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## Gendered mobilities and immobilities: Women's and men's capacities for agricultural innovation in Kenya and Nigeria

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### ABSTRACT



Social norms surrounding women's and men's mobility in public spaces often differ. Here we discuss how gendered mobilities and immobilities influence women's and men's capacities to innovate in agriculture. We analyze four case studies from Western Kenya and Southwestern Nigeria that draw on 28 focus group discussions and 32 individual interviews with a total of 225 rural and peri-urban women, men and youth. Findings show that women in both sites are less mobile than men due to norms that delimit the spaces where they can go, the purpose, length of time and time of day of their travels. Overall, Kenyan women and Nigerian men have better access to agricultural services and farmer groups than their gendered counterparts. In Southwestern Nigeria this is linked to masculine roles of heading and providing for the household and in Western Kenya to the construction of women as the 'developers' of their households. Access and group participation may reflect norms and expectations to fulfill gender roles rather than an individual's agency. This may (re)produce mobility pressures on time constrained gendered subjects. Frameworks to analyze factors that support women's and men's agency should be used to understand how gendered mobilities and immobilities are embedded in community contexts and affect engagement in agricultural innovation. This can inform the design of interventions to consider the ways in which norms and agency intersect and influence women's and men's mobilities, hence capacity to innovate in agriculture, thus supporting more gender transformative approaches.

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## Introduction

Mobility refers to the extent to which people are able to move around inside and outside their communities to access various resources and services. Social norms surrounding mobility in public spaces are often gendered, especially in rural areas. Women in Sub-Saharan African contexts, especially those of childbearing age, tend to be more constrained than men in their freedom to venture outside their homes and beyond. Such norms influence who gains access to agricultural inputs that include seed and fertilizer, who attends trainings, participates in farmers' groups, and exchanges information to learn about new technologies and practices from travels elsewhere, and who participates in value adding and commercial activities, e.g. extra-compound processing and sales of agricultural produce. Poor road and transport infrastructure in underdeveloped mobility-scapes generate additional physical constraints. Yet, research on how gender, mobility and agricultural innovation processes intersect in developing country contexts remains limited.

In this paper we use a geographic lens to explore how gender norms shape mobility patterns of women and men in ways that influence their capacity to innovate in agriculture, specifically how women and men learn, access and use new knowledge and technologies, or try out or invent new ways of doing things in relation to their farming. We explain how gender, mobility and agricultural innovation intersect by first discussing norms and the ways in which they shape patterns of gendered mobility and immobility, further negotiated by social identities related to age and marital status. We then consider the specific ways in which constrained everyday mobility<sup>1</sup> (i.e. immobility) affects different women's capacity to innovate. Hence, we seek to better understand how gender norms frame spatial and temporal movements of women and men and how gendered immobilities particularly affect women's capacity to engage with agricultural innovation processes inside and outside their communities. We focus our attention on access to formal and informal groups, to local and distant markets, and to information through more casual everyday encounters.

We draw on data from four villages located in Southwestern Nigeria and Western Kenya that was collected in 2014 and 2015 as part of GENNOVATE,<sup>2</sup> a qualitative, comparative research initiative on gender norms, agency and agricultural innovation spearheaded by the CGIAR Gender and Agriculture Research Network (now: CGIAR Collaborative Platform for Gender Research), where the voices and lived experiences of rural women, men and youth of different socio-economic strata are in focus (Badstue et al. 2014).<sup>3</sup>

Following a presentation of the central concepts, we present the research design and methodology. Then we contextualize the case studies by providing an overview of the four sites, two located in Southwestern Nigeria and two in Western Kenya, and of the sampled respondents. We present findings

according to three interconnected themes: First we discuss the intersection of gender identity, innovativeness and mobility; then we move on to consider women's everyday movements, market participation and access to information, and finally we discuss gendered mobilities and immobilities in relation to farmer groups and social networks. By considering these three themes together, we gain a better understanding of how gender norms and practices (re)produce different mobilities for women and men, thus influencing their capacities for agricultural innovation. We conclude by discussing this at more depth, as well as implications for agricultural research and development.

### **Gender, mobility and agricultural innovation**

In this paper we draw upon two separate, yet related, strands of research: gender and technology/innovation, and gender and mobility. While both shed light on the various ways in which agriculture is gendered, they often fail to consider the ways in which gender, mobility *and* agricultural innovation processes intersect. Specifically, they do not consider how gendered mobilities and immobilities influence women's and men's capacities to innovate in agriculture. We also extend conventional analyses of innovation processes that narrowly consider the economic and technical capacity of individuals to innovate, without considering the role of formal and informal institutions and gender (Pyburn and Woodhill 2016; Schut et al. 2016; Tegbaru et al. 2015).

Gender norms, practices and relations often create different opportunities and constraints for women and men to learn about, access and utilize agricultural innovations that may improve both farm productivity and household incomes. Innovation refers to technologies and management practices as well as socio-economic and institutional changes, such as new ways to gain access to information and resources or to organize marketing activities, etc., which are novel for a community where they were not previously known (Waters-Bayer 2006). Such innovations may be locally developed or introduced by external organizations, for example.

Empirical evidence demonstrates that gender-specific constraints particularly affect women's capacity for agricultural innovation throughout much of the developing world. Women are often more resource and time constrained than men, have weaker property rights, limited access to infrastructure, credit, land, labor, extension services and other formal information channels, as well as to formal social organizations, such as farmers groups and associations. Women's access to education may be lower than men's, affecting literacy and the ability to receive and utilize information. Women's needs and preferences, linked to cultural norms that define their roles and

responsibilities and influence their mobility, may also differ from men's (Doss 2001; Meizen-Dick et al. 2011; Quisumbing and Pandolfelli 2010).

