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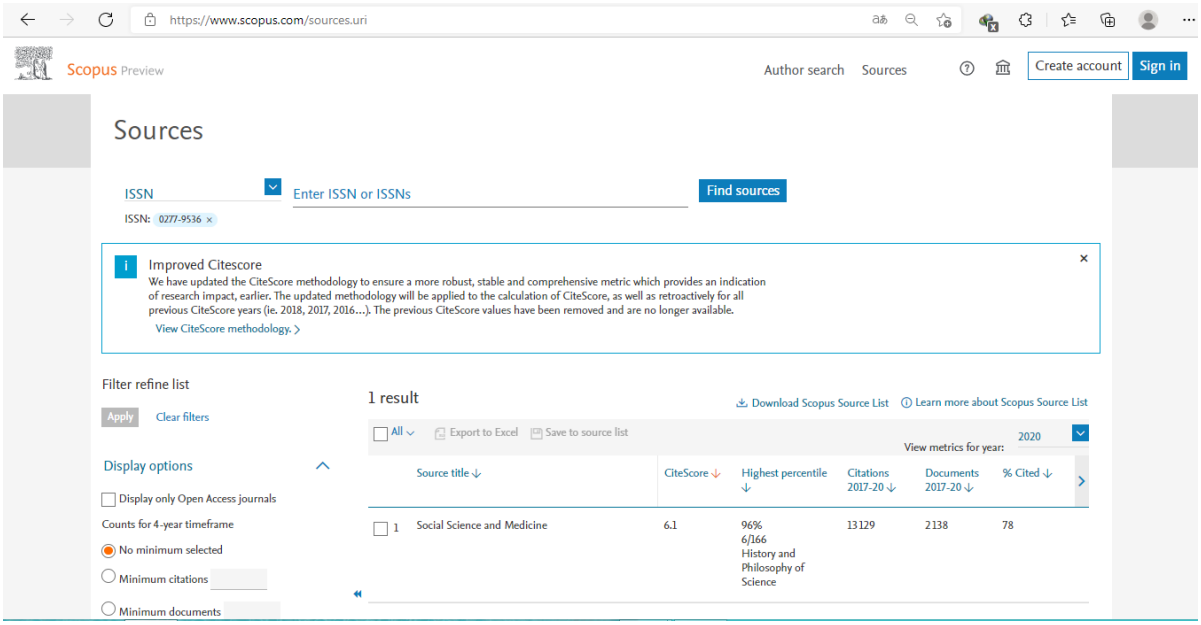
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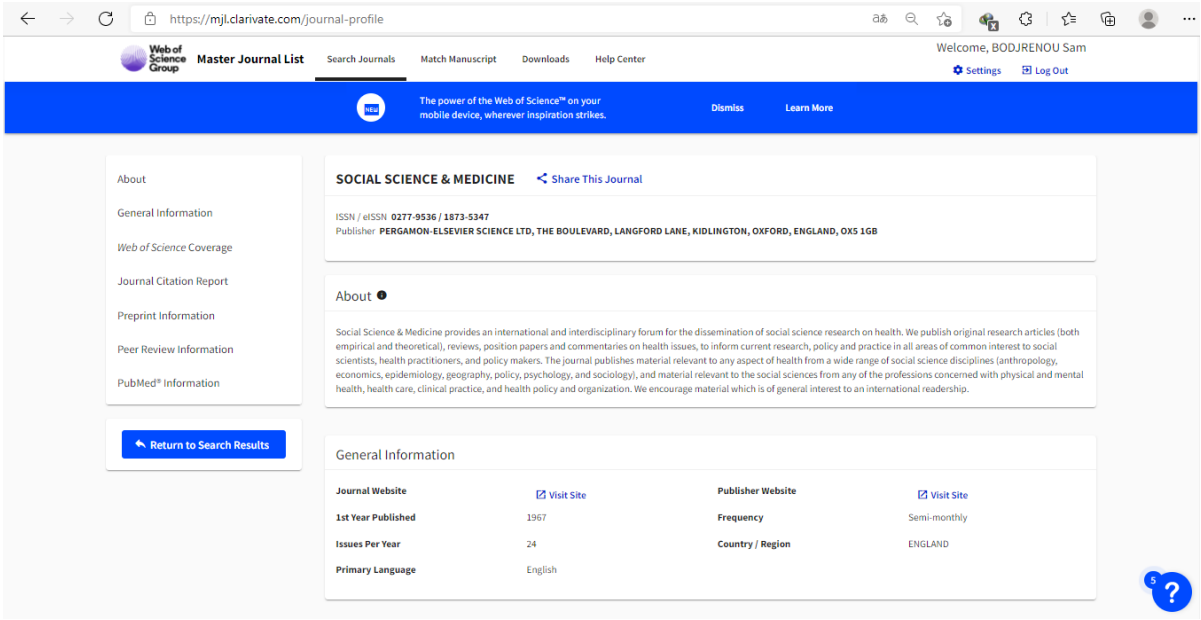
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Community perceptions of gendered alcohol misuse in a food insecure context: The case of northwestern Benin

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ABSTRACT

In many sub-Saharan African countries there have been concerns about the varied effects of increasing rates of alcohol consumption and misuse. These concerns have led to the need for research on the relationship between alcohol misuse and food insecurity in agrarian contexts where alcohol consumption is rising. We present the findings of a qualitative study involving in-depth interviews and focus groups with men and women, which explores the connection between alcohol misuse and food insecurity in the Atacora region of Benin. Our findings show that farmers are misusing alcohol as a response to hunger and distress resulting from persistent food insecurity. These drinking behaviours are gendered and shaped by the rigid division of labour roles, wherein primarily men are misusing alcohol. The misuse of alcohol subsequently undermines farm labour and diverts household resources, further worsening food insecurity. Importantly, women reported that alcohol misuse as a coping response to food insecurity contributes to intimate partner violence. Given this complex cyclical relationship, food relief policy-makers in Benin must consider the intersection of alcohol misuse and intimate partner violence when implementing policy and programs intended to improve food security.

1. Introduction

In most of sub-Saharan Africa (SSA), the production and consumption of various forms of alcoholic beverages are a part of people's everyday lives (Akyeampong, 1996; Luginaah, 2008). While beer and other imported alcoholic drinks are expensive and scarce, locally produced alcoholic beverages such as those made from distilled palm wine, fermented sorghum and sugar cane are common and relatively cheaper across the sub-continent (Heap, 2008; Lobnibe, 2016; Luginaah, 2008; Somassè et al., 2016). These alcoholic drinks tend to be prepared and shared in different traditional and cultural spaces (Mkandawire et al., 2011).

