

# CHAPTER 4

## GENDER NORMS AND THEIR IMPLICATIONS FOR BANANA PRODUCTION AND RECOVERY IN WEST AFRICA

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### ABSTRACT

*This study uses the social relations framework to explore gender norms and relations surrounding banana production and banana bunchy top disease (BBTD) containment in six pilot communities in Cameroon and Nigeria. The objective of the study is to understand how gender norms and relations shape and influence access to information and benefit-sharing of productive resources among men and women banana farmers and implications for banana production recovery in the BBTD-affected regions and disease management.*

*Twelve, sex-disaggregated focus group discussions with 120 farmers (78 women and 42 men banana farmers) and 24 key informants were conducted. Data on banana production, access to and decision-making rights over productive resources and social and gender norms influencing adoption were collected. Data were analyzed using a systematic content analysis approach. Results show inequalities stemming from inherent gender and social norms related to access to and decision making over productive resources limiting especially women farmers' ability to effectively engage in training programs that could*

*lead to adoption of recommendations and technologies. Opportunities to effectively participate in training activities were influenced by gender norms related to household decision making, gender-based labor division and multiple household tasks.*

*Interventions and strategies to contain the spread of BBTd should consider gender-based constraints and opportunities embedded in the communities for optimal results. Social and gender differentiations that impede women should be addressed for inclusive participation. Failure to address harmful norms and gender differentiation in the underlying social structures will benefit one group of people in the community over another.*

**Keywords:** Gender norms; banana production; smallholder farmers; BBTd; Africa; disease control

Banana and plantain (*Musa* spp.) are important food and income generation crops for smallholder farmers in sub-Saharan Africa (SSA). Banana and plantain (subsequently referred as banana) provide food security and income to millions of farmers and rural dwellers and generate foreign exchange earnings which can contribute to reviving declining economies in tropical countries (Akinyemi, Aiyelaagbe, & Akyeampong, 2010; IITA, 2000). Sustainable increase in production of banana and plantain would lead to employment and empowerment of youths and women in production, processing and marketing, currently gaining momentum in Nigeria and Cameroon (Akinyeme et al., 2010; Fonsah & Chidebelu, 2011). Banana production is gaining recognition for large scale production especially by the diaspora and serves as means of diversification of income sources in rural and urban areas.

Banana has huge potentials in West Africa; however, its production is dwindling because of various constraints, including several widespread pests and disease. Banana bunchy top disease (BBTD) caused by *banana bunchy top virus* (BBTV) (family *Nanoviridae*, genus *Babuvirus*) is one of the more important constraints to banana production (Kumar et al., 2011), and it is considered as the most devastating viral disease of banana (Hooks, Wright, Kabasawa, Manandhar, & Almeida, 2008) that reduces yields by 80% to 100%. The infected plant hardly bears fruit bunches and if at all, these bunches have small shrivelled fingers that are not edible. The virus is vectored by the banana aphid, *Pentalonia nigronervosa* (Coquerel) and spreads through the use of infected planting materials (Ajambo et al., 2018; Ngatat et al., 2017). BBTd among other banana diseases is currently a threat to household food intake and income generation among banana/plantain farmers in BBTd affected areas. Hence, BBTd infection and spread if not contained will continue to threaten the livelihood and well-being of rural households involved in banana production and marketing.

Efforts aimed at increasing adoption of BBTd management measures (such as establishment of buffer zones and scouting) by farmers and recovery of banana production require an understanding of gender norms existing

in the affected communities to improve on the targeting of interventions and are expected to avoid unintended negative outcomes such as exacerbating the workload and overall well-being of poor women and their households (Doss & Michael, 2001). The present study seeks to understand gender norms, practices and experiences in relation to BBTB infected banana farming systems in two regions representing Central and West Africa. The study examines how gender constraints inherent in prevailing socio-cultural norms, beliefs, and practices affect banana production, influences farmers' (male and female) roles and access to agricultural productive resources and affects their capacity to adopt BBTB containment measures. Understanding these constraints would help inform interventions and identify the support needed by women farmers for increase production and adoption.

