An Analysis of Rural-Urban Differences in Stakeholders' Perceptions and Attitudes towards some Tenurial, Agricultural and Environmental Issues in North-East Ghana

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Abstract: Though the dominant land tenure practices in Ghana are customary in nature, there is nevertheless a rural-urban divide in tenurial practices in the country. Whilst customary land tenure dominates in the rural areas, statutory land tenure is dominant in the urban areas. To ensure any changes in tenure, agricultural and environmental conditions in both the rural and urban areas for effective land management, it is important to assess the current perceptions and attitudes of stakeholders towards these conditions. This paper provides an analysis of stakeholders' perceptions and attitudes of key tenurial, agricultural and environmental issues in north-east Ghana, as an input into the formulation of relevant policy strategies towards seeking positive changes to these issues as they impact on the lives of stakeholders.

Keywords: Analysis of rural-urban differences, Stakeholders' perceptions and attitudes, Tenurial, Agricultural, Environmental, North-east Ghana

1 Introduction

Land tenure has become important in the policy agenda of most African governments and donor agencies (Guèye *et al*., 2002; Moyo, 2003; Deininger, 2003), including Ghana (Government of Ghana, 1999, 2003). Customary land tenure consists of the rights and restrictions in a society that are not documented but based on customs and defines the relationships between people and land (Törhönen, 2004). Statutory land tenure on the other hand consists of rights and restrictions documented by State laid down procedures to regulate the relationships between people and land. The importance of land to the socio-economic progress of many sub-Saharan African countries and the contribution that customary and statutory land tenure can make to economic development and sustainable livelihoods have been highlighted in various studies (e.g. Quan, 1998; Toulmin and Quan, 2000; de Soto, 2000; Toulmin *et al*., 2002 and Auzins, 2004). Through donor assisted projects, for example, the Land Administration Project (LAP) in Ghana, attempts are being made to influence traditional land management practices by incorporating modern practices as a means towards achieving sustainable land use and effective land administration. However, stakeholders' perceptions and attitudes influence the land use and management practices adopted (Mbiti, 1996; Haverkort and Hiemstra, 1999; Millar, 2002; Haverkort *et al*., 2002). Nonetheless, the national land policy, the implementation of which LAP is an instrument, has been criticized for largely ignoring the broad masses of community-based land users in its development (Abudulai, 2002) and marginalized most stakeholders in its implementation (Kasanga, 2000; Wily and Hammond, 2001). It is the aim of this paper to use a largely quantitative analysis to establish that rural-urban differences exist in stakeholders' perceptions and attitudes towards some customary and statutory land tenure, agricultural and environmental issues in north-east Ghana, and these differences are imperative to successful national land, agricultural and environmental policy formulation and implementation in the study area and Ghana as a whole.

2 Materials and Methods

This paper is based on qualitative and quantitative data collected in some selected rural, peri-urban and urban communities in the Bongo and Bolgatanga districts of the Upper East Region of Ghana (north-east Ghana), to study land tenure and sustainable livelihoods from June to September 2003 and April to July 2004 for a PhD at the University of Greenwich, UK.

To facilitate the analysis, a characterisation of the 35 communities covered with 50% or more of their inhabitants engaged in farming as a major occupation as rural and vice versa as urban was followed with the aim of investigating stakeholder groups that were representative of north-east Ghana. In the quantitative sample of stakeholders, Bolgatanga had 3%; Bolga-Soe 50% and Anafobisi 91% of sampled stakeholders engaged in farming as a major occupation. These communities were therefore selected as examples of the more urban, peri-urban and rural communities respectively for the analysis and presentation of findings.

In the selection of stakeholders, the qualitative sample size of 70 utilized the snowball and purposive sampling methods for the conduct of both individual and group interviews on a wide range of stakeholders: customary authorities, state agricultural, land and environmental officers, opinion leaders, farmers, etc. In order to deal with the high risk of bias in the application of these methods for data collection (Ellis, 1994), a list of confirming questions was designed for respondents prior to the conduct of the actual qualitative interviews. The aim of the confirming questions was to ensure that sampled districts, communities and individual stakeholders were representative of north-east Ghana and suitable for the provision of relevant data for the investigation. The quantitative survey, on the other hand, used farmers (61%) of the sample of 419 stakeholders as the main target group for the investigation, randomly selected from 10 communities. This was so because farmers were seen as the stakeholders directly affected by tenurial, agricultural and environmental conditions in the study area, with most of them in the rural communities.