In rural Benin, two main types of traditional alcohols, *tchoukoutou* and *sodabi*, are produced and consumed. *Tchoukoutou* is an opaque sorghum beer mostly produced by women, similar to *pito* in Ghana, and has some nutritional value and a low alcohol content of approximately 2%–5% (Djameh et al., 2015; Ebbah et al., 2015; Kayodé et al., 2005; Lobnibe, 2016; Nout, 2009). *Tchoukoutou* is commonly exchanged in labour sharing arrangements and is served at ceremonies. *Sodabi* is made from distilled palm wine and its alcohol content is estimated as ranging from 40% to 50% (Fourgeau and Maula, 1998; Somassè et al., 2016; Tagba et al., 2018). *Sodabi* and other similar traditional alcoholic drinks have been reputed to contain toxic substances such as methanol, lead, and microorganisms as a result of crude distillation processes and illicit, uncontrolled production, which may result in adverse health and social consequences (Rehm et al., 2010; Zakpaa et al., 2010). Contrary to *tchoukoutou*, *sodabi* is produced and sold by both men and women, and it is similar to other locally distilled liquors in SSA such as *akpeteshie* in Ghana (Akyeampong, 1996), *ogogoro* in Nigeria (Heap, 2008), and *kachasu* in Malawi (Mkandawire et al., 2011). Across these countries, the common feature of this drink is its potent alcohol content.

In rural areas of Benin, the increasing rate of *sodabi* consumption has emerged as a major issue of concern in the past few decades (Somassè et al., 2016). This may be, in part, due to large scale socio-economic changes, which have loosened government controls, undermined traditional structures of authority, brought economic hardship and increased alcohol consumption (Bryceson, 2002; Luginaah, 2008). Alcohol misuse has been on the rise globally and the World Health Organization (WHO) (2018) estimates that alcohol consumption contributes to the poor health of millions of people and over 3 million deaths

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each year globally. Furthermore, the harmful use of alcohol is responsible for 5.1% of the global burden of disease, and is raising intense public health concern in both high and low income countries of the world, including Benin (WHO, 2018).

According to estimates from the WHO, alcohol consumption in Benin has increased steadily since the 1960s and current estimates tend not to include consumption of locally brewed alcohols, which are frequently underreported due to the informal nature of their production and consumption (Obot, 2006). Similar to many parts of SSA, alcohol consumption is also gendered, with men often engaging in more heavy episodic drinking than women (Obot, 2006). For instance, in Benin in 2016, total alcohol consumption was twice as high among men than women, and the prevalence of heavy drinking was over seven times higher (WHO, 2018). This reflects a broader trend in gendered alcohol consumption globally, and is accentuated in poorer populations (WHO, 2018). Worryingly, a recent study in Benin reported that increasing alcohol dependency in the context of persistent poverty may be increasing food insecurity amongst farmers (Tognide et al., 2014).

Over the last several years, food insecurity and hunger has also been rising in parts of world, with the most severe effects felt in SSA, prompting the FAO (2017) to call for more context-specific research. Concurrently, research has examined the increasing rates of alcohol misuse in SSA and its potential relationship to food insecurity. For instance, studies from South Africa found that alcohol use was significantly associated with food insecurity among women (Abrahams et al., 2018; Sirotin et al., 2012). In Rwanda, Sirotin et al. (2012) found that alcohol was not a 'luxury purchase', and that its consumption may be diverting household income away from spending on food, even in lower income households. In Ethiopia, Regassa and Stoecker (2012) found alcohol use to be a significant predictor of food insecurity in a sample of male head of households (HOH). Working in South Africa, Eaton et al. (2014) found that heavy drinking was higher among food insecure women, but not men. They suggest it could be that alcohol is more easily accessible than food to women with limited resources (Eaton et al., 2014). In Tanzania however, Parcesepe et al. (2019) found that among both men and women living with HIV, food insufficiency was more common among those with problematic drinking behaviours. These varying findings in SSA contexts have led to the assertion that the relationship between food insecurity and alcohol use is inconsistent and understudied (Eaton et al., 2014; Patts et al., 2017; Regassa and Stoecker, 2012). Inconsistencies point to the importance of place-specific factors such as sociocultural and economic conditions, as well as gendered power dynamics that may play a role in determining the strength and directionality of the relationship between food insecurity and substance use (Pellowski et al., 2018). In particular, there remains a paucity of research that explores how food insecurity and its associated stressors influence gendered alcohol misuse in rural agrarian communities (Atuoye and Luginaah, 2017; Patts et al., 2017; Regassa and Stoecker, 2012). The need for research is pertinent in Benin where to the best of our knowledge, there has been no work done on the relationship between alcohol misuse and food insecurity.

1.1. Theoretical background

In many contexts, drinking behaviours have been associated with individual coping responses and broader sociocultural and structural influences. Moreover, the 'hunger hypothesis' advances that physiological responses to hunger affect behavioural traits such as impulsivity, irritability, anxiety and propensity to use narcotics and alcohol (Nettle, 2017). Social learning theory suggests that abusive drinking behaviour is linked to insufficient coping responses to stressful circumstances in an individual's everyday life (Cooper et al., 1988). When no alternative coping strategy is available, drinking as a coping mechanism arises from the expectation that alcohol can ameliorate experiences, and the subsequent attempt to manage negative emotions and reduce tension can lead to heavier drinking indicative of alcohol misuse (Cooper et al., 1988, 1992). In the context of deprivation, reliance on avoidance coping tends to predict greater alcohol consumption, particularly for men (Luginaah and Dakubo, 2003). Moreover, according to Cooper et al. (1992) there is a gendered aspect to the use of alcohol for stress-related coping, wherein men are more vulnerable than women to problematic drinking behaviours.

This study also draws upon theoretical constructs from political ecology of health (PEH) in order to examine how social, environmental and political factors influence the relationship between alcohol misuse and food insecurity in Benin. Patterns of health and individual health behaviours or "opportunities for healthy decision-making" (King, 2010 p. 45) are complex and influenced by broader social, environmental, economic and political structures (Mkandawire et al., 2013). Within this framework, the health and well-being of populations are shaped by structural forces, which play out at different scales (local, regional, national) (Mkandawire et al., 2013). For example, literature on drinking culture in Africa identifies economic, political and cultural marginalization as drivers of heavy drinking behaviour (Bryceson, 2002). Social and cultural norms shape the way people react and respond, and consequently, beyond individual differences there are also cultural and regional differences in the way alcohol is used and misused (Luginaah and Dakubo, 2003). As such, understanding alcohol consumption in a specific place requires contextualization beyond the individual level (King, 2010). Specifically, we focus on the ways in which patriarchal gender norms shape household structure, the division of labour, household decision making around finances, thus shaping patterns of alcohol consumption for men and women.

1.2. The study context

With one of the highest population growth rates on the continent, 45% of Benin's population of 9.9 million people live in rural agricultural communities, which are most greatly affected by food insecurity (WFP, 2017; Beerlandt et al., 2014). Atacora is one of the poorest and most food insecure regions of Benin, and while the majority of households engage in agriculture, they also spend the highest proportions of their income on food (WFP, 2018). Within Atacora, the municipalities of Boukoumbe, Toucountouna, and Natitingou have the highest levels of food insecurity: 46.3%, 29.8%, and 27.8% severe and moderate food insecurity, respectively (WFP, 2018). As such, these areas were the focus of this study (see Fig. 1). Alongside outmigration and a distinct lack of state support, climate variability is resulting in increasing temperatures, droughts, and irregular precipitation, which have contributed to the worsening levels of food insecurity reported in the region (Amouzou et al., 2019; Beerlandt et al., 2014; Ezin et al., 2018; Fogny and Trentmann, 2016). As such, rural livelihoods have become increasingly difficult to maintain. These factors are likely driving alcohol consumption among farmers.

