Original Article

CONTRIBUTION OF COMMUNITY RESOURCE MANAGEMENT AREAS (CREMAS) TO CONSERVATION IN GHANA

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Abstract

Ghana's conservation philosophy dates from 1878 when colonial masters adopted Protected Areas for natural resource conservation (Sasu, 2004). Since then, Ghana has experienced several policy changes leading to the current 1994 Forest and Wildlife Policy. The implementation of conservation policies has met challenges including opposition from indigenous people deprived of access to natural resources. In 2000, the Wildlife Division of the Forestry Commission developed the Collaborative Wildlife Management Policy to address this (Ghana Wildlife Division, 2004) and the Community Resource Management Area (CREMA) approach was developed to involve communities in conservation initiatives (Ghana Wildlife Division, 2004). CREMAs have now been in existence for nine years but the contribution to conservation has not been objectively accessed. This paper sets out to rectify this and determine the achievements of CREMAs for wildlife conservation, the impact on livelihoods and the future potential of this approach.

Keywords: *Conservation, Community, Ghana, CREMA, National Parks activities*

INTRODUCTION

Human interaction with nature has long been based on the exploitation of natural resources by hunting and gathering practices; these continue today (Lamin et. al., 2001; Muilerman and Blonk, 2001). Overharvesting is one of the key factors in the loss of natural resources (Pearce, 2005; Devall, 2006) and concern regarding the impact on wildlife populations has led to the development of conservation strategies (Primark, 2002). International agreements such as the Convention on Biodiversity and the Ramsar Convention charge signatories with responsibility to strive towards conservation aims are met (Attuquayefio and Fobil, 2005).

Identification of problem in Ghana
Trade in wildlife and bush meat consumption is fundamental to Ghana's culture (Ghana Wildlife Division, 2004) with local communities often held responsible for unsustainable natural resource utilisation (Agrawal and Gibson, 1999). The Protected Area system was set up to conserve natural resources (Hoole and Berkes, 2010; Kubo and Supriyanto, 2010), aiming to achieve this by displacing communities from designated areas, with adverse effect on livelihoods (Adams et al., 2004). Some consider this has increased illegal exploitation (e.g. Braimah et. al., 2009) while others argue that it is the most effective way to achieve conservation goals (Oates, 1995; Bajracharya, et. al., 2005). Clearly conflict between local communities and protected area staff has been created and the approach has also been criticized for creating ecological islands (Hutton et. al., 2005).

A paradigm shift in approach has occurred away from exclusion to active involvement of local people in natural resource management (Hutton et. al., 2005). In Ghana this has been acknowledged in the adoption of the Collaborative Community Based Wildlife Management Policy (2000) which proposed Community Resource

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Management Areas (CREMAs) (Ghana Wildlife Division, 2004). Sixteen have now been established around protected areas and this research was undertaken to assess the impact these have had on natural resource conservation and whether they have benefited the communities.