Gendered mobilities and immobilities influence and shape innovation outcomes for women and men in often different ways. Bergman Lodin (*forthcoming*) frames mobility as being constituted of three interlinked dimensions: movement, access (to opportunity) and ability (to decide in relation to these).<sup>4</sup> First, women's and men's revealed *movements*, i.e. daily material practice, and travel behaviors are usually different in terms of where and how they move, how fast, how often, how far and how long (Cresswell and Uteng 2008; Law 1999). In general, the movements of women in Sub-Saharan Africa are more circumscribed than men's – although there are variations (Cresswell and Uteng 2008; Hanson 2010; Porter 2002, 2011; Tanzarn 2008; Uteng 2011).<sup>5</sup>

Access refers to what can be achieved through movement (Hanson 2010; Uteng 2011), e.g. access to work, markets, education, social activities and, in relation to our study, agricultural innovations, including information about such. Thereby, mobility becomes a means of *access to opportunity*. Finally, *ability* refers to the need to also interrogate the causes of variations in movement, and whether a gendered subject decides her/his own movement (Law 1999, Uteng 2011). Such decisions reflect Kabeer's (1999, 438) articulation of agency as 'the ability to define one's goals and act upon them' and is often measured in terms of choice and decision-making power. In a number of cultures, especially women, and even more so those of childbearing age, are constrained in their options to move outside their residential compounds and communities (Mandel 2004, Muñoz Boudet et al. 2013; Porter 2011). Such mobility-disability is often related to norms that proscribe appropriate behavior, taboos regarding women interacting with unrelated men, time burdens and/or economic constraints. A gendered subject can also face mobility pressures through activities to meet expectations related to their gendered roles and responsibilities. In relation to this, Knie (1997) emphasizes a need to understand mobility as *the construction of possibilities for movement* more so than physical traffic, i.e. women's and men's revealed movements.

## Material and methods

### *Selection of field sites*

Data were collected in four village level case studies as part of the GENNOVATE research initiative.<sup>6</sup> Data collection took place during three weeks in June 2014 in Southwestern Nigeria, and three weeks in May 2015 in Western Kenya.

Selection of the four sites was based on GENNOVATE methodology to achieve maximum diversity in the sample with a specific focus on economic

**Table 1.** Sampled villages.

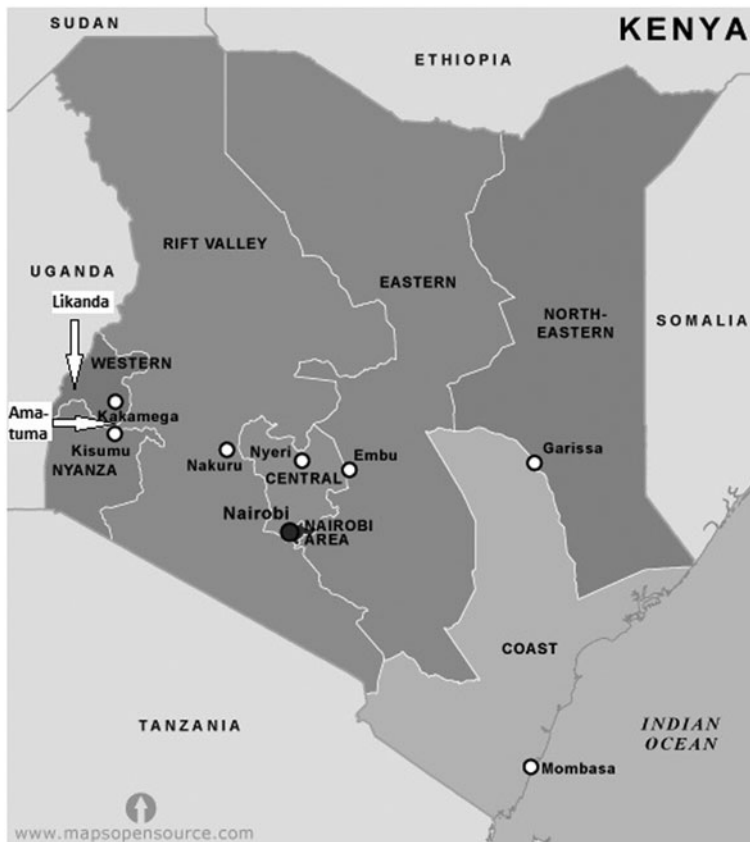
| County/State      | Kenya          |                | Nigeria                        |                 |
|-------------------|----------------|----------------|--------------------------------|-----------------|
|                   | Western Region |                | Southwestern Geopolitical Zone |                 |
|                   | Busia County   | Vihiga County  | Oyo State                      | Osun State      |
| Location          | Rural          | Peri-urban     | Rural                          | Peri-urban      |
| Economic dynamism | Low            | High           | Low                            | High            |
| Village name      | <b>Likanda</b> | <b>Amatuma</b> | <b>Oko Iyawo</b>               | <b>Epo Pupa</b> |

dynamism (Petesch 2014), which was based on proximity to urban centers and the prevailing physical and market infrastructure. Hence, a less dynamic site in a rural setting and a more dynamic site in a peri-urban setting was sampled in each country (Table 1 and Figures 1 and 2). The sampling frame was made up of villages targeted by the Humidtropics CGIAR research program and the villages were selected based on dynamism, as outlined above, as well as on the crops-specific Humidtropics interventions in these sites (Nigeria: cassava and palm oil; Kenya: maize). The village names are fictive in order to protect the identity of our respondents.

