Marginal producers or breadwinners : Women's cropping strategies and access to agricultural key resources in Boulgou province, Burkina Faso

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Abstract

This paper focuses on women's role as food producers in subsistence agricultural systems in southeastern Burkina Faso. It challenges the narrative that describes women as marginal producers of major food crops like millet. Based on a detailed study at the village level of land use, the intra-household distribution of key resources such as labour and land is investigated. It links female production strategies with women's responsibilities within the household, particularly in their own hearth-hold. Contrary to the locally dominant perception, one that presents women as marginal producers, the actual land use pattern in the study village reveals that women cultivate as much as 37% of the total cultivated area. Regarding crop choices, it is further revealed that women do not solely grow groundnuts but allocate a considerable proportion of their land to millet. This millet is primarily used for hearth-hold consumption.

Keywords

Burkina Faso, intra-household gender relations, social security, land use rights and practices, cropping strategies.

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The objective of this article is to analyse women's role as food producers, and to assess female production strategies in relation to the entire household. The main points of the discussion are; women's access to agricultural resources like land, labour, and labour-substituting technologies, their allocation of land to specific crops as well as the local images of female farmers.

Rural women's land use patterns and practices are addressed in order to elucidate the extent to which gender specific usufruct rights to key resources affect their social security and, in particular, their resource use. Social security can be defined as the fulfilment of basic physical needs as well as the consolidation of one's social position. It, therefore, includes both the day-to-day entitlement to food, shelter, physical, and psychological well-being and the entitlement to a wider range of social resources such as social networks, rights, status, and power. Social resources, in turn, play an important role in gaining access to material resources like land, labour, crops, and money (Benda-Beckman & Benda-Beckman, 1994). Social security is thus an integrated part of the household production strategies.

The discussion is based on empirical findings from a case study in eastern Burkina Faso, where women traditionally undertake own-account farming in addition to working on their husbands fields. Such gender segregated agriculture is common in much of West Africa. Households consist of several production units with different status which affects labour allocations (Whitehead, 1984; Saul, 1993; Nyerges, 1997; Breusers, 1998; Smith & Chavas, 1999). The household head controls a 'communal production unit' for which he can claim the labour of his dependants, for at least part of the day. In addition, the household consists of a number of 'personal production units' controlled by wives and junior males. Decision making with respect to cropping patterns and allocation of labour within the household is thus, separated into different spheres, and household members do not necessarily share the same production objectives or pursue a single strategy. Nevertheless, the sub-units within a household are related in a complex set of obligations, rights, and responsibilities (Moore, 1992; Kabeer, 1994; Berg, 1997).

The relative importance of men and women's contribution to household food provision is, therefore, difficult to assess. Few studies have actually investigated the intra-household distribution of specific crops in relation to social security strategies. Thus, with the aim of improving insight

into this issue, the current paper investigates the gendered land use pattern and the way in which it conforms with the prevailing narratives that describe women as insignificant breadwinners.

The case study

Regional setting

Material for this article was gathered in a village in the proximity of Tenkodogo, the principal town in the Boulgou province, which is located in southeastern Burkina Faso (Figure 1). Climatically, the region belongs to the Sudan zone where the rainy season is monomodal and lasts for approx. four months. Precipitation varies considerably within a range of 600 - 1,200 mm per year. The natural vegetation is shrubby to woody savannah. Over the previous decades, agriculture has expanded and changed the land use pattern to a mosaic of cultivated fields, fallow, and tracts of bush (Sturm, 1997; Hansen & Reenberg, 1998). Most of the native tree species that are still left in the fields have either a practical use, economic, or symbolic value.

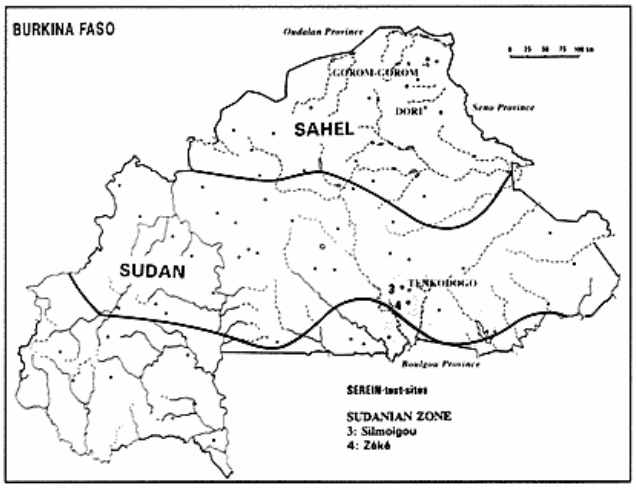
Most practices to sustain social security revolve around the utilisation of natural resources. Agriculture is based on the rain-fed cereal production of red sorghum *(Sorghum spp.)* along with mixes of bulrush millet *(Pennisetum typhoides)*, white sorghum *(Sorghum spp.)* and cowpeas *(Vigna unguiculata)*. In addition, the majority of farmers cultivate pulses like groundnut (Arachis hypogaea) and bambara groundnut *(Voandzeia subterranea)* as well as rice *(Oryza spp.)* in the readily available river basins. Agriculture is supplemented with rearing of small stock and poultry. Cotton, as cash crop, is rare in the village as is the use of agricultural wage labour. Hence, income stems mainly from male migration, sale of crops, animals, processed products, and petty trade.