MATERIALS AND METHODS

Eleven CREMAs associated with three Protected Areas (shown in figure 1), with similar historical background of exclusion of local people from their traditional resource base, followed the reversal of this policy and recent inclusion of them in decision making via the CREMA mechanism.
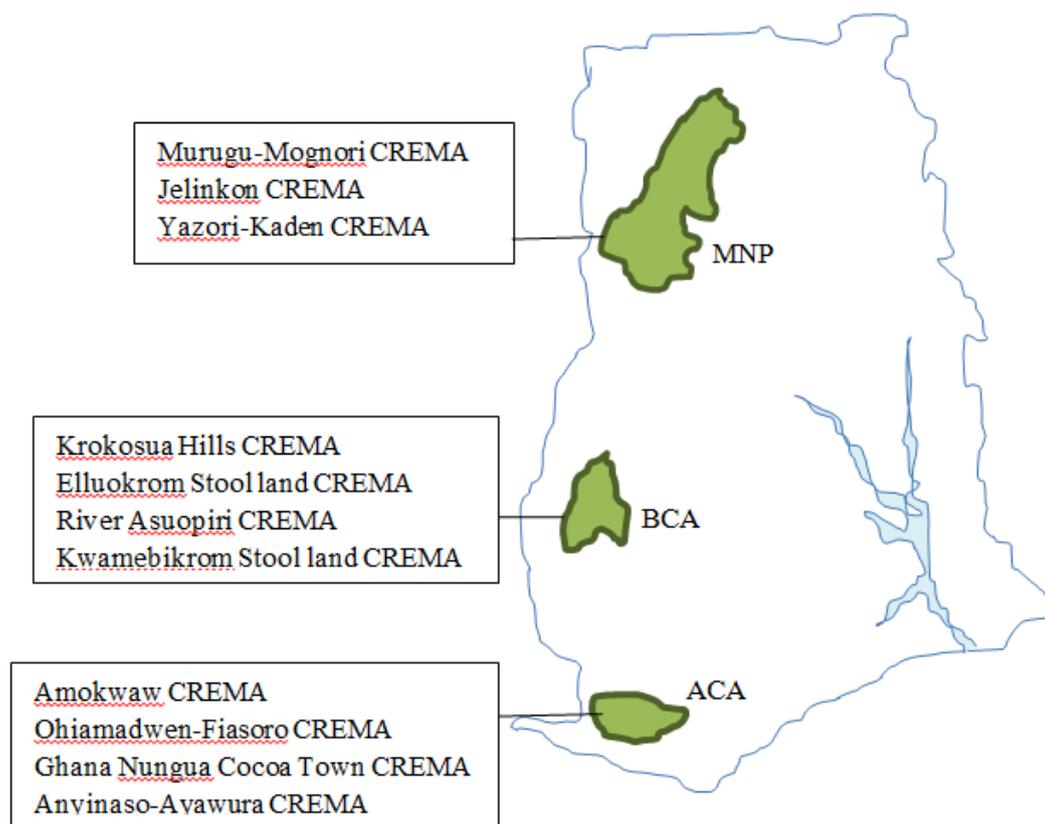

Fig 1. Map of Ghana showing study sites (not to scale)

A CREMA is defined as:"Any geographically defined area outside a protected area which is endowed with sufficient natural resources, and where communities have organised themselves for the purpose of sustainable resource management" (Ghana Wildlife Division, 2004). CREMAs use traditional community decision-making processes and set up an executive and a constitution to regulate and guide activities (Mole National Park, 2005; CREMA training manual, 2008) taking responsibility for resource management (Protected

Area Development Project, 2001; Parren and Sam, 2003).

The CREMAs around Mole National Park

Mole National Park is the largest protected area in Ghana, extending to 4840km^2 (Mole National Park, 1994) with three CREMAs under its jurisdiction (Fig 1). Subsistence farming is the dominant occupation with other economic activities including basketry, wild honey harvesting and weaving mats (Mole National

Park, 2008). Unique characteristics include the Mognori Eco village with canoe safaris for game viewing, the Murugu sacred River Samsi where fish and crocodiles are regarded as ancestral deities and therefore protected at the community level (Mole National Park, 2008). Jelinkon CREMA has a scared grove where bushbucks (*Tragelaphus scriptus*) are also protected as deities.

CREMAs around Ankasa Conservation Area

Ankasa Conservation Area (ACA) covers an area of $509km^2$ comprising the Ankasa Resource Reserve and Nini Suhsien National Park (Ntiamoah-Badu et. al., 2001). It has nine CREMAs, with Amokwaw CREMA as the first to be established in Ghana. Generally these CREMAs are formed from cocoa farming communities. Most border neighbouring Côte d'Ivoire and so are affected by cross-border migration of species such as elephants (*Loxodonta africana*).

CREMAs in Bia Conservation Area

The Bia Conservation Area covers $306km^2$ with transitional vegetation (moist evergreen and moist semi–deciduous). Oral history suggests it was the abundance of local wildlife that led to some community names, such Eteso/Edeso and Debiso, reflecting this. Indiscriminate hunting led to severe decline of game species and motivated communities to accept the CREMA concept. Some CREMAs (Fig 1) have been named after natural features such as the Krokosua Hills forest block and River Asuopiri, to help inspire

communities with the need to conserve their natural resources.

