

THE IMPLICATIONS OF STAKEHOLDERS' PERCEPTIONS OF LAND FOR SUSTAINABLE LAND USE AND MANAGEMENT IN NORTH-EAST GHANA

J. T. Bugri¹, P. M. Glaves², and R. B. Ridgway²

¹Department of Land Economy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana;

²University of Greenwich, England

Email: jtbugri@yahoo.com

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ABSTRACT

There are negative implications of changes in stakeholders' traditional land perceptions for sustainable land use and management in north-east Ghana. In African tenurial systems, land use was based on a local mystical view of the environment and stakeholders' broad-based knowledge of the local environments. These led to sustainable resource use and management. However, in the context of current political ecology of north-east Ghana as induced by increased population growth, urbanisation, the market economy, changes in religious beliefs, and government land policies, stakeholders' understandings of land have acquired even greater importance in issues of sustainable land resource use and management. A mixed methodological approach, combining both qualitative and quantitative data gathering techniques for information on stakeholders' land perceptions, was used to analyse their implications for sustainable land use and management. Changes in the dynamics of stakeholders' perceptions of land are partly responsible for the current state of land and environmental degradation in north-east Ghana. Policies aimed at ensuring sustainable land use and environmental management must focus on those traditional land perceptions, which encourage environmental sustainability.

INTRODUCTION

The concept of 'political ecology' explores changing resource access and use as embedded within power relations among groups in society (e.g. gender, kinship groups, communities and the State) (Smucker, 2002). Thus changes in stakeholders' perceptions regarding land affect the political ecology of a region or people.

Perceptions of land to the native Frafra (the dominant tribe in north-east Ghana) is central to their customary land tenure practices. In general, the Frafra exhibit a strong mystical connection between community and locality (Fortes, 1945). The three aspects of the bond between community and locality in Frafra social organization are: utilitarian, morphological and ritual (*ibid*). The utilitarian aspect denotes the various uses to which the land (i.e. locality) is put. Particular units of the social structure, e.g. clans and families, are tied to defined localities so that the social unit and its locality constitute a single entity that defines the morphological aspect. Men also have moral and ritual relations with one another and with the land by virtue of their utilization or occupation of the land. Based on the bonds between a community and the locality it occupies, Amenuvor (1992) described the Frafra concepts of land and community as inseparable.

The nature of the Frafra understanding of land can be divided into two aspects, metaphysical and practical, as defined by Fortes (1945). The former comprises the ritual and ancestral aspects of land as exercised by the Frafra as a corporate group and the latter the utilitarian and morphological aspects of the land. A corporate group is regarded as one in which there is a person (s) in authority such as a Tendana (land priest), Chief, or Clan/family head who is concerned with affecting the behavioral values and rules governing the corporate group (Fortes, 1969). The tenorial relationships between corporate groups and the circumstances in which corporate groups operate are complex and constantly changing (*ibid*). Gluckman (1965) concluded in respect of Africa that to understand land-holding arrangements one must investigate the system of status relationships, and to describe the system of status relationships one must deal constantly with relationships to land. Therefore a corporate group's understanding of land is important in grasping their relationships to land and to one another, whether as group members or non-group members i.e. strangers. The Frafra understanding of land as a corporate group is depicted in Figure 1.