In the analysis of rural and urban stakeholders' perceptions and attitudes towards key customary and statutory land tenure, agricultural and environmental issues, perceptions and attitude statements were formulated and asked stakeholders of their opinions following Likert (1932). The Chi-square test and Likert scale were applied in the analysis of the differences in rural and urban perceptions and attitudes using the Statistical Package for Social Sciences (SPSS).

3 The Study Area

North-east Ghana i.e. the Upper East Region (UER) occupies 8, 842 sq km or 3.7% of Ghana's total land mass of 238, 537 sq km, with a population of 920,089 (Government of Ghana, 2000). For administrative reasons the region is divided into eight districts: Bawku East, Bawku West, Builsa, Kassena-Nankani, Bongo, Talensi-Nabdam, Garu-Timpane and Bolgatanga (or Bolga) being the regional capital. The UER is the poorest in Ghana (Government of Ghana, 2002) and the worst hit by environmental degradation (Norton *et al*., 1995).

North-east Ghana has a topography that is gently undulating, ranging from 150-300 metres above sea level and is poorly drained by the river White Volta (Dickson and Benneh, 1988). The elements of the physical environment important to agricultural production, the primary occupation of people in north-east Ghana, include the vegetation and climate and the soil conditions (Songsore, 1998).

The vegetation of the UER is the Sudan savannah with semi-arid conditions (Dickson and Benneh, 1988). The few available tree species include locust (*Parkia biglobosa*) known locally as 'dawadawa', Shea (*Vitellaria paradoxa*), kapok (*Ceiba pentandra*) and baobab (*Adansonia digitata*) with a ground cover of grass of varying height (ODI, 1998/9). The climate of an area is important in the inter-relationships between nature and human well-being or livelihoods (Afolayan and Adelekan, 1998). The three main categories in which climatic factors affect well-being and livelihoods are through direct effects on individual health, dietary changes (induced by the lack of water for agricultural production) and population migration (Escudero, 1985). Therefore, in general the effects of climatic variations may be economic, social or environmental (Afolayan and Adelekan, 1998).

In most parts of Africa, including north-east Ghana, rainfall is the single most important factor affecting agriculture. In response to the importance of rainfall in livelihoods in Africa, various studies on rainfall (e.g. Winstanley, 1973; Bunting *et al*., 1976; Ogallo, 1979; Motha *et al*., 1980 and Sekoni, 1992) have been undertaken. These studies have identified areas of large rainfall fluctuations in sub-Saharan Africa (Nicholson, 1989) including north-east Ghana (Afolayan and Adelekan, 1998). Thus the effects of droughts in

Ghana in 1977, 1978 and 1983 were mostly felt in north-east Ghana (Ofori-Sarpong, 1980). Currently the region is dealing with the famine effects of a drought in 2004 (Ghanaian Times, 2005). The annual rainfall in north-east Ghana varies from 600-900mm (Blench, 1999; Ker, 1999) with a single crop growing period lasting for 90-140 days between May and September (Ker, 1999; Kansigi, 2002). The seasonal rainfall can be very erratic in pattern in May-September and farmers often plant seeds only for the young plants to die on two or three occasions before the rains become reliable for the continued growth of young plants to maturity (Kansigi, 2002). The rest of the year is the dry season when the desiccating harmattan winds blow sand and silt from the Sahara. Temperature ranges from 22-40 degrees Celsius and Navrongo, the capital of the Kassena-Nankani district, is known to have the highest temperatures in Ghana (ODI, 1998/9). Many studies in the area of climatology in Ghana (e.g. Ontoyin, 1993; Yelfari, 1993) suggest that the UER already facing semi-arid conditions may become more unfavourable for agriculture in the near future due to increasing temperature and declining and unreliable rainfall (ODI, 1998/9). These adverse climatic conditions have negative implications for soil conditions. The type of soil in an area depends on several factors including the age of the soil, the underlying rock type, climate and vegetation (Dickson and Benneh, 1988). The soils in the UER are generally coarse textured and have a low accumulation of organic matter and low fertility, due to rapid decomposition from the high temperatures and the practice of bush burning (Adu, 1969; Folly, 1997). In this context, soil and water conservation measures become more important for the future of agriculture in north-east Ghana.