2. Methods

Given the complex set of contributing factors that may influence both alcohol misuse and food insecurity, we chose to use qualitative methods to elucidate deeper and more contextual meaning that captures place-specific nuances (Bryant, 1998). Data collection for this work took place in the summers of 2017 and 2019. In 2017, we conducted in depth interviews with male and female couples in 20 households (n = 40), and six community-level focus groups in Boukoumbe, each averaging approximately 1 h in length. During a second field season in 2019, the study area was expanded to include the municipalities of Toucountouna and Natitingou, at which time six additional focus groups were held with men and women in three communities, one in each municipality. Focus groups were held with 6–9 participants at a time. In total, 94 people participated in the focus groups, wherein men (n = 47) and women (n = 47) were separated given the cultural context, which aimed to allow women and men to speak more openly about their experiences. Fig. 1

provides a map of the study area.

The interviews and focus groups were led by a male-female research team using a semi-structured question guide. During focus groups, men and women were asked similar questions, however, discussions evolved in breadth and scope based on the engagement of participants. For example, in discussions of drinking, women candidly discussed the link between intimate partner violence and alcohol use. While men were reticent to immediately admit to drinking, they candidly discussed mental health challenges. This is consistent with Kitzinger's (1995) argument that stigmatizing topics are better discussed during focus groups, because less inhibited participants initiate conversation, opening the way for more inhibited participants to share their thoughts and experiences.

For both interviews and focus groups, participants were recruited via existing community networks using a combination of snowball and purposeful sampling to select participants proportionally by gender in each different village (Baxter and Eyles, 1997). Eligibility criteria included men and women over 18 years of age who were still actively working and currently married or coupled, inclusive of polygamist families. In polygamist households, the first wives were interviewed in accordance with local customs. Community focus group participants included those who may be single, though they were a minority.

The audio recordings of the interviews and focus groups were transcribed in French and analyzed using thematic coding in accordance with established qualitative methodologies (Creswell, 2003) using NVivo software and drawing from key themes identified in the literature. We adopted an analytical strategy focused on: (1) establishing broad areas of consensus and difference amongst focus group respondents; and (2) highlighting areas of difference between men's and women's experiences, perceptions, behaviours, and coping strategies. The approach aimed to go beyond current reports on food insecurity in Benin that have frequently relied on an identified HOH, the majority of whom are male (WFP, 2018). Differences that emerge would point to the need for intervention and preventive policy. Ethics clearance for the study was obtained from the Western University Office of Human Research Ethics and the National Ethics Committee for Health Research in Benin (Comité National d'Ethique pour la Recherche en Santé).

3. Results

The results are organized around the main objective of the study and main themes related to: alcohol consumption and misuse in context, the gendered landscapes of alcohol misuse, alcohol misuse and farming, diversion of household resources, and intimate partner violence. Quotations from the transcripts of the focus group discussion (FGDs) and interviews (IDIs) illustrate these themes and serve to contextualize the participants' responses. At the end of each quotation, participants' gender (M = male, F = female), modus of participation (FGD/IDI), village and municipality of residence are provided.

3.1. Alcohol consumption and misuse in context

In the study context, many participants agreed that drinking is a widespread activity that originates from the traditional use of alcohol during celebrations. The expensive nature of imported beer and other alcoholic drinks encourages the consumption of the relatively cheaper locally brewed *sodabi* and *tchoukoutou*. During the discussions, participants emphasized the toxic nature of *sodabi* in particular, noting that it is "dangerous – it kills" (F, FGD, Kota, Natitingou). Yet, it remains largely unregulated and freely produced. Participants noted that people in their community drink *sodabi* "all the time, more so than *tchoukoutou*" (F, FGD, Kota, Natitingou), as a way to escape harsh daily realities by "falling asleep" (F, IDI, Koubergou, Boukoumbe). Another participant pointed out that *sodabi* is the drink of choice because its high alcohol content gets them drunk, allowing them "forget [their] worries for a while" (F, FGD, Koupagou, Boukoumbe). Although female participants agreed that women are increasingly drinking these local alcohols, there was a general agreement that it is the men who drink most often and most heavily.

Participants identified *sodabi* as the drink of choice, especially during the lean season when most families are running out of food, as a way of coping with both hunger and distress. Both men and women agreed alcohol misuse tend to be a response to daily stressors and feelings of sadness and frustration. The men frequently talked about the embarrassment and shame that result from persistent challenges they face in their households. For example, one male participant explains the dual effect that food insecurity has on drinking behaviours:

> "We know that drinking isn't good, but some people drink because of hunger. When they don't find anything to eat in the morning, they turn to alcohol, they get drunk to forget the hunger. Then there are those who drink because of their worries" (M, IDI, Koubergou, Boukoumbe).

While *tchoukoutou* is described as 'filling' and is referenced as the drink of choice for addressing hunger, the more alcoholic *sodabi* was often referenced in terms of relieving stress. During a focus group, one man commented that:

> "We all drink […] when there are problems in the household, drinking can alleviate our distress … We are aware that adulterated alcohol [*sodabi*] is killing us, but it helps us quickly soothe our anxieties" (M, FGD, Koutchatanongou, Boukoumbe).

While discussing the notion that people drink to cope with their distress, the participants also drew strong links between hunger and drinking. A female participant noted that:

> "When we drink it's because we are hungry and when we get drunk we fall asleep. When we don't drink we think too much and ruminate over our troubles" (F, IDI, Koubergou, Boukoumbe).

Another participant reiterated that despite a recognition that alcohol misuse has negative consequences, drinking is a behavioural response that has developed into a habit:

> "We know that drinking is not good, but we can't give it up, it's a habit. Sometimes we have nothing to eat, and when we come across alcohol we drink to suppress the hunger" (F, FGD, Koupagou, Boukoumbe).

These comments illustrate how drinking behaviours have developed into a habitual coping strategy. Another participant highlights how drinking is also used to cope with poor quality and a lack of variety in foods:

> "We drink because of hunger - when I cook corn paste, but the sauce is not good or there is no sauce, no meat, no nothing, I don't feel like eating. So I might eat a bit - or not at all - and simply cook and let the children eat. I get up and go drinking instead, and if I am offered alcohol I prefer to drink that [than to eat] … we don't have a choice, we cook and leave the food to go drinking – it's better" (F, FGD, Koupagou, Boukoumbe).

Her comment highlights that the quality of food is an important aspect of food security, which has been overlooked until recently (FAO, 2019). She also discusses how drinking may be used as a form of protective buffering, allowing parents to leave scarce food resources for children by masking their own hunger through drinking. This type of buffering was a common theme among parents, both men and women. A male participant explained how drinking as a response to hunger in such a way, allows them to prioritize children during mealtimes: "[When] I drink, I am able to leave the rest [of the food] so that the children can eat" (M, IDI, Koubergou, Boukoumbe). Similarly, another man noted that some men employ roaming and drinking as a strategy to leave what little food is at home for their wife and children:

> "When the meal [at home] is small, I leave it to my wife and children, get up, and go roaming to drink alcohol. I go roaming to occupy myself, because I have nothing to do, there is no food […] and when I find alcohol I will drink. For my wife, it's that I left, but she doesn't know that in fact, in leaving, in roaming about, it's a way for me to leave them the food so it's enough [for the family]" (M, FGD, Koutchatanongou, Boukoumbe).