The population consists primarily of the Mossi and Bisa ethnic groups. As the social organisation of these groups is very similar (Delgado, 1979; Faure, 1993), no further distinction is made between them in this context.

Regarding the social organisation of the family, three levels are important in relation to production and reproduction namely; 'the compound', 'the household' and 'the hearthhold'.

A compound is usually headed by the oldest member of the lineage segment and encompasses one or more households as well as the land assigned to each of them. In compounds composed of a father and his married sons, the units of the compound and household often overlap, whereas compounds consisting of brothers of the same generation divide the land among their respective households. Here the compound functions as a social rather than as a productive unit. Nonetheless, the compound head possesses considerable symbolic and social power as he performs religious sacrifices and ceremonies on behalf of his descendants. Some of these are linked with the control of lineage land.

A household normally includes the male head, a number of married and unmarried adult male dependants, and a number of hearth-holds including wives, daughters-in-law,



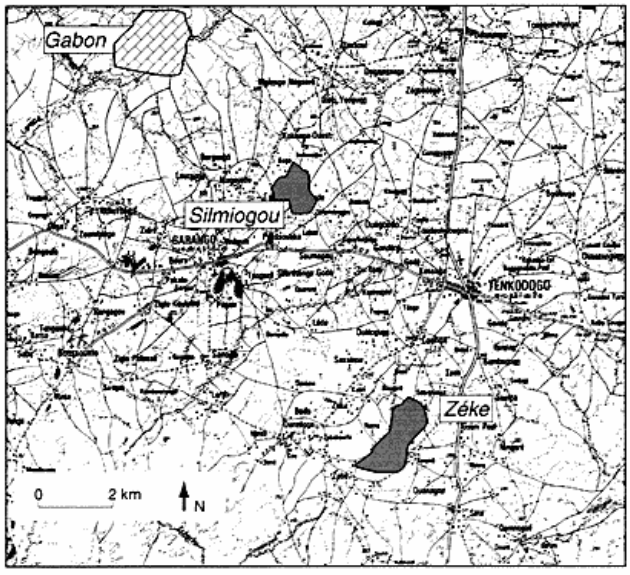


***Figure 1**: Map of the study site.*

widows, and migrants wives. The hearth-hold can be understood as the most intimate subset of a household as it denominates the matrifocal unit of a mother and her children. Male spouses may be members of several hearth-holds, as is the case in polygynous marriages, but also in households of more than one generation, where married sons are usually both part of their mother's and their wives hearth-holds (Ekejiuba, 1995). Normally, a husband builds a separate hut for his wife when she gives birth to her first child or if he marries a second wife. Up to the moment when the young woman establishes her own hearth-hold, she is attached to her mother-in-law's or the first wife's hearth-hold. Autonomous hearth-holds are rare; among the twenty compounds visited in the study village, only two were headed by a woman.

Local context of the village

The study village, Zéké, has a village territory of 17.2 square kilometres and a population of an estimated 950 people (based on the authors sample of one-third of all compounds in the village). The population density is 55 people per square kilometre. Zéké is divided into three wards. This division has a historical origin; the northern-most ward was the first settlement according to villagers. Concurrent with the colonisation of bush tracts, the other wards were established over a period of three to four generations. Much of the land near the compounds is not under cultivation at present and is fallow. Nevertheless, land does not appear to be scarce inasmuch as several household heads currently lend land to in-laws in neighbouring villages or wards. Moreover, there are tracts of bush between the wards.

Compared to other villages in the region, Zéké does not have a propitious infrastructure; it has no market and is located off the main road. Due to various power struggles among the lineage segments, social relations in the village are strained. The tension is reflected in the absence of village associations and a general distrust, and it results in information about meetings e.g. with the extension service, is not circulated to all the villagers. However, people do seek to strengthen the social bonds within their own ward.

In order to provide a comparative reference framework, a pilot study was carried out in a nearby village, Silmiogou, which is relatively prosperous by regional standards as its location provides the villagers with easy access to the regional markets in Tenkodogo and Garango. Additionally, the local extension service visits the village regularly and has supported the dispersal of ox ploughs (Mertz & Reenberg, 1999).

