Participation in the Management of a Peri-Urban Protected Forest in Northern Côte d'Ivoire: Case of the Mount Korhogo Classified Forest

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Abstract

The evolution of tropical forest deforestation in Côte d'Ivoire is very alarming. From 16 million hectares in 1900, the area increased to 9 million hectares in 1965 to less than 2.5 million hectares in 2016. Even forests protected by the State of Côte d'Ivoire are not spared while peri-urban protected forests are the most exposed. The finding reveals many shortcomings in the state monopoly of protected area management. Yet, elsewhere in Africa, many experiences of participatory management have shown significant advances in protection and their introduction in Côte d'Ivoire from 1990. To understand the effectiveness of this new consultation framework adopted as a management tool, national policies and locally adopted strategies on the Mount Korhogo classified forest in northern Côte d'Ivoire have been analyzed. Results show a failure of participation at the national level since 1996 and a lack of participation at the local level. Despite the establishment of a local committee for forest defense and fight against bush fires, the lack of consultation undermines the proper functioning of this organization, thus leading to the exacerbation of deforestation. Mount Korhogo Classified Forest.

Keywords: participatory management, consultation framework, protected forest, urbanization, deforestation

Introduction

The forest, because of the many ecosystem services it provides to communities, remains a resource to be preserved and therefore exploited sparingly. However, the extent of degradation of natural formations in Côte d'Ivoire suggests that this feeling does not seem to be shared. In fact, from 16 million hectares in 1900, the area of forests increased to 9 million hectares in 1965 (N. S. Andon, 2010, p.4). Today, the most optimistic estimates indicate that there are only 2.5 million hectares of tropical forest left in the country (RCI, 2016, p 16). Yet political initiatives to protect and restore these forest heritages have been implemented. Forests play a fundamental role in the fight against rural poverty, providing decent livelihoods to people. They offer promising medium-term green growth opportunities and provide vital long-term environmental services such as clean air and clean water, biodiversity conservation and climate change mitigation (FAO, 2016, p. 4). Indeed, the forest is rich in resources, as diverse as many. It houses woody species, non-wood products, pharmacopoeia, animal species and provides agricultural land, urban territory, etc. The forest is also a territory for urban and rural development. Forests are coveted, both for the resources they contain and the territory they occupy (R. De Koninck 1994: 348). It is precisely this lust that favors the deforestation of protected forests and has more and more perceptible impacts on the environment, social and economic activities.

In Côte d'Ivoire, as in Togo, before colonization, all the forests were managed by the traditional heads of the forest peoples' families and tree and shrub savannahs. During colonization, a proportion of these forests was defended (protected) by the colonial administration. Thus, the rights of use recognized to the local populations have been limited (G. I. Mahazou, 2004, p.1). After independence, almost all the forests protected by the colonial administration were renewed by the new

independent administrations. The measures of strict protection given to these forests at the beginning of their classification gradually faded. This change is linked to the adoption of another vision that made management policy more inclusive. It follows that these forests are constantly undergoing anthropogenic actions, among others, shifting cultivation and urban extension today. Today, most of these forests are in a state of advanced degradation. Yet they are the foundation of the country's great biological diversity and offer the authorities hope for the preservation of this heritage.

Often developed without taking into account all the sociological, cultural, and economic aspects of the rural and recently urban riparian populations of the forests, and without a real participation of these populations in the decision-making processes, the protected forest management strategies often come back in contradiction with customary principles and local practices (Hoare, 2015, p 5). This situation creates an ambivalence in the consideration of land ownership of protected forests: the State considers, according to the law, these properties as a permanent domain of the State when the local riparian populations perceive them as ancestral domains.

This has led to an awareness by the Ivorian State that will create institutional and regulatory frameworks and strategies for sustainable forest management. These include the Peasant-Forest Commission established in 1990 and the National Forest and Bushfighting Committee established in 1986 for the participatory and integrated management of Côte d'Ivoire's protected forests. Participatory management of protected areas has already been the subject of research in Côte d'Ivoire, particularly for the Tai Biosphere Reserves in the South-West by N. É. Yéo et al., (2014) and the Abokouamékro Wildlife Reserve in South Central A. C Kouassi (2006). However, it has not yet been sufficiently studied in northern Côte d'Ivoire, especially for a peri-urban protected forest.