### *Data collection and analysis*

Standardized interview guides and sampling procedures for data collection were used as outlined in the GENNOVATE methodological guidelines. In each village, the data collection activities included seven focus group discussions (FGDs) and eight semi-structured one-on-one interviews. First, an introductory FGD was carried out with four to six women and men who were knowledgeable about their community, e.g. community leaders. The other FGDs were sex-and-age segregated and conducted with on average ten persons in Kenya and eight in Nigeria. This proved large enough to keep the discussion going and small enough to provide sufficient opportunity for all to actively engage (Bryman 2008). Group discussions primarily focused on gender norms, agency, and agricultural innovation and lasted two hours, on average. The eight personal interviews often took one hour and helped us better understand trajectories of individuals' life courses and experiences with innovations. Mobility dimensions were explored in each of these activities.

Local field teams consisted of three women and two men in Kenya and four women and four men in Nigeria. They were recruited to facilitate interviews and take notes of the qualitative data collection process. Rigorous training approaches were used and included one week of preparation in familiarizing with and pretesting the instruments in neighboring villages. In Kenya, interviews were conducted in Swahili and Luyha, while in Nigeria, they were conducted in Yoruba. Following respondents' consent, interviews were recorded, which enabled field notes validation based on audio-recordings during the transcription process.



**Figure 1.** Study villages in Kenya. Source: <http://mapsopensource.com/kenya-map-black-and-white.html> accessed 5 June 2017. Map licensed under a Creative Commons Attribution 3.0 Unported License (see [https://creativecommons.org/licenses/by/3.0/deed.en\\_US](https://creativecommons.org/licenses/by/3.0/deed.en_US)); labels are ours.

The translated and transcribed field notes were imported into NVivo 10 software package for data management and coding, and for organizing and exploring the information during the qualitative data analysis phase. Initial coding was done deductively using a coding tree developed for GENNOVATE. Additional narrative data were coded using inductive and deductive approaches based on key themes in the paper.

We draw upon the research participants' situated knowledge, subjective perceptions and grounded narratives in order to grasp their complex realities and how their mobilities influence their capacities for agricultural innovation. Qualitative research facilitates a better understanding of a respondent's distinct point of view, paying heed to her/his own words and experiences. However, our interpretation and representation of these local worlds remains a *construct* that is necessarily shaped and limited by our own conditioning and frames for making meaning (Kabeer 1994).



**Figure 2.** Study villages in Nigeria. Source: <http://mapsopensource.com/nigeria-map-black-and-white.html> accessed 5 June 2017. Map licensed under a Creative Commons Attribution 3.0 Unported License (see [https://creativecommons.org/licenses/by/3.0/deed.en\\_US](https://creativecommons.org/licenses/by/3.0/deed.en_US)); labels are ours.

## Setting the scene

### *Description of field sites*

In the Western Kenyan sites, rain-fed intensive crop-livestock farming systems dominate, with maize being the most important crop. Average land sizes are two acres in rural Likanda, with the largest farms reaching five acres. In peri-urban Amatuma, plots were said to be as small as .25 acres on average with the largest being two and half acres, and agriculture was reported to have been ‘modernized’ under population pressure and land constraints.

1200 people live in Likanda and 2000 in Amatuma, of which 75% were estimated to be Luyhas in both sites. In Likanda, other ethnic groups include the Tesos and Luos. In Amatuma, respondents explained that the Luyhas are divided into subgroups, of which the Maragolis is the largest, while other ethnic groups include the Kikuyu and Luo, to a lesser extent. In both villages, the dominant religion is Christianity. Most households were defined as nuclear, but polygyny also exists, and is common in rural areas. Ten percent of the households are estimated to be women-headed in Likanda, which exhibits low economic dynamism relative to Amatuma (Table 2).



**Table 2.** Village overview.

| Village name<br>Location             | Western Kenya                     |                                   | Southwestern Nigeria       |                         |
|--------------------------------------|-----------------------------------|-----------------------------------|----------------------------|-------------------------|
|                                      | Likanda<br>Rural                  | Amatuma<br>Peri-urban             | Oko Iyawo<br>Rural         | Epo Pupa<br>Peri-urban  |
| Infrastructure                       | Poor                              | Good                              | Poor                       | Good                    |
| Road condition                       | Poor                              | Good                              | Poor                       | Good                    |
| Distance to major road               | Long                              | Very short                        | Long                       | Zero                    |
| Electricity                          | Limited                           | Good                              | No                         | Good                    |
| General services                     | Moderate                          | Good                              | Poor                       | Good                    |
| Health services                      | No                                | Hospital                          | No                         | Clinic                  |
| Highest school level                 | Upper secondary                   | Upper secondary                   | Primary                    | Upper secondary         |
| Public transport                     | No                                | Yes                               | Limited<br>and expensive   | Yes                     |
| Information sources                  | Fair                              | Good                              | Poor                       | Good                    |
| Mobile network                       | Yes                               | Yes                               | No                         | Yes                     |
| TV network                           | No                                | Yes                               | No                         | Yes                     |
| Radio network                        | Yes                               | Yes                               | Yes                        | Yes                     |
| Agricultural services                | Good                              | Good                              | Poor                       | Moderate                |
| Farm credit                          | Yes                               | Yes                               | No                         | No                      |
| Extension office                     | Yes                               | Yes                               | No                         | Yes                     |
| Farmer groups                        | Yes, sometimes<br>receive support | Yes, sometimes<br>receive support | Yes, but<br>not supported  | Yes, receive<br>support |
| Market access                        | Fair                              | Moderate                          | Poor                       | Good                    |
| Local market frequency               | Daily and weekly                  | Daily and weekly                  | Every 5 days<br>(4km away) | Every 5 days            |
| Distant market visits                | Occasionally                      | No                                | No                         | Regularly               |
| Traders come to village              | Yes                               | Yes                               | Yes                        | Yes                     |
| Off farm employment<br>opportunities | None                              | Many                              | None                       | Few                     |
| <b>Economic dynamism</b>             | <b>Low</b>                        | <b>High</b>                       | <b>Low</b>                 | <b>High</b>             |

Source: FGDS.