After a thorough review of literature relating to protected areas in Ghana it was clear that information would need to be collected from community members and park staff, the two main stakeholder groups (Conley and Moote, 2003). A questionnaire was devised and conducted face to face.

RESULTS AND DISCUSSION

One hundred and seventy individuals spread over thirty-two communities and thirty members of park staff responded to the questionnaire. Responses were organised, analysed using the Statistical Package for Social Scientist (SPSS, version 18) and are given below.

The Community Perspective

Prior to the establishment of CREMAs 75.7% of respondents felt negatively towards conservation with 19.3% attributing this directly to the conflicts resulting from their exclusion from the parks and failure to understanding the intention behind designation. 67.1% felt more positive since the establishment of CREMAs (fig. 2) due to education (94.3%), incentives for alternative income (69.3%) and improved food security (37.1%). Communities felt environmental protection and conservation issues were being addressed more effectively citing tree planting and increasing wildlife numbers, as a result of reduction in hunting.
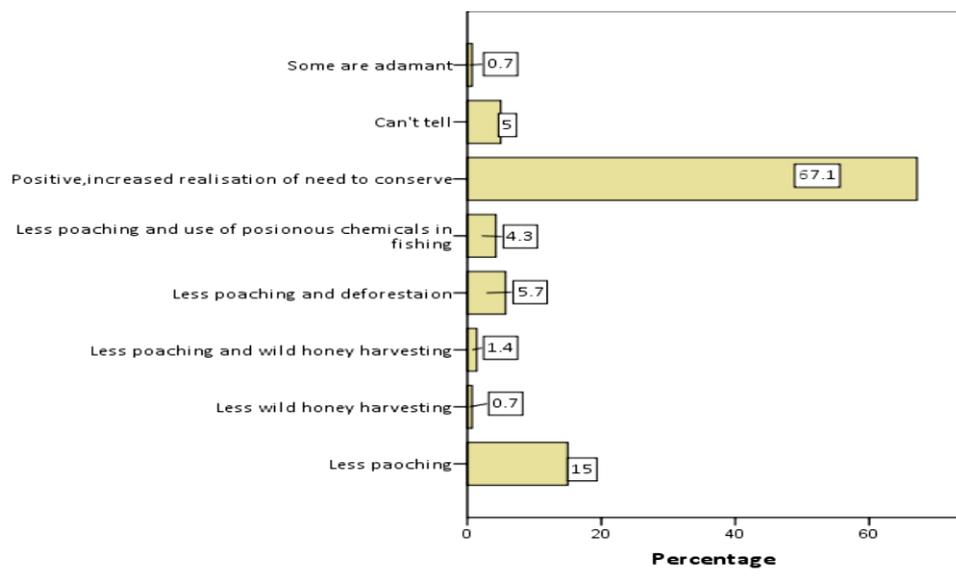
Fig2: Community attitude towards conservation since the establishment of CREMAs

The impact of the CREMAs on livelihoods

The establishment of CREMAs has increased training programmes in agroforestry design and livelihood programmes including bee keeping and food processing which have increased food security (A Rocha, 2008). 93.57% of community respondents felt these have contributed to their motivation to conserve resources and reduced pressure on the forest resource; the challenge of determining the sustainable level of use has still to be determined (Spiteri and Napelz, 2006).

Are CREMAs an effective model for addressing the conservation issues in communities?