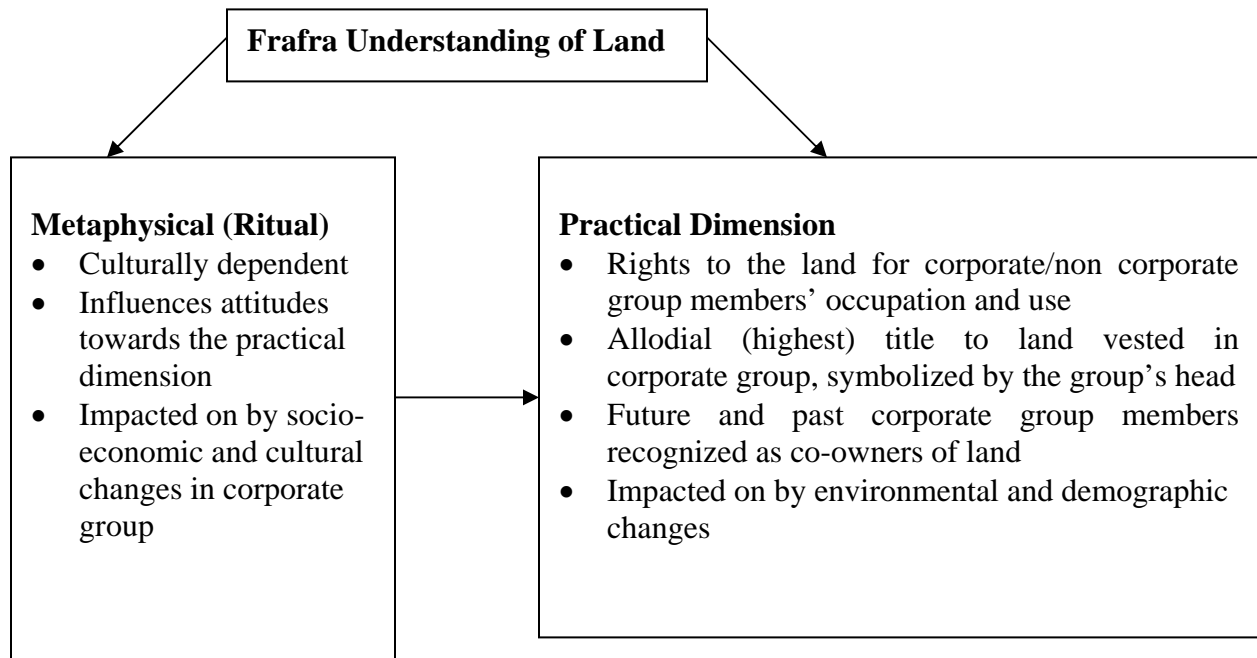
The Frafra metaphysical understanding of land explains the origin and nature of land. The perception underlines the practical dimension i.e. how the land can and should be used. These processes leading to the practical dimension are reflected in the customary land administration of the Frafra, which defines the tenorial relations between people and land. In addition to the religious beliefs of the Frafra an individual's occupation was identified (Fortes, 1945) to influence the meaning ascribed to land by the Frafra. According to Fortes (*ibid*) land means many things to the Frafra farmer. The soil (*tentoni*) is distinguished from tilled or arable land (*koua*). Cultivation turns any kind of soil into arable land and arable land is classified not with reference to soil qualities but rather the location. Thus the compound farm (*saman*) is in the settlement and bush farm (*puug*) is located in an area free of human habitation.

Fortes (1945) also noted that at the individual, family, clan and lineage levels, the bonds between people in relation to land are expressed in the idea of 'ownership' (*soulem*). Thus to 'own' (*sou*) land means to have:

- Responsibilities towards the land, as exemplified by a Tendana's sacrifices to the land spirits and gods;

- Rights over and on behalf of the land, for example, the use and occupation of the land as a source of livelihood; and
- Privileges and duties in relation to other individuals and/or corporate groups by virtue of being the ‘master’ (*daana* or *raana*) of the land. This includes the receipt of customary gifts and sharing of the land with family members by clan/family heads responsible for land allocation and acquisition for use. Customary privileges also include the Tendana’s share of a hind leg when game is killed, or claim to ownership in respect of *bona vacantia* (ownerless property) discovered on the land. Examples of duties to go with these privileges are the costs a Tendana may incur in either the making of a sacrifice to the ancestors or land gods on behalf of the entire community, or the burial of an unidentified dead body on the land (Fortes, 1945; Kasanga, 1994)

Figure 1: Relationships in Frafra understanding of land (Based on Fortes, 1945).



In general, however, there is no such thing as pure utilitarian ownership of land in north-east Ghana. Utilitarian ownership exists within the framework of relations between a defined social group and the land. This framework, in turn, is held together by a scheme of moral and ritual values and sanctions (Fortes, 1945). The scheme of these values and sanctions is defined and implemented through a hierarchy of stakeholders in the customary land administration process. In this process, the three functionally differentiated man-land relations, as outlined above, are interconnected in Frafra traditions and customs and only minor local differences blur the general practices (Amenuvor, 1992; Nyari, 2001). In conclusion, the way a stakeholder perceives of the land and environment affects the manner of use of the land resource (Mbiti, 1996; Millar, 2002; Haverkort *et al.*, 2002). Bourdeau (2004) also noted that the notion of land and the environment includes nature and culture, and these have implications for sustainable land use and management.

The objective of this paper is to examine the nature of stakeholders' perceptions of land in north-east Ghana and the implications of these perceptions for sustainable land resource use and management as an input into land policy formulation and implementation in the country.

METHODS AND MATERIALS

This paper is based on empirical data from two fieldwork periods conducted in north-east Ghana for a doctoral degree. The first fieldwork was conducted from June to September 2003, for qualitative data while the second was from April to July 2004, for quantitative data.