In both Southwestern Nigerian villages, farming was identified as the dominant livelihood activity and maize, yam, cassava, cocoa and oil palm as major crops, the latter important cash crops. Oko Iyawo is located after traveling 23 km on a dirt road of poor condition after branching off one of the main roads in the area. Epo Pupa is a peri-urban settlement next to one of the major highways. Respondents in Oko Iyawo reported that farms in their village average five acres (range: 3-20), while the corresponding figure for Epo Pupa was 15 (range: 10-30). [Table 2](#) also clearly reflects the different levels of economic dynamism between these two villages.

Oko Iyawo has lower population than Epo Pupa, with around 600 people compared to 3000. Eighty percent were estimated to be Yoruba in Oko Iyawo, while two thirds in Epo Pupa. Other ethnic groups that were identified included the Togoese, Takun and Igara in the former village and Egede, Ibiobio and Irobo in the latter. Christianity and Islam are the dominant religions. Both villages consist of a mix of nuclear, extended and polygynous households. Polygyny is more common in rural areas and is not always due to religion.

### *Description of respondents*

In total, 225 respondents from various socio-economic groups participated in the study. They represented diverse family structures that incorporated

perspectives of unmarried and married women, men and youth. In the Kenyan sites, the average age of adult men respondents was 45 years (range 27-55) and of adult women 44 (range 28-57). The majority are married with children in men-headed households. Four women identified themselves as *de facto* heads of household. Ten were widows and *de jure* heads of household. The average age of both the young women and men was 22 years (range 16-25 for young women and 17-25 for young men). All respondents were Christian, except for two Muslim respondents in Amatuma. On average, men were more educated than women, but this trend was less pronounced among the youth. Most respondents had completed primary or secondary school and a few held university degrees, including some young women. The young respondents were also generally more educated than their older counterparts, as was the peri-urban respondents compared to the rural.

In the Nigerian sites, the average age of adult men respondents was 46 years (range 20-80) and of adult women 47 (range 25-70), where most were married with children. Only one married woman identified herself as *de facto* head of household. Nine were widows, of whom six were *de jure* heads of household. The average age of young men was 21 (range 16-26) and of young women 22 (range 19-25). Two thirds of respondents in Epo Pupa were Muslim while in Oko Iyawo the majority (80%) was Christian. In Southwestern Nigeria, men respondents were more educated than women, the young more than the old, and the peri-urban residents more than the rural. The gendered differences in education were greater here than in Western Kenya. While half of the men had completed secondary school and 20% held university degrees, 42% of the women had not even completed primary school, and none of them had gone beyond secondary school.

### ***Gender identity, innovativeness and mobility***

Gender identities influence women's and men's spatial flows, particularly as a result of norms that shape expectations of a good spouse and subsequent household responsibilities. In all four sites, 'good husbands' are described as breadwinner heads of household, with a common expectation that men should travel from home on a daily basis to secure income and food, they should leave early in the morning and work throughout the day and return home in the early evening. With the exception that good husbands should avoid bars, there were few references to norms that stipulate or limit men's movements. Rather, a good husband must be able to move around freely to access economic opportunities to fulfil his productive responsibilities.

These expectations also differentially influence women's and men's migration, with men, more often than women, migrating in search of seasonal or permanent work. Seasonal migration of men was more frequent than

permanent and reported by about half of all households in three of the sites, while men in a quarter of the households in these communities migrated on a permanent basis. The exception was rural Oko Iyawo in Nigeria, where permanent migration by men was more common than seasonal (40% vs. 20%). Seasonal migration amongst women ranged from zero to an estimated quarter of all households. No women were reported to migrate on a permanent basis, except in peri-urban Epo Pupa, Nigeria (25% of households).

In Southwestern Nigeria, women associated patriarchal household headship with innovativeness to explain why more men than women are innovative, where in a focus group discussion (FGD) in Oko Iyawo: 'The more responsibilities you have, the more you will think about innovations. [...] Men have more responsibilities [as heads of household], so they have to think more about new things to solve the problems they are facing.'

'Good wives' were often described as the homemakers, responsible for taking care of the household chores and children, who are expected to mainly 'sit at home', said a man in an FGD in peri-urban Amatuma, Kenya. Women in the same village described a good wife as someone who 'does not loiter around.' Women's movement out of their residential compounds is to primarily attend to the local market and farms. Market activities were reported to be 'women's work' in both countries, whether women sell farm produce (indeed, in the Nigerian sites a 'good woman farmer' was described as someone that also sells her husband's produce), shop or work as a market vendor. Respondents estimated that 75-100% of the traders in the nearby markets were women, indicating that marketplace trade is a woman's domain.

Married women's movements related to their productive responsibilities are, across sites, described as being undertaken to *help* or *support* their husbands, the perceived main providers, in producing food and earning income for the household, in spite of women's significant income contributions. Many women, men and youth agreed that a married woman should not earn more than her husband, since this would undermine the man's authority and position as household head. Otherwise, she may be suspected of witchcraft. A woman must therefore maintain a humble, submissive position and not boast about her economic success in the household or in the community. One man in an FGD in rural Likanda, Kenya, said: 'A good husband does not depend on the wife for everything because then the wife becomes head.' Similar views were expressed in our two Nigerian sites. These types of accounts have also been reported from other socio-economic and cultural contexts (Bergman Lodin 2012; Sherman, 2005; Silberschmidt, 2011).

According to the respondents, a good wife does not forsake her reproductive responsibilities for work reasons, not even in Southwestern Nigeria with its long tradition of Yoruba women working outside their homes.

Working mothers in the Kenyan sites were reported in the FGDs to be perceived by other community members as particularly 'desperate' and 'irresponsible'. In the Nigerian sites, however, the views were more appreciative, with such women being described as 'very responsible', 'virtuous' and 'enterprising'.