This article aims to fill this gap. It aims to evaluate the effectiveness of participatory management of the Peasants-Forest Commission and the National Forest Defense and Bushfire Committee through the northern Korhogo Mounted Forest (FCMK) to the north. from Côte d'Ivoire. The question is how participatory management works at the national level and especially at the local level? How effective is this participatory management? Our belief is that participatory management structures do not have satisfactory results at both national and local levels.

1. Methodology

The following three (3) data collection methods used: existing literature review, field surveys, and forest cover dynamics mapping. They will be developed after the presentation of the study area.

1.1. Presentation of the Mount Korhogo classified forest (MKCF)

With an area of 1,409 hectares created by the colonial text No. 453 / 22-01-53 in 1953 (N. Ouattara, 2001, p.45), the area of the listed forest of Mount Korhogo has increased to 1285 hectares according to ITTO (2013, p.2). According to the SODEFOR Korhogo Management Center (survey result August 2018), its current official area is 1155 hectares. The study area includes the four (4) villages adjacent to the MKCF and a portion of the extreme northwest of the town of Korhogo, the chief town in northern Côte d'Ivoire (Figure 1).

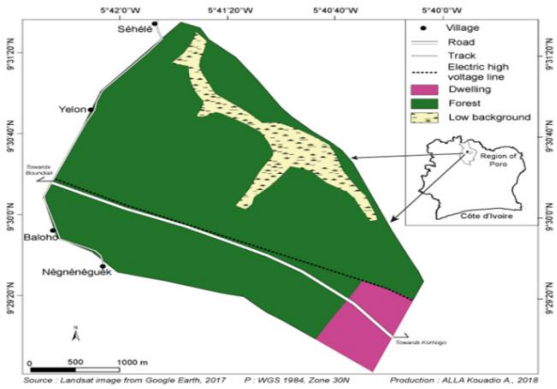


Figure 1: Location of Mount Korhogo Classified Forest

The populations living around the classified forest are mainly farmers, breeders and hunters commonly called "dozo". Indigenous peoples are Senufo. These populations practice extensive slash-and-burn agriculture. Pastoralists, meanwhile, practice firing pasture during the dry season to promote the renewal of foliage grasses browsed by animals while hunters use bushfires as hunting techniques. The city has 286,071 inhabitants in 2014, according to the General Census of Population and Housing, among which there are almost 95% animist.

The MKCF is subject to agricultural pressure, extensive livestock transhumance and urban pressure. Indeed, the increase in the population causes a strong demand for unsatisfied arable land; which drives farmers to classified forests to install their food crop. They are the first destroyers of the forest by their archaic cultural method. This intrusion creates a permanent conflict between SODEFOR, manager of classified forests and illegal farmers in search of agricultural land (ITTO, 2013, p.2). In addition, the breeding method largely prevents the regeneration of forests. During their frequent passage, cattle stomp and graze young natural or reforested plants, which prevents any possibility of natural regeneration, which is the source of another conflict with SODEFOR (ITTO, 2013, p.5). In addition, the city of Korhogo has experienced urban growth in recent years after being deprived of state authority for ten years (2002-2012). This urban extension threatens part of the mountain forest of Korhogo.

The climate is Sudano-Guinean with two seasons: a dry season of 9 months (October-June) and a season of slightly damp rain of 3 months (July-September). However, average annual precipitation, around 1300 mm to 1400 mm, cannot compensate for a cumulative water deficit of 700 mm created by a potential evapotranspiration close to 2000 mm. The temperature varies between 20 ° C and 40 ° C. The terrain is relatively flat with, in places, hills rarely exceeding 300 m in height. The soil is ferralitic and weakly desalted. The vegetation of the MKCF consists of grassy savannah, dotted with some dry dense forests and treed and shrubby forests. It is home to a wide range of animal and plant biological diversity, with specificities such as antelopes (Gazella spp), Canis spp, Python, etc. and Acacia (Auriculiformis, Daniella Oliveri, Tero Carpus Erinacius) used to make balafon, Nere (Parkia boglobosa), Tamarindus indica, Shea (Vitellaria paradoxa), (RCI, 1999, p 82, N. Ouattara) 2001, p 3).