Furthermore, the social relations approach was used to understand how gender norms and practices in the society shape their roles. This includes the rules embedded in the communities; activities or behaviors of the people, resources available and who decides and whose interests are served (Kabeer, 1994). Issues addressed are related to prevailing gender norms and practices at household and community levels in the pilot sites and the opportunities and constraints they present for BBTB containment and recovery; social interactions that focus on the participation of men, women and children in banana production and how this affects decision-making processes regarding productive resources and assets. These norms contribute to gender inequality and constrain the effective engagement of especially women in banana production and BBTB management strategies. The sociological perspective of norms stems from their role in constituting and governing social behavior and why people comply with them (Marcus & Harper, 2014). It provides insights on what norms are and how they are held in place at the micro level (Bicchieri, 2013; Mackie & Le Jeune, 2009; Mackie, Moneti, Denny, & Shakya, 2012). An understanding of these norms is relevant for adoption of management measures in that interventions can identify opportunities and maximize them for optimum impact. It also informs the designing of interventions to meet the needs of the different actors in the community while discouraging harmful norms.

We used gender analysis framework to map out the activities of men and women within households and the community and highlight their differences (Overholt, Anderson, Cloud, & Austin, 1985). The three components of the gender analysis framework: (1) activity profile/division of labor, (2) access and control over resources and benefits, and (3) influencing factors-are interconnected and highlight the opportunities and constraints for men and women in agricultural production.

## METHODS

### *Study location*

The focus of this chapter is on the exploration of social and gender norms and gender analysis of banana production activities, access to and ownership rights

over productive resources and benefit sharing in BBTD affected communities in Cameroon and Nigeria. Three communities were selected in each pilot country for the study.

In Nigeria, the study was conducted in Ogun state situated in South West Nigeria and lies between 7°00'N 3°35'E and 7°N3.583°E with an area of 16,762 km<sup>2</sup>. Ogun State has a population of approximately 4,397,604 comprising 2,186,301 males and 2,211,303 females ([National Population Commission, 2011](#)). It is among the major banana producing areas in Nigeria where it is the major source of livelihood for the inhabitants. Banana is also used as payment of bride price and as gifts during festivities. BBTD is widespread in Yewa-North, Yewa-South and Ipokia Local Government Areas in Ogun State ([National Population Commission, 2011](#)). The three study communities selected for the study were Idologun, Odon and Olokuta situated in Yewa South.

In Cameroon, the study was conducted in Ambam district in the South Region and shares borders with Gabon and Equatorial Guinea. The district is located approximately 220 km from the administrative capital of Cameroon, Yaoundé and has a population of about 1,596 as of 2005 (personal communication, *Divisional Delegation, Ambam*). It is a cosmopolitan town consisting of people from various regions in Cameroon, Gabon and Equatorial Guinea owing to its location as the cross road a trade hub between the three countries. The three targeted communities in Cameroon included Nlono, AbangMinko'o and Mengama with a total population of about 900 people, mainly dependent on subsistence farming for their livelihoods with banana is their major staple crop for food and trade.

The surveys were preceded with a two-week intensive training of participating research staff on social science methods and gender tools and concepts to harmonize the approaches used in the two countries. Training included exercises on focus group discussions (FGDs) and key informant interviews (KIIs). Groups of male and female farmers were interviewed separately during the training exercise and key informants were identified and interviewed. Trainings also included facilitation skills, note taking, observations and transcription of the FGDs, KIIs and proper documentation of field notes. The data collection protocol was prepared in English for the Nigeria survey and translated to French language for the Cameroon survey. In Nigeria, data collection was conducted in Yoruba language and in Cameroon, French language. Data in both languages were later translated into English.