In Southwestern Nigeria, men are perceived to be the main innovators in the household, because of their masculine breadwinner identity. In Western Kenya, married women are increasingly described as the 'developers' of their households and FGD respondents claimed that 'women like development.' As such, they are expected to attend meetings and participate in groups and trainings to learn about new things that can 'develop the home.' Hence, there is an emerging expectation that Kenyan women, sometimes more so than men, should actively seek opportunities to learn about innovations. This can also be interpreted as Kenyan men, while fulfilling their *immediate* productive responsibilities through engagement in economic activities, actually come to rely on women to reproduce this breadwinner identity *over time*.

In all sites, a married woman who is frequently seen outside the home may be perceived as a woman who neglects her household chores, children, and husband. She may also be accused of 'sleeping around' or 'hunting down men.' This type of normative judgements regarding women's mobility can create tension between spouses, since a man's reputation will also be affected by community perceptions of his wife.

Gender norms frame women's and men's mobilities and generate different expectations of women and men in agricultural innovation processes. Although Kenyan women and Nigerian men are often associated with a responsibility to be innovative, norms related to expectations of what is a good spouse were found to constrain women's mobility and induce mobility pressures on men.

### ***Women's everyday movements, market participation and access to information***

The ability to travel emerged as a key feature of innovators. To travel outside the home provides increased opportunities to learn about agricultural innovation, whether through casual encounters in everyday movements or through intentional travel to learn, e.g. to participate in demos or field days. Major factors that constrain innovation that were identified by women in Western Kenya included ignorance, isolation, and lack of information, awareness and participation. Similar accounts emerged across sites. In this section we discuss how women's everyday mobilities and immobilities affect their ability to gain access to local and distant markets and to information at large.

Women often seek their husbands' consent before going to the market, even though markets are often considered to be feminine domains. Market engagement without husbands' permission 'is simply not possible,' said a young woman in an FGD in Epo Pupa, while another FGD participant explained 'If your husband does not allow you to go, you will not go.' However, in both countries this is a formality to uphold patriarchal headship and authority, and as soon as the husband has been informed and has given his consent, the woman may travel to the local market. Upon probing, a young man in an FGD in Oko Iyawa said: 'Do you think it is *not* easy? Once her husband knows where she is going, it becomes easy.' Similar remarks emerged from the young men in the FGD in Epo Pupa, one saying that 'A woman can go *anywhere* her husband sanctions', while another pointed out that 'The women are free to move around. Only they must defer to their fathers, husbands and [any other] authority over them.'

Although husbands seldom prohibit their wives from running their errands and working, the act of seeking approval compromises the ability dimension of women's mobility and their agency, i.e. they themselves cannot choose or autonomously decide when or how to move. This was aptly captured by a young man in an FGD in Likanda who said that '[A woman] is not free because she has to follow the rules in the home.' While the 'access' dimension of women's mobility is not compromised in relation to these specific places (the local market, the farm, the workplace), it may be in relation to other places. Distant markets are a case in point. Structural constraints, such as roads and transport, particularly in the rural sites, present formidable challenges to women and men alike, which, together with high crop perishability, effectively limit farmers' participation in distant markets. Further, women are constrained in their mobility due to lack of time that result from domestic responsibilities that were previously discussed, unless they have others to rely upon when they are away. Also, in the case of married women, husbands do not always grant permission to travel to distant markets, in part because husbands are interested in monitoring their wives' movements and potential interactions with patriarchal strangers, who may pose threats to safety, or may be a temptation to commit adultery.

Generally speaking, women are expected to have a specific destination, or purpose, in mind when moving within and outside of their home villages so as not to be seen as meandering without purpose. Young women in an FGD in Epo Pupa described women who were moving around 'aimlessly or at random' as stigmatized as 'loose or wayward' by others. Similar normative judgements regarding women's movements were expressed in the Kenyan FGDs. Respondents in Southwestern Nigeria also pointed out that a 'good man' does not 'roam around', but when a man does it is because he is lazy. It is not associated with promiscuity, as for women.

Women move less frequently and to fewer places than men due to gendered moral-spatial codes. Married women are expected to return home upon completing their work outside the home. A young woman in an FGD in Epo Pupa said: 'Even if you go [to the local market], you must not branch anywhere else.' One Kenyan woman warned that a delay could result in domestic abuse. While violence against women was only mentioned twice, women in polygynous households were reported to stand a greater risk of being ignored by their husbands because of disobedience, since he then would 'focus more on the other wife or wives willing to yield to his bidding', as a young man pointed out in an FGD in Oko Iyawo (c.f. Seeley 2012). Married women's freedom of movement was said to increase when their husbands were away. Very poor and widowed women were able to move more freely, but this was perceived as a necessity to make ends meet and not as anything desirable. Unmarried women exercise greater levels of freedom in movement than married women. A young man in an FGD in Oko Iyawo said: 'Young women are free to move around, who will ask them not to do it?' However, others noted that these young women's parents may insist on knowing their daughters' whereabouts. Unmarried women's greater freedom of movement is also circumscribed by accepted norms concerning appropriate behavior for women in public. Whereas unmarried women often reside in their natal communities, stranger wives or women who move to join their spouses, may be subject to greater scrutiny, until they have established their moral reputation as 'good wives' in their new communities.

In all four sites, a common belief is that women, unlike men, should not move at certain times of the day; more specifically they should not stay out late (see also Muñoz Boudet et al. 2013). It was considered safe for a woman to move around during the day, as long as she 'does her legitimate business,' said a young woman in an FGD in Epo Pupa. In the evenings and at night it was considered risky: 'If late, there may be a problem,' explained a young man during an FGD in Amatuma. This was also emphasized by a woman in an FGD in Epo Pupa, who said that a woman can avoid being harassed if she 'does not keep late at night.' Safety concerns may therefore discourage women from traveling longer distances to engage in distant market trade or attend meetings or trainings in town, since such trips likely mean they would return home late(r) or even have to stay away overnight. This has been reported to prevent many rural women cassava leaf traders in Pwani Region, Tanzania, to engage in the more remunerative market trade in Dar-es-Salaam (Andersson et al. 2016).