The populations of northern Côte d'Ivoire share the same habits and customs, develop the same customary management of land and agricultural practices and have common geographical characteristics (dry tropical environment, relief, climate, vegetation). The FCMK presents social mutations that have continued since colonization to varying degrees. It therefore has all the characteristics to be the representative sample of peri-urban protected forests in northern Côte d'Ivoire. Gestion participative des aires protégées : l'adaptation au contexte Field surveys, observations, field surveys and stakeholder interviews were conducted.

The observations focused on the level of degradation of the classified forest, the presence of subdivision markers, buildings as well as areas put into agricultural cultivation. At the same time, field surveys were carried out. It is to take coordinates of location of the buildings, areas of agricultural activities and portions of the forest in the classified forest. These operations were followed by socio-cultural surveys of stakeholders on participatory management. After identifying the study area and the actors that are important to the success of the participatory management of the MKCF, the collection of socio-cultural data and information was carried out according to a stratified random sampling for the choice of the names of villages and populations. (Indigenous riparian, public and administrative authorities, local elected officials and civil society) to question. Areas less than 5 km distant from the outer edge of the MKCF and its boundary with the city of Korhogo were the investigative sites. Concerns are raised about knowledge of the existence of a local management committee, its functioning, the effectiveness of the participatory management of this committee and the dynamics of the forest cover of the FCMK. The semi-structured interviews were conducted with stakeholders as summarized in Table I.

Table I: Stakeholders in participatory management of the classified forest

TYPE OF STAKEHOLDER	Number of respondents	Percentage (%)
Riparian population	135	90,00
Chief of the village	5	3,33
Local SODEFOR	2	1,33
Mayor	1	0,67
Regional Council	1	0,67
Prefect	1	0,67
Procureur de la République	1	0,67

Ministry of Waters and Forests	1	0,67
Regional Director of the Environment	1	0,67
Ministry of Urban Planning of Construction	1	0,67
NGO Rural Animation of Korhogo	1	0,67
Total observed	150	100,00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

The spatial data used are the Landsat Copernicus satellite images from 31/12/1998, 31/12/2010 and 15/12/2016 obtained on Google Earth. The processing of these images made it possible to verify the effectiveness of the participative management of the FCMK.

1.3. Data processing methods

The survey questionnaires were developed, captured and processed by the Sphinx Plus2 software. Sphinx is a software for investigation and analysis of data. It is very useful in the main steps of carrying out the survey of the stakeholders for the participative management notably at the level of the realization of the questionnaires, the capture of the answers and the quantitative processing of the data and the analysis of the qualitative data. The results have been exported to the Microsoft Office Excel software. Then, literature reviews on participatory management of protected forests in Côte d'Ivoire were conducted.

Finally, the mapping of the study area and the processing of the satellite images were carried out with the ARCGIS 10.3 software. The raw data of images acquired by remote sensing contain geometrically important distortions that are sufficiently large that they cannot be superimposed on cartographic data made at known projections (Desjardins, 2000, p 144, 145). For that we made the geometric and radiometric correction of the images received from 1998, 2010 and 2016 with the administrative map of our study area realized with known projections (WGS84 UTM 30N). Road intersections were used for this purpose. This is the maximum likelihood directed classification method that was used for image processing on the ARCGIS 10.3 Software. Field visits on June 26, 2016 and August 4, 2018 allowed us to validate the types of land use by taking the GPS coordinates of the classes: forest, human activities or bare ground and built at the level of the classified forest. In situ observations were also made on the causes of deforestation in the classified forest. The processed images have been exported to Adobe Illustrator CS3 software in compatible format for cartographic production.