Field work started with a pre-test of the translated tools by the students accompanied by the senior author who was a Gender Specialist from the International Institute of Tropical Agriculture. A meeting was organized after the pre-test where the students identified challenges/difficulties encountered during questionnaire administration and the pre-test exercise. The questionnaires were refined, and necessary logistics provided for the actual field work.

#### *Data Collection and Analysis*

A qualitative approach was employed to gain insights into social and gender norms that might provide an opportunity or hinder interventions as well as how

interventions might trigger shifts in gender norms. A combination of in-depth, qualitative and retrospective data collection using Focus FGDs, KIIs, and casual observations were used to elicit information from individuals and groups on social and gender norms that are harmful and may affect banana production and BBTD containment. The three targeted communities were selected in each country due to their engagement in banana production and levels of BBTV infection and spread. The second stage involved a purposive selection of participants for FGDs and KIIs in consideration of their knowledge and experience, heterogeneity in livelihood systems and social and cultural aspects that underpin gender roles and relations in food crops particularly, banana cropping systems. A combination of multi-stage sampling technique was used to select male and female respondents for FGDs and KIIs in the targeted communities. A total of 12 FGDs (male and female groups separately) were conducted with an average of 10 participants, and 24 key informants were interviewed in the six communities between 2015 and 2017.

During interviews and FGDs, participants described their lives and activities related to banana production as well as access to and control over production assets. A gender seasonal activity calendar on banana production and daily activity schedule were conducted with male and female groups. Topics related to social and gender norms that would otherwise not be invoked with direct questions often emerged naturally during discussions which the interviewer and facilitator probed and asked questions designed to gain more insights about participants' beliefs and social norms. Participants were asked follow-up questions to describe their roles in the identified norms and the impacts on their attitudes and activities in banana production as well as their engagement in the interventions. Multiple methods were used to validate and triangulate other sources of information. For instance, KIIs, casual observations and transect walks were conducted in each community and used to validate responses from FGDs.

FGDs comprising gender seasonal activity calendar and daily activity schedules were constructed to establish seasonality, identify roles and labor input, involvement of male and female farmers in banana production and marketing as well as decision making within households. Activities during the FGDs included ranking and using of pebbles to determine the level of engagement of different actors in production activities. Information was collected on men and women's activities identified as either "productive" or "reproductive" showing who does what including time spent on agricultural, social and leisure activities (daily activity calendar). Resources used to carry out the work (activity profile) for men and women were identified revealing who has access and control over the resources while identifying social and gender norms existing in the communities that might hinder participation of men and women in banana production and BBTD containment.

A systematic content analysis approach (Burnard, 1995) was used to analyze the data collected from FGDs, KIIs and field notes from casual observations. In Cameroon, the responses from KIIs and FGDs were translated from French into English and transcribed. Major themes and categories were developed and the Nvivo software was used to code the nodes creating a coding tree in

a sex-disaggregated manner. The coding tree was developed based on research questions such as the role of men and women in banana production, access and decision making over productive resources and prevailing gender norms and social values in the communities. Data were analyzed in a sex-disaggregated manner across communities and sites enabling comparisons for similarities and differences. Verbatim responses and quotations were analyzed and used where necessary.

