African Journal of Social Sciences and Humanities Research
ISSN: 2689-5129
Volume 9, Issue 3, 2026 (pp. 51-64)
www.abjournals.org

ANALYSIS OF THE ADOPTION OF A CO-MANAGEMENT ADAPTED PROGRAMME TO THE MANAGEMENT OF FOREST NATURAL RESOURCES IN AND AROUND CAMPO MA'AN NATIONAL PARK IN SOUTHERN CAMEROON.

Meyanga Tongo Yves[1], Tchouamo Isaac Roger[2], Lumande Kasali Jospeh[3], and Moudio Motto Joel[4].

[1]Ph.D. Candidate at the Regional Postgraduate University School of Planning and Management of Tropical Forest Landscapes and Territories, University of Kinshasa, DRC; Senior Researcher at the National Centre of Education of the Ministry of Scientific Research and Innovation- Yaoundé, Cameroon.
Email: meyangayves@gmail.com

[2]Faculty of Agriculture and Agricultural Sciences, University of Dschang, Cameroon.
Email: rogetchouam@yahoo.fr

[3]Regional Postgraduate University School of Planning and Management of Tropical Forest Landscapes and Territories, University of Kinshasa, DRC.
Email: jozefkasa@yahoo.fr

[4]Faculty of Political and Legal Sciences, University of Yaounde.
Email: joelmotto@yahoo.fr

Cite this article:

Meyanga Tongo Yves, Tchouamo Isaac Roger, Lumande Kasali Jospeh, Moudio Motto Joel (2026), Analysis of the Adoption of a Co-Management Adapted Programme to the Management of Forest Natural Resources in and around Campo Ma'an National Park in Southern Cameroon. African Journal of Social Sciences and Humanities Research 9(3), 51-64. DOI: 10.52589/AJSSHR-BQRLRFI5

Manuscript History

Received: 8 Mar 2026

Accepted: 9 Apr 2026

Published: 12 May 2026

ABSTRACT: *How can an adapted forest management resources programme can be put in place in an around a complex environment such as the Campo Ma'an National Park (CMNP) located in the south region of Cameroon? The CMNP is part of a landscape made up of interdependent subsystems such as natural, physical, social, cultural, economic and financial, where the interests of major stakeholders prevail. The survey reveals that the local population is more interested in the park for its economic benefits, while the major stakeholders prefer its heritage and livelihood benefits. The survey shows that 83% of respondents express dissatisfaction with any form of co-management of natural forest resources. This level of dissatisfaction can be explained by: the population's non-acceptance of the designation of the CMNP; poor management of the benefits of the Chad-Cameroon Pipeline; low benefits from the tourism industry; organizational and material shortcomings in conservation services; and the failures of the project approach in improving the population's living standard and live hoods. With regard to willingness to pay for conservation, 67% of respondents favor conservation over exploitation. The reasons for willingness to pay are: to ensure the sustainability of food supplies (30%); for future generations (25%); as an iconic location for developing tourism (20%); to have a place to walk (14%); and to preserve the land of the indigenous Bagyeli Pygmy peoples (11%). Based on the minimum wage in Cameroon, which is approximately USD 75, the willingness to pay for one respondent was estimated at USD 4,500 per year, which corresponds to two hours of work per day.*

KEYWORDS: Campo Ma'an National Park (PNCM), Adoption, Forest Natural Resource Management (FNRM), Sustainable and Adapted Co-management Programme, Model Forest (MF), Willingness to pay, Heritage value and existence value.

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

African Journal of Social Sciences and Humanities Research
ISSN: 2689-5129
Volume 9, Issue 3, 2026 (pp. 51-64)

www.abjournals.org

INTRODUCTION

Specific context

In the early 1990s, one of Canada's responses to the challenge of adopting sustainable forest management principles was to establish the Model Forests programme. The aim of the programme was to bring together various organizations and individuals to develop innovative management approaches at the local landscape level.

In the Congo Basin, Cameroon was the gateway for the development and expansion of the Model Forest (MF) concept. Two pilot sites were created in August 2005: Campo Ma'an in the south and Dja and Mpomo in the eastern region.