Methods

The field work was carried out over a period of six months in the dry season 1997-1998. Based on a record of all compounds in the village relating to the household size, a sample of compounds was selected. The sample was stratified with regard to compound size in order to represent the different conditions of married women e.g. monogamous versus polygynous marriages, compounds consisting of one versus multiple generations, and compounds overlapping with the unit of household versus compounds made up by several households. In total, twenty compounds (30 households; 91 hearth-holds) were chosen for the main study in Zéké, while the pilot study in Silmiogou only included eight compounds (9 households; 33 hearth-holds). Each compound was visited at least five times during the field work.

In the first phase of the research, a quantitative survey of both the household and individual fields in the selected compounds was combined with semi-structured interviews as well as with direct observation. Each field was paced out to estimate its size. In addition, the geographical position was registered using a hand-held GPS receiver in order to generate a map of the actual land use. Semi-structured interviews were carried out at the same time as the field measurements. Those interviewed included; household heads, married sons, women, and children. This part of the study investigated each field holder's crop choice, access to labour, and the use of technology. A total of 378 fields were mapped in Zéké and 141 in Silmiogou. The aim of the field measurements was to assess the cultivated area as well as to elucidate the spatial distribution of women and men's fields. The measurements were converted to digital form and were superimposed on geometrically corrected aerial photos and satellite images. After a visually based adjustment, a map of the actual land use of the sampled households was generated for 1997.

During the latter part of the field work, informal semi-structured group interviews were conducted in order to discern the division of responsibilities between husbands and wives. In the pilot study these interviews were mostly carried out with male and female household members together, but as some of the women kept silent in the presence of the household head, the genders were separated in the main study to encourage the women's participation.

Table 1: Distribution of cultivated land among different user categories in Zéké, 1997.

	Production units	Cultivated area in total[a]		Aver. area/unit
	(n)	(ha)	(%)	(ha)
Household heads	28	110.4	57	3.9
Hearth-hold heads	91	71.8	37	0.8
Adult sons (>20 yrs.) [b]	10	9.7	5	1.0
Unmarried children [c]	22	2.8	1	0.1
Total[d]	30	194.7	100	6.5

[a] *Compound land is not included. In addition to the living quarters, this area includes a small piece of land divided among the hearth-hold heads, on which they grew various condiments.*
[b] *Of these, seven were married.*
[c] *The majority of unmarried children, who had access land, were male. Most of the children had been allocated rice plots, though some of the adolescent boys also cultivated millet.*
[d] *These figures represent the total of the sampled twenty compounds. It should be noted that two of the compounds consisted of an autonomous hearth-hold only, who had access to all the land of the household.*

Results

Organisation and responsibilities of production and consumption units

The relation between production and reproduction in the households and hearth-holds are closely interwoven. Agricultural work is undertaken within the units of households, conjugal units, and hearth-holds. Generally, dependants are obliged to work in the household head's fields in the morning (from around 8 am to 2 pm), while they have the right to cultivate their personal fields very early in the morning and in the late afternoon. Daughters-in-law are obliged to work in both the household fields and in the husband's personal fields before engaging in work in their own fields.

Consumption units are not necessarily identical with the production units. The organisation of both consumption and production varies according to the social relationships among sub-units within the compound. According to geder norms, the household head is responsible for providing staples, and for covering expenses like tax, medical care, school fees and outlays at funerals in his own and his wives lineages. Hearth-hold heads provide sauce ingredients e.g. okra, various leaves, chilli, spices, shea butter, and salt. They are also responsible for the procurement of firewood, water, and soap, and they carry out most of the reproductive work which include cooking, child care, caring for the sick and disabled, washing, and cleaning.

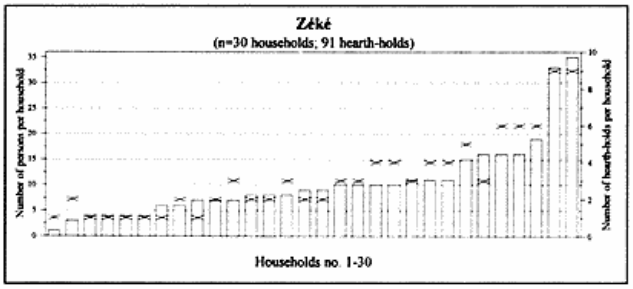


Figure 2: Number of people in each household (bars) and the number of hearth-hold units within each household.

Household size fluctuates throughout the year. Usually, the largest number of household members are present during the agricultural peak seasons i.e. sowing, weeding and mounding the millet and sorghum. At this time, temporary migrants return to the village and adolescent school boys living in Tenkodogo come home during weekends to partake in the agricultural tasks. As soon as the most labour-intensive tasks have been completed, the young men leave for Côte d'Ivoire to take up wage labour. In the good years they leave after the millet harvest in December, whereas they leave several months earlier in the bad years when the labour of the household head and the adolescent boys is adequate to cut the millet stems. In the dry season both adults and children visit distant relatives for shorter or longer pe ods of time.