Qualitative data was collected from 35 communities in the districts of Bolgatanga and Bongo in north-east Ghana. In the process, a variety of techniques including snowballing, individual and group interviews and Focus Group Discussions were applied to collect data from a sample size of 70 stakeholders. Based on an initial analysis of transcribed qualitative data, an appropriate questionnaire was designed for further quantitative data from a sample size of 419 stakeholders in 10 communities. Following the snowball sampling approach the qualitative sample comprised 19% women and 81% men. In snowballing, the sample emerges through a process of reference from one stakeholder to another and is quite an effective technique of building up reasonable-sized samples quickly. The process however has a high potential for bias (Denscombe, 1998). This study therefore employed a check-list of questions for stakeholders prior to the actual interviews as a way of minimizing bias. However, in the quantitative sample, the proportion of females (46%) was similar to that of males (56%) to reflect the important roles women play in land use and management and ensure that the samples were representative of the population studied. Thus, data collected was from cross-sections of rural, urban and peri-urban communities in the largely urban Bolgatanga and largely rural Bongo districts and analyzed with the help of the Statistical Package for Social Sciences (SPSS) for the presentation of results.

RESULTS

The initial analysis of the qualitative interviews revealed five main perceptions of land related to nature and culture as given by stakeholders interviewed. Typical examples of these are illustrated in Table 1.

Table 1: Typical illustrations of the five main perceptions of land as given by stakeholders in the qualitative interviews in answer to the question: What is your understanding of the term land?

Perception of land	Typical answer
Metaphysical entity	"Land is a god, the land or earth god that (one) makes sacrifices to for the satisfaction of (one's) needs" (<i>Ayambire Ayetta, Chief of Tarongo</i>).
Ancestral heritage	"Land is an ancestral heritage from our forefathers" (<i>N. Azure, Chief of Nangodi</i>).
Biophysical entity	"Trees and rocks are a part of the land" (<i>Joseph Anabila Amale, Chief of Bongo-Beo</i>).
Means of production	"Land is the soil from where (humans) derive sustenance" (<i>Alziero Ajene, Chief of Sambolgo</i>).
Commercial property	"Land is the first property of the individual and every man or woman would want to buy land to farm or build on" (<i>Mosabila Kpaama, Chairman of Upper East Regional Land Commission</i>).

The proportions of stakeholders with the above perceptions of land are summarized in Table 2. The results in Table 2 indicate that of the 70 stakeholders interviewed, 52 (74%) perceived land to be a metaphysical (spiritual) entity. Yet only one government employee held this view. Only four (6%) stakeholders perceived land as commercial property and three of these were government employees. No Tendana and only four Chiefs regarded land as an ancestral heritage, while all the Tendanas and most Chiefs 10 (59%) regarded land as a metaphysical entity. Thus more customary authorities perceived land as a metaphysical entity than an ancestral heritage.

Table 2: Stakeholders' perceptions of land in the qualitative sample as given in answer to the question: What is your understanding of the term land?

Perception of land	Chiefs (n =17)	Tendanas (n = 15)	Farmers (n =32)	Government Officials (n = 6)	Overall Percentage
Metaphysical (spiritual)	10	15	26	1	52%
Ancestral heritage	4	0	6	0	10%
Biophysical entity	6	11	19	4	40%
Means of production	3	1	10	3	17%
Commercial property	1	0	0	3	4%

Most stakeholders 53 (76%) held two or more perceptions of land. A typical illustration by a stakeholder who held metaphysical, productive, biophysical and ancestral perceptions of land was:

The land is a *tengane*, the land or earth god. It is the source of life. The trees, rivers and mountains are all part of the land...which our ancestors established for us (*Azanlerigu Atinga, a farmer of Anafobisi; qualitative interview*).

Religion, gender, education, age, occupation and community membership status are important factors which affect individuals' perceptions and attitudes towards land and the environment (see Geisler, 2000; Crowley, 2003; Wangui, 2003). Therefore, cross-tabulations of these variables were carried out on SPSS of the larger quantitative sample (419) for any evidence of correlations in the variables that explain stakeholders' differences in perceptions of land. The results are presented below.

Religion and Stakeholders' Perceptions of Land

In the quantitative questionnaire, stakeholders were asked to select from the five main perceptions of land identified (see Table 2) those which accorded with their perception(s) of land. Table 3 shows a cross-tabulation of stakeholders' religion and their perception(s) of land.

Table 3: Religions of stakeholders and their perceptions of land in the quantitative sample in answer to the questions: What is your religion and what is your perception(s) of land?

Religion	Number	Metaphysical Entity	Ancestral Heritage	Biophysical Entity	Means of Production	Commercial Property
Traditionalist	175	50%	62%	46%	71%	8%
Christain	193	22%	54%	62%	82%	20%
Moslem	31	29%	51%	51%	84%	26%
Not indicated	20	20%	60%	40%	85%	5%
Total	419	144	241	223	326	62

Of the 419 stakeholders in this sample, 175 (42%) regarded themselves as traditionalists, i.e. followers of traditional religious beliefs, 193 (46%) as Christians, 31 (7%) as Moslems and 20 (5%) did not indicate their religion(s). Overall, the results in Table 3 indicate that 144 (34%) perceived land as a metaphysical entity, 241 (56%) as an ancestral heritage, 223 (53%) as a biophysical entity, 326 (78%) as a means of production and 62 (15%) as a commercial property. Of the one-third of stakeholders who perceived land as a metaphysical entity, 88 (61%) regarded themselves as traditionalists; 43 (30%) as Christians and 9 (6%) as Moslems. Therefore more stakeholders who regarded themselves as traditionalists perceived land as a metaphysical entity than those who regarded themselves as Christians and Moslems. A typical traditionalist metaphysical perception of land was “land is a god that we make sacrifices to” (*Nsoh Azare, Tendana of Feo; qualitative interview*). There was a significant positive difference (99% confidence) between traditional religion and the metaphysical conception of land (Chi-square value 34.4).

