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Strengthening Park Management Effectiveness for Natural Resource Sustainability in the Cross River National Park (CRNP), Nigeria

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Abstract: This paper highlights the concerns that affect the effectiveness of resource management in the Cross River National Park (CRNP), Nigeria. Divergent objectives between the park management and the surrounding resource dependent local communities constitute the primary factor that determine the success rating for achieving conservation objectives within the park. The data generating method utilized various interview sessions that adopted the purposive sampling choice of community selection, the Focal Group Discussions (FGD) with the aid of a semi-structured checklist and Key Informant Interviews (KII) within eight purposively sampled communities bordering the National Park in addition to the management officials of the CRNP. Findings show that the management effectiveness in the conservation of natural resources in the park is adequate, while there is still need to strengthen the park capacity to enhance resource management effectiveness in the park communities’ conservation objectives. Solutions proffered to strengthen the conservation capacity within the Park include community integration into the park scheme including the adoption of appropriate conservation measures especially indigenous options, awareness to nature tourism, equitable distribution of conservation benefits, and the provision of institutional and infrastructure development options. In line with the rapid global technological advancements, suggestions are made towards the application of geographic information technology (GIS) in the design and administration of the park.

Keywords: Conservation, Natural Resources, Cross River National Park, Sustainability

INTRODUCTION
The call for the conservation of the earth’s natural resources is not a new phenomenon. This is because various concerted efforts have been put forward that emphasize the need for the preservation of environmental integrity through establishing protected areas to forestall the unregulated increased resource consumption rates propelled by the increased population growth and a corresponding decline of natural resources availability of many endowed regions (Hoestra, Boucher, Ricketts, and Roberts (2005; Moore, Wallington, Hobbs, Ehrlich, Holling, Levin, Lindenmayer, Pahl-Wostl, Possingham, and Turner, (2009).

The need to integrate environmental sustainability into natural resource management as a vital measure for natural resources conservation is rested on the divergence or harmonious considerations of conservation and human development particularly within protected areas (Keenleyside, Dudley, Cairns, Hall, and Stolton (2012). Protected areas refer to any geographically defined space that is recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (IUCN 2008, IUCN WCPA (2014).

Protected areas are therefore legally established regions that are concerned with the conservation of naturally occurring plants, trees, and animal resources. Approximately 10,000 out of the over 30,000 protected areas in the world are presently recognized based on defined characteristics by the IUCN Commission on Parks and Protected Areas which include seven internationally recognized categories based on their level of protection and differing human impacts These include Ecological Reserves and Wilderness areas, National Parks, Natural Monuments and Archeological sites, Habitat and Wildlife Management Areas, Cultural or Scenic Landscapes, Recreation sites, and Managed Resource Protected Areas (IUCN 2008, Dudley 2008). Protected areas are identified as vital measures that enhance continued environmental stability for enhanced environmental services and benefits to human generations (Crofts. Harmon, and Figgis (2008)).

Divergence of objectives within such protected areas as Human-Inhabited National Parks (HINPs) result from differing interests, goals and aspirations that individuals or groups within these areas have which often result in either positive or negative outcomes on the use- value of resources in the area. In order for protected environments to be effective in maintaining and conserving the biological diversity, several obstacles must be resolved; such as having a thorough understanding of the values attached to regions designated as protected areas, their design, and acceptance of area protection, and indigenous education, conflict situations with local peoples, and management role in sustainable development. The establishment of protected areas such as a National Park in any ecologically significant area is meant to safeguard the adequate representative sample of the biotic spectrum of the locality, sustain viable
populations of all the constituent species within the delineated area and should be free of man-made and natural agencies such as fires, drought, and floods etc.

National Parks are sensitive areas that are established to protect and conserve natural resources for varied purposes that range from flora and fauna preservation, scientific research and ecotourism development. In spite of the function of preservation of natural resources, it is seen that establishment of protected areas especially National Parks have been received often with mixed reactions based on the opposing needs of resources conservation versus resources development goals. This is attributed to number of factors such as awareness, restrictions, benefits sharing, priority listing of the significance of the conservation, feeling of marginalization, loss of source of livelihood and lack of concern. Despite the enormous benefits derived from National Parks, it is seen that these areas are frequently threatened by external factors of unsolicited intrusions, logging, poaching and other conflicts that question the effectiveness of park management in enhancing resource sustainability. This paper seeks to reconcile these goals through the presenting the best way forward in resolving conflicts in protected areas.

**Approaches to National Park Administration for Resource Conservation Effectiveness**

The concern of governance options that best serve to promote utilization of natural resources for sustainable environmental management within protected areas remain a pressing challenge that confront policy and decision makers (Hockings, Stolton, Leverington, Dudley, and Courrau, 2006; Belokurov, Besançon, Burgess, Dudley, Hockings, Leverington, MacKinnon, Pavese, Stolton, and Whitten, 2009; Hockings, Stolton, Leverington, Dudley, and Courrau, 2006). This is because the economic, political and administrative exercises that operate within such areas determine the manner in which set objectives can be carried out for effectiveness and efficiency. The art of governance within any environment such as a protected area is underscored by three (3) major issues namely, cosmopolitan communitarian debate, consociation power-sharing versus integrated power-sharing debate and the structural presumptions of governance (Thayer, 2005).