When enumerating the members of a household, it seemed to be at random who is included. The adolescent

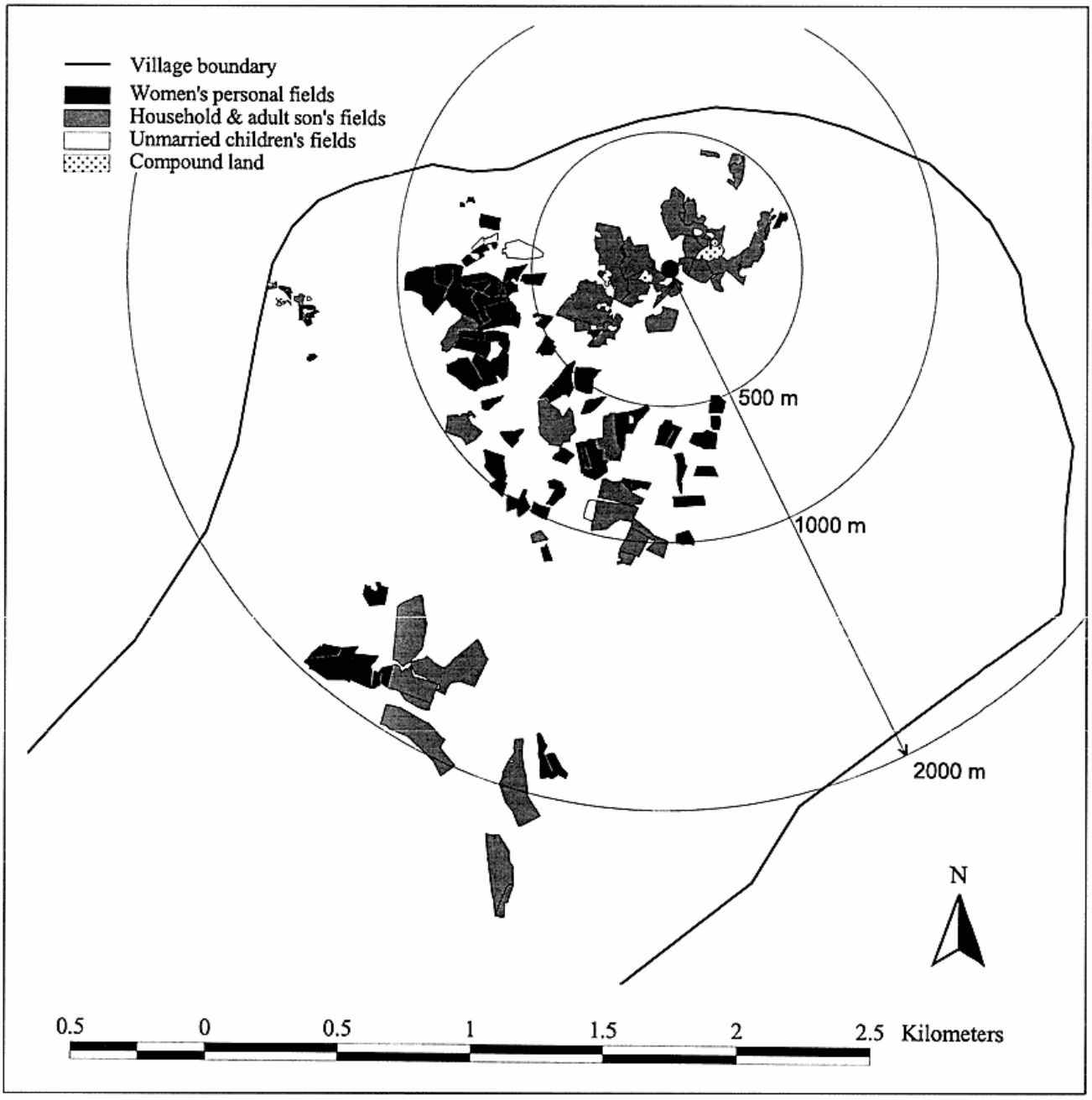


***Figure 3:** Allocation of land according to gender in Kiehore ward, 1997. Five compounds (8 households; 25 hearth-holds) are included in the sample. As only one of three married sons in the ward cultivated a personal field, it has been categorised together with the household fields.*

school boys were usually included as members of several production units, insofar as they worked in the household fields, in their mother's personal fields as well as in their own fields. Sometimes migrants were also included as household and hearth-hold members, while children often were forgotten in spite of their invaluable help in a number of tasks. The present household sizes in Zéké were compiled by cross-checking the number of people working in

the fields and by counting the number of children in each hearth-hold (Figure 2).

Intra-household distribution of land

Contemporary land rights at the local level have strong links to customary arrangements, where male elders are assigned the control of the land. Women, junior married men, and children primarily acquire fields for own-account farming through male household heads. They may also ask lineage elders or natal kin for land. Occasionally land is borrowed, but it is more common to lend land in Zéké. The pilot case study, revealed the opposite, suggesting that large variations in land access exists within the region. If fields are borrowed for long periods, the household head normally asks the permission from the people controlling the land, but there were a few examples where women borrowed a field from another woman (a widow) for a short-term loan of one season. This takes place despite the fact that women are not allowed to alienate land belonging to their husband's lineage.