The need to improve the living conditions of local populations, overcome conflicts and implement programmes focused on creating socio-economic and ecological value has led to the creation of platforms of stakeholders in sustainable management. Nguiebouri et *al.* (2001) emphasize that this participatory approach based on voluntary partnership, networking and knowledge sharing promotes the recognition of pluralism and competing forms of legitimacy expressed within a territory.

Located in southern Cameroon, the Campo Ma'an first-category technical operational unit (UTO) includes, in addition to the national park, two forest concessions, two agro-industrial concessions and major development projects.

In fact, 74% of this area has been allocated to integral protection, logging, and agro-industrial plantations, respectively. This has increased the population density in the remaining land to 29 inhabitants per km^2, further reducing the space allocated to the population for their activities and contributing to the degradation of customs and cultural values. (Tiani et al*;* 2001).

The PNCM, created in January 2000 as a site to compensate for the adverse effects of the construction of the Chad-Cameroon Pipeline on the Atlantic forests, receives special attention because of its biodiversity and high level of endemism. Discrepancies in the use and management of the area, and easy access to areas of high biological diversity, threaten its integrity.

How can a management programme adapted to natural forest management, similar to FM, can be developed in a complex environment such as Campo M'an?

However, as George et *al.* (2009) point out, the Campo Ma'an area presents a situation where the interests and needs of the various actors involved in forest natural resource management are antagonistic and divergent.

In this context, how can the interests of the various stakeholders involved in the FM process be reconciled in order to create a platform for dialogue and consultation that takes into account the requirements of environmental conservation and socio-economic development?

Economics provides tools for clarifying these collective choice issues. The economic valuation of natural assets by calculating the level of well-being derived or expected from forest resources is a crucial contribution, as it allows for a single basis of comparison between the different possibilities for forest use (Pearce, 1990; Barbier, 1991).

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

Another method of tropical forest management is therefore recommended, based on the concepts of "common resources" and "heritage," which assumes that local stakeholders have diverse perceptions and uses.

Objectives of the study

Overall, the aim is to analyse the main determinants of the adoption of a management programme adapted to natural forest resources in and around the CMNP.

Specifically:

a. Determine some of the socio-economic and cultural characteristics of the respondents that are likely to influence the adoption of an appropriate co-management programme, such as that of the FM;

b. Describe stakeholders' perceptions of participation in conservation initiatives in and around the PNCM;

c. Determine stakeholders' perceptions of the ecosystem goods and services provided by the PNCM and determine stakeholders' willingness to pay for the conservation of the PNCM

METHODOLOGICAL APPROACH

The study consisted of a primarily mixed methodology based on the collection of quantitative and qualitative data coupled with an applied economic evaluation method...

Data collection

Data was collected through literature reviews, direct observations, field surveys, focus groups, and the stated preference method using willingness to pay for conservation.

Surveys

Three types of surveys were conducted, and field data were collected using semi-structured interview guides:

- Socio-economic characteristics of respondents
- The status of conservation participation initiatives and the perceptions of ecosystem services

Focus group

02 Focus groups organized by socio-professional group to assess perceptions of PNCM ecosystem services and willingness to pay for conservation

Direct observations

Direct observations through reconnaissance visits to the main ecotourism sites in the PNCM.

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

Applied economic evaluation method

The calculation approach used to determine the heritage and existence value of the PNCM is based on stated preferences using a theoretical approach based on a hypothetical market for the asset being valued. These methods, based primarily on surveys of stakeholders, made it possible to measure both use and non-use values and thus the total economic value.

Selection of respondents: Reasoned choice survey method

The standard unit method

The method consisted of defining control variables that made it possible to determine an "average" individual, called a standard unit. Subsequently, only individuals close to the standard unit were surveyed.

The "hot" survey method

These surveys were conducted in specific locations following the occurrence of an event in order to gather opinions immediately or "on the spot". These surveys are aimed solely at volunteers who are affected by a statistical event.

Data analysis

The data collected was entered into Microsoft Excel software to facilitate analysis. Using this software, we performed analyses by calculating measures of central tendency, in particular the mean and percentage and related costs to estimate willingness to pay. The data collected was presented in tables and graphs to facilitate interpretation. The basic data derived from Landsat images were processed using ArcGIS 9.0 and ERDAS software.