Women's attire also influences their perceived safety. In an FGD in Amatuma, a man emphasized the importance of that a woman 'dresses properly,' while a woman in the same village noted that it is the responsibility of a good wife to 'dress well so that she is respectable.' Related to this, women in an FGD in Epo Pupa pointed out how important it is for a woman to be

'honorable,' and also in this group, a woman said that 'a good wife must dress well in clothes that cover her body, not clothes that will expose her body parts.' Both women and men respondents in Western Kenya concluded that a woman's attire matters even more in the evenings and at night, implying that women's 'indecently' dressed bodies may incite gender based violence. Although threats to safety were not similarly discussed in relation to men, they may also come under threat due to violent masculinities and related crime and thus avoid travelling at night or engage in distant market trade.

Based on the analysis of women's and men's narratives in both countries, we elucidated that men seek to control women's movement, whether they are Muslim or Christian, in order to exert greater control over women's sexuality (see also Porter 2011). Similarly, Leslie (1993, np) has noted that 'When a woman ventures outside the house into the city, she [...] becomes more dangerous and uncontrollable in her femininity.' Others, such as Silvey (2000), have discussed this in relation to women's and men's long-distance migration decisions and experiences. Men controlling women's mobility can be understood in response to men's financial insecurity and weakened provider role. Hence men may seek alternative means to assert their household authority and male identity, where control over women may then become central to their masculinity (Silberschmidt 2011).

In a myriad of ways, norms stipulate and men condition where women can go, when, and for how long, and thereby they also influence what information, resources and services women may access. Women also reproduce these norms and behaviors to ensure that their movements do not raise suspicion, and to avoid stigma, punishment, and/or harassment, as well as to protect the dignity of their spouses and families. This has significant implications for women's capacity to innovate, namely through the creation of spatial and temporal travel boundaries. Since women move less than men, they are more likely to miss out on opportunities for agricultural innovation that are beyond the range of their everyday, accepted travel boundaries. When spatial and temporal constraints on women's movements intersect, for instance in distant market trade, this may particularly undermine their chances to engage in innovation processes.

### *Gendered mobilities in relation to farmer groups and social networks*

The ability to cooperate with others, develop social networks and/or participate in groups to gain access to knowledge, education, training opportunities and/or extension services were identified by respondents in all sites as critical to supporting one's capacity to innovate. Innovators were often described as social and knowledgeable. A person's mobility enables her/him to build and maintain formal and informal social networks and relations, and to collaborate and coordinate with others to access, share and process

relevant information and knowledge. We therefore consider how women's everyday mobilities affect their access to formal and informal groups and social networks.

In both study sites, respondents identified agricultural extension services and farmer associations as important formal channels through which women and men learn about innovations. However, consensus was not reached in the FGDs about whether women and men have the same opportunities to access these channels. Some respondents suggested that there is no discrimination in access, while others suggested that technical trainings are targeted to either women, men or both, depending on *the topic/crop*. For example, in Southwestern Nigeria, cocoa-related trainings are carried out with men, women are taught palm oil processing, and both women and men are targeted for cassava related trainings. These differences reflect and reproduce (perceived) gender specific crop roles and responsibilities; and so, many respondents claimed that women and men do not have equal access.

In the Nigerian sites, respondents were pointing out that men usually have better access to formal farmer groups and associations, which has been reported before (Due 1997; FAO 2011; Meinzen-Dick et al. 2011). Some associations are exclusively for men, and with men dominating in those of mixed-gender. One woman in an FGD in Epo Pupa said: 'Women learn from the [agricultural extension workers] but men have greater opportunities to learn from them [...] because the groups are male dominated.' An explanation for men's higher levels of participation than women in formal groups is that masculine gender identity is strongly associated with innovativeness in the Nigerian sites. Another reason relates to women's time constraints; a young woman in an FGD in Epo Pupa explained that '[men] have more time to travel to the city for trainings or to learn more about new things. But we women do not have such time ...' Similarly, women in an FGD in Oko Iyawa suggested that men are more innovative since 'the man has more time to think about farm work.' Women themselves identified 'lack of time' as a key factor hindering innovation in agriculture, and it was also identified by our respondents as a constraint that specifically prohibit women from group participation and innovation; a key trend in agriculture (FAO 2011).

Men in the Nigerian sites were also reported to often be targeted by non-governmental organizations (NGOs) for trainings, since extension workers expect men to practice what they have learnt and teach their wives (see also Due 1997; FAO 2011; Meinzen-Dick et al. 2011). One man exemplified how he shared knowledge about cocoa seedling nurseries learned in a training with his wife, who then adopted the practice. Both genders explained that husbands are a key source of information for married women: 'Young women learn new things from their husbands by observation and then try it,



and also try to perfect the new idea', said a young woman in an FGD in Oko Iyawa.

In Western Kenya it is increasingly considered women's responsibility as the new 'developers' of their households to attend trainings and participate in groups to learn about new agricultural technologies and practices that can support household development. Wives are then expected to share information with their husbands, who usually have the final say in deciding what new innovations should be tried out. A woman in Likanda said that in their village, 'few men are willing to learn. They do not find time to be taught.' Meanwhile, men perceive that women have 'plenty of time', hence 'time to learn'. Kenyan women acknowledged their significant time constraints that result from domestic responsibilities, in which case increased group participation adds to their time burdens (see also Nichols 2016). Such observations support others', who have documented the invisibility, de-skilling and devaluation of women's domestic work (Kabeer 1994). In these cases, group participation was not only considered an opportunity or an agentic act, but the burden of the 'developer', hence an activity that increases women's unpaid labor efforts to support the household.