Interviewees of both genders said that a newly married wife has the right to obtain a personal field as soon as she entered her husband's household. During her marriage she can expand her own-account farming concurrently with the establishment and growth of her hearth-hold. All married women in Zéké cultivated one or more personal fields in 1997, albeit their fields were much smaller than the household fields and married sons personal fields (Table 1). Both women and men explained the smaller size of women's fields by factors such as; lack of physical strength to cultivate a larger area, limited access to labour, lack of (money to buy) seeds, and poor rains. In the pilot study, many of the same explanations were given regarding women's access to land but, in practice, not all the daughters-in-law had access to a personal field. Male interviewees justified this by emphasising the work burden in the domestic sphere, lack of seeds, and the poor rains.

Figure 3 illustrates the pattern of fields cultivated by the first settlers in the northern-most ward in Zéké. The compounds are clustered within a relatively small area, and they are almost exclusively surrounded by household fields of red sorghum. Most other fields, both those belonging to women and men, are located within an area of 500-1000 m from the living quarters, although a few have opened fields in bush land about 2 kilometres away. The tiny fields on the outskirts of the village to the west, are rice fields in the river basin. In the two other wards, a similar field pattern is found.

The field pattern in Kiehore also reveals that only five women cultivated distant bush fields. Of these three were quite old and had only a few domestic chores as their adolescent daughters and daughters-in-law had taken over this work. The two others belonged to a household with accessto much labour.

Access to labour and plough

Both women and men described the gender division of labour and expressed that men work harder in the household fields than women.

Men have more physical power than women which is the reason why they continue to work in the household field in the afternoon, while the women work in their personal fields all afternoon.

(Group interview with four men in a large compound, Zéké, 23/2-98)

The husband works more in the household fields than a wife does, because he starts earlier while she cooks. He leaves for the fields as soon as he rises in the morning, but at this time we work a little in our personal fields, before we walk back to heat up the food. If a woman has a grown daughter, she will prepare the food, while the woman starts working in the household fields.

(Group interview with eight women in the same compound, Zéké, 17/3-98)

This allocation of labour is a logical consequence of the gender segregated organisation of agriculture. Women's access to labour needs to be viewed in this light. Firstly, they have only partial control over their own labour, since labour obligations within the household require their time. Women cannot work in their personal fields whenever they like, nor can they expect a mutual labour exchange with their husbands as they continue working in the household fields. Young men possessing personal fields usually engage in work in their own fields in the afternoon. However, women can call on their husband's help regarding specific tasks like clearing a new field, ox ploughing, and felling the millet stalks. Mostly these tasks are carried out by men but women also undertake them if no male is able or willing to do the work.

Secondly, women's access to labour relates to their ability to appropriate the labour of others. The field cultivation histories revealed that the women's day-to-day access to labour was largely restricted to the members of their hearthholds. Young husbands regularly boasted about helping

Table 2: Distribution of crops among different user groups. % of total cultivated land in 1997.

Production units	Red sorghum		Millet[a]		Groundnut[b]		Rice	
	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)
Household heads	46.1	94	57.8	52	3.2	12	2.0	36
Hearth-hold heads	2.4	5	44.0	39	22.1	84	2.6	46
Adult sons (>20 yrs.)	0.6	1	7.3	7	0.8	3	0.6	11
Unmarried children	-	-	2.2	2	0.2	1	0.4	7
Total	49.1	100	111.8	100	26.3	100	5.6	100

[a] *This category includes any association of bulrush millet (Pennisetum typhoides), white sorghum (Sorghum spp.), and cowpeas (Vigna unguiculata).*

[b] *The category includes groundnut (Arachis hypogaea) and bambara groundnut (Voandzeia subterranea) mixes. Interviewees explicitly related the women's crop choices to their life cycle: Young women whose children are still small cultivate primarily groundnuts, but as soon as the children are a little older the women begin to cultivate millet. The actual distribution of major crops in hearth-hold production units is shown in Table 3 and is compared with the distribution in the household production units and in the village.*

their wives, but their definition of help appeared to be refraining from claiming their wives' labour, thus allowing the women to work in their own fields. The wives rarely mentioned any help from their husbands in interviews. Generally, older women have access to more labour than younger ones as they have more dependants. Furthermore, they are left with more time for own-account farming and other income-generating activities as junior women take over much of the reproductive work as well as the work in the household production units.

Both men and women acquired extra labour through reciprocal work parties remunerated with food and/or drink. The importance of work parties is two-fold: They reinforce social resources and make the daily work more pleasant. Interviewees pointed out they always send a household member to participate in other's work parties to maintain reciprocal links, even if they, themselves have no need for help.