Richards (1939) noted that two factors: the physical environment and the customs and traditions of the people trying to exploit that physical environment are crucial to the provision of livelihoods. These factors are currently relevant to north-east Ghana. Songsore (1998) has observed in respect of north-east Ghana that as the people struggle to improve their well-being and livelihoods the physical environment and the culture, amongst others, are important factors. These provide the materials and at the same time frustrate their effort. Therefore both the physical environment and the culture and traditions of the people of north-east Ghana as reflected in the land tenure systems, constitute an important means through which livelihoods are provided for majority of the largely agricultural society. Thus, stakeholders' perceptions and attitudes towards tenurial, agricultural and environmental issues are critical to policy formulation and implementation.

4 Results and Discussion

4.1 The Chi-square Test Analysis of Rural-Urban Differences in Perceptions and Attitudes

The rural-urban dimension in the analysis and discussion of results was aimed at achieving representativeness of stakeholder groups in north-east Ghana and covered stakeholders' perceptions and attitudes of some important tenurial, agricultural and environmental issues in the livelihood needs of stakeholders. The results are shown in Table 1.

In relation to the characteristics of customary and statutory land tenure, it can be deduced from Table 1 that in Bolgatanga, which is more urban, an average of (54%) of stakeholders had negative views of customary land tenure regarding security of tenure for agricultural production, environmental management and women's access to land. The results were reversed in the case of the more rural area of Anafobisi. In the peri-urban community of Bolga-Soe, the proportion of stakeholders who also viewed customary land tenure negatively was (54%). Statistical tests showed a significant negative difference (99% confidence) between urban and rural stakeholders perceptions of customary land tenure as being of inadequate security of tenure generally to land owners and users (Chi-square value 91.766). A significant negative difference (99% confidence) was also shown in the results between rural and urban stakeholders regarding customary land tenure being of inadequate security of tenure for agricultural production and environmental management (Chi-square value 107.184). Similarly, a significant negative difference (99% confidence) was shown between rural and urban stakeholders and their perceptions that customary land tenure limits women's access to land for farming and building purposes (Chi-square value 58.443).

Table 1 Rural-urban perceptions and attitudes on tenure, agriculture and the environment in north-east Ghana

Perception/attitude statement	Bolgatanga Strongly agree /agree	Bolga-Soe Strongly agree /agree	Anafobisi Strongly agree /agree
1. Customary land tenure does not provide adequate security to land owners and users, causes poor agricultural production and environmental degradation and limits women's access to land for farming and building purposes.	54%	54%	29%
2. Statutory land tenure has made changes to customary land tenure, has more tenure security than customary land tenure and is more effective in land management than customary land tenure.	80%	72%	24%
3. The problems of poor agricultural production and environmental degradation are mainly due to failures in state agricultural and environmental management policies than weaknesses in customary land tenure.	78%	58%	63%
4. There is evidence of poor agricultural production and environmental degradation, and existing agricultural practices lead to further environmental degradation.	84%	83%	71%
5. Integrating customary and statutory land tenure systems is more effective in improving agricultural production and environmental management than either system operating alone.	88%	74%	74%
6. Endemic poverty and the increase in population threaten the attainment of both enhanced agricultural production and effective environmental management.	100%	98%	98%
Total	(n = 40)	(n = 46)	(n = 43)

In comparison with statutory land tenure an average proportion of 80% of stakeholders in Bolgatanga had positive views of statutory land tenure regarding changes to customary land tenure, security of tenure and effectiveness in land management. These results were reversed in the case of Anafobisi.