2. Results

2.1. Participatory Management of Nationally Classified Forests: Causes of the Peasant-Forest Commission's Failure

The documentation and the survey conducted with SODEFOR made it possible to understand that, faced with the worrying degradation of the Ivorian forest, the Ivorian government has become aware of the seriousness of the problem. In fact, it formally put in place a policy aimed at finding solutions to the problem of deforestation in the rural and permanent state domain in the 1990s. These political initiatives were expressed in the Forest Master Plan (1988-2015). The failure of the centralized management method developed by the Ivorian State in which it decided on the actions to be carried out and the manner of their implementation, will thus lead the leaders to adopt the participative approach in its management strategy of protected forests. It will create and entrust to SODEFOR, the management of the Peasant-Forest Commission (PFC). PFC is a consultative body created to effectively involve local populations and enclaves in the management of classified forests. In light of the observations made in the Southwest Region, the composition of this commission (PFC) was disproportionate (Leonard and J. G. Ibo 1994: 32). Indeed, at the national level, it is made up of seventeen (17) members, of which eleven (11) are from the administration; the timber industry is represented by one (1) industrialist and one (1) forestry operator then the "rural world" represented by three (3) members, the "civil society" one (1) seat allocated to a non-governmental organization (NGOs) (Leonard and JG Ibo, 1994, pp. 32-33). Instead of constituting a framework for consultation, the Peasant-Forest Commission (PFC) is used to endorse the decisions of SODEFOR. In fact, everything happens as if the administration was trying to empty a structure imposed by the donors of any substance. SODEFOR had favored a plan of clearance spread over a long period (twenty years, see more) with the participation of local populations and landlocked. SODEFOR called on people to become actors in their own deportation for a few years, without any guarantee of the basis for their survival (Léonard and J. G. Ibo 1994: 34). Such a practice of participation without real consultation proved ineffective and failed. The consequences of the continuation of deforestation ensued.

In addition, surveys of the stakeholders who count for the success of the forest protection of the MKCF including the central administrator (the Prefect) informs of the existence of a National Committee for the defense of the forest and the fight against bushfires (CNDFB) created by Decree No. 86-378 of 4 June 1986 at the local level. This Committee was created to fight against deforestation and to reduce and suppress bush fires by informing, raising awareness and equipping communities living near protected forests such as the MKCF. It operates at the level of departments consisting of sub-prefectures which in turn are composed of villages.

2.2. Participatory management at the local level: Application of the National Committee for Forest Defense and Bushfire Control in the Mount Korhogo Classified Forest.

The National Committee for the Defense of the Forest and the fight against bush fires (CNDFB) depends on the Ministry of Water and Forests through its general direction. Prior to the 2002 crisis, the CNDFB received information from all its forest holdings. But following the crisis, this is no longer the case.

2.2.1. Forest protection and fight against bush fires

Bush fires are the third leading cause of deforestation and forest degradation in Côte d'Ivoire in general and in particular the Mount Korhogo Classified Forest. The use of fire is a traditional practice for the preparation of agricultural land, hunting, and renewal of pastures. However, faced with the problems caused by these fires, the Ivorian State has created a National Committee for Forest Defense and Bushfire. To achieve its objectives, the Committee undertakes sensitization actions for its stakeholders, particularly the rural populations, for the self-defence of the forest and the prevention of bush fires. The local committee is set up in order to prevent the departure of fires, to limit the spread of fires, to improve the efficiency of the active fight, to help the State structures in charge of the management of the MKCF to protect and reforest its degraded areas. Since bushfires destroy both the permanent domain of the state and the rural domain, they arouse the craze of all. The listed forest of Mount Korhogo being threatened by these bushfires, the agricultural exploitation, the breeding of transhumance and the urban extension, it is a question of apprehending the participative management of the Local Committee of defense and fight against the bushfires to limit the degradation of this classified forest.

2.2.2. Participatory Management of the Local Committee for the Defense and Control of Bushfires

The participatory approach begins with the identification and consultation of all stakeholders (Table I) followed by the information that is a basic element essential to any natural resource management program. The contribution of communication in disseminating this information in language understandable to all is obvious (FAO, 1995, p.2).

2.2.2.1. Prior information of the different stakeholders

The basic information is about the stakeholders and their information about the existence of the classified forest and its name in their locality, the right and duty of protection to this forest. It makes it possible to evaluate the effectiveness of the sensitization of the local management committee on forest protection.