DATA ANALYSIS AND INTERPRETATION

The data collected was analyzed and interpreted in line with the specific objectives set out above.

Describe the respondents' base of some socio-economic characteristics

For the purposes of this presentation, we have selected several characteristics that we believe to be of interest for this study: socio-demographic characteristics, socio-economic characteristics, and socio-cultural identification factors.

Socio-demographic characteristics

The elements used in this sub-section are age, gender, level of education, and social status. The surveys revealed that the dominant age group is 31-50 years old, accounting for more than 64% of respondents, and 57% of respondents are male. This gender difference is not very

significant and can be explained by the gender diversity at the head of the platforms. The majority of platform managers, 90%, have a level of education higher than or equal to the

secondary school. According to social status, the respondents are as follows: 29% are NGO

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

staff; 20% are traders; 19% are employees in a private company; 17% are civil servants; 9% are retired; and 4% are farmers.

Social status clearly illustrates the complexity and ambiguity of the Campo Ma'an area, where several socio-economic realities intersect and coexist: urban and rural and modern and traditional behavior.

Socio-economic characteristics

The elements used in this sub-paragraph are social participation, main sources of income, average level of income from the main activity, and main items of expenditure.

Social participation

Preference between group work and individual work

In fact, 70% of respondents prefer group work because it reduces hardship by increasing the workforce, speeds up work, creates complementarity, strengthens solidarity and fraternity among community members, creates friendships, and promotes sharing.

Membership of community groups or associations

Our survey reveals that 80% of respondents belong to at least one community group. These groups are mostly agricultural communities, common Groups and agroforestry associations based on community work and mutual aid.

Membership of tontine groups and traditional dance groups

The survey shows that less than 20% of respondents belong to at least one traditional dance group, and more than 70% belong to a single tontine group. This result indicates both our respondents' concern for building up savings and the limited presence of microfinance institutions and banks.

Main sources of income

Secondary sector activities (trade, industry) are more common than primary sector activities (agriculture, livestock farming, and forestry). The main sources of income in the study area are as follows: wages (46%), trade (21%), and small trades (17%).

Average annual income from main activity

Analysis of the data shows that the average annual income per respondent is 725,785 CFA francs. This income varies from 100,000 CFA francs to 4,500,000 CFA francs. The standard deviation is 824,315 CFA francs. This relatively high value means that income levels are widely dispersed around the average. In view of the above, this average is a poor indicator for assessing average income levels.

Main items of expenditure for respondents

The main items of expenditure most frequently mentioned by respondents are, in descending order of importance: basic necessities (purchase of petrol, soap, salt, cooking oil, etc.); children's schooling (purchase of school supplies); family or personal health, closely followed

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

by family or personal nutrition and production activities (purchase of agricultural inputs and other investments). Indeed, with an average monthly income of 60,000 CFA francs, it is difficult for a large proportion of respondents to make substantial savings for investment.

Socio-cultural identification factors Well-being assessment criteria.

The most frequently cited elements are, in descending order of frequency: getting married and having a family (17%); being able to feed one's family (16%); being able to provide housing (14%); being able to provide healthcare for one's family (13%); providing for the education of one's children (11%); and having natural resources and money (9%).

Criteria used in choosing a leader

The criteria for choosing a leader are, in descending order of importance: patience (17%), a sense of community (14%), honesty (13%), responsibility (11%), dynamism (10%), material wealth (7%), impartiality (7%), etc. In conclusion, the criteria that should prevail in choosing a leader are moral and socio-economic values. This is to the detriment of material wealth and individualism.

Describe stakeholders' perceptions related to conservation initiatives in and around the PNCM

Description of the Campo M'an forest arena

The PNCM is considered to be a system that can be modelled as a circle within which the various interacting subsystems are inserted. Inspired by Therville (2013), Figure 1 presents the different components of the PNCM system. This system mainly consists of five (5) subsystems, namely, physical, social, economic, governance, and monitoring.