In some instances, men have completely withdrawn from groups in the Kenyan sites, which could be because of men's increasing struggles to enact hegemonic forms of masculinity associated with provisioning (Silberschmidt 2011). Since men are expected to fulfill immediate provider roles, group withdrawal may be a coping strategy to free up time for work. Additionally, NGOs in Kenya have been actively targeting women over the last decades (Udvardy 1998), for example through the Maendeleo ya Wanawake Organization (MYWO; Kiswahili for 'progress of women'), which also extends loans to women in Amatuma.

In both study sites, informal social networks play an important role in women's learning, especially in the rural sites. These include kin groups, local rotating savings and credit associations (ROSCAs), self-help and community development groups and fundraising activities known as *Harambee* in Kenya (Udvardy 1998).<sup>7</sup> A woman in an FGD in Likanda said: 'What helps me is sitting with my fellow women, so I can learn because if I isolate myself I won't gain anything.' Similarly, a young woman in this village, when asked who she would consult if she wanted to plant a new crop, replied: 'I would ask my fellow women because they easily share information.' In Southwestern Nigeria, women said that they frequently turn to fellow (women) farmers to learn about innovations, while men said they turn to formal organizations for information. Particularly in Western Kenya, many women also referenced the love and confidence they gain through participation in women's groups, that are valued as a space to build relationships with other women and, through the ROSCAs, reduce their financial dependence on men. Women's

groups are important mechanisms to support friendships, solidarity and, more broadly to support collective action in empowerment, and a woman in Amatuma said that 'women can only stand when other women support them' (Bullock and Tegbaru, *forthcoming*; World Bank, FAO and IFAD 2009; Udvardy 1998).

Respondents across study sites stated that women and men were both likely to adopt new technologies and practices, albeit women at a smaller scale than men due to resource constraints. Men were identified as the main decision-makers in relation to innovations, and married women often seek their husbands' consent before trying out something new. In all sites, it was noted that men were more likely to listen to their wives for advice on innovations when they had received the information from 'a reliable source' (i.e. formal). Hence, women's sources of information, more so than men's, influence their potential to negotiate household level innovation adoption with spouses.

From a mobility perspective, a gender-based difference exists in terms of accessing opportunities through group participation, and specifically accessing information about innovations from formal sources. Generally speaking, married women in Western Kenya and men in Southwestern Nigeria have greater access and opportunities to participate in formal farmer groups and associations than men in Western Kenya and women in Southwestern Nigeria, which supports their capacities to be innovative. This mainly is due to that innovativeness is associated with masculinity, headship and provisioning in the Nigerian sites and with feminine responsibility in the Kenyan sites following the construction of women as the new 'developers' of their households.

Men in Kenyan sites who reported participating in groups often *choose* to do so. However, women's greater participation is not always based on choice, or agency; rather women participate because *men do not*, and secondly, norms and (men's) expectations increase pressure on women to fulfill 'developer' roles. For some women, group participation enhances their ability to be more supportive in the household roles while simultaneously expanding their physical mobility. For others, this gendered responsibility is perceived as adding to their time poverty. Hence, in relation to groups, the ability dimension of these Kenyan women's mobility may be compromised also when the access dimension is not, and even when this dimension expands. This is the case when they do not have the agency to decide over their own movements and priorities. In contrast, the ability dimension of men's mobility in Western Kenya remains intact also when they do not participate in groups, since they then have chosen immobility; to not participate, which is not the case for women in Southwestern Nigeria.

Moreover, since Kenyan women often do not have the final say in adoption decisions, they do not gain significant decision-making power through group participation. However, women reported that groups are important sources of agricultural information, and some, such as ROSCAs, also provide opportunities for becoming more financially independent vis-à-vis their spouses, which is valued and empowering.

Since Nigerian men are expected to be innovative, they experience similar mobility pressures in relation to groups as Kenyan women. However, it is often more acceptable for men to resist norms and choose immobility even when this goes against expectations on them as heads of household and breadwinners.

## Conclusions

Our paper focuses on describing the ways in which gender norms frame the movements of women and men using a geographic lens that looks at social dimensions of spatial and temporal mobility. We also sought to explain how gendered (im)-mobilities may affect access to formal and informal groups, local and distant markets, and information through more casual everyday encounters, thus influencing particularly women's capacity to engage with agricultural innovation processes inside and outside their communities.

We drew on literature on gender and technology/innovation as well as gender and mobility to inform our framework and demonstrated how this combination supports our analysis of the role of gendered mobilities and immobilities in agricultural innovation processes. The framework facilitated a better understanding of how spatial and temporal dimensions of mobility are gendered.

We found that norms that proscribe women's mobility, hence capacity to innovate, were similar in otherwise very different contexts, e.g. East and West Africa; rural and peri-urban villages. Across the four sites, immobilities impact and lessen women's opportunities to learn about new technologies and ways of farming within and outside their communities.

Women's access to agricultural services and farmer groups in Southwestern Nigeria continues to be lower than men's, and they often rely on informal social networks for information. By contrast, women in Western Kenya, constructed as the new 'developers' of their households, are often expected to attend trainings and participate in groups, in spite of their time constraints, while Kenyan men increasingly are withdrawing from groups and engaging in other extra-household activities that include earning income. Despite these differences, women in both Southwestern Nigeria and Western Kenya seldom exercise agency concerning their own movements. Rather,

social norms stipulate and husbands condition where they can go, for what purposes, how long, and at what times.