These comments provide insight into how drinking is used in order to cope with the stresses of everyday life in this context, and points ot the emerging gendered nature of alcohol consumption and misuse.

3.2. The gendered landscapes of alcohol misuse

Given the increasing reliance on alcohol consumption as a coping strategy, it is unsurprising that more and more women are consuming these local alcoholic beverages, although this has remained a male dominated activity. Participants frequently commented that men are frequently 'roaming' or wandering in the community when they are not engaged in farm work. Consequently, men are more likely to 'come across' alcohol while visiting neighbours or socializing with their friends. Conversely, women and in particular those with young families are unlikely to 'roam' due to the gendered nature of household and child rearing responsibilities, and the sociocultural expectation that women are supposed to be home fulfilling those responsibilities. As one woman notes:

> "Men drink more. A woman cannot, otherwise she risks forgetting about her family, her children, her housework and all that – she might forget. So you drink a little. You might go to the market and drink a just a little bit and then come home to take care of your family. But men go out and drink – they don't care. They know they don't need to take care of the children" (F, FGD, Koutchatanongou, Boukoumbe).

This comment reveals how gender roles within the patriarchal family structure shape drinking behaviours. Women also reported feeling a sense of moral responsibility towards their children, and this is reinforced by the social construction of women's identity in this context as mothers and caregivers. When asked about the discrepancy between mothers' and fathers' priorities around childrearing, a woman pointed to the children sleeping in their mother's laps and sitting at their feet:

> "When you were meeting with the men here, did you see these children with the men? Why are they [the children] here now? It's because children are always stuck to their mothers. Because of that, mothers never forget about their children" (F, FGD, Kota, Natitingou).

Men also agreed that gender roles within the household make it easier for them for them to go drinking:

> "When we finish in our fields our neighbours invite us to drink because there is nothing keeping us at home. And the second reason that we drink, especially now when there isn't enough food - we drink to forget our troubles" (M, FGD, Kounadogou, Boukoumbe).

Yet, socializing and roaming may also be an important way in which men access opportunities to engage in farm work in return for a meal or much needed additional income.

As a whole, these quotes provide insight into the ways in which the patriarchal family model reinforces pervasive gender norms, specifically with regards to expectations around caregiving, and how this shapes 'freedoms' for mothers and fathers differently.

3.3. Alcohol misuse and farming

An important emergent theme from this study was the perceived impacts of alcohol misuse on food production within subsistence farming households. Most participants agreed that alcohol consumption was influencing farming within their local communities. The general view was that "when men drink too much they can't work in the fields" (F, FGD, Dikokore, Toucountouna). One male participant commented:

> "[Drinking] doesn't fit with farm work, because when you are drunk you can't work […] when we drink too much there are always negative consequences (M, FGD, Kounadogou, Boukoumbe).

In discussing the impact of alcohol consumption and ability to do farm work, other participants differentiated between *tchoukoutou* and *sodabi* in terms of their effects on work. A participant indicated that:

> "When you drink *sodabi* you are tired and can't work, you have problems with your bones, aches. But with *tchoukoutou*, you can drink and still work, it doesn't bother you […] it's like you've had something to eat" (M, FGD, Kota, Natitingou).

Importantly, as men 'roam' in their communities, they sometimes engage in farm labour on other people's farms in exchange for food and/or alcohol. Yet, this behaviour of working on other people's farms may also keep them away from their own. Participants generally agreed that alcohol consumption not only inhibits farm work, but it also contributes to the diversion and depletion of scarce household resources.

3.4. Diversion of household resources

Many participants, especially women, lamented that alcohol consumption diverts household income that could otherwise be spent on food and other household needs. A participant described how her husband tends to spend money on drinking:

> "He takes some of his money to eat out or drink. If he sees his friends, he pays for them to drink as well. And so he spends his money little by little, and by the time he is home there is hardly anything left" (F, FGD, Kota, Natitingou).

This diversion of household resources was described as a 'widespread problem', redirecting resources away from family spending towards drinking. This is concerning given that men in this context tend to control household resources, which increases tension:

> "When my husband goes out and drinks and comes back, he doesn't give a damn […]. The children are there, they are crying in front of me […] it makes me angry […] I will begin to scold or insult him, and it starts a fight. If I've done some small commerce […] and give [him] the money to save - he takes that money and goes drinking. When there is no more food, I ask for that money and my husband says there is no money, which will start a fight […] so, he gets up and leaves, goes drinking, and when he comes back again it's another fight. It causes a lot of fighting in the household when there isn't any food" (F, FGD, Koupagou, Boukoumbe).

Another female participant also explained that in her household, her husband "liquidates everything to pay for alcohol" (F, FGD, Kounadogou, Boukoumbe). The diversion of household resources has obligated women to undertake additional income generating activities:

> "When he isn't bringing money home to help, you - the woman - have to work more, you have to run around and work hard to find a way to provide food for the children […] it causes fighting" (F, FGD, Kota, Natitingou).

This illustrates another pathway by which alcohol misuse in local communities and households places additional burdens of labour on women. Women in several communities reported that the absence of men's labour has meant an increased burden of agricultural production on women:

> "Men no longer work hard […]. Before, at least […] they worked in the fields, now men no longer work in the fields. Because when you get married to a man here, […] he buys two hoes […] and you go together to the fields. You have to work just like him. […] There are even some men that no longer work in the fields, it's the women that work in the field […] he goes roaming [drinking], you know" (F, FGD, Koupagou).

Alcohol misuse compounds what many women already feel is a disproportionate burden of labour, as women take on more domestic labour and off-farm income generation. These findings reveal that gendered alcohol misuse is a product of the patriarchal family structure and its rigid gender roles, while also simultaneously contributing to that structure through the unfair distribution of labour.

3.5. Intimate partner violence

These changing roles also contribute to arguments between partners, particularly in a food insecure context where tensions are already running high. As one woman explained, hunger during the lean season means "fighting in the household and outside of it" (F, FGD, Dikokore, Toucountouna). Another focus group participant explained that:

> "During the lean season, there is always fighting in the household because your husband married you and brought you here and he doesn't feed you, so if he starts mouthing off and you talk back, it's a fight – he hits you and you hit him back" (F, FGD, Dikokore, Toucountouna).

Women explained that seeing their children hungry makes them angry, sparking arguments that typically result in physical violence. Among men, this dynamic plays out insofar as they link their distress in the lean season to the shame and embarrassment resulting from their inability to prove for their families. A male participant describes how his wife's scolding leads to anger and violence:

> "A woman may go to her brothers or her friends to ask [for food] and brings it back [home]. She prepares the food and scolds you, saying, you don't do anything, you're here and I am the one feeding you […] she tells you you're lazy and worthless, yet you know that it's not your fault, it's because there wasn't any fertilizer [for the crops], or there were no rains and there was a poor harvest. And you get angry, and you hit [her]" (M, FGD, Koupagou, Boukoumbe).

This explanation reveals the interplay between domestic violence and food insecurity as a result of the shame that men feel around their inability to fulfill their roles as breadwinners. Importantly, this participant recognizes the role of broader structural and environmental factors in farming, such as the inability to purchase fertilizer and lack of rains, which contribute to food insecurity. Some see working harder as a solution:

> "When there is hardship, no money, there is always fighting in the household, it's never peaceful […] as long as there is no food a family can never be at peace. Even when there is peace one day, tomorrow it will be war [fighting]. So you have to work hard in the fields, bring food home so that the peace can return" (M, FGD, Koupagou, Boukoumbe).