Of the 175 (42%) stakeholders who identified themselves as traditionalists, 123 (70%) were male and 52 (30%) female. The results therefore revealed a difference in gender and the practice of traditional religion for which there was a significant positive difference (99% confidence) between males and the practice of traditional religion (Chi-square value 37.7).

The results in Table 3 also indicate that only 62 (15%) of all the stakeholders perceived land to be a commercial property. This result suggested a difference between stakeholders’ conceptions of land as a metaphysical entity and perception of land as a commercial property and for which Chi-square value (9.6) was significant at 99% confidence level. Also, 62% of stakeholders who said they were Christians held a biophysical perception of land in contrast with only 46% of stakeholders who said they were traditionalists, for which there was a significant negative difference (95% confidence) (Chi-square value 10.9).

No significant positive or negative differences between stakeholders’ religion and their perceptions of land as an ancestral heritage and a means of production were shown in the results of Table 6.4, though fewer traditionalists (71%) than Christians and Moslems (83%) regarded land as a means of production. However, significant differences have been shown in the results between the perceptions of stakeholders who identified themselves as traditionalists and Christians or Moslems in relation to their metaphysical, commercial and biophysical perceptions of land.

Gender and Stakeholders' Perceptions of Land

Due to the predominantly patrilineal system of land inheritance in the study area (Atengdem and Dery, 1998; Millar, 2002) gender is of special importance in land resource ownership, access, use and management (Wangui, 2003). Thus gender differences in perceptions and attitudes to land and the environment were relevant for investigation. The quantitative sample was the main basis for the investigation of male and female perceptions as there were similar proportions of males and females in this sample (see Table 4).

Table 4 shows that more males 90 (40%) than females 54 (28%) perceived land as a metaphysical entity. Similarly, more males 62% than females 53% viewed land as an ancestral heritage. There was a significant positive difference (95% confidence) between gender and the metaphysical perception of land (Chi-square value 6.5), but there was no significant difference (95% confidence) between gender and the ancestral perception of land.

Table 4. Gender of stakeholders and their perceptions of land in the quantitative sample in answer to the question: What is your gender and what is your perception(s) of land.

Gender	Number	Metaphysical Entity	Ancestral Heritage	Biophysical Entity	Means of Production	Commercial Property
Male	226	40%	62%	53%	75%	17%
Female	193	28%	53%	54%	81%	12%
Total	419	34%	58%	53%	78%	15%

A typical illustration of this difference as put by a female farmer of Gambungo was:

Land is that part of God's creation of the earth that is fundamental to the sustenance of livelihoods...and spiritual things like gods that are worshiped are different from the land (*Asibi Akaribo; qualitative interview*).

In contrast to the above female's perception of land, a male farmer of Naylorigo perceived land as, "the *tengane*, the land or earth god, which is being worshipped and is considered as the wife of God to take care of his children on earth" (*Robert Akolgo; qualitative interview*).

Though in general 275 (66%) of stakeholders did not perceive land as a metaphysical entity, yet 357 (85%) of all stakeholders did not perceive land to be a commercial property. A gender analysis of this perception showed that slightly higher proportions of females 169 (88%) than males 188 (83%) disagreed with the commercial view of land but this difference was not significant at the 99% confidence level.

Education and Stakeholders' Perceptions of Land

The level of education of stakeholders has been shown in other studies (Blaikie and Brookfield, 1987; Millar, 2002) to have implications for the way people perceive of land and their attitudes towards land resources in general. In Table 5 are results of a cross-tabulation of stakeholders' educational levels and their perceptions of land.

Table 5: Education of stakeholders and their perceptions of land in the quantitative sample in answer to the questions: What is your level of formal education and what is your perception(s) of land?