The physical subsystem consists of the fauna, flora and landscape within the PNCM; the governance subsystem represents all the dynamics that work in favor of the conservation of fauna and flora and the well-being of the populations in and around the park; the social subsystem illustrates access to basic social services within the communities surrounding the park; the economic subsystem represents income-generating activities and access to factors of production by economic assets; and the monitoring subsystem represents the surveillance and operating mechanisms within the park.

The correlations between these subsystems give rise to interrelationships. These interactions are of various kinds. They can be:

Ecological interactions are landscape continuity: the same type of ecosystem, sharing the same hydrographic network, the same flora, the same fauna and the same climate.

Socio-economic interactions are the common uses of ecosystems and natural resources, common opportunities and threats such as hunting, fishing, tourism, lake transport, fresh water, and beneficiaries of economic stimulus credits.

Socio-political interactions. The main socio-political interactions are as follows:

Conflicts between the population and administrative authorities over the selection of members of the management committee responsible for managing the annual forestry fee and the

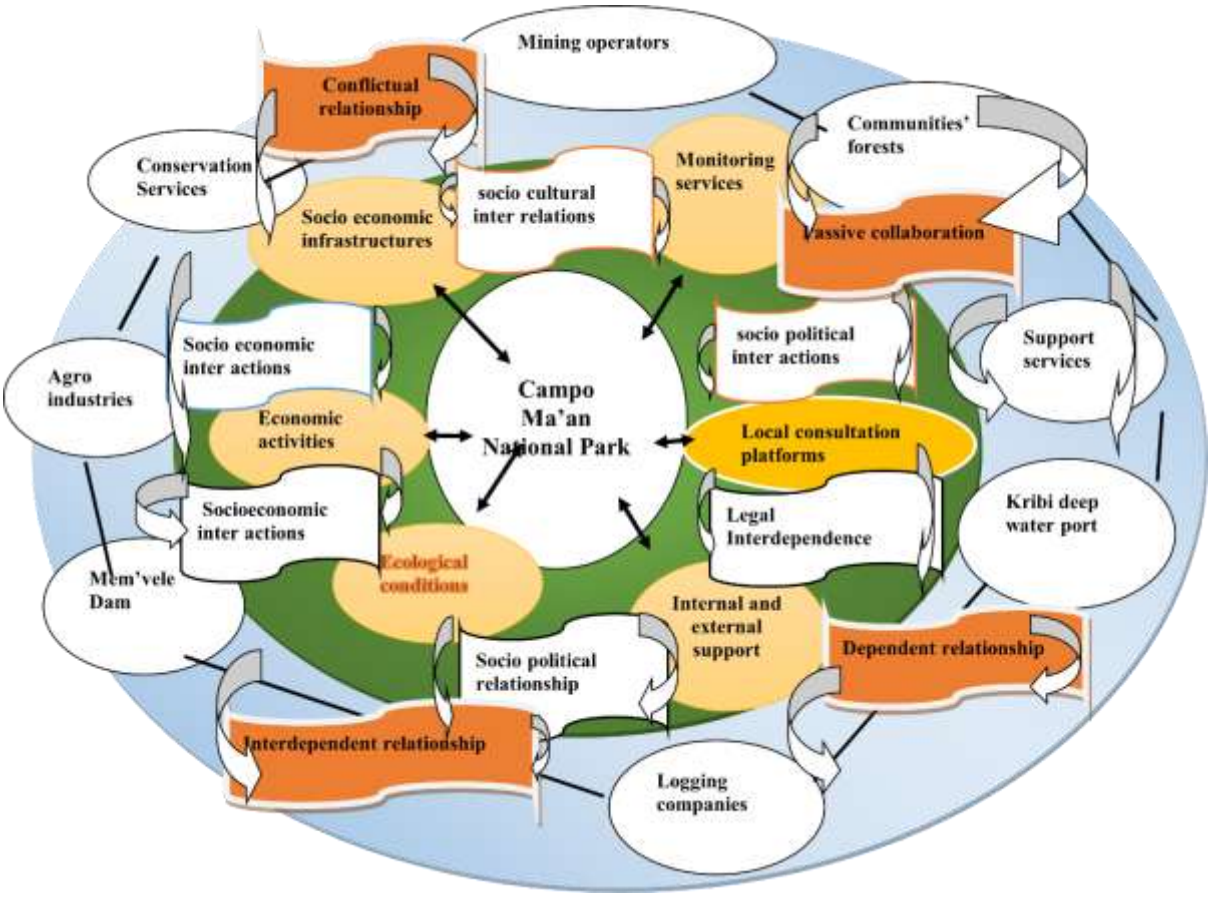
Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

contribution of logging companies and agro-industries to social projects (*In early August 2020, in the village of AKAK in the Campo Ma'an area, there was a violent protest between the population and the administrative authorities over the appointment of a member of the management committee).*