These arguments are exacerbated by alcohol misuse. Another participant asserted that drinking contributes to violence in the household: "Hey! Men here drink to the point of drunkenness! And when they get drunk they come home to find no food to eat and they will hit their wife" (F, FGD, Kota, Natitingou). In particular, drinking on an empty stomach is an important contributor to intimate partner violence. A participant explains that:

> "When men eat before going out to drink they can't drink as much and they come home in better shape. But when there is nothing to eat and they go out drinking in order to help them to get through the day, quiet the hunger. But when they come home, it's true they might not be hungry, but it's a fight. What I mean is - he is acting foolishly, creating chaos in the home - which leads to fighting" (F, FGD, Koutchatanongou, Boukoumbe).

In this sense, hunger exacerbates the effects of alcohol, fueling tensions between couples. Another participant also explained that it is not only men's drinking that can lead to intimate partner violence. It is less socially acceptable for women to drink in this context, and a woman's drinking may also because for her husband to beat her. Intimate partner violence was reported to be a common occurrence that many participants linked directly to the stress and tension caused by the persistent lack of food during the lean season.

4. Discussion

Overall, our results show that alcohol misuse is significantly influencing the functioning of farms, households, and relationships in Atacora. This relationship is presented in Fig. 2. Our findings are consistent with Patts et al.'s (2017) theory suggesting a bidirectional relationship between alcohol misuse use and household food insecurity. On one hand, farmers experiencing persistent food insecurity turn to alcohol to manage their hunger, anxiety and distress. On the other hand, alcohol, when misused, may undermine their ability to produce sufficient food and may result in the diversion income away from spending on food. Each of these outcomes further deepens food insecurity, which has serious implications in a region with such high levels of rural poverty.

Our findings suggest that alcohol is misused in an attempt to manage two distinct effects of food insecurity, namely feelings of hunger as well as mental distress and anxiety. This is consistent with Chilton and Booth's (2007) differentiation between the dual experiences of food insecurity, which are "hunger of the body" or the sensation of hunger, and "hunger of the mind", which refers to the feeling of distress and hopelessness that accompanies food insecurity. Our participants reported drinking to dampen the effects of hunger, particularly in situations where they reduce their own food intake to buffer other members of the household. It also became clear that alcohol, and in particular *sodabi*, is used in an attempt to overcome the elevated mental distress they experience as a result of food insecurity. These findings are also consistent with other SSA studies that suggest that household food insecurity leads to feelings of shame, desperation, anxiety, and distress (Abrahams et al., 2018; Atuoye and Luginaah, 2017; Cole and Tembo, 2011; Hadley and Patil, 2008), which in turn tends to reinforce alcohol misuse as a coping strategy (Luginaah and Dakubo, 2003; Mkandawire et al., 2011; Patts et al., 2017).

With regards to the deleterious outcomes of alcohol misuse in the study context, we suggest that both *tchoukoutou* and *sodabi* play a part. Because *tchoukoutou* has a lower alcohol content, a lower cost, and is easily brewed at home, participants frequently cited its consumption as a strategy to suppress and manage hunger during the lean season. While *tchoukoutou* has a relatively low alcohol content and is described as "filling", it is important to highlight that it reportedly still "gets people drunk" if consumed in excess, and is used to this end. While the toxic effects of *sodabi* are evident, it was consistently identified as the 'drink of choice' to suppress anxiety and distress. We suggest that both types of alcohol may divert household spending, given that the social nature of drinking in this context means that men purchase drinks for friends and neighbours. In this context therefore, cultural generosity may be putting pressure on individuals to deplete meagre household resources that could otherwise be used for purchasing food. Consistent with the literature from other parts of SSA, the liquidation of household resources will only deepen food insecurity through the diversion of household spending away from food (Regassa and Stoecker, 2012; Sirotin et al., 2012). Moreover, our findings show that the diversion of household resources increases arguments and tension between spouses that can

lead to violence when women speak out against men's drinking behaviour; this dynamic will be further discussed below.

In addition to diverting household resources, alcohol misuse has undermined household labour arrangements. Overall, our findings point to the fact that men, who have traditionally been responsible for a larger share of agricultural labour, may be working less, or less effectively as a result of gendered alcohol misuse. Increasing alcohol misuse among men is occurring alongside a shift in social norms that have delineated gendered responsibilities in agrarian communities, wherein in women are increasingly pushed into agricultural labour. Consistent with Luginaah (2008), the need for alcohol also means that some men are frequently negotiating for farm work that is remunerated with alcohol or in some cases food. In this study context, *sodabi* is provided in exchange for farm work, to the extent to which it is now expected by labourers. Invariably, the alcohol for farm work arrangement places the burden of labour on women, thereby further undermining food security (Luginaah, 2008). In addition to taking on more agricultural labour, women also reported taking on additional income generating activities as men divert household resources towards alcohol consumption. While there is a rich tradition of women's entrepreneurship and independence in SSA and Benin in particular (Heilbrunn, 1997; Lindsay, 2007), our findings show that women are overwhelmed by the additional labour they have been taking on. This is consistent with the "feminization of responsibility" (Chant and Sweetman, 2012 p.521) seen throughout the Global South, wherein women are increasingly responsible for supporting their families. Moreover, this may impact children's health and nutrition, as unequal divisions of labour have been tied to early weaning in the study region (Somassè et al., 2016).

In exploring the relationship between alcohol misuse, household food insecurity, and changing labour roles, it becomes clear that the structure of the household itself shapes the gendered nature of drinking patterns in Atacora. This stems largely from the rigid division of responsibilities between men and women within the patriarchal family unit. While the breadwinner model in SSA was born out of colonialism and the introduction of wage labour (Lindsay, 2007), in agrarian settings this has taken shape insofar as men in SSA countries tend to be responsible for larger-scale agriculture (Carr, 2008). Hegemonic patriarchal norms have meant that men tend to be perceived as food providers or 'breadwinners', and women as caregivers (Clowes et al., 2013; Lindsay, 2007). This has important implications for who is 'blamed' for food insecurity in the household. Women in our study reported feeling disappointment in their husbands' ability to provide for them and their children, sometimes shaming or scolding them. Consistently, men expressed their distress during the lean season as resulting from feelings of shame and embarrassment. We suggest that the construction of men as breadwinners in the study context may explain why alcohol misuse is used as a strategy to cope with distress among men, specificically the feelings of powerlessness, helplessness, inadequacy, and the associated stigma that men experience as a result of not fulfilling their masculine roles as the provider (Luginaah, 2008).

Adding complexity to this narrative, we find that some men reported drinking as strategy to ensure scarce food resources are eaten by their wives and children. This finding challenges assumptions about motivations for drinking and reveals the complexity of how alcohol is used as a coping mechanism for food insecurity. Moreover, men's comments regarding constraints on their ability to fulfill their gendered obligations (e.g. lack of rains and effective government supports) illustrates the harmful nature of colonial discourse regarding African men's "laziness" in agriculture, which is echoed in women's criticisms of their husbands (Dinani, 2019; Whitehead, 2000). This underscores how the rigid conceptualization of the patriarchal household is reductionist, harmful to men and women, and increasingly unsustainable in the face of social, economic, political and environmental change (Clowes et al., 2013).