Education	Number	Metaphysical Entity	Ancestral Heritage	Biophysical Entity	Means of Production	Commercial Property
Never been to school	235	40%	60%	52%	74%	9%
Basic education	105	28%	55%	59%	82%	18%
Secondary education	29	34%	48%	55%	83%	14%
Post Secondary	22	14%	59%	59%	82%	55%
University	11	18%	63%	55%	73%	45%
Other	17	29%	41%	24%	88%	12%
Total	419	144	241	223	326	62

It can be seen from Table 5 that 235 (56%) of the total sample of stakeholders did not receive any formal education and could neither read nor write (illiterate) and only 62 (15%) have secondary or higher education. Of the illiterates, 137 (58%) were in the largely rural district of Bongo, while 98 (42%) were in the largely urban district of Bolgatanga. Therefore a higher proportion 114 (62%) of the educated stakeholders were in the more urban areas while a greater number of the illiterates were in the more rural areas. The results showed no significant positive or negative difference between stakeholders and their location as urban or rural.

Also, a cross-tabulation of religious and educational levels of stakeholders indicated that of the 235 illiterate stakeholders, 137 (58%) identified themselves as traditionalists compared with only 34 (18%) who were educated. Thus a 99% significant positive difference existed between the level of education and the practice of the traditional religion (Chi-square value 96.8).

Age and Stakeholders' Perceptions of Land

The implications of age for land resource use and management as underpinned by the perceptions of the various age groups were particularly relevant as indicators of current and future trends in land and environmental sustainability. The perceptions of land by different age groups are shown in Table 6.

Table 6 shows no consistent trends in the results on the various age groups and their ancestral, biophysical and productive views of land. However, statistical tests showed a significant negative difference (99% confidence) between age and metaphysical perception of land (Chi-square value 19.1). There was no significant difference (95% confidence) between age and the commercial perception of land by stakeholders (Chi-square value 7.8) though of the 45 stakeholders in the age group 20-29 years, 24% of them perceived land as a commercial property in contrast with (0%) of the 10 stakeholders in the 70+ years age group.

Table 6: Age of stakeholders and their perceptions of land in the quantitative sample in answer to the questions: What is your age and what is your perception(s) of land?

Age group years	Number	Metaphysical Entity	Ancestral Heritage	Biophysical Entity	Means of Production	Commercial Property
20-29	45	38%	44%	64%	93%	24%
30-39	94	31%	49%	56%	82%	17%
40-49	117	31%	56%	51%	73%	11%
50-59	97	29%	68%	54%	76%	14%
60-69	50	44%	72%	40%	68%	16%
70+	10	90%	50%	60%	80%	0%
Don't know	6	50%	33%	50%	100%	0%
Total	419	144	241	223	326	62

Occupation and Stakeholders Perceptions of Land

In most agricultural societies the livelihoods of the people are met from a combination of farming as a major occupation and other supplementary occupations (Chambers and Conway, 1992; Ellis, 1998). Also, the type of occupation or livelihood source influences people's perceptions of land (Fortes, 1945; Barlowe, 1986) and which in turn has implications for livelihood sustainability. It was therefore of importance in this investigation to assess the nature of stakeholders' occupations. The results of stakeholders' occupation(s) and their perceptions of land are illustrated in Table 7.

Table 7. Major occupations of stakeholders and their perceptions of land in the quantitative sample in answer to the questions: What is your major occupation and what is your perception(s) of land?

Major Occupation	Number	Metaphysical Entity	Ancestral Heritage	Biophysical Entity	Means of Production	Commercial Property
Farming	254	39%	53%	53%	77%	7%
Teaching	24	20%	63%	58%	88%	46%
Security	27	56%	78%	52%	81%	15%
Trading	55	18%	60%	65%	80%	25%
Laborer	6	67%	67%	83%	67%	17%
Other	53	23%	64%	38%	74%	26%
Total	419	144	241	223	326	62

Table 7 shows that 254 (61%) of all stakeholders indicated that farming was their major occupation and this conformed to the aim of the target group in the sample being farmers prior to the survey. There were 268 (64%) stakeholders who indicated that they engaged in other supplementary occupations including farming, teaching, security work, trading, pito (local beer) brewing, weaving, etc. Of those who engaged in farming as a major occupation, 42 (17%) also indicated farming as their supplementary occupation. Farmers explained this apparent confusion

by indicating that their major occupation as farming was when they engaged in rain-fed farming activities in the wet season. Then in the dry season when they resorted to irrigation farming as in market gardening they regarded farming as a supplementary occupation. Given that the main purpose of engaging in a supplementary occupation was to supplement the income position of stakeholders and help secure their livelihoods, the farmers' explanation was seen as plausible.

In terms of the distribution of occupations, it was found that of those who engaged in farming as their major occupation 145 (57%) lived in the more rural areas while 109 (43%) were in the more urban areas. Similarly, of those stakeholders who indicated that they engaged in supplementary occupations, 141 (53%) were in the more rural areas and 127 (47%) were in the more urban areas. Therefore, more stakeholders with farming as a major occupation were in the more rural communities than in the more urban communities and similarly for stakeholders with supplementary occupations.

