement for giving birth. "Marriage" is so overwhelmingly important in this culture that being single is considered unthinkable.

During the discussions about the meaning of marriage, it was said that, *"If a woman is not married, she does not have a good image in the community,"* thus reinforcing the necessity of the dependency. Marriages used to be related to exchange customs among Gogos, but traditions like dowry and early marriage are no longer practiced, even though the future husband is still be chosen by the bride's father. Traditionally, a prosperous man could have two or three wives, even if he lacked the resources to take care of his families. When thinking about polygamy and the process of constituting the masculine identity, it is inevitable that the theme of male domination and the consequential female subordination is approached (Bourdieu, 2001).

In addition to expressing male power, polygamy can contribute to the vulnerability of women's sexual and reproductive health by exposing them to sexually transmitted diseases. This practice also minimizes a woman's expectations of marriage.

Abandoning a marriage has dramatic repercussions for women, ranging from losing the right to access commonly acquired goods, social devaluation through slander, and experiencing general repudiation from relatives and community, if not violence directed against them. These aspects hinder any attempts to abandon their marriages. Many girls in the case study villages are taken out of school in order to assist with domestic responsibilities or to marry. The inequities in access to education, within social norms, leave women economically dependent upon their male partners. Fearing shame, women do not report abuse. In this sense, we question socialization that leads to violence against women. The report organized by the United States Agency for International Development (USAID)[4] Health Policy Initiative in 2008 demonstrates that many forms of gender-based violence are naturalized in Tanzania.

In her studies, Rose Shayo, a senior lecturer from the Institute of Development Studies based at the University of Dar es Salaam, states that the interaction of gender, age, land, and crop management are not easy to analyze or understand, as this complex network is closely related to household structures that differ depending upon ethnic group and geographic location, among other factors. The major reason is that men and women have either joint plots for cultivation of crops or separate plots—the latter being more common in female headed and in polygamous households. Female headed households usually manage their own land and crops. Complicating considerations, young people in a household may also have their own plots. The division of labor tends to follow the lines of gender relations emanating from traditional practices and religious norms (Shayo and Martin, 2009). It is relevant to note that in the cases of Chinoje and Mzula, some activities are considered to be the exclusive responsibility of either men or women. One example is green leafy vegetables processing (washing, soaking and drying), which only women carry out.

Awareness Raising for Unpaid Care Work

During the final discussions, the group agreed that men have fewer activities than women, with Gogo tribe traditions providing the justification. When asked to invert the roles between men and women, it seemed like the participants were aware of the amount of work shared and whether it was fair or not. However, when men were specifically asked about how they feel about women working so hard, they replied that men use more energy than women, as they have more strength: *"Men are spending a lot of time on the farm, having a very busy time."* For men, building a house is a typical male activity, whereby woman can only help with small activities, such as fetching water.

On the other hand, according to men, women make huge contributions to food production, working on the farms with the seeds, as well as the processing and storage of food: typically, men drive the ox cart while women plant the seed. In the theater experiment, participants likewise demonstrated that the traditional gender roles are marked by tasks unique to men and women. Men were clearly linked to the spheres of "production" and "leisure" while women were in the realm of "reproduction" and "house chores."

A common male concern is related to their image in the community: *"The man can only cook if the woman is sick. If the society sees you helping your wife, then you are considered weak. Cleaning, cooking, laundry, collecting firewood, and bathing children are women's tasks."* The notion of "burden" can help in understanding these realities. This term is often used in reference to women's considerable time expended performing Unpaid Care Work (UCW). Reports highlight that women around the world spend approximately two to three times as many hours per day working than men (UN, 2016). Contemporary feminist efforts to embed UCW into the post-2015 development agenda are mobilized around the "Three Rs" framework: Recognition, Reduction, and Redistribution of UCW (Elson, 2017).

Discussion on Gender and Inter-ethnic Relations Which Emerged From the Activities

Although Shayo and Martin (2009) finds that the Sexual Division of Labor differs from region to region in Tanzania, there are some activities common for women living across almost all of Tanzanian—if not most African villages. Female duties include

[4]USAID Health Policy Initiative. *Gender-Based Violence in Tanzania: An Assessment of Policies, Services and Promising Interventions Task Order*. Available online at: http://pdf.usaid.gov/pdf_docs/PNADN851.pdf (accessed March 10, 2017).