Therefore the results suggest that more stakeholders in the more urban areas than in the more rural areas viewed statutory land tenure positively, whilst the opposite was true in the more rural areas. In the peri-urban community of Bolga-Soe, the proportion of stakeholders who also viewed statutory land tenure positively was high (72%). Therefore one explanation for the results could be dominance of statutory land tenure practices in the more urban communities, whilst customary land tenure is also dominant in the more rural communities. These results suggested significant differences between stakeholders' positive or negative perception of type of land tenure and their location as either rural or urban. Statistical tests showed significant negative differences (99% confidence) between rural and urban stakeholders' perceptions that statutory land tenure has made changes to customary land tenure (Chi-square value 128.998); that statutory land tenure has more tenure security than customary land tenure (Chi-square value 151.739) and that statutory land tenure is more effective than customary land tenure (Chi-square value 87.947).

In relation to the influence of customary and statutory land tenure on agricultural production and environmental management, however, most stakeholders (78%) in Bolgatanga blamed failures in government agricultural and environmental policies more than customary land tenure for the poor agricultural production and environmental degradation in their community. The corresponding proportion of stakeholders in the more rural community of Anafobisi of the same view was 63%. Therefore, though statutory land tenure was more posi-

tively viewed in the more urban areas than customary land tenure, yet statutory land tenure was largely blamed by a high proportion of stakeholders (78%) in the more urban area of Bolgatanga for poor agricultural production and environmental degradation. This suggests that stakeholders' expectations regarding the role of statutory land management in agricultural production and environmental management have not been met. A typical view of government failure and the resultant poor agricultural production and environmental degradation was:

> Hunger is our major problem as the harvest is often so bad that we cannot even feed our families. The soils are poor and the rains are erratic. Therefore, the region needs government's help in farming and the creation of alternative employment opportunities (*Awafo Asoli; qualitative interview).*

The results suggested a significant difference between stakeholders' perceptions of which land tenure type was more to blame for the poor agricultural production and environmental degradation and their location in urban or rural communities. Therefore statistical tests for significance showed a significant positive difference (95% confidence) between stakeholders' perception that state policies were more to blame than customary land tenure for poor agricultural production and environmental degradation (Chi-square value 51.205). The results indicate that in integrating customary and statutory land tenure both urban and rural stakeholders' perceptions would be relevant to policy measures.

In relation to stakeholders' perceptions of poor agricultural production and the contribution of current farming practices to environmental degradation, more stakeholders (84%) in the more urban community of Bolgatanga were of the views that agricultural production was poor and that current farming practices lead to environmental degradation. The corresponding proportion of stakeholders in the more rural area of Anafobisi was 71%. A typical view on the effects of agricultural practices on environmental degradation in the more rural communities of the Bongo district was:

Some farmers clear the land of the previous year's stubble and allow the biomass to decompose and fertilise the soil, while others burn the stubble and degrade the soil in the process (*Joseph Atanga; qualitative interview*).

These results suggest that more urban stakeholders than rural stakeholders recognised the poor state of agricultural production for which they felt current farming practices contributed. Hence tests for significance showed a significant negative difference (99% confidence) between stakeholders' perception of evidence of poor agricultural production and environmental degradation and their location in urban or rural communities (Chi-square value 70.871); and a significant negative difference (99% confidence) between stakeholders' perceptions of current agricultural practices leading to environmental degradation (Chi-square value 86.689) i.e. more stakeholders in the more urban than in the more rural communities felt agricultural production being poor was linked to degrading practices used in farming.

In relation to the integration of customary and statutory land tenure as a solution to the agricultural and environmental degradation problems and that poverty and population growth threaten agricultural and environmental sustainability most stakeholders (74-100%) favoured these views. Therefore no significant differences were in the results.

From the foregoing discussion it can be seen that more stakeholders in the urban than rural communities have positive views regarding statutory land tenure practices. The opposite is true in the case of customary land tenure in the rural communities. However, statutory land tenure has also been perceived by more stakeholders in the more urban than in the more rural communities to be largely responsible for the poor agricultural production and environmental degradation.