The results in Table 7 indicate that while 39% of stakeholders who regarded their major occupation as farming perceived of land as a metaphysical entity, only 7% of them viewed land as a commercial property. Therefore a significant positive difference (99% confidence) was shown between farming as a major occupation and the metaphysical perception of land (Chi-square value 23.5). In contrast, a significant negative difference (99%) was found between farming as a major occupation and the commercial perception of land (Chi-square value 41.0). No significant positive or negative difference was found between occupation and the ancestral, biophysical and productive views of land.

Community Membership Status and Stakeholders' Perceptions of Land

Community membership status is an important factor in land use and management decision-making (Mathieu *et al.*, 2003). The land use and management decision-making process in the study area is not only male dominated (Atengdem and Dery, 1998) but also predominantly undertaken by stakeholders who are community members (Nyari, 2001). As shown in Table 8, the quantitative sample covered 333 (79%) stakeholders who were community members and only 86 (21%) strangers due to the low stranger population in most of the study communities, especially in the rural areas. Only 10 strangers were sampled in the largely rural Bongo district and the rest (76) in the largely urban Bolgatanga district.

Table 8: Community membership positions of stakeholders and their perceptions of land in the quantitative sample in answer to the questions: What is your community membership status and what is your perception(s) of land?

Community Membership	Number	Metaphysical Entity	Ancestral Heritage	Biophysical Entity	Means of Production	Commercial Property
Member	333	36%	59%	53%	77%	11%
Stranger	86	28%	51%	53%	80%	29%
Total	419	144	241	223	326	62

Table 8 shows that there were no significant differences in all the perceptions of land between community members and strangers except the perception of land as commercial property. Viewed as a commercial property, more strangers 25 (29%) than community members 37 (11%) in proportion to their sample totals considered land as a commercial property. There

was a significant negative difference (99% confidence) for this difference in perception of land between community members and strangers as a commercial property (Chi-square value 17.5).

DISCUSSION

The land perceptions of stakeholders sought to find out what meanings, conceptions or definitions stakeholders put on land as these affect stakeholders attitudes, i.e. the ways they were likely to use and manage their lands (Mbiti, 1996, Haverkort and Hiemstra, 1999; Millar, 2002; Haverkort *et al.*, 2002; Bourdeau, 2004). Important factors, which affect individuals' perceptions and attitudes towards land and the environment, have been identified (e.g. Fortes, 1945; Barlowe, 1986; Blaikie and Brookfield, 1987; Geisler, 2000; Millar, 2002; Crowley, 2003 and Wangui, 2003 and Bourdeau, 2004) as including, religion, gender, education, age, occupation and community membership status as shown in the results of this investigation.

The key results in the qualitative interviews indicate that most customary authorities i.e. Tendanas and Chiefs perceived land as a metaphysical entity, but not as an ancestral heritage. This result was surprising considering the ancestral origins of their religious roles in relation to land management. As was pointed out by the Chief of Nangodi, “[I]and is an ancestral heritage from our forefathers” (*N. Azure, qualitative interview*), yet few customary authorities perceived land as an ancestral heritage. Also, while only one government employee regarded land as a metaphysical entity, three out of the four who regarded land as a commercial property were government employees. These results may not indicate the general perception of most customary authorities and government employees in north-east Ghana because only 15 Tendanas, 17 Chiefs and six government officials were interviewed. However, if the sample reflects the general population, then the results may indicate changes in perceptions and roles of stakeholders. Alternatively, results in Table 6.5 indicate that land as a means of production was more important to stakeholders compared with land as an ancestral heritage, which is probably linked to the preoccupation of people being how land could be used for the provision of their current survival needs. Thus more stakeholders (78%) regarded land as a means of production than as an ancestral heritage (58%). Hence Cissé (1985) concluded that in land resource use allocation in Africa, providing for the sustenance of people is the primary consideration.

The results on religion and stakeholders' land perceptions show that of the stakeholders who regarded themselves as traditionalists, half perceived land as a metaphysical entity and the other half did not. A Christian teacher with farming as a supplementary occupation in Yarigabisi however observed that, “when people say (land) has spiritual aspects to it, it is (because) they want to gain power and control over the land within the community” (*Peter Alekeya, qualitative interview*). Therefore, there appears to be a significant difference in the perception of land between stakeholders who regarded themselves as traditionalists and those who identified themselves as Christians or Moslems. For the 50% of traditionalists that held the perception of land as a metaphysical entity there is a negative implication for the commercial perception and therefore value of land. Cissé (1985) described this metaphysical perception of land as the ‘non-venal’ character of land, which Agbosu (1980) and Asiama (2003) considered to have prevented the commercialization of land in northern Ghana, including north-east Ghana in the past. Therefore the metaphysical perception of land has negative consequences for the development of a land market in north-east Ghana. In the case of the half who regarded themselves as traditionalists but held no metaphysical perception of land this result may indicate changing

socio-cultural and religious beliefs of land possibly linked to urbanization and its effects, for example, a positive attitude towards commercialization of land (see Kasanga, 1994, 1999).