The management of natural resources is no longer conceivable without the active participation of the population, and in particular communities bordering the protected forest and other actors. Therefore, the research was carried out among one hundred and fifty actors (populations, technical and administrative services, elected representatives and NGOs) in four adjacent villages and the town of Korhogo bordering the mountain forest of Korhogo including 135 local populations (see Table I). The term "stakeholders" referred to institutions, social groups and individuals for whom the protected forest is a direct, important and specific issue. This issue can stem from an institutional mandate (such as SODEFOR and all the state structures mentioned in Table 1), geographical proximity (local riparian populations and the town hall for our case), membership in an association (Rural Animation NGO of Korhogo) and subsistence dependence (indigenous riparian populations) as well as various skills and concerns.

The following Table II informs people about the existence of a protected forest in their locality.

Table II: Information on the existence of the Mount Korhogo Classified Forest

INFORMATION	Number of respondents	Percentage (%)
Yes	145	96.67
No	5	3.33
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

To assess the effectiveness of awareness raising on the protection and fight against bush fires in the Mount Korhogo Forest Reserve, 150 stakeholders were interviewed. It appears that more than 95% of the actors surveyed are informed that there is a classified forest in their locality. To further the knowledge of the existence of the MKCF, the name of the classified forest was requested from the population and recorded in the following Table III:

Table III: Information on the name of the classified forest

INFORMATION	Number of respondents	Percentage (%)
The MKCF	45	30.00
I don't know the name	105	70.00
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

70% of people surveyed do not know the name of the classified forest (Table III). Only 27% know that there is a protected forest in their locality and even know its name, the MKCF.

In total, more than 95% of respondents are informed of the existence of a protected forest in their locality even if 70% do not know the name of this forest. But do they know that they have the right to contribute to the protection of this forest? The result is recorded in Table IV below.

Table IV: Information on the right to contribute to forest protection in the classified forest

RIGHT	Number of respondents	Percentage (%)
Yes	108	72.00
No	42	28.00
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

72% of respondents say they have the right (Table IV) and the 28% who do not know their right constitute a danger for forest protection in the forest of Mount Korhogo. Concerning the duty to protect the local protected forest, the result is recorded in Table V.

Table V: Information on the duty to contribute to forest protection

DUTY	Number of respondents	Percentage (%)
Yes	92	61.33
No	58	38.67
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

The results show that more than 60% of the populations know that they have a duty to contribute of the protection of the MKCF (Table V). The 38% who do not know their duty is also a danger to the forest protection of the FCMK.

In this section, the results show that the populations are informed to the existence of a protected forest in their area even if many do not know the name of the classified forest. In addition, over half of all people know that they have the right and the duty to contribute to the protection of the MKCF. However, the 28% who do not know their right and 38.67% their duty show that awareness at the local committee level is not effective enough. But what are the most used ways to communicate information? And how do people react when they are consulted?

2.2.2.2. The terms of consultation or consultation

This part evaluates the means of communication used in participatory management by stakeholders to interact with each other within the local management committee and the opinion of the populations when they are consulted.

Table VI below summarizes the method of communication used by the actors when they are consulted.

Table VI: Consultation or concertation method

CONSULTATION	Number of respondents	Percentage (%)
Verbal information	97	64.67
Written information	18	12.00
Not consulted	35	23.33
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

The method of consultation and concertation recorded in Table VI shows that the oral tradition remains the best mode of communication used by actors. Nevertheless, some people, including local authorities are consulted in writing (12%). In addition, 23.33% of the actors are not consulted.

The opinion of the populations when consulted has been evaluated and recorded in the following Table VII:

Table VII: View when consulted

VIEW	Number of respondents	Percentage (%)
Favorable	107	71.33
Not favorable	41	27.33
Others	2	1.33
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

Analysis of the data in Table VII shows that among the people surveyed, 107 out of 150 people are in favor of participative management. However, a significant number of people around 41 out of 150 are unfavorable to forest protection. For these mostly indigenous people, forest protection prevents them from finding new agricultural land for the extension of their agricultural plantation. In addition, think that they have been expropriated from their ancestral land. The following evaluates the actual functioning of the participatory management of the MKCF.