Importantly, our findings support previous research that has demonstrated a link between food insecurity, alcohol use, and intimate partner violence. As explained by Lentz (2018), in food insecure contexts, tensions around food often drive disagreements within the household, and disputes about food provide an opportunity for a spouse looking to "engage in violence" (p.276). The World Food Program (WFP) (2005) has also provided evidence that ration reductions in refugee camps in Tanzania resulted in increased intimate partner violence due to tensions around the distribution of scarce food resources. These findings are also consistent with the research that links hunger and food insecurity to increased anxiety, distress, impulsivity, aggression, dysfunctional relationships, and violence (Abrahams et al., 2018; Nettle, 2017). Further compounding this issue is the involvement of alcohol, as drunkenness and alcohol misuse has been shown to increase intimate partner violence (Abramsky et al., 2011). While recognizing that alcohol is neither necessary nor sufficient to cause violence (Leonard, 2005), for women in the Atacora region, the interaction between alcohol misuse and intimate partner violence in food insecure situations is a serious concern.

This study had a number of limitations that must be considered when interpreting the study findings. Data was collected during the lean season in order to accurately capture experiences of scarcity, however, it may not be representative of other seasonal experiences of food security. Given social norms around alcohol consumption, both women and men may also have underreported their alcohol use, with men being particularly reticent to discuss their personal drinking behaviors. To mitigate this issue, participants were often asked about their knowledge of others' drinking behaviours, and focus groups were expressly chosen, as participants could keep one another accountable. Despite these limitations, this study presents important findings for policy consideration.

5. Conclusions

Taken together, these findings suggest a complex, cyclical and mutually reinforcing pattern wherein alcohol misuse drives food insecurity and other negative consequences (Fig. 2). This case study in northwestern Benin may provide insight into the broader problem of alcohol misuse and food insecurity in the context of rural agricultural communities across SSA, given the many similarities in terms of social, cultural and economic contexts. It is our hope that the exploratory issues identified herein may serve as the basis upon which future research on the topic can be tested, verified, and advanced within and beyond the context of rural agricultural communities in SSA.

These findings also indicate that alcohol misuse provides an opportunity for intervention to help improve food insecurity, though without recognizing the mutually reinforcing relationship between food insecurity and alcohol use, policy intervention in either area may be ineffective. In this context, municipality-level educational strategies that explain the risks of *sodabi* consumption, in particular, have not been entirely effective, given the powerful structural conditions that shape drinking behaviours. Therefore, there is a need to address the underlying systems and structural inequalities that influence alcohol misuse and food security. Programs and policies should focus on prevention by altering the conditions under which alcohol misuse has become problematic and enhancing rural communities' ability to meet their nutritional needs. For example, this could be accomplished through re-establishing agricultural subsidies and support programs, strengthening social protection mechanisms to reduce vulnerability (e.g. food banks, universal basic income, subsidized healthcare and other social services) and enhancing capacity to better manage social and economic risks. More broadly, there is a need to create better economic opportunities for both men and women outside of agriculture. Implementing these policies and programs may require a re-responsibilization of the state and a deeper collaboration between the municipal and regional governments, and development actors.

Credit author statement

Ragetlie, R.: Conceptualization, Methodology, Investigation, Formal

analysis, Writing – original draft, Hounkpatin, A.W.: Investigation, Writing – review & editing, Luginaah, I.: Funding acquisition, Investigation, Supervision, Writing – review & editing.

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Appendix 1. Figures

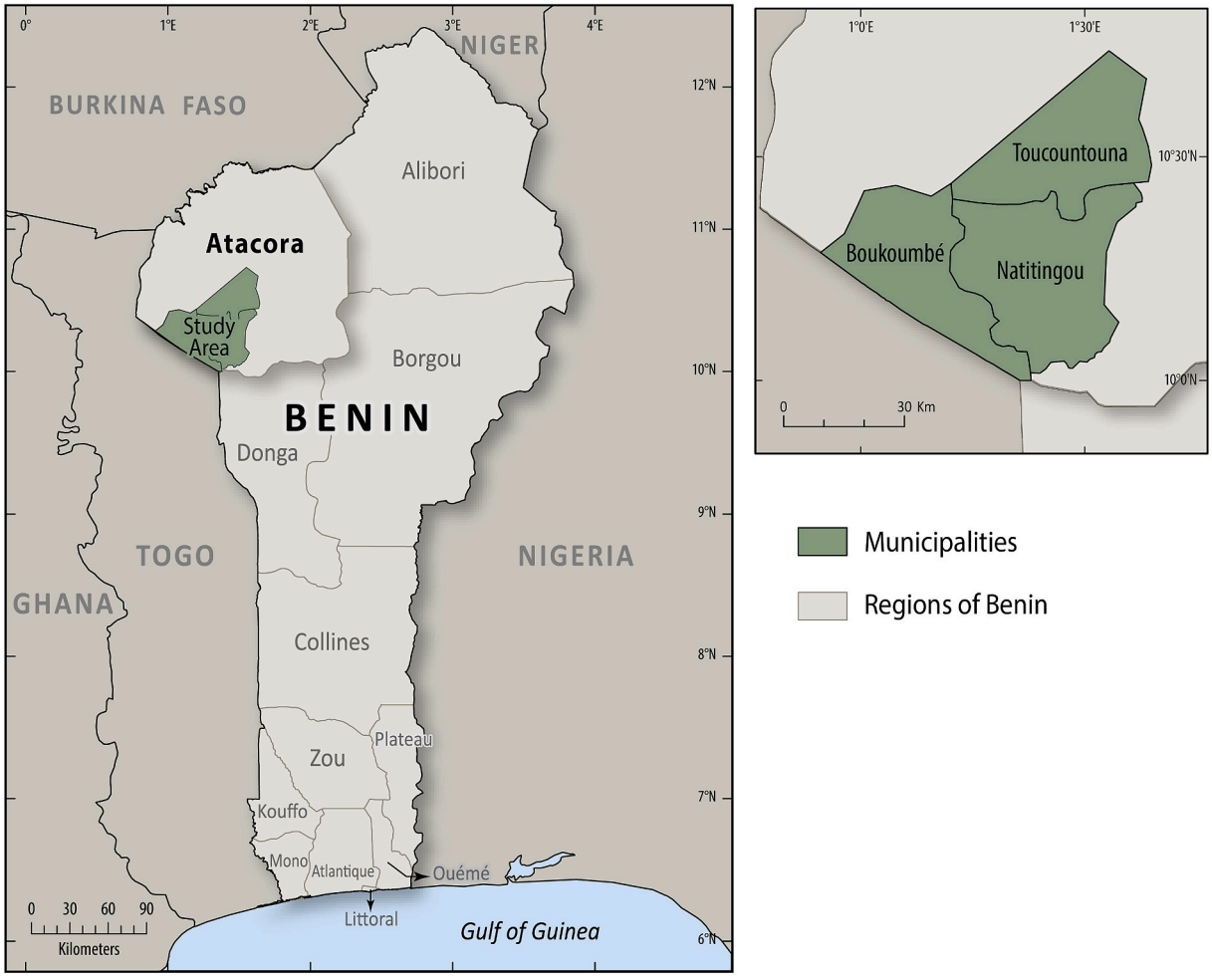

Fig. 1. Study location: municipalities of Toucountouna, Boukoumbe and Natitingou in the Atacora region of Benin.