The marginalization of the indigenous Bagyeli people by the Beti Fang majority, perpetuated by a certain predatory elite. The complex interplay of elites and the influence of multinationals, whose political and commercial interests very often take precedence over the conservation and protection of natural forest resources in the Campo Ma'an area and its surroundings.

Cultural interactions include the positive impacts of culture on conservation in the area, but also the negative impacts of tourism on the customs of local populations. While the introduction of money has developed local industry (catering, motorcycle taxis, real estate, small businesses), it has also seriously influenced the local way of life, which is governed here by solidarity and sharing rather than individualism.

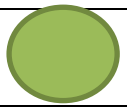
Figure 1: Systemic approach adapted to Campo Ma'an National Park



Source*: Field datas*

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

Legend

Items	Explanations	Representations
Macro zoning	Corresponding to the campo ma'an technical operational unit	
Micro zoning	Corresponding at the campo ma'an national park (CMNP)	
Interactions between subsystem		Positive relation it's a win win relation

Relationships between subsystems

The survey highlighted three types of actors in relation to their relationship with the different subsystems. Namely: the dominant, the dominated, and the assimilated.

The dominant

The dominant actors are primarily those whose main activity is exploitation. These include forestry and mining operators and agro-industries that own vast areas of forest, which they transform using machinery in breach of contractual clauses, and which are also the main polluters of this area. Secondly, civil society, represented by producer organizations, various platforms, and the media, plays an educational and monitoring role and relays the interests of the population.

At the end of the chain are the decision-makers, consisting of donors, public authorities that play a role in regulating public goods, and municipal officials who, through the decentralization process underway in Cameroon, ensure, as best they can, the equitable distribution of goods and services from the forest to the main beneficiaries.

The dominated

The dominated are mainly those who depend exclusively on forest resources for their survival. Local communities that depend on the forest for its economic, social, and cultural value suffer from the expropriation of their land and are powerless to stop deforestation and forest degradation.

The assimilated

Assimilated groups or individuals are those whose way of life is affected by the various changes in the forest. These changes disrupt their land and significantly alter their way of life. Among the assimilated are the indigenous Pygmy populations, threatened by degradation and deforestation that threaten their habitat and force them to settle.

Furthermore, 80% of those surveyed emphasize that the relationship between the populations and the conservation service is conflictual. This is due to the fact that, for the populations, the flagship activity carried out at the conservation level is repression, to the detriment of development activities such as education, awareness-raising, the development of income-

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

generating activities, etc. 90% of respondents are unhappy with the presence of operators and agro-industries, whom they accuse of: abusively occupying the space allocated to them, failing to comply with the terms of reference, and contributing little to improving the environment and living standards of local communities. In addition, 72% of respondents consider the intervention of development partners to be unacceptable. The reasons given are broken promises, the relatively short duration of their intervention, and the low impact of their achievements.

Familiarity with the nature and monitoring system of the PNCM Interest in conservation

Interest in nature conservation

With regard to interest in nature, 77% of those surveyed say they are very interested in nature conservation. Only 8% have attended at least one training course on conservation. 97% are aware of the risks associated with the degradation of the PNCM ecosystem. 91% are familiar with the PNCM monitoring system, and 26% have already participated in community monitoring activities in the PNCM. 98% of those surveyed believe that the monitoring system in place in the PNCM should be strengthened.