Household heads always call work parties to their fields in the morning. These work parties usually consist of between fifteen and twenty participants, and remuneration is compulsory. Women are only occasionally able to arrange work parties in the morning and these require the household head's consent due to the time of the day. Moreover, women may be disadvantaged by a lack of means to provide ample recompensation. As a result, they mostly call smaller work parties for women and children in the afternoon, in which remuneration is said to be voluntary. The women usually remunerated work, although they typically offered either food or drink rather than both. While the food offered at work parties in the morning was diverse, women often restricted the compensation to *tô* (millet porridge) or fried cowpea balls.

Adolescent boys also called small exchange parties comprising friends, usually to work in their mother's fields, and the parties were remunerated by the mother. Furthermore, women organised small reciprocal work groups with three to four members either within the compound or with a small group of friends. Whether this type of working party was commented on in the cultivation histories of fields, appeared to be at random.

The principal way to increase agricultural production in Zéké is through manuring and ox ploughing. Pen manure is applied on the household fields with red sorghum while none of the women in the sample manured their personal fields. Only eleven of the twenty-eight male household heads and none of the autonomous hearth-hold heads had oxen and ploughs. Women within plough-owning households were not guaranteed access to the plough in so far as household fields always have priority. Regarding the personal fields, priority was mostly according to gender and seniority: Junior men had their fields ploughed before their female seniors, and older women had their fields ploughed before the younger wives. However, in some families, access to the plough depended on the order in which the women asked permission to have their fields ploughed, and in other families, only the daughters-in-law had their fields ploughed by their husbands while the older hearth-hold

Table 3: Women's crop choices according to age, 1997.

Production units	Red sorghum					Millet			Groundnut			Rice		
	(n)	(ha)	(n)	(ha)	(%)	(n)	(ha)	(%)	(n)	(ha)	(%)	(n)	(ha)	(%)
Household heads [a]														
<30 yrs.	35	21.1	1	0.3	2	25	11.8	56	30	8.1	38	22	1.0	5
30-45 yrs.	26	23.6	1	1.3	6	25	15.2	64	21	6.2	26	11	0.8	3
>45 yrs.	30	27.1	4	0.7	3	29	17.0	62	20	7.8	29	11	0.8	3
Total for hearth-holds[b]	*91*	*71.8*	*6*	*2.4*	*3*	*79*	*44.0*	*61*	*71*	*22.1*	*31*	*44*	*2.6*	*4*
Total for household heads[b]	*28*	*110-.3*	*26*	*46.1*	*42*	*22*	*57.8*	*52*	*10*	*3.2*	*3*	*14*	*2.0*	*2*
Total		*194-.7*		*49.1*	*25*		*111.8*	*57*		*26.3*	*14*		*5.6*	*3*

[a] *The exact age of hearth-hold heads was not recorded, hence they have been divided into three groups on the basis of the number and age of their children as well as of the marriage order. The groups include women past child bearing (> 45 years), women with many dependants, of whom some participate in productive and reproductive tasks (30-45 years), and young women either with their own hearth-hold or still living with their mother-in-law (< 30 years).*

[b] *Apart from the crops recorded in the table, the women grew condiments, especially okra, while the men grew maize and vegetables. These plots are included in the total area of the production units.*

heads either worked with the hoe or hired oxen from other families. Interviewees in Zéké stated that the practice of hiring ox-drawn implements is widespread. The cost was about 2.000 Fcf a per field (100 Fcfa = 1 FF), though it could be higher if the work was done immediately before sowing. Wives in polygynous households usually arranged and paid for the hire themselves; according to male interviewees, to avoid co-wives accusing the husband of preferring one to the others. In monogamous marriages, the husband occasionally paid for the hire.

Cropping patterns in the household sub-units

In interviews, women were often referred to as groundnut producers while men were presented as the breadwinners because of their large fields of millet and sorghum. In the recording of the field histories, husbands were not always willing to show that hearth-hold heads also cultivated millet as the following example from a compound in the pilot study shows:

Because women cultivate groundnuts, they have no time to also cultivate millet.

(Married son, Silmiogou, 28/11-97)

Due to the bad rains none of the women have cultivated millet this year, but usually they do. Next year they plan to grow millet on the present groundnut fields - they rotate every second year.

(The household head, Silmiogou, 6/2-98)

Apart from groundnuts we also cultivate millet and some cowpeas, but because of the low soil fertility we do not grow white sorghum. Our fields are nearby with the exception of Adiaratou's which is in Gabon. Habibou is the only one, who has no millet field this year, because she was too occupied with the twins [<1 yr. old].

(The five hearth-hold heads, Silmiogou, 25/3-98)

Similar stories were recorded in the main study. However, in practice only twelve of the hearth-hold heads in Zéké (13%) did not grow millet in 1997. This discrepancy between the representation of the female farmers and their actual crop choice is produced by both women and men. Table 2 outlines the allocation of land to specific crops for each user category in Zéké.