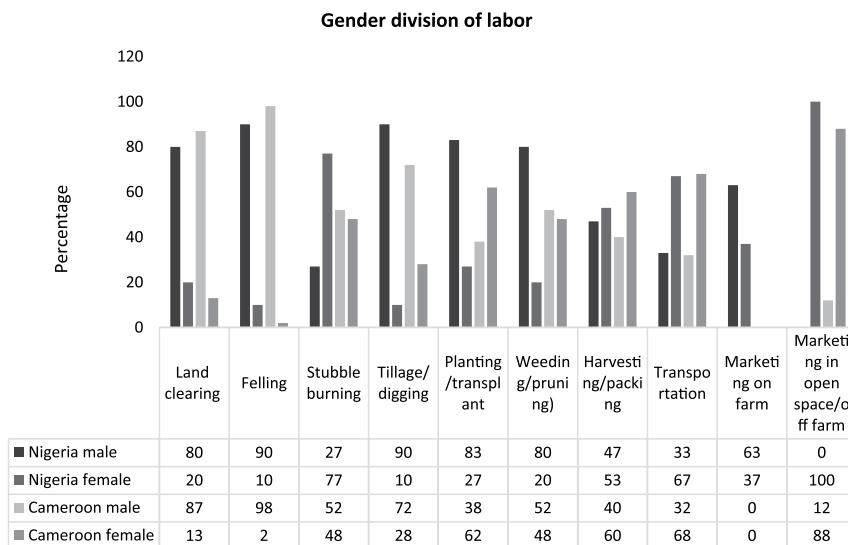
## RESULTS AND DISCUSSION

The results are presented in two sections. The first focuses on gender roles and division of labor influenced by gender norms in BBTB affected communities. It explicitly gives insight into gender specific roles of men and women farmers arising from prevailing socio-cultural norms, beliefs and practices. This was further examined to identify the opportunities and constraints for men and women in access and control over productive resources in the communities such as land, labor, and extension services resulting from their perceived roles in the community. The second section outlines the perceived roles and gender norms and their implications for access to productive resources for sustainable adoption of BBTB containment measures to increase productivity and consequently improve on the well-being of farmers in the study communities.

### *Gender Roles in Banana and Plantain Production*

Men, women and children in the targeted communities engaged in various banana production activities. Men engaged mostly in some specific activities such as land preparation, felling of trees and digging of holes for planting, while women engaged in planting, harvesting and marketing and the children (male and female) generally assisted their parents. Gender roles and responsibilities of men and women is a social reality in all studied communities. This, similar to other studies on gender, draws attention to the obligations, privileges and roles assigned to men and women in society and the relationships and interactions between them. Certain agriculture-related roles in communities are assigned based on the type of crop, type of agricultural task and the like to men and women differently (Doss, 2002). Gender specific roles are also evident among farmers involved in agricultural production and marketing activities (Fapohunda, 2012). For instance, women are highly engaged in post-harvest activities such as processing and marketing (Igberi & Awoke, 2013). Similarly in the targeted communities of our study, men and women are engaged in banana production performing different activities along the banana value chain.

Fig. 1 shows gender division of labor in banana/plantain production between men and women in the study communities. Generally, male farmers are engaged in labor-intensive activities such as clearing virgin forest for banana fields, felling of trees and digging of holes for planting of suckers; women are mostly engaged in activities such as stubble burning, transportation and marketing in open markets



*Fig. 1.* Gender Division of Labor in Banana Production for Men and Women Farmers. Note: Male farmers in both pilot sites were more engaged in strenuous activities such as land clearing and felling of trees while women were more involved in marketing.

or outlets. More men were found to sell banana at their farm site in Nigeria compared with the women farmers who sell at the markets. Meanwhile, in Cameroon neither men nor women farmers sold bananas on-farm, due to a government regulation to prevent buyers from nearby Gabon who have been moving into the villages to buy bananas in recent years (personal communication). Banana processing is restricted to chips, usually by the women farmers on a small scale and mostly for home consumption as dessert or breakfast. Commercialization of processed banana products is practically non-existent in the study communities.