2.2.2.3. Participatory management (free, informed, consented) effective protection of the classified forest.

It is a question of knowing how each actor perceives its own role and its interaction with the others in the field of the Local Management Committee of the Mount Korhogo classified forest, as well as the number of times that the Committee meets. Table VIII summarizes this perception.

Table VIII: Evaluation of the rate of involvement in the management of the classified forest of Mont-Korhogo

PARTICIPATORY MANAGEMENT	Number of respondents	Percentage (%)
Yes	70	46.67
No	80	53.33
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

Insufficient awareness only decreases the number of people who actually participate in the Local Management Committee of the Mount Korhogo Classified Forest. More than half of the respondents do not participate in the activities of the local management committee of the classified forest. For many, there is no local committee, so there is no formal consultation framework. They act when necessary when a fire is triggered. But who participates in the management of the classified forest, how do they do it? The result is recorded in Table IX.

Table IX: Manner of Participating in the Management of the Mount Korhogo Classified Forest

MANNER OF DE PARTICIPATING IN THE MANAGEMENT	Number of respondents	Percentage (%)
Free	36	24.00
Informed	80	53.33
Consented	34	22.67
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

The actors involved in the management of the Mount Korhogo classified forest, especially when they are informed that freely and / or consented. In such a situation, are the people informed of the existence of a local management committee of the MKCF? The result on this concern is recorded in Table X.

Table X: Information on the existence of a Local Mount-Korhogo Forest Management Committee

LOCAL MANAGEMENT COMMITTEE	Number of respondents	Percentage (%)
Yes	99	66.00
No	51	34.00
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

The data in Table X show that only 66% of the actors are aware of the existence of a Local Management Committee. However, 34% of the respondents are not informed of the existence of the Local Management Committee. This shows that awareness is not developed enough. This requires adherence to local committee activities as shown in Table XI.

Table XI: Membership in Local Committee Activities

JOINING LOCAL COMMITTEE ACTIVITIES	Number of respondents	Percentage (%)
Yes	84	56.00
No	66	44.00
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

Since the Committee no longer receives funding and incentives since 2002, this disarms many actors, particularly the communities living near village communities. Indeed, SODEFOR during its reforestation campaigns offers certain contracts to the member of the Village Committee. In recent years, these contracts are limited to the collection of dead wood and the

picking of certain fruits. Financial incentives are non-existent. However, they want to contribute to the forest protection of the Mount Korhogo Classified Forest. For this, the meetings are multiplying as confirmed by the data in Table XII.

Table XII: Number of Local Committee Meetings

NUMBER OF MEETING OF THE COMMITTEE	Number of respondents	Percentage (%)
Do not meet	13	8.67
1 time in the month	0	0.00
2 time in the month	0	0.00
3 time in the month	0	0.00
1 time in the year	6	4.00
2 time in the year	74	49.33
3 time in the year	39	26.00
I do not know	15	10.00
meets by need	3	2.00
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

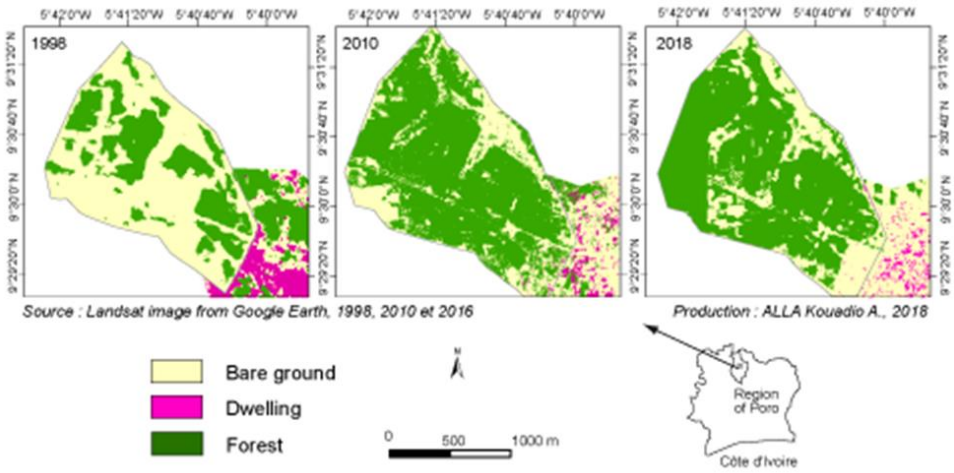
It appears that the committee meets two or three times a year. However, there is no program that clearly defines meeting dates. It meets as needed. It should be noted that some actors inform that the committee has stopped meeting since the deployment of the administration after the politico-military crisis that deprived the study area of the authority of the State between the years 2002 and 2011. Thus, the perception of the role of the committee in the field of forest protection seems to be mixed (Table XIII).