4.2 The Likert Scale Analysis of Stakeholders' Perceptions and Attitudes

The perceptions of stakeholders on tenurial, agricultural and environmental issues in Table 2 were also given a different analysis using the Likert scale (Oppenheim, 1992; de Vaus, 1996). Based on a five-point

scale, the attitude of a stakeholder to a statement or question was measured by assigning weights of 5 to "strongly agree", 4 to "agree", 3 to "uncertain", 2 to "disagree" and 1 to "strongly disagree". Thus a high score above the median score meant a favourable attitude to a given statement or question and conversely. It was therefore assumed that a stakeholder who was indifferent to the statements or questions would have a median score. On the scale of 1 to 5 above the median score was 2.5. Table 2 shows the Likert scale results for Bolgatanga, Bolga-Soe and Anafobisi. The calculation of the mean score of a community was done by summing up the responses of a stakeholder to a statement and dividing the result by the total number of respondents in the particular community (see Oppenheim, 1992).

The Likert scale results in Table 2 show that more stakeholders in Bolgatanga than in Anafobisi favoured the views that customary land tenure was without adequate security of tenure to land owners and users, caused poor agricultural and environmental degradation and limited women's access to land. The mean scores for these views were 3.4 and 2.0 in Bolgatanga and Anafobisi respectively. Hence more stakeholders in the more urban areas viewed customary land tenure more negatively than in the more rural areas.

In the case of statutory land tenure, opinions of stakeholders on whether statutory land tenure had made any changes to customary land tenure, was of more security of tenure than customary land tenure and more effective than customary land tenure in land management produced a mean score 4.1 in Bolgatanga. The corresponding mean score for Anafobisi was 3.0. Therefore fewer stakeholders in the more rural communities than in the more urban areas viewed statutory land tenure positively.

The communities' mean scores of stakeholders' perceptions on agricultural and environmental problems and their proposed solutions as integrating customary and statutory land tenure were generally high (4.0-4.9) in both rural and urban communities. Therefore the results of the Likert scale measurements and

Table 2 Rural-urban perceptions and attitudes on tenure, agriculture and the environment in north-east Ghana

Perception/attitude statement	Bolgatanga Mean score	Bolga-Soe Mean score	Anafobisi Mean score
1. Customary land tenure does not provide adequate security to land owners and users, causes poor agricultural production and environmental degradation and limits women's access to land for farming and building purposes.	3.4	3.3	2.0
2. Statutory land tenure has made changes to customary land tenure, has more tenure security than customary land tenure and is more effective in land management than customary land tenure.	4.1	3.8	3.0
3. The problems of poor agricultural production and environmental degradation are mainly due to failures in state agricultural and environmental management policies than weaknesses in customary land tenure.	4.3	3.9	4.0
4. There is evidence of poor agricultural production and environmental degradation, and existing agricultural practices lead to further environmental degradation.	4.3	4.8	4.0
5. Integrating customary and statutory land tenure systems is more effective in improving agricultural production and environmental management than either system operating alone.	4.5	4.2	4.3
6. Endemic poverty and the increase in population threaten the attainment of both enhanced agricultural production and effective environmental management.	4.9	4.8	4.9
Total	(n = 40)	(n = 46)	(n = 43)

analysis of stakeholders' perceptions and attitudes towards tenure, agricultural and environmental issues in north-east Ghana as in Table 2 are consistent with the results of Table 1 which analysed the same perceptions and attitudes based on percentage changes and significance tests.

5 Conclusion

In this paper it has been shown that significant differences exist in rural and urban stakeholders' perceptions of customary and statutory land tenure practices. More rural stakeholders perceived customary land tenure practices more positively than stakeholders in the more urban communities. These differences could be due to social change being faster in the more urban areas or the dominance of the machinery for statutory land management in the more urban areas. Thus, understanding stakeholders' perceptions and attitudes in their tenurial, agricultural and environmental relations and factoring these into the design and implementation of a comprehensive national land policy based on broad stakeholder participation and consensus is vital to achieving sustainable land management in north-east Ghana in particular and Ghana as a whole.

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