Over all, men were mostly engaged in land clearing (85%) and felling of trees (94.2%) and women mostly in transportation (67.5%) and marketing (94.2%). This corroborates the findings of that women dominate marketing of certain crops such as cassava and banana in West Africa (Adetunji et al., 2008; Nkengla-Asi et al., 2017). Unlike in the past, banana bunches are transported in most of the communities to the open markets using motor bikes and vehicles. However, mostly women were assisted by social groups, spouses and children to transport banana bunches to accessible areas for transportation to markets. Unlike in Cameroon where the government has prohibited buyers from moving into the fields in hinterlands, in Nigeria, some bunches are sold at the farm gate, mostly by men. The remaining banana bunches are transported to the local and regional markets for sale. The gender-specific and influenced role of women across the study communities in marketing of banana especially in open markets is attributed to their high bargaining power and natural marketing skills. Furthermore,

marketing of banana is regarded as a woman's job as it requires patience and convincing the buyer showing that her products are much better than those of other banana sellers. Forsythe, Martin, and Posthumus (2016) asserted that market participation of men and women is influenced by the bargaining power of individuals within a household. This calls for inclusiveness in the dissemination of production and marketing information to both men and women involved in banana production and marketing.

## **DAILY RESPONSIBILITIES OF FARMERS IN BBTD AFFECTED COMMUNITIES**

Table 1 shows a typical daily routine of men and women banana farmers in the studied communities. The daily activity schedule was used to identify the various activities of men and women in BBTD affected communities throughout their daily awake hours. The activities identified were agricultural production activities, household or reproductive tasks and resting/socializing. This was conducted during peak seasons of farming activities and during low seasons. Table 1 shows the activities of men and women farmers during peak season of farming activities. Gender-based constraints were identified as the majority of the roles, especially reproductive roles, were socially-related. Women tend to be linked to reproductive roles such as caring for the children and the elderly, food preparation and cleaning and fetching of water, while men, apart from farm work, spent the majority of their time at market squares in bars and with friends.

Table 1 shows the average daily number of hours spent by men and women farmers during the peak season of banana production in all the communities relating to productive, household tasks and socialization. In all the communities in Nigeria, women were found to spend less time on productive work compared with men and women farmers in Cameroon. They spent the greatest time on household chores compared to others.

Productive work for men across the communities ranges between 4 and 9 hours compared with 3–8 hours for women. In all the communities in Nigeria as well as Abang Minko'o community in Cameroon, men are seen to engage in more productive more work than women. In all the communities, however, women are more engaged in household tasks, although women in surveyed communities in Nigeria spent more hours on household's chores compared with women in Cameroon. The general engagement of women in both countries in household tasks is probably related to their reproductive roles within households as mothers and nurturers. Forsythe et al. (2016) reported a similar situation regarding women's experiences in cassava commercialization in Nigeria and Malawi, noting a decline in male responsibility for household chores that was worsening over time. This is consistent with McGinnity and Russell (2008) who stated that women spend a far greater amount of time on the core domestic tasks of cleaning, cooking and shopping, while men's contribution comes much more in the form of house repairs and gardening. Men in Nlono community in Cameroon registered the highest hours (10.5) in socializing/resting. In all, the least average number

**Table 1.** Daily Activity Calendar of Male and Female Respondents During Peak Season.

Sampled Villages	Nigeria				Cameroon							
	Idologun		Odon		Olokuta		Nlono		AbangMinko'o		Mengama	
Gender	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Productive work	9	3	12	4	9	4	4	6	9	8	5	6.5
Household tasks	0	12	0	11	1	12	0	6	1	5	1	5.5
Resting/socialising	3	1	2	1	3	1	10.5	2.5	5	2	7.5	2
Total (hours spent)	12	15	14	16	13	17	14.5	14.5	15	15	13.5	14

Average hours for daily activities

of hours were spent socializing/resting (22.2%) during peak season, followed by household tasks (33.3%) and productive work (44.5%).

*Perceived Roles and Gender Norms and Implications in BBT  
Affected Communities*

Perceptions based on gender roles, norms, beliefs and practices related to banana production and BBT management in the study communities have impacted men as well as women. These perceptions have constrained men and women to a great extent limiting their potentials and contributions in banana production and management.