Familiarity with the PNCM

The flat sorting exercise revealed that over 97% of the population surveyed stated that they were familiar with the PNCM, with 28% (42) having already visited it, 48% (72) intending to visit it in the future, and 24% not seeing any interest in visiting it. For 87% of the sample surveyed, television, the web nd word of mouth are the main sources of knowledge about the PNCM. The professional and family environment is the second source (12%). Of those who have visited the PNCM (37), 54% have visited it only once, 32% at least three times and 14% go there regularly at least once a year. The length of stay is generally short: 1 to 2 days for 60% of visitors, 1 to 2 weeks for 30%, and more than 3 weeks for only 10%. The reasons for visiting are: wildlife viewing (60%), research and education (25%), holidays (14%), visiting family (10%), official missions (11%) and walking (5%).

Presentation of stakeholders' reasons for contributing to the conservation of the PNCM according to different use values

In descending order of preference, the survey revealed that the main reasons for contributing to the conservation of the PNCM are as follows: economic contribution: development of the local economy and improvement of living standards (56%); maintaining biodiversity, which is increasingly threatened by industrial exploitation, ongoing mining on the outskirts of the park, and poaching inside and outside the park (27%); conservation and preservation of sites of cultural/tourist value (17%).

The survey results indicate that the population's interest in the park is primarily linked to the economic and financial benefits derived from tourism.

Community participation in social forestry initiatives

Several joint forest management initiatives have been launched in and around the PNCM. The main ones are: community forestry, the model forest process, and platforms for consultation between stakeholders on park conservation.

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

The survey revealed that the weak link in the functioning of social forestry initiatives is the sustainability and impact of their approaches and programmes.

Social forestry initiatives: model forests, community forests, and park management committees are viewed positively (66%) by the population. According to respondents, the reasons for this appreciation are as follows: participation in empowerment, empowerment of local communities through the creation and operation of management committees, participation in social projects, accountability and protection of biodiversity.

Knowledge of the ecosystem goods and services provided by the CMNP by population groups

Ranking of the main ecosystem services cited by respondents

The order of preference for ES is as follows: supply of non-timber forest products (13%), supply of fish (12%), traditional knowledge (12%), refuge for endangered species (11%), nesting sites for birds (10%), drinking water resources and heritage services (9%), nurseries for fish and other species and education and research (4% each), recreational activities and landscape (2% each), protection against soil erosion (1%), carbon sequestration (1%).

The order of preference given to the ecosystem services provided by the PNCM is primarily oriented towards maintaining biodiversity (refuges/habitats for endangered species), followed by provisioning services (supply of NTFPs and fish) and cultural and tourism services (traditional knowledge, preservation of the identity of the Bagyeli Pygmies).

Determining willingness to pay for PNCM conservation

Reasons in favor of the willingness to pay

With regard to willingness to pay for the conservation of the PNCM, 67% of respondents said they were willing to pay to maintain the park in its current ecological state. The reasons for paying are, in order of importance: 30% to ensure the sustainability of food supplies; 25% for future generations; 20% as an iconic location and to develop tourism; 14% to have a place for me and my family to walk; and 11% to maintain the land of the indigenous Bagyeli Pygmy peoples.

Reasons against the willingness to pay

As for the 33% of the sample surveyed who rejected the park, 45% do not see the changes that the park has brought to the environment and standard of living; 32% felt that the park deprived them of their land; 14% argued that it was not their responsibility to pay, but rather that of the state; 5% were unsure whether the money collected would be used to fund the conservation of the PNCM (trust); and 4% were willing to pay but could not afford to do so.

Furthermore, most of those who refuse to pay for conservation are mainly local residents (92%).

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

African Journal of Social Sciences and Humanities Research
ISSN: 2689-5129
Volume 9, Issue 3, 2026 (pp. 51-64)

www.abjournals.org

Calculation of willingness to pay

Based on the guaranteed amounts estimated at 2,343 million CFA francs corresponding to the minimum scenario for the implementation of the priority activities of the management plan (2015-2019: 109-110), the WTP of the different stakeholder groups was calculated.

The maximum amounts agreed (CAP) can be classified as follows: 29% of stakeholders (HEVECAM and WIJMA) agree to pay an annual amount ranging from USD 2,000 to USD 20,000, 57% (Memve'ele Project construction phase, WWF, MINFOF, AWF) agree to pay between USD 36,000 and USD 150,000, and 14% agree to pay more than USD 300,000. The average consent is USD 270,000, the median is USD 117,000, the minimum consent is USD 2,000 and the maximum is USD 338,000.