Also, the metaphysical perception of land has implications for the sustainable management of land. Okoth-Ogendo (1994) concluded that in Africa land resource utilization was approached with spiritual concerns and environmental degradation could only be a matter for survival. The religious and spiritual importance of land in Ghana has been well documented (e.g. Ollennu, 1962; Bentsi-Enchill, 1964 and Asante, 1975). Thus Asiama (2003, p10) remarked that land is “a heritage entrusted to the community and it is therefore the community’s responsibility to ensure its preservation for the subsequent enjoyment by future generations”. The failure of communities in north-east Ghana to sustainably manage their land resources as evidenced by environmental degradation (Norton *et al.*, 1995; Government of Ghana, 1996) and could therefore be partly explained by the above perceptions of communities on the metaphysical nature of land. These perceptions are illustrated in the cosmovision of the Frafra people of north-east Ghana following Haverkort *et al.* (2002). Cosmovision refers to the way a certain population perceives the cosmos or world, including the assumed relationships between the human world, the natural world and the supernatural world (Millar, 2002). For example, the Tendana of Namoo observed in respect of land and environmental problems in the study area that:

Neglect of customary practices and disregard for elders’ wisdom is to blame (for land and environmental degradation). The tengana (land gods) are simply angry with us and hence the human suffering [in meeting livelihood needs] today (*Akansuki Ania, Tendana of Namoo; qualitative interview*).

The Chief of Bongo-Beo similarly observed that “trees and rocks are a part of the land and are the land spirits or earth gods and once not recognized and respected by any community then that community will not prosper” (*Joseph Anabila Amale; qualitative interview*). In contrast to the views of the above stakeholders who regarded themselves as traditionalists on the metaphysical nature of land, when asked whether land had any spiritual meaning, Gibson Agana a Christian of Gowrie, answered in the negative and gave the reason for his answer to be based on his “religious background” i.e. separation of man and land and man’s dominion over land based on Judeo-Christian beliefs (see Kinsley, 1996a, 1996b). However, the fact that some Christians (22%) and Moslems (29%) do perceive land as a metaphysical entity may underscore the observations of Sarfo-Mensah (2001) and Haverkort *et al.* (2002) that syncretism i.e. the holding of two or more religious beliefs by an individual is practiced in north-east Ghana. The incorporation into the cosmovision of the Frafra of north-east Ghana of the Christian and Muslim Gods is a recent phenomenon following the contacts made with European and Arab missionaries, merchants and explorers (Millar, 2002).

A popular expression in north-east Ghana is that *tradition dies hard*, meaning it is difficult to part with traditional practices. Some traditional belief followers therefore attribute the low rainfall and declining agricultural production to the breakdown of rituals associated with the use of land, rivers and trees following the influence of other religious beliefs (Atengdem and Dery, 1998). Thus a degree of religious tension, however insidious, exists amongst the different religions practiced. However, only two stakeholders indicated that they were both traditionalists and Christians. Yet no provision was made for such a religious category in the questionnaire and it was deemed appropriate to consider them as traditionalists and not Christians. The predominance of traditionalists in the study area has been recorded (Government of Ghana, 2000). Yet 42% of stakeholders called themselves traditionalists and 46% Christians. Therefore there were more people who regard themselves as Christians than traditionalists as the results in

this study indicate. Therefore if the stakeholders who regard themselves as Christians follow the belief that man has dominion over land then Christianity could be argued as a source of environmental degradation (Mebratu, 1998) in the case of north-east Ghana.

The gender difference shown in the perception of land as a metaphysical entity could be explained by the fact that women are viewed to have a weak spiritual link to land in the study area (Millar, 2002) and therefore men are more likely to perceive land as a metaphysical entity than women. The conduct of sacrifices to the land gods and spirits is predominantly a male practice. The practice is undertaken mostly by the Tendana, Tengapoasegere (i.e. Tendana's representative) or Clan/family head as the occasion demands (Nyari, 2001). A female farmer of Kongo provided a typical illustration of this view when she said, "it is (the) men who make sacrifices to the land" (*Alice Duuk; qualitative interview*). Therefore females may feel alienated from the spiritual practices in relation to land, suggesting why fewer females than men perceive land as a metaphysical entity.

The result of a gender difference in the perception of land as a commodity of monetary value could be explained by the fact that more females than males in the study area are engaged in arable farming activities and the use of environmental resources in the provision of livelihoods for their families. Women may therefore feel insecure in their livelihood sources if they dispose of their lands for monetary considerations. This explanation is supported by the statement that, "men are keen to rear livestock and women are mostly on the farms" (*Alice Duuk; qualitative interview*). Thus, slightly higher proportions of females 157 (81%) than males 169 (75%) considered land to be a means of production. Similar proportions of gender, 104 (54%) of females and 119 (53%) of males, however, perceived land as a biophysical entity. Therefore, while there is agreement on the nature of land as a biophysical entity between males and females there nevertheless appeared to be differences on the use value of land due the above differences in gender roles in relation to land. One effect of this could be that as men dominate the decision-making process in respect of land use and management male perceptions and attitudes are more likely to determine the nature of customary land management in the communities.