Any husband who allows his wife to engage in strenuous farm activities is termed wicked because engaging in labor-intensive farming activities depicts an act of suffering on the women. If any man is caught, the wife's parents (his in-laws) have the right to ask their daughter to return home. Because most of us got married early after secondary or vocational education, we cannot get teaching jobs and even money to practice the skills we have learnt. For most of us, we are idle with no means of income. (Idologun, Female FGD)

Findings from FGDs and KIIs revealed the socio-cultural practices/beliefs influencing farmers' roles in banana production and marketing in the study communities. In all the communities, women and men played different roles in banana production, roles which were associated with their perceived roles in the community. Although the majority of women in the study communities were engaged in the sale of banana in open markets (Fig. 1), some men also sell banana especially on-farm as the case of Nigerian communities.

Asocial belief in the study communities in Nigeria especially in Idologun restricting women to marketing of banana fruits rather than its production is that farming activities are too strenuous and labor-intensive for women. In this community, for married women to engage in farming activities is considered an act of suffering or maltreatment and could lead in-laws to take back their daughters. Furthermore, a male farmer allowing his wife to undertake labor-intensive farming activities is considered lazy and incapable of providing for the family. There is social stigma and loss of integrity to men who allow wives to engage in these sorts of activities. This explains why most adult and married females in Idologun are not involved in farming in spite of their large population. Unlike in Nigeria, there is no social norm restricting women from banana production in Cameroon. However, labor-intensive tasks were linked to male farmers especially given that fertile land for banana production is situated in the virgin forest. Most women were found to rely on their husbands or male adults within the household to clear new fields in the forest, thus limiting their potential and ability in production. Although this practice has led to reduction of workloads for women especially related to agricultural activities, it also has negative implications. For instance, in cases of sickness or untimely death of the household head (usually a man) or husband, as the case of Nigeria, women and children find it difficult to engage in farming activities. This would affect production yields as the majority of farmers in the communities depend largely on family labor. Furthermore, restricting certain groups from farming activities

such as women in Nigeria could limit their prospects and potentials of sustainability and recovery of banana as the death or sickness of male farmers in the household would mean a halt in banana production.

Allowing a woman own a farm or assist with labor intensive farm work {activities} affects a man's integrity among community members. Members of the community perceive or see such a man as being lazy, not man enough to be married, let alone carter for children or other family members. Such a man will not be respected at home as household head and among members of the community. A man in this community is expected to provide food, clothing and shelter for his household and if he cannot, then that man is worse than an infidel. (Idologun, Nigeria, Male FGD)

The perception of communities of certain restrictions on the production and sale of bananas for women and men respectively has negatively affected each gender. For instance, in the Nigerian communities, women tend to shy away from banana production while the men even though they are largely responsible for production are not able to sell especially in open markets as they are regarded as not trusting their wives and greedy. This limits men's capability to make choices and to sell at a profitable rate as the case of open markets. It also limits men's access to marketing information such as price. However, widowers and single men could sell in open markets without any stigma.

In all communities, women and men were found to behave according to attributes assigned by the society to a particular gender. For instance, women were identified as carers and nurturers of the family and as such, the majority of women even after farm work, were entrusted with the task of cooking, cleaning, fetching of water and wood and nurturing, especially the children and the elderly. Women are expected to carry out their reproductive or household tasks as an addition to the productive tasks. Women are thought to be multi-tasking in nature and flexible with their responsibilities (Ajani, 2008; Twyman, Muriel, & Garcia, 2015). Hence, it is assumed they can undertake several tasks in the household to meet up with household demands and time, but it leaves them barely able participate in religious, ethnic and social associations. Although literature holds that, improving on women's time reduces the burden of labor (Fisher, 2010; Jeckoniah, Mdoe, & Nombo, 2013), it cannot be assumed that increase in time would lead to greater participation of women in other activities such as training.