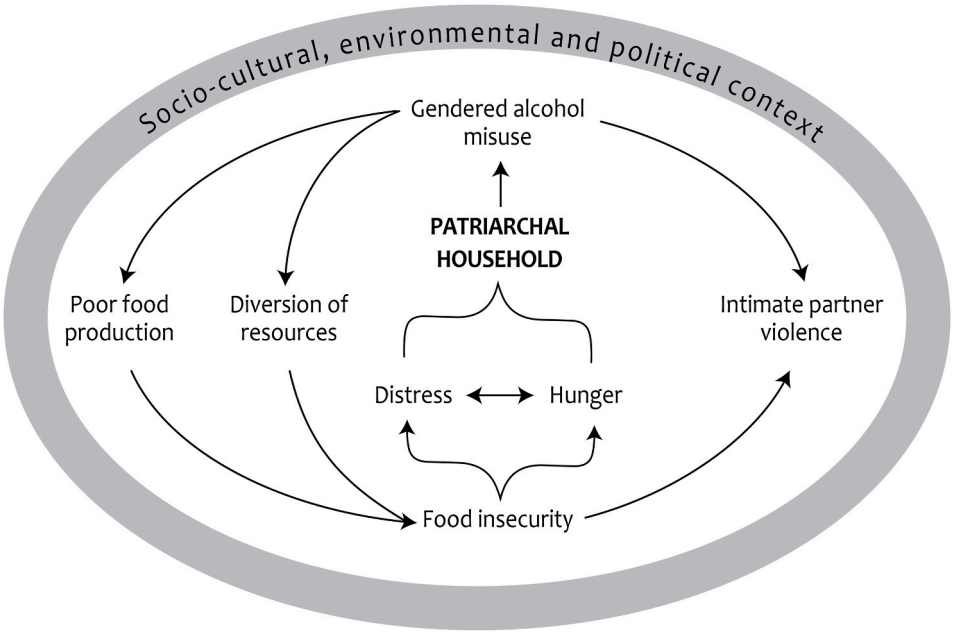

Fig. 2. The relationship between alcohol misuse and food insecurity in Atacora, Benin.

References

Abrahams, Z., Lund, C., Field, S., Honikman, S., 2018. Factors associated with household food insecurity and depression in pregnant South African women from a low socio-economic setting: a cross-sectional study. Soc. Psychiatr. Psychiatr. Epidemiol. 53 (4), 363–372.

Abramsky, T., Watts, C.H., Garcia-Moreno, C., Devries, K., Kiss, L., Ellsberg, M., et al., 2011. What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. BMC Publ. Health 11 (1), 109.

Akyeampong, E., 1996. What's in a drink? Class struggle, popular culture and the politics of akpeteshie (local gin) in Ghana, 1930–67. J. Afr. Hist. 37 (2), 215–236.

Amouzou, K.A., Lamers, J.P.A., Naab, J.B., Borgemeister, C., Vlek, P.L.G., Becker, M., 2019. Climate change impact on water-and nitrogen-use efficiencies and yields of maize and sorghum in the northern Benin dry savanna, West Africa. Field Crop. Res. 235, 104–117.

Atuoye, K.N., Luginaah, I., 2017. Food as a social determinant of mental health among household heads in the Upper West Region of Ghana. Soc. Sci. Med. 180, 170–180.

Baxter, J., Eyles, J., 1997. Evaluating qualitative research in social geography: establishing "rigour" in interview analysis. Trans. Inst. Br. Geogr. 22 (4), 505–525. Retrieved from. http://www.jstor.org.proxy1.lib.uwo.ca/stable/623115.

Beerlandt, H., Tokannou, R., Montcho, M., Weinsou, C.G., 2014. Étude contextuelle de la sécurité alimentaire dans le département de l'Atacora (Bénin) pour le Fonds Belge pour la Sécurité Alimentaire.

Bryant, R.L., 1998. Power, knowledge and political ecology in the third world: a review. Prog. Phys. Geogr. 22 (1), 79–94.

Bryceson, D.F., 2002. Pleasure and pain: the ambiguity of alcohol in Africa. In: Alcohol in Africa: Mixing Business, Pleasure and Politics. Heinemann, Portsmouth, NH.

Carr, E.R., 2008. Men's crops and women's crops: the importance of gender to the understanding of agricultural and development outcomes in Ghana's central region. World Dev. 36 (5), 900–915. https://doi.org/10.1016/j.worlddev.2007.05.009.

Chant, S., Sweetman, C., 2012. Fixing women or fixing the world?"Smart economics", efficiency approaches, and gender equality in development. Gend. Dev. 20 (3), 517–529.

Chilton, M., Booth, S., 2007. Hunger of the body and hunger of the mind: African American women's perceptions of food insecurity, health and violence. J. Nutr. Educ. Behav. 39 (3), 116–125.

Clowes, L., Ratele, K., Shefer, T., 2013. Who needs a father? South African men reflect on being fathered. J. Gend. Stud. 22 (3), 255–267.

Cole, S.M., Tembo, G., 2011. The effect of food insecurity on mental health: panel evidence from rural Zambia. Soc. Sci. Med. 73 (7), 1071–1079.

Cooper, M.L., Russell, M., George, W.H., 1988. Coping, expectancies, and alcohol abuse: a test of social learning formulations. J. Abnorm. Psychol. 97 (2), 218.

Cooper, M.L., Russell, M., Skinner, J.B., Frone, M.R., Mudar, P., 1992. Stress and alcohol use: moderating effects of gender, coping, and alcohol expectancies. J. Abnorm. Psychol. 101 (1), 139.

Creswell, J.W., 2003. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, second ed. Sage Publications Inc, Thousand Oaks, CA.

Dinani, Husseina, 2019. Gendered Migrant Labour: Marriage and the Political Economy of Wage Labour and Cash Crops in Late Colonial and Post-Independence Southern Tanzania. Gender & History 31 (3), 565–583.

Djameh, C., Saalia, F.K., Sinayobye, E., Budu, A., Essilfie, G., Mensah-Brown, H., Sefa-Dedeh, S., 2015. Optimization of the sorghum malting process for pito production in Ghana. J. Inst. Brew. 121 (1), 106–112.

Eaton, L.A., Cain, D.N., Pitpitan, E.V., Carey, K.B., Carey, M.P., Mehlomakulu, V., et al., 2014. Exploring the relationships among food insecurity, alcohol use, and sexual risk taking among men and women living in South African townships. J. Prim. Prev. 35 (4), 255–265.

Ebbah, L., Laryea, D., Barimah, J., Djameh, C., 2015. Effect of steeping temperature on the quality of malt and Pito (an indigenous Ghanaian drink). J. Inst. Brew. 121 (4), 518–523.

Ezin, V., Yabi, I., Kochoni, E.G.M., Ahanchédé, A., 2018. Agriculture and food security under threat of change climate in Benin. Afr. J. Agric. Res. 13 (27), 1389–1399.