Table XIII: Perception of its role in the field of forest protection

PERCEPTION OF HER ROLE	Number of respondents	Percentage (%)
Not at all useful	53	35.33
Very useful	51	34.00
Very well useful	40	26.67
Excellent helpful	6	4.00
Total observed	150	100.00

Source: N'guessan Simon ANDON survey, February 2016-August 2018

A significant number of actors think that their role is useful (64, 67%), while 35.33% consider that their role is not useful. The results showed that participation in the management of protected forests failed at the national level through the framework of consultation Peasant-Forest from 1990 to 1996. Another framework of consultation for the management of protected forests created in 1986 strengthened and applied in each region of Côte d'Ivoire. This is the National Defense and Firefighting Committee at the national level. At the local level, it is the local committee for the defense and fight against bush fires for the protection of the MKCF was the subject of our study. It appears that this committee exists but the lack of comprehensive and formal consultation undermines its proper functioning. Among the riparian indigenous populations, 60% are in favor of protecting the classified forest while more than 36% are against the very existence of this forest in their locality. The degradation and deforestation of the listed Korhogo mountain forest resulted from various anthropogenic and above all agricultural actions and urban expansion, as shown in Figure 2.



Figures 2: Land Cover of the Mount Korhogo Classified Forest in 1998, 2010 and 2018

In 1998, deforestation is highly developed by agriculture and urban extension. At this time the MKCF was managed by SODEFOR Bouake located 287 km from Korhogo. Since the structure was geographically distant from the MKCF, she had an attentive follow-up fee. In fact, part of the Mount Korhogo classified forest has been divided by customary chiefs on two occasions (between 1980-2000 and 256 hectares and 2002-2018, 88.5 hectares) in the light of the Korhogo Town Hall local management of the Town Planning Construction and the local SODEFOR. Several houses are there and are being built. The chief of Korhogo land bordering the Korhogo mountain forest justified that part of the forest was annexed to relocate the population of the village of Sonzorobougou populated by the chiefs customary during the extension of the city of Korhogo during the crisis of 2002-2011. The populations of Sonzorobougou who did not have a lot after the subdivision of the village, received their lot in an unofficial downgraded portion of the classified forest. This is why, land ownership issues of the classified forest must be settled for clarity between the duality of the state domain and the ancestral domain of the Senufo indigenous communities. Traditional chiefs play an important role at all levels in forest protection. In the city of Korhogo, they are the ones who give up their territory and in agreement with the city council for the fragmentation which if it obeys the standards of subdivision, is validated by the direction of the Ministry of the construction and the urbanism which delivers the Final Concession Order. This shows how often customary chiefs need to be taken into account in decision-making at the level of participatory management of the MKCF.

3. Discussion

The duality represented by the forest as a territory and resources raises very divergent interests for its users and the structures of its management. To regulate its management, particularly in the context of its protection, such as the MKCF in northern Côte d'Ivoire, the participation of all stakeholders is necessary. The term forest does not only refer to a geographical and spatial feature but it also translates a symbolic and sociocultural representation for populations whose whole life is sometimes defined by it. The forest therefore becomes a global good, a common good of humanity because of its role of carbon sequestration and the fight against climate change. The notion of the common good implies a generalization of interests around a good whose use must be regulated by an institution to guarantee its durability (Hardin, 1968: 1244). This is the case of the Mount Korhogo Classified Forest. As the forest is a common good, if it is not regulated as it is in the rural area of Korhogo, it will disappear. It is therefore to ensure its sustainability that the mountain forest Korhogo was created and entrusted to the local SODEFOR for its management. This is why it is above all a living environment but also a symbolic space for the people who live nearby.