Discussion

Female access to land

It is generally acknowledged that the women's contribution to the agricultural production is enabled or constrained by their access to land, the spatial location and quality of this land as well as by their access to resources like labour and technology.

Social norms of behaviour and marriage ideology limit married women's access to land outside their affinal household (Berg, 1994; David & Yabré, 1994; Kevane & Gray, 1999). Therefore, their access to land is determined partly by the household's common resource fund, which depends on the head's status and power within the lineage and community but also on the natural resources available to the entire community. Women's claims in the common resource fund are evaluated on the basis of perceived interests and needs (Whitehead, 1984; Sen, 1990). The allocation inevitably will rely on individual women's bargaining skills as well as on the social norms attached to a resource. It will also depend on how norms affect the different household members' practices (Giddens, 1993; Kabeer, 1994; Agarwal 1997).

In Zéké, women are allocated land as soon as they enter marriage in accordance with their customary rights. They do not need to negotiate for the access to a personal field. Opposed to this the pilot study indicated that newly married women often had to wait one or two years before they obtained a field in their husband's lineage. Occasionally, these women acquired land through their father. This can be perceived as part of the negotiation process as the household heads seek to protect their reputation as good fathers and husbands. The different practices in the two villages may be due to the general access to land, inasmuch as interviewees in Zéké do not appear to experience land scarcity while many household heads in Silmiogou had borrowed land from a neighbouring village. Generally, older women have access to more land than the younger ones. This may be attributed to the differences in bargaining power: Not only do the elder women have a higher social status, their larger hearth-holds also act as implicit bargaining means due to their responsibilities towards their dependants.

Female interviewees stated that a husband never reclaims a field, because he will then be obliged to cover the expenses which are normally assigned to the woman. Women's usufruct rights to land thus continue until a field is left fallow.

Individual women's access to land is limited when compared to the men's, just as it was outlined in the narratives of both genders. The average size of a hearth-hold production unit in Zéké was 0.8 ha in 1997. Adult sons cultivated 1.0 ha and household heads 3.9 ha (Table 1). However, it is important to note that approximately half the marriages in the village are polygynous, and that many migrants leave behind one or two wives while working in Côte d'Ivoire. As a result, many households have a large number of hearth-holds. If focus is shifted from the individual women's access to land, to all women as a group, it is revealed that women controlled the use of 37% of the cultivated area in 1997.

Regarding the spatial location of women's fields, other case studies from Burkina Faso (Hemmings-Gapihan, 1985) and Cameroon (Berg, 1994; 1997) indicate that a household head may allocate marginal land to his dependants either on the outskirts of the village or on exhausted land, which he does not want to cultivate himself. This does not apply in Zéké. From the intermingling of the fields in Figure 3, it is clear that women are not disadvantaged in terms of spatial marginality. Their fields are not located further away from the compound than men's and field histories revealed that some of the younger women have opened new fields within the last few years; they are not just cultivating abandoned household fields. Even though most fields are located within a one kilometre radius from the compound some transport is necessary. This affects the time spent in their fields. Women are more adversely affected by the transport than men, inasmuch as women walk back and forth, whereas most men cycle. Moreover, women need to combine work in the household fields, possibly in the husband's personal fields, in their own fields, and in the domestic domain.

Finally, the number and age of workers along with the access to labour-substituting technology influences the area that can be cultivated by each production unit within the household (Roberts, 1988; Ouden, 1995; Sow, 1997). Various case studies show that males, particularly household heads, have access to more labour than females because wives are obliged to work in the communal production unit. On the contrary, men have few obligations involving work in their wives fields. Yet, the set of obligations, rights, and responsibilities that comprises the conjugal contract not only obliges women to work, it also imposes restrictions on how much labour the household head can demand. This balance is negotiable (Whitehead, 1984; Carney, 1988; Moore, 1992; Kabeer, 1994; Jackson, 1995 Berg, 1997).

A number of explanations of the small size of hearth-hold production units were offered in the interviews: Explana-

tions drawing on climatic parameters such as lack of rain should be dismissed as they affect all production units evenly. Women's lack of physical strength to cultivate a larger area may be partly attributed to their limited access to labour as well as their need to combine work in various spheres. Due to these labour obligations women are not able to carry out all the tasks in time, hampering the productivity of the fields.

Findings from the present study concur with the above studies. Married men have access to more labour than married women as dependants usually work longer hours in the household fields than in their own personal fields. Moreover, husbands rarely help their wives with farming. Group interviews with women in Zéké indicated that if an individual woman withdraws from work in the household fields to work in her personal fields, she will soon be labelled as lazy and incur the wrath of the household head as well as of the other women in the household. Likewise, the women scorned a woman who cultivated more than her share in the household fields and accused her of causing jealousies. These practices can be understood as a means to make all women adhere to the rules, and as such it can be interpreted as collective bargaining to ensure their right to work in personal fields.