Results on the educational levels of stakeholders indicated that 56% of stakeholders were illiterate, which is above the national proportion of 53% but below the recorded 78% for the Upper East Region (Government of Ghana, 2000). Therefore there is a significant difference between the proportions of illiterates as the results indicate and that of the Government of Ghana (*ibid*). This difference could have arisen from the use of only two out of the six districts in the Upper East Region in this study as against the use of all six districts by the Government of Ghana. Yet if sample reflects the general population then it indicates that there are fewer illiterates in the study area than the national population census recorded or government educational measures have made a positive impact since 2000 when the census data was collected. More educated people were found to be in the more urban areas than in the more rural areas possibly because of prospects for employment opportunities in the former than the latter. In general, however, migration has tended to be from north-east Ghana to the southern part of the country in search of better economic opportunities (Nabila, 1986; Government of Ghana, 2000) of both the educated and the illiterate possibly as a result of environmental degradation (see Government of Ghana, 1996, 2002; Myers, 2002). Surprisingly, however, except for the commercial view of land no major differences were seen in the results as regards stakeholders' educational levels and their perceptions of land. This result contrasts with Millar's (2002) finding that the views of the educated on the cosmivision of the Frafra of north-east Ghana have been especially influenced by western education and foreign religious beliefs. Yet more stakeholders

(46%) regarded themselves as Christians. Perhaps, the practice of syncretism explains the seemingly contradictory result. Haverkort *et al.* (2002) also found that local knowledge and values still form the main driving force for rural people's decisions on land use and food production and religious practices, among others, in Africa.

The results on age and the metaphysical perception of land showed a significant difference but not so for age and the commercial perceptions of land. These results could have been affected by the absence of data on ages below 20 years. Data was not collected on stakeholders below 20 years because traditionally, such stakeholders have little or no involvement in land issues in the study area. Nevertheless, given that the majority (76%) of the population in the Upper East Region fall between the ages of 0-39 years (Government of Ghana, 2000) the commercial view of land by 24% of stakeholders between 20-29 years in the study area, has serious implications for future trends in land tenure and livelihood sustainability.

The result that more stakeholders with supplementary occupations were in the more rural areas than in the more urban areas was surprising. However, more farmers in the rural areas who probably hitherto had farming as their sole occupation for a livelihood may now have been forced into other livelihood activities as supplementary occupations because of the poor and declining levels of agricultural production in the study area (Nyari, 2001). If this explanation is correct, then it could also account for why most farmers did not hold a commercial view of land because disposing of land would seriously undermine their livelihood resource base. Therefore while farming is undertaken as a means of livelihood, any shortfalls are met by engaging in other supplementary occupations such as weaving, trading, pito (local beer) brewing, etc. Therefore most stakeholders' livelihoods were maintained from a combination of farming and other supplementary occupations. There have been similar findings reported by Chambers and Conway (1992) and Ellis (1998) for sub-Saharan Africa.

The perceptions of stakeholders and how those perceptions influence land resource use and management showed no major differences between community members and strangers. One possible explanation to this result in the past when land was abundant could be the reason given by Agbosu (1980) that if a stranger lived in a community in northern Ghana, including north-east Ghana for three years or more the stranger had much the same rights to land as community members. However, with land scarcity as a result of increased population growth in recent times, a more plausible explanation could be found in other factors such as strangers in the communities having their origins in the same geographic and ethnic area of north-east Ghana, inter-marriages between strangers and community members and the social networks strangers are able to establish in the community. As between strangers and community members however, a significant higher frequency of the perception of land as a commercial property was amongst strangers. This is probably largely because strangers perceive of a better security of tenure on the purchase of land while community members find it difficult to sell land that may be their only source of livelihood. The implication of this phenomenon could be the lack of growth and development of a vibrant land market in north-east Ghana (Kasanga, 1999).

CONCLUSIONS

In this paper, it has been shown that in north-east Ghana stakeholders' perceptions influence land resource use sustainability and these perceptions are in turn influenced by several factors including the religion, gender, age, educational background, occupation and community membership status of stakeholders. The interplay of these factors is important in the political

ecology of largely rural communities experiencing rapid demographic, socio-economic and environmental changes. In seeking changes to stakeholders' tenurial conditions it is recommended that stakeholders' perceptions of land are investigated and the results used to inform the strategies, policies and programs to be developed in addressing stakeholders' tenurial problems.

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