child care, processing green leafy vegetables, as well as the collection of both water and firewood. In contrast, African men tend to be dominant with respect to land ownership and control, with extended decision making power over, in particular, the utilization of incomes from family farms and other income generating activities, including those of women. Shayo highlights that gender roles are changing, particularly with the increase in the number of female-led households in Tanzania. As an example, she mentions Fumagila village (Mwanza), where informants report that about one-third of the households are headed by women. These include both widows and unmarried mothers. Across Tanzania, the percentage of rural households that are female headed is increasing. Another example provided by Shayo is the Ukombozi Women Farmers Association in Mpanyani village, in Mtwara Rural. In this matrilineal society, women have the power to decide on various aspects of farming, including farm sizes and the types of crops to be grown each season. As the person mainly responsible for care taking of the family, the women are also responsible for nourishment and basic household facilities, such as kitchenware, and community services. Most women spend their production income to purchase food items that are otherwise not available locally, such as fish and meat. In an even more advanced stage of power, the women use their income from the crops to invest in utensils for their business, paying hired labor to clear and till virgin lands.

> An assessment of gender relations at household level reveals similar observations to those in existing literature by gender equality advocates. To most gender activists, household are areas of power struggle between men and women on various aspects including personal and family oriented issues. Most studies argue that the nature and character of gender relations in most rural households is not homogeneous neither static. In most households, including male and female headed, there is a lot of bargaining, cooperation, conflicts and contradiction (Shayo and Martin, 2009; p. 26).

FINAL CONSIDERATIONS AND RECOMMENDATIONS

In this article, it is argued that gender and social differentiation concepts should be taken into account when implementing measures to increase food and nutrition security. This allows the respective approaches to focus on the role of women in the value chain. This research can be understood as a starting point for further studies that seek to work with men and women in spaces of socialization. The work with the Gogo tribe in the case study regions confirms the urgent need for a mapping of the ethnic identities of the Chamwino region, in order to ensure that food security measures are adapted to fit local perceptions and needs. The history of the Wagogo, on the one hand, represents the contradictions between their ethnic identity and, on the other, the cultural changes in contemporary modern Africa. When designing program implementation, it is crucial that the indigenous people's food and nutrition are incorporated.

The gender and tradition issues of the Wagogo are analyzed in a strongly interdisciplinary approach, bringing together areas of agrarian sciences, nutrition, and anthropology. As a strategy to better understand these realities, techniques like the "Theater of the Oppressed" (Boal, 1979) were applied during Nutritional Meetings, promoting the share of personal stories in an open dialogue focusing on the daily life in the villages. The collected data highlighted categories as rite of passages, polygamy and unpaid care work, demonstrating that the women's life is marked by dependency. A basic level of improvement in Nutrition Education in Tanzanian villages may be the inclusion of gender sensitization into activities that target farmer groups, processing groups, and community leaders. These education programs should focus on the sharing of responsibilities between men and women.

This research experience presents singular reports of women and men interviewed individually and in focus groups. From this sample, it is possible understand some of the heterogeneity of family arrangements and strategies adopted to manage problems that involve their well-being. An important finding is the connection between local knowledge and the understandings of femininities and masculinities as well as the influences of these on time use and nutrition.

In addition to the social constraints and poverty conditions, during the field work the scientific team faced situations in which women complained about men's lack of resources to promote the well-being of the different households in the case of polygamous marriage.

However, women who were leaders in their communities were also found to live in precarious housing conditions in places with an absolute lack of infrastructure services.

The family can be considered as the basic social nucleus of welcoming, conviviality, autonomy, sustainability, and social protagonism. In practice, women are mediators of anti-poverty strategies and nutrition education policies within the family nucleus.

Consumption patterns at the household level are attached to family and community ties, requiring continuous preventive, protective, and proactive actions in these environments. Promoting spaces for the exchange of knowledge and experiences is essential for implementing nutrition education. We suggest that guidelines and training material need to incorporate gender-sensitive contents, as well as inclusive language as to consider barriers as illiteracy and lack of fluency in Kiswahili. This would be beneficial to all illiterate members of the community also including for example men and elderly people. Additionally, it is important to provide women's access to more efficient technologies, encouraging them to have specific training to manage their production.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the guidelines laid down in the Declaration of Helsinki and approved by the National Institute for Medical Research and the Ministry of Health, Community

Development, Gender, Elderly & Children in Dar es Salaam, Tanzania (NIMR/HQ/R.8a/Vol. IX/2226). Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements. The animal study was reviewed and approved by the guidelines laid down in the Declaration of Helsinki and approved by the National Institute for Medical Research and the Ministry of Health, Community Development, Gender, Elderly & Children in Dar es Salaam, Tanzania (NIMR/HQ/R.8a/Vol. IX/2226). Written informed consent was not obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

MB, HH, SS, and CR contributed conception and design of the study. NB, KN, and KL read the first versions of the manuscript, actively contributing with the theoretical delimitation, and analysis. All authors contributed to manuscript revision, read and approved the submitted version.

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