Gendered access to ox ploughs implies that women's benefits from the technology are limited when compared to men's as the tasks will often be done later than the optimal time. The widespread hiring indicates that most villagers believe that ploughing is beneficial to the agricultural productivity. In this respect young women are disadvantaged when compared to their seniors, whose agricultural and domestic work in the household they have taken over, because the elder women have gained time for income-generation and are thus in a position to cover the costs of hiring.

Production strategies within the household

Production strategies are frequently seen as formed by the physical and climatic production conditions as well as by food requirements, anticipated income needs and options, and the labour or labour-substituting technologies available to the production unit (Mortimore, 1998; Reenberg, 1998). Additionally, strategies may be influenced by intra-household negotiations concerning the fulfilment of responsibilities ascribed by the conjugal contract. They may reflect investment in social networks, children's welfare and education, insurance in the form of livestock or commodities which can be sold in times of need, or in productivity-enhancing technologies (Brouwers, 1993; Raikes, 1996; Berg 1997; Ellis, 1998).

Seen in this perspective, the results underline the fact that production strategies differ between men and women, yet, not to the extent as presented in the prevailing local narratives. It reveals that women are not to be considered a homogeneous category. Their access to land is differentiated according to seniority and status, as is their access to labour and labour-substituting technology. Furthermore, the actual land use pattern exhibits a contrast between the image of women as groundnut producers and their production strategies. In Zéké, 61% of the total land allotted to hearth-hold heads was planted with millet and 31% with groundnuts. Although interviewees of both genders explained that older women grew more millet than younger ones, the actual allocation did not vary considerably. Hearth-hold heads below the age of 30 years allocated on average 56% of their land to millet, while hearth-hold heads in the age groups 30-45 years and above allocated 64% and 62% of their land to millet respectively (Table 3).

A different picture was, however, seen in the pilot study in Silmiogou: 31% of the hearth-hold land was allocated to millet and 63% to groundnuts. This indicates that substantial variation exists among the villages. Such differences may be caused by the fact that household heads seem to provide a large proportion of the millet needed for household consumption, permitting women to engage in groundnut production, or by the proximity to the regional markets which appear to be an incentive for women to grow marketable crops, frequently adding value by processing. Several household heads also cultivate groundnuts which is in contrast to the practices in Zéké, where household heads only allocate 3% of their land to groundnuts.The women's image as groundnut producers may derive from the fact that hearth-hold heads cultivated 84% of the land allotted to groundnuts, however, only 14% of the total land in the village is allocated to this crop.

The proportion of women's millet production in Zéké is interesting. Household heads allocate 94% of their land to millet and sorghum (Table 3), yet, the women still control 39% of the total millet acreage but only 5% of the land planted with red sorghum (Table 2).

Millet is the preferred staple and, therefore, the first to be used for household consumption, whereas red sorghum is stored for later use or sold. Group interviews with the hearth-hold heads revealed that the women's millet was mostly used for hearth-hold consumption. In some households it was used even before the household head threshed his millet, in others the head only handed out millet during the agricultural season, and in others again it was used

throughout the year as a supplement to the household millet. In all households, the hearth-hold millet constituted an important supplement to the household millet and it was perceived as such, inasmuch as a household head would not buy additional grains before his wives granaries were exhausted. It is intriguing that women themselves emphasised their image as groundnut producers and in that way downplayed their breadwinning role. By supporting this image, women protect their husband's reputation locally and comply with the ascribed gender roles as well as with the notion of marriage ideology. Moreover, women may subtly press the husband to fulfil his obligations by down-playing their own contributions.

Conclusion and perspectives

The locally prevailing narrative presented by both women and men draws a picture of women as marginal producers. The small size of hearth-hold production units as well as the women's restricted access to labour is used to support this perception of women as marginal contributors to the family's food requirements. The actual cropping patterns, however, reveal that this picture is not entirely true, inasmuch as 44% of the acreage allotted to staples in the village belonged to hearth-hold production units.

Hearth-hold crops, particularly the millet, serve as a supplement to the household head's provisions throughout the year or in the hunger gap just before the new harvest. Most household heads make implicit claims on their wives millet by stressing their role as good mothers. Thereby, the household heads are able to postpone selling small stock to buy additional food, and they can maintain the 'insurance' or spend the money differently e.g. on purchasing more animals, technology, clothing, or covering expenses like school fees and taxes.

The women themselves also benefit from their own-account farming, as they are able to assert more control over their own crops and income than on the entire household. Middle-aged and elder women generally have access to more land and labour than young women, but they allocate a considerable part of their land to millet. This enables them to be good mothers and provide for their children, even if the household head provides insufficient millet to sustain food security. Hearth-hold revenues may also be used to help the husband to cover expenses which are customarily his e.g. school fees, medical care, etc. It increases the woman's social status both within the compound and in the village as such.

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