Access to extension information and time availability are linked to numerous activities at the farm and household levels in all the studied communities. For instance, women due to their multiple roles resulting from the patrilineal system, had limited time and voice to attend and speak during training sessions. Respondents indicated that their limited participation in training was due to their multiple roles. However, time availability does not necessarily lead to increase participation. A study by Mudege, Chevo, Nyekanyeka, Kapalasa, and Demo (2015), indicates that the ability of women to access training opportunities has been impacted by gender norms as some men regard themselves as representatives of their households during training. This only reinforces gender norms and biases within households thereby limiting the participation of women. Since they do not get it from the source, the information from training might be filtered and/or altered by male representatives of households before it reaches women. Moreover,

the fact that women attend trainings does not necessarily mean the information trickles down to other members of the household. Hence, it is important to ensure that the relevant members of the household, including women, participate in trainings rather than having one member represent the entire household.

Farmer field schools and sensitization meetings serve as the main source of agricultural information to farmers on banana production, marketing and adoption of BBTD management measures. Apart from formal meetings and trainings mostly from extension agents and interventionists, men had relatively more time for relaxation and socialization compared to women and thus, could easily access information through daily interactions and socialization with neighbors, friends and other members of the communities and extension agents in bars, market squares etc. Although women could access information, this was quite limited as their channels of information such as markets, social meetings and religious centers were periodic and occurred only once a week or a month. This implies that efforts directed toward inclusiveness in information dissemination for both men and women farmers should be targeted. Extension agents should target women's meetings in the communities and religious centers such as churches and mosques for disseminating agricultural-related information and use local radio channels to complement information dissemination efforts.

Furthermore, language and timing of training sessions and workshops is necessary for targeted intervention. [FAO \(2003\)](#) observed that farmers can effectively manage pest and diseases, improve agricultural productivity and ensure food security when up-to-date information is provided using appropriate languages and formats and delivered through proper communication channels. BBTD management messages should be disseminated preferably in appropriate local languages to reach wider and targeted audiences for better understanding and efficient use. Effective communication via various media or channels such as mobile phones, television, radio, extension services meetings, and methods should be sensitive to the timing (daily work schedule) and needs of men and women. For instance, the date, timing and venue for BBTD information dissemination and trainings should be sensitive to the roles and daily responsibilities of men and women farmers in the study communities. Appropriate timing and provision of facilities such as transportation and child care services would ensure the participation of especially women.

Access to productive resources such as land in the study communities revealed that men are favored when compared with women. Due to the patrilineal system of land inheritance that privileges men in the communities, the majority of women could access their husbands' or family land, but not make certain decisions such as sale of the land. They were however, allowed to cultivate on these lands and make some decisions such as those regarding the type of crops to cultivate. Limited access to land and a history of losing land rights have discouraged women's long-term investments or improvements of the land that they use. As a result, many female respondents tend to cultivate vegetables, pepper, tomatoes and other food crops with short maturation periods. Inadequate access to agriculturally productive resources such as land could explain the under-representation and lack of effective participation of female farmers in agricultural trainings such

as field schools and extension trainings since they believe that working on their husbands' land is temporary and that the land could be appropriated for other purposes at any given moment. Moreover, limited access to and not having the ability to take major decisions related to land for farm use may discourage especially female farmers from implementing BBTD containment measures.

## CONCLUSION AND RECOMMENDATION

Women and men banana farmers in the communities studied are constrained by gender norms and practices in production, marketing and access to and control over productive resources. Especially women's potentials and contributions to banana production and BBTD management activities are limited as their daily workloads and multiple tasks keep them from participating in meetings and obtaining access to agricultural-related information. Furthermore, culture prevents women in Nigeria from taking up tasks such as clearing and, the burden of household chores further limits women's time in production activities. Marketing of banana in open markets in the study communities in Nigeria by men is considered a taboo hence, limiting marketing opportunities for male banana producers.

To improve BBTD management and banana productivity, it is crucial to consider the social relations and gender norms embedded in the respective communities that hinder men and women from exhibiting their full potentials. Addressing harmful norms and instituting rules that favor both men and women while creating wider opportunities through gender responsive participatory extension services for men and women is necessary.

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