The first issue concerns the individual’s rights and the right to be governed. The second focuses on the ways that power is exerted and shared including the power to allocate resources; while the third issue of concern examines the ways that different structures can be inclusive or exclusive to the overall development of the area in question. It is seen that the motif for the conservation of natural resources indicates a positive link between biological diversity and human development (Hoestra, Boucher, et al 2005). This accounts for the attempts at conservation of natural resources. Daniels (2002) analyses two approaches that are useful in understanding the administration of protected areas. They include the Top-Down and the Mixed Top-Down and Bottom Up management approaches. The two approaches have been adopted in human inhabited areas worldwide and have resulted in varying impacts.

The top-down management approach involves a command management in which the management of protected areas is strictly controlled by the park authorities while the local communities have no direct control or power in the administration and management of the park and its resources. Revenues accruing from ecotourism are not allocated to the surrounding communities or utilized to enhance their standard of living. The resulting effects have been the involvement of local communities in economic activities that are less sustainable than previously engaged. The second approach which illustrates resource management in protected areas is the mixed top-down and bottom-up concepts which attempts to partially involve local communities in the management and administration of park areas. The resultant effects of such attempts have been the creation of various land uses of the zone, anthropogenic landscape features, culturally significant and sacred areas and natural resource distribution (Arambiza 1995, Leitao 1994) aimed at enhancing the communities’ abilities to support their livelihoods within the confines of the park such as wildlife protection, agricultural fields and livestock management.

The involvement of the local authorities in the management of the park resulted in reduced incidences of conflicts. The differences in the values attached to resources under protective custody is largely dependent on the relationship between the user and the use of the resource in question. Value conflicts frequently result when controversies surround various resource uses. The values attached to conservation by a society often depend on moral and ethical factors such as interest in the survival and welfare of the present resource status and the willingness to protect these resources for the future. This will to a large extent determine the willingness to conserve such resources (Brown1990, Randall1991). The resources obtained from the natural environment such as trees, plant and wildlife species are employed for consumption, habitat, soil productivity maintenance, medicines, cultural development and economic security etc (Bisong 2001).

**MATERIAL AND METHODS**

The target population for this study was the management of the Cross River National Park, Nigeria and the indigenous inhabitants of the core and border support communities. The Park officials were
selected because they constitute the legal authority or body charged with the responsibility of ensuring that areas designated as National Parks are devoid of intrusions. Information elicited from this group centered on the factors involved in protected area management, the problems encountered, measures put in place to forestall such problems and the resulting difficulties. Various interview sessions were held with relevant persons within the selected communities. This was essentially to enable individuals’ express their perspectives on the issues at hand for the management of the Park and the indigenous people of the park area. Questions asked include the most frequent cause(s) for conflicts, its severity, and the role of the indigenous people in conservation, resolution measures, and the benefits accruing to the communities. Interview sessions were also held with the key management members such as the rangers, legal and administrative personnel of the National Park.

Information elicited centered on the problems existing within the park and its environs. Different perspectives of the major causes of conflicts were sought in order to determine the level of awareness existing within the region in relation to conflicts. Factors militating against the peaceful resolution of conflicts and the ways in which the Park management responds and copes with conflicts were also addressed.

Based on the over-all familiarization with the issues that affect both conservation and development in the Cross River National Park, this research has adopted the World Commission on Protected Areas (WCPA) framework for the assessment of the management effectiveness of the National Park (Table 1). This is to determine in an unbiased manner, the adequacy of the National Park in efficiently achieving its conservation objectives. The assessment method utilized is the allocation of points ranging from 1-6. A score of six (6) points is the maximum point when a component is at optimal to the significance of objectives.

Table 1: WCPA Framework for assessing management effectiveness of the Cross River National Park (CRNP)

<table>
<thead>
<tr>
<th>Elements of evaluation</th>
<th>Explanation</th>
<th>Criteria that are assessed</th>
<th>Focus of evaluation</th>
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</table>
| **Context**            | Where are we now? Assessment of importance, threats and policy environments | -Significance  
-Threats  
-Vulnerability  
-National Context  
-Partners | Status |
| **Planning**           | Where do we want to be? Assessment of protected area design and planning | -Protected design: Factors considered in the design | Appropriateness |
| **Inputs**             | What do we need? Assessment of resources needed to carry out management | -Funding of agency  
-Funding of site | Adequacy |
| **Processes**          | How do we go about it? Assessment of the way in which management is conducted | -Suitability of management process | Efficiency and appropriateness |
| **Outputs**            | What were the results? Assessment of the implementation of management programs and actions; delivery of products and services | -Results of management actions  
-Services and Products | Effectiveness |
| **Outcomes**           | What did we achieve? Assessment of what outcomes and the extent to which they achieved objectives | -Impacts of effects of management in relation to objectives | Effectiveness and appropriateness |