The CAP for populations was calculated based on the value of time spent (opportunity cost for agricultural or inland fishing activities). 28% of the men surveyed agreed to devote two (2) hours per day to conservation activities. Based on the minimum wage in Cameroon, which is approximately USD 75, we estimate the average CAP for a respondent to be USD 4,500 per year.

DISCUSSION

Contrast between the presence of a protected area and the level of poverty of the local populations

The study showed that the populations of the Campo Ma'an area derive most of their income from agriculture and fishing in the Ntem River. As a cash crop, the population mainly (88%) grow cocoa. In addition to cocoa, other food crops include cassava, plantains, and peanuts, most of which (88%) are consumed by the farmers themselves.

This observation has been made and confirmed by the work of Lescuyer (2000) and Balolé (2018), which shows that the populations of eastern Cameroon living on the outskirts of the Virunga PNVI define themselves first and foremost as farmers. Their primary activity is subsistence farming. The main crops grown are groundnuts, maize, plantains, cassava, macabo, and squash (cucumber).

Effective and sustainable management model applied to natural resource management

In 2009, the CIFOR recommended the application of an approach or programme called Adaptive Collaborative Management (ACM) in the PNCM and its periphery. According to Mariteuw Chimère Diaw (2009), this strategy is based on the active and desired participation of stakeholders. However, the study shows that initiatives to build participation in the area have not been successful. This is due to the feelings of frustration, marginalization, and exclusion of the populations in forest management. This perpetuates conflictual relations and confirms previous studies conducted by Meyanga & Tchouamo (2014:68), which note that "the populations are unhappy with the presence of the park and several industries in the locality, which deprive them of arable land, encourage immigration, and are responsible for thedegradation and deforestation of their land."

The designation of willingness to pay shows that income and education levels are positively

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

correlated, in line with several authors who highlight a direct relationship between attachment to nature and level of education (Oteros-Rozas, 2012): the higher the level of education, the greater the sensitivity of individuals to the environment.

Furthermore, familiarity also has a positive effect on non-use value. This link can be explained by the fact that greater knowledge of the PNCM tends to encourage people to attribute non-use value to it, in line with recent work on the role of information and knowledge in relation to regulatory services and, more generally, the importance of conservation measures (Kotchen and Reiling, 2000; Kniivilä, 2006).

CONCLUSION

Alongside socio-demographic factors, the impact of familiarity with the CMNP and sensitivity to nature on the perception of ecosystem services was tested. Familiarity was studied in terms of knowledge of the CMNP, knowledge of the risks associated with the degradation of its ecosystems, knowledge of its monitoring system, and participation in activities related to its protection.

Sensitivity to nature was measured through respondents' interest in the causes of degradation and deforestation. It appears that factors related to familiarity with the CMNP have a positive impact on all services, while sensitivity to nature significantly influences the perception of ecosystem services.

Willingness to pay (WTP) was calculated on the basis of guaranteed amounts estimated at 2,343 million CFA francs, corresponding to the minimum scenario for the implementation of the priority activities of the management plan (2015-2019:109-110), and the CAP of populations was calculated on the value of time consented (opportunity cost for conservation activities).

In contrast, there is a negative correlation between the WTP for conservation among local populations and their high familiarity with provisioning services. This contrast is due to the fact that local populations derive most of their livelihood from the harvesting of forest natural resources.

Conversely, other stakeholder groups (operators, agro-industries, NGOs, etc.) show a specific sensitivity to non-use values for the cultural and heritage function of the CMNP, which is expressed through a positive correlation with the maintenance of regulatory and support services.

The polluter pays principle is based on this differential perception of stakeholders in terms of willingness to pay. This principle stipulates that those who destroy and exploit resources should also pay the most, and vice versa.

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

REFERENCES

Journal

Oteros-Rozas, Elisa; González, José A.; Martín-López, Berta; López, César A.; Zorrilla-Miras, OteroPedro; Montes, Carlos, 2012. Evaluating Ecosystem Services in Transhumance Cultural Landscapes. An Interdisciplinary and Participatory Framework. Ecological Perspectives for Science and Society, Volume 21, Number 3 185-193(9)

For reports:

Ministry of Forestry and Wildlife. 2006. Report on the management plan for Campo Ma'an National Park and its surrounding area 2006-2010, Southern Region of Cameroon.