The majority of respondents (90%) felt this was true although some (9.3%) did not, citing issues such as wildlife raiding crops. Increased conservation awareness was mentioned by 40%, improved environmental and wildlife protection by 31.4% and conservation benefits by 6.4% (Fig. 3). Issues such as poisoning water bodies, fishing with chemicals, and lack of watering holes, environmental degradation and human-wildlife conflicts all still require future attention.
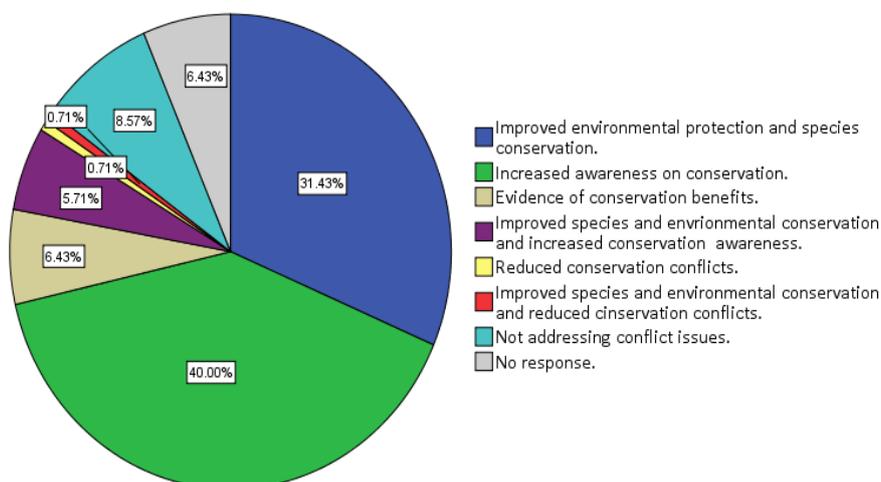
Fig3: Community members" views on conservation issues being addressed

The Park official's perspective

This group had mixed views about local people's attitude to wildlife conservation. 60% felt there had been a positive change since CREMAs establishment although 30% felt more promotion was required, 26.7% reported co-operation. The overriding issues were reported to be poaching, bush burning, poisoning of water bodies and fishing with DDT. 53.3% felt the communities should be active in addressing these specifically by acting as 'watch dogs'. The Park staff were unable to provide figures for wildlife numbers but had an overall impression that there had been a general increase, particularly of primates.

The contribution of CREMAs to wildlife conservation

These results suggest there has been a behavioural change towards wildlife conservation since the establishment of CREMAs. Communities are cultivating trees to reforest areas (FAO, 1992), poaching has reduced and, according to Park officials, communities are informing against perpetrators and designating land as community reserves. These are indications of a greater sense of resource ownership and support for wildlife conservation than in the past and this can be enhanced by the acknowledgement of the importance of traditional ecological knowledge (TEK) into the CREMA process (Ambrose-Oji, 2010). Anecdotal reports of increase in wildlife can be compared to baseline biological surveys undertaken when the CREMAs were first established but there is a clear need to establish regular monitoring to determine trends in the populations of key species.

What could improve the performance of these CREMAs?

This research has indicated that establishment and enforcement of bye-laws combined with regular meetings and technical and logistical support for projects, for example to promote alternative livelihoods, are required for CREMAs to be successful. Park officials suggested this requires adequate and assured funding and raising awareness of the importance of sustaining this at all levels.

CONCLUSION

This research has suggested wildlife conservation is being enhanced by the existence of CREMAs. Some of these now include reserves set up by communities who have designated their own land for this purpose. These are monitored periodically by CREMA officials and are increasing protection for wildlife in the areas around the National Parks and Resource Reserves in addition to the protection afforded within these.

The CREMAs appear to be providing an effective means of addressing conflict through dialogue and mediation as well as contributing to livelihoods by facilitating local enterprise. Communities are receptive to this collaborative approach. An example of this is that now Park staff are called in when elephants (*Loxodonta africana*) move into farmland to raid crops whereas previously farmers would simply shoot at them (pers com BCA Community officer).

RECOMENDATIONS

- Resources should committed to ensure that CREMAs can continue to develop building on and strengthening the relationships of trust established between officials and local communities
- Governance and management structures that enable regulations to be effectively enforced should be negotiated with the full collaboration of community members
- Wildlife populations and traditional landscapes are management priorities; these have the potential for ecotourism ventures benefiting local livelihoods and so increasing community involvement in wildlife and resource conservation.
- Ecological surveys are essential to monitor trends in wildlife populations and resources should be committed to identifying key species and effective survey methods. Members of the

communities, ideally former hunters, should be employed to carryout routine survey and monitoring.

- Sustainable levels of harvesting of natural resources, including plants, animals and fish, should be determined and equitable distribution of harvesting be determined for each CREMA,

ACKNOLEDGMENTS

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