Fogny, N.F., Trentmann, C., 2016. Enquête de base nutrition Bénin : pour le Programme Mondial Sécurité Alimentaire et Renforcement de la Résilience.

Food and Agriculture Organization of the United Nations (FAO), 2017. The State of Food Security and Nutrition in the World: Building Resilience for Peace and Food Security. http://www.fao.org/3/a-I7695e.pdf.

Food and Agriculture Organization of the United Nations (FAO), 2019. The State of Food Security and Nutrition in the World: Safeguarding against Economic Slowdowns and Downturns. http://www.fao.org/3/ca5162en/ca5162en.pdf.

Fourgeau, C., Maula, J., 1998. Producteurs et productrices d'alcool de palme (Sobadi) dans le sud-est du Bénin. Les. Cah. d'Outre-Mer 51 (202), 201–214.

Hadley, C., Patil, C.L., 2008. Seasonal changes in household food insecurity and symptoms of anxiety and depression. Am. J. Phys. Anthropol.: The Official Publication of the American Association of Physical Anthropologists 135 (2), 225–232.

Heap, S., 2008. "Those that are cooking the gins": the business of ogogoro in Nigeria during the 1930s. Contemp. Drug Probl. 35 (4), 573–609.

Heilbrunn, J.R., 1997. Commerce, politics, and business associations in Benin and Togo. Comp. Polit. 473–492.

Kayodé, A.P., Adegbidi, A., Hounhouigan, J.D., Linnemann, A.R., Robert Nout, M.J., 2005. Quality of farmers' varieties of sorghum and derived foods as perceived by consumers in Benin. Ecol. Food Nutr. 44 (4), 271–294.

King, B., 2010. Political ecologies of health. Prog. Hum. Geogr. 34 (1), 38–55.

Kitzinger, J., 1995. Qualitative research: introducing focus groups. BMJ 311 (7000), 299–302.

Lentz, E.C., 2018. Complicating narratives of women's food and nutrition insecurity: domestic violence in rural Bangladesh, 104. World Development, pp. 271–280.

Leonard, K.E., 2005. Alcohol and intimate partner violence: when can we say that heavy drinking is a contributing cause of violence? Addiction 100 (4), 422–425.

Lindsay, L.A., 2007. Working with gender: the emergence of the "male breadwinner" in colonial southwestern Nigeria. In: Cole, C., Manuh, T., Miescher, S. (Eds.), Africa after Gender? Indiana University Press.

Lobnibe, I., 2016. Drinking pito: conviviality, popular culture and changing agricultural production at the rural–urban interface in Brong Ahafo, Ghana. African Geographical Review 1–17.

Luginaah, I., 2008. Local gin (akpeteshie) and HIV/AIDS in the Upper West Region of Ghana: the need for preventive health policy. Health Place 14 (4), 806–816.
Luginaah, I., Dakubo, C., 2003. Consumption and impacts of local brewed alcohol (akpeteshie) in the Upper West Region of Ghana: a public health tragedy. Soc. Sci. Med. 57 (9), 1747–1760.
Mkandawire, P., Luginaah, I., Tobias, J., 2011. Landscapes of economic deprivation and locally distilled liquor (kachasu): an emerging milieu of HIV/AIDS risk in urban Northern Malawi. Environ. Plann. 43 (10), 2384–2398.
Mkandawire, P., Richmond, C., Dixon, J., Luginaah, I.N., Tobias, J., 2013. Hepatitis B in Ghana's upper west region: a hidden epidemic in need of national policy attention. Health Place 23, 89–96.
Nettle, D., 2017. Does hunger contribute to socioeconomic gradients in behavior? Front. Psychol. 8, 358.
Nout, M.J.R., 2009. Rich nutrition from the poorest–cereal fermentations in Africa and Asia. Food Microbiol. 26 (7), 685–692.
Obot, I.S., 2006. Alcohol use and related problems in sub-Saharan Africa. African Journal of Drug and Alcohol Studies 5 (1), 17–26.
Parcesepe, A.M., Nash, D., Tymejczyk, O., Reidy, W., Kulkarni, S.G., Elul, B., 2019. Gender differences and psychosocial factors associated with problem drinking among adults enrolling in HIV care in Tanzania. AIDS Behav. 23 (6), 1612–1622.
Patts, G.J., Cheng, D.M., Emenyonu, N., Bridden, C., Gnatienko, N., Lloyd-Travaglini, C. A., et al., 2017. Alcohol use and food insecurity among people living with HIV in Mbarara, Uganda and St. Petersburg, Russia. AIDS Behav. 21 (3), 724–733.
Pellowski, J.A., Huedo-Medina, T.B., Kalichman, S.C., 2018. Food insecurity, substance use, and sexual transmission risk behavior among people living with HIV: a daily level analysis. Arch. Sex. Behav. 47 (7), 1899–1907.
Regassa, N., Stoecker, B.J., 2012. Household food insecurity and hunger among households in Sidama district, southern Ethiopia. Publ. Health Nutr. 15 (7), 1276–1283.
Rehm, J., Kanteres, F., Lachenmeier, D.W., 2010. Unrecorded consumption, quality of alcohol and health consequences. Drug Alcohol Rev. 29 (4), 426–436.
Sirotin, N., Hoover, D., Segal-Isaacson, C.J., Shi, Q., Adedimeji, A., Mutimura, E., et al., 2012. Structural determinants of food insufficiency, low dietary diversity and BMI: a cross-sectional study of HIV-infected and HIV-negative Rwandan women. BMJ Open 2 (2), e000714.
Somassè, Y.E., Sossouhounto, N., Donnen, P., 2016. Etude des déterminants socio-anthropologiques de la malnutrition et les freins au changement de comportements dans l'ATACORA : rapport d'étude.
Tagba, P., Osseyi, E., Fauconnier, M.-L., Lamboni, C., 2018. Aromatic composition of "sodabi", a traditional liquor of fermented oil palm wine. Adv. J. Food Sci. Technol. 14 (1), 15–22.
Tognide, C.M., Houinato, D., Gansou, M.G., Affoucou, A., Klikpo, E., Houngbe, J.E., et al., 2014. Addictions à l'alcool et aux autres substances psychoactives en milieu rural au sud du Bénin. Revue d'Épidémiologie et de Santé Publique 62, S222.
Whitehead, A., 2000. Continuities and discontinuities in political constructions of the working man in rural Sub-Saharan Africa: the "lazy man"in African agriculture. Eur. J. Dev. Res. 12 (2), 23–52.
World Food Program (WFP), 2005. Africa's refugees risk exploitation and violence due to food ration cuts. https://www.wfp.org/node/746. (Accessed 9 October 2018).
World Food Program (WFP), 2017. WFP Benin: country brief. http://www1.wfp.org/countries/benin.
World Food Program (WFP), 2018. Analyse Globale de la Vulnérabilité et de la Sécurité Alimentaire (AGVSA).
World Health Organization (WHO), 2018. Global status report on alcohol and health. World Health Organization. https://www.who.int/publications/i/item/9789241565639.
Zakpaa, H.D., Mak-Mensah, E.E., Avio, O.A., 2010. Effect of storage conditions on the shelf life of locally distilled liquor (Akpeteshie). Afr. J. Biotechnol. 9 (10), 1499–1509.