**RESULT AND DISCUSSION**

Assessment of the management effectiveness of the Cross River National Park using the WCPA Framework

The result of the cumulative average points generated from assessing the management effective options adopted by the Park authority based on the WCPA Framework is evaluated using the highlighted variables of Context, Planning, Inputs, Processes, Outputs and Outcomes. The evaluation is summarized to highlight the status, appropriateness, adequacy, efficiency and appropriateness, effectiveness as presented in Table 2:

In the planning process, the appropriateness of the Park design that adopts a strict restriction policy is awarded three (3) points, which is considered poor in spite of the fact that various factors were considered in the design of the park which included exploitation from the surrounding communities. This constitutes a focal area that requires strengthening for Park management effectiveness. The park management is awarded six (6) points for the consideration of other factors such as the allocation of some communities to locations outside the park in creating a conservation zone. With respect to inputs, the role of the Federal Government of Nigeria in funding the conservation, five (5) points are awarded to the park management for funding.
Table 2: Management effective options in Cross River National Park

<table>
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<tr>
<th>Element of evaluation</th>
<th>Criteria checked</th>
<th>Description</th>
<th>Score Across Study Communities and Park Officials (Cumulative average)</th>
<th>Grade</th>
</tr>
</thead>
</table>
| **Context**           | STATUS           | - Purpose of conservation  
                       |                    | - From host communities and encroachments into the park  
                       |                    | - Eight ecologically defined park designation             | 6     | Good |
| **Planning**          | Appropriateness  | Complete restriction of communities from the park  
                       |                    | and Prevention of exploitation of resources                 | 3     | Poor |
| **Inputs**            | Adequacy         | Federal Government of Nigeria foreign partnership and sponsorship | 6     | Good |
| **Processes**         | Efficiency and Appropriateness | Federal parastatal  
                       |                    | - Protection centered                                      | 5     | Good |
| **Outputs**           | Effectiveness and appropriateness | High to low  
                       |                    | Resources Protection Protection Conservation                | 4     | Poor |
                       |                   | 8             | 8                                                                      | Excellent | Excellent |

*Cumulative average points generated across the eight communities

The suitability of the park management process in its efficiency and appropriateness as a Federal parasternal which center on protection attracts five (5) points considered to be good for the conservation process. The effectiveness of management actions over the years is considered to be high to low management decision of the park authority as the imposed restriction is devoid of communities’ consensus. The park management is scored four (4) points reflecting a poor decision. However, the outcome, which, in other words, is the impact of the objective for which the park is established, can be said to be principally protection and conservation of the natural environment. The park management is scored eight (8) points in the protection and conservation of natural resources, which is considered to be excellent in the achievement of the objectives for which the park is designed.

Strengthening Conservation Capacity for Resource Sustainability in the Cross River National Park, Nigeria

In strengthening the capacity of the Cross River National for effective management of resources, it is critical to adopt the bottom-up conservation management approach rather than the top-down as a management option in the Park. The bottom-up management approach will enable the surrounding communities of protected areas to be actively involved in the management and administration of their regions. In addition to this, is the need for managers to put in place measures that can aid the communities to be actively involved in enhancing their living standards through participation and involvement in conservation activities. Also, alternative development options for the support-zone communities such skills acquisition training in animal husbandry such as poultry, piggery, rabbit, snail and...
goat farming along sustainable farming lines, carpentry, hair making and so on, can provide a background for the shift in income dependence from the natural environment to sustainable forms of livelihood development.

Similarly, the utilization of technological innovations provides a sound and appropriate opportunity for the application of multi-media tools in natural resources management and environmental education in order to reduce conflicts in the Cross River National Park. The adoption of modern information technology, particularly multi-media methods that incorporate geographic information systems (GIS), in addition to sophisticated simulation models and accessible network systems will undoubtedly serve as efficient tools for resources management and ultimately development within the Park. The use of remote sensing in environmental monitoring is rapidly gaining consciousness particularly in detecting vegetation changes and degradation. The use of GIS and remote sensing can be effectively used to gather and compile information regarding land-use activities and patterns among the communities of the Park in order to aid constant monitoring. The significance of this for the sustainability of resources is to provide the needed platform for the participatory involvement and planning of indigenous knowledge and technological innovations for efficient conservation and human development and growth within the Park.

CONCLUSION

The call to strengthen the management capacity within the Cross River National Park is based on the ecological significance of the Cross River National Park as a biodiversity hotspot and the need to stem the alarming rate of rapid resource decline that is detrimental to the biodiversity rich base of the Park. The institutionalization of contemporary management models which integrate local support communities is strongly aligned with national and global best practices to ensure the sustainability of Nigeria’s major remaining tropical rainforest through effective and efficient conservation approaches.

REFERENCES