For men across sites, norms generate mobility-related pressures linked to patriarchal headship. In Western Kenya, it might be their struggle to fulfil expectations on them as the major providers that drive them away from groups to engage in economic activities instead. In Southwestern Nigeria, this very breadwinner identity motivate men to join groups instead, since this identity is associated not only with provisioning but innovativeness there. This way, men in Southwestern Nigeria may experience similar pressures in relation to group participation as women in Western Kenya.

At least three key messages emerge from the study. The first is the importance of considering the socio-cultural context in relation to agricultural innovation processes to understand how gender norms, roles and relations influence women's and men's agency and capacities to innovate at particular times and places. We investigated this by focusing on the embeddedness of gendered mobilities and immobilities in community contexts. Based on the findings we emphasize that researchers and development practitioners should recognize that mobilities strongly condition women's and men's access to agricultural information and services. This finding supports the use of a social relations perspective in agricultural research and practice to inform the design of (technical) interventions (Hillenbrand 2015; Kantor 2013; Kantor et al. 2015; Okali 2012). Gender transformative approaches (GTA), which recognize gender as part of how society works and build on collaborative learning, reflection, questioning and action with women, men and communities, are needed (Hillenbrand et al. 2015; Kantor et al. 2015). GTA challenge and strive to change the underlying gender norms and power relations that enable gender disparities to exist and persist. Through the design and testing of interventions, GTA not only aim to close gaps between women and men in access to resources, technologies and markets but, to cite Kantor (2013, p. 5), 'help both women and men to expand the quality of their livelihood choices, including by making changes in their roles, responsibilities and relationships to one another'. Such approaches have been implemented in diverse settings. GTA that are integrated in innovation processes have shown positive impacts on e.g. gender attitudes (Mahmud et al. 2012), women's decision-making power and control over home gardens and their produce, as well as attitudes towards women owning property (Van den Bold, et al. 2015). To achieve more gender-responsive and gender-equitable Agricultural Research for Development, methods and tools exist and may be used to support the design of intervention specific gender transformative research in development. The GENNOVATE methodological toolkit is one. Further research into understanding women's and men's agency, mobility and

capacity to innovate can inform GTA approaches to ensure that innovations are, in fact, empowering.

The second key message is that gendered mobilities are borne of a complex set of social and structural factors that may support or undermine gender equality differently in various circumstances and places. Gendered movements, when looked at in isolation and not understood in relation to gender norms, roles and relations, may be interpreted as being empowering when they are not. Rigorous social analysis to understand how social norms, values and power relations shape, and are shaped by, women's and men's understandings of their roles and capacities to innovate is therefore needed. This can ensure that interventions do not produce, reproduce and reinforce processes of disempowerment through activities, e.g. farmer groups, which are 'good' for the target population but create undesirable mobility pressures on already time constrained gendered subjects undermining efforts to achieve the Sustainable Development Goals (SDGs) (c.f. Rai et al. 2019).

Finally, it is important to understand the socio-cultural factors that influence group participation, not least since this, in and of itself, does not necessarily change mobility norms and enhance agency and autonomy. Women's increased group participation does not necessarily imply or signify that social change has occurred or that gender equity exists. Interventions failing to address norms and agency, and reimagine the moral geographies of innovation, to paraphrase Silvey (2000), may change participation rates in services but not meaningfully influence women's and men's overall capacity to innovate in agriculture. GTA within innovation processes may result in more gender equitable outcomes in terms of women's and men's capacity to innovate, including by influencing the normative landscape that contributed to unequal mobilities and immobilities in the first place.

### Data sharing statement

We cannot by e.g. Swedish law, the CGIAR's GENNOVATE data sharing agreement, and privacy and ethics in research considerations to protect security, anonymity and privacy of individuals participating in a study, publish or share data including personal information without anonymizing it first. Our raw interview data contain sensitive personal data. For that reason we will e.g. consider a voice recording as personal data in its entirety. Publication of transcribed raw interview data needs extensive anonymization due to the following: Information collected contains personal data from individuals participating in the study; Participants in the study were informed that their participation was going to be kept confidential; Specific sensitive topics were discussed during the interviews (such as violence and other conducts or customs in communities that are legally prohibited, as well as socially, politically

and beliefs-related sensitive information); Participants revealed considerable specific details of their private life as well as practices by others in their communities. Making the information available will: (i) violate the permission given by the participants to collect their data, obtained in accordance to the study protocol; (ii) expose the security of the participants that revealed the referred information; and (iii) violate the privacy of the individuals that participated in the study, as well as those that did not participate but were included in the data, descriptions and stories provided by the participants. Anonymizing the data to the extent this would require and then only partially publishing/sharing the data that could be anonymized will create a misleading data set. Hence our raw interview data will not be published nor made accessible.

## Notes

1. 'Everyday mobility' refers to the casual and regular movements by women and men 'from one place to another in the course of everyday life' (Hanson 2010, 7), as contrary to the (semi-) permanent movements associated with migration.
2. <https://gender.cgiar.org/network-focus/gennovate/>
3. In total, GENNOVATE covers 137 case studies across 26 countries.
4. Virtual mobility is emerging as an important dimension to also consider since it can increase access to information and to opportunities through the substitution of information communication technology (ICT) for travel (Hanson 2010). However, the focus in this paper is on physical, or spatial, mobility, given the configuration of our dataset.
5. There are also in-group and in-country variations. For instance, in some regions of Nigeria, women's seclusion is greater, such as amongst the Muslim Hausa-Fulani in the north, while Yoruba women in the south-west, irrespective of their religious affiliation, often are responsible for selling agricultural produce at local markets (Ajani 2008).
6. GENNOVATE is carried out within CGIAR, the global research partnership on agricultural research (Badstue et al. 2014).
7. *Harambee* is Kiswahili for 'pulling together', a practice that has been widely promoted by the government and donors since Independence (Udvardy 1998).

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No potential conflict of interest was reported by the author(s).

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