Ministry of Forests and Wildlife. 2015. Report on the management plan for Campo Ma'an National Park and its buffer zone 2015-2019, Southern Region of Cameroon.

For books:

Ephrem Balole Bwami. 2018. Estimation of the socio-economic value of Virunga National Park, Democratic Republic of Congo. Doctoral thesis. Regional Postgraduate School of Integrated Management and Development of Tropical Forests and Territories. University of Kinshasa in the Democratic Republic of Congo.

Yves Meyanga Tongo, Isaac Roger Tchouamo .2014. Issues and Challenges of the involvement in the Forest Model process: Systemic analysis of the participation of the Campo Ma'an populations in the Forest Model process. Europeans Academic editions Europeans. German Meyanga Tongo Yves. 2013. An analysis of the participation of the Campo Ma'an populations of southern Cameroon in the model forest process. Master's thesis 2/DESS. Regional

Postgraduate School e for Integrated Management and Development of Tropical Forests and Territories. University of Kinshasa in the Democratic Republic of Congo.

Mariteuw Chimère Diaw, Tony Aseh, and Ravi Prabhu .2009. In Search of Common Ground: Adaptive Collaborative Management in Cameroon. CIFOR, Bogor, Indonesia.

Guillaume Lescuyer. 2000. Economic Evaluation and Sustainable Management of Tropical Forests: Reflections on a Method of Coordinating Forest Use in Eastern Cameroon. Doctoral thesis. Specialisation: Socio-economics of Development. School for Advanced Studies in the Social Sciences. Paris.

For published works:

Barbier E.B. 1991. The Economic Value of Ecosystems: Tropical Forests. LEEC Paper 91-01, London, 9p.

George Akwah Neba, Joachim Nguiebouri, Anne Marie Tiani and Mariteuw Chimère Diaw. 2009**.** Changing management direction in Campo Ma'an. In Search of Common Ground: Adaptive Collaborative Management in Cameroon. CIFOR. Bogor, Indonesia. P139-190.

Lescuyer Guillaume. 2006. The economic evaluation of Ivindo National Park in Gabon: an estimate of the expected benefits of nature conservation in Central Africa: final report prepared as part of the Sectoral Programme for the Development of Protected Areas in Gabon (PSVAP component ment_550820.pdf)

Pearce D. 1990. An Economic Approach to Saving the Tropical Forests. LEEC Paper 90-06, London, 30p

Mariteuw Chimère Diaw .2009. Theory and practice of adaptive collaborative management In Search of Common Ground: Adaptive Collaborative Management in Cameroon. CIFOR, Bogor, Indonesia.

Nguiebouri J., A.M. Tiani, G. Akwah Neba and C. Diaw, 2001. "Criteria and Indicators for Sustainable Forest Management". Report of the Campo Workshop organised by CIFOR

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5

from 26 to 28 February 2001. CIFOR

Kotchen, M. J, Reiling, S. D. 2000). Environmental Attitudes, Motivations, and Contingent Valuation of Nonuse Values: A Case Study Involving Endangered Species. Ecological Economics, 32, 93–107.

Kniivilä M. 2006. Users and non-users of conservation areas: are there differences in WTP, motives and the validity of responses in CVM surveys. Ecological Economics, 59, 530-539

Tiani, A.M., Akwah, G. and Nguiebouri, J. 2001 "Communities living near Campo Ma'an National Park: Control of forest space and daily experience of socio-ecological changes". Internal report, Yaoundé, Cameroon, CIFOR.

Therville C. 2013. Placed under a bell jar or integrated into the territories? The example of nature reserves in France Summary of the main findings of the thesis.

naturelles.org/sites/default/files/librairie/20130613_therville_synthese_these.pdf, accessed on 12 September 2021 at 1:20 P.m

Article DOI: 10.52589/AJSSHR-BQRLRFI5
DOI URL: https://doi.org/10.52589/AJSSHR-BQRLRFI5