The forest has always been perceived in its biological, economic and environmental dimension. Yet, as a human environment, the forest is primarily an element of integration of space, identity and culture. This cultural and anthropological dimension of the forest is an important prerequisite for understanding the reality of the forest area (F. A. Ngono, 2017, p.4). For the Senufo people, an indigenous population of the Korhogo region, the sacred forest is a symbol of identity where the

initiations of generations of people are practiced in honor of the Poro (sacred mask, a deity worshiped by the Senufo people). But their interest in other forests is quite different (for agricultural, fuelwood or service needs, etc.) like the Korhogo mountain forest. This is why its participative management must be a necessity.

According to G. Borrini-Feyerabend (1997, p.14) participatory management is a process where all stakeholders interested in a protected area are associated to a significant degree with management activities. It is a process where stakeholders are invited to take an active part in the decision making that affects them (M. S. Reed, 2008, 2420, A. Wandersman, 1981, 30).

One of the main tools of participatory management of forest resources is the consultation framework for managing land issues and determining on a participatory basis the rules of use and access to the protected area (A. Binot and DV Joiris 2007, p.2). This framework is represented by the Peasants-Forest Commission at the national level and the CNDFB at the level of the MKCF. However, with regard to the definition and functioning of participatory management and the results obtained, it can be said that this framework does not function adequately at the local level and does not exist at the national level.

Indeed, the participatory approach to forest management is the set of processes and mechanisms that enable people who are directly involved in the use of forest resources to be involved in decision-making that affects all aspects of forest management. This management ranges from the management of resources to the implementation of institutional frameworks (M. C. Laurent, 2011, p.42). FAO (1995, p.3) recommends dialogue with relevant stakeholders, including with village communities and relevant urban authorities. This dialogue, which forms the basis of the participatory approach, will make it possible to identify needs, potentialities and blockages, then to know the communication and decision-making circuits within the local committee CNDFB. It will finally make it possible to adapt the forest protection strategy according to the analysis of the given situation and to confront different approaches and solutions to solve the problems posed. It also proposes to sensitize the populations to the various stakes of the degradation of the forest resources. The results show that the dialogue is unilateral and only carried out by the administration in charge of the protection of the classified forest towards the local riparian populations of the villages adjacent to the classified forest. The decision is mainly made by the local administration in charge of protecting the protected forest of Mount Korhogo (local SODEFOR). Whereas, when participatory management has an adequate consultation framework and decision-making process in which all relevant stakeholders contribute to the joint building of mixed (modern and traditional) knowledge, it can be operational and consensual. Indeed, local knowledge or traditional knowledge and scientific knowledge are now recognized as inseparable for more equitable, credible and operational decisions for protected forests.

Conclusion

The failure of the Ivorian State monopoly to ensure the management of protected forests has led it to explore the participatory management of its protected forests. It created a consultation framework at the national level for this purpose named Peasant-Forest Commission in 1991. But the centralized decisions at the level of this commission led to the failure of this participative management in 1996. After the failure of this framework of consultation (Peasant-Forest Commission) the National Committee for the Defense and Fighting of Bushfires was explored in each region of the country. At the local level, that is to say at the level of the management of the classified forest of Mount Korhogo, investigations have shown that this committee exists but lacks a framework for consultation; which undermines its proper functioning and promotes deforestation of this classified forest. The public administration in charge of the protection to the MKCF uses the dialogue with only the peasants bordering this forest and adopts the typology of participation by contracting with them. However, the majority of stakeholders interviewed are ready to contribute to the participatory management of this classified forest through this consultation framework. There remains now a political will to operationalize this framework of consultation for the sustainable protection of the listed forest of Mount Korhogo. Therefore, to intervene in the field of forest protection and advocate genuine sustainable management of these same state forests have a framework for consultation, participation and an appropriate decision-making process where all Relevant stakeholders can contribute to the joint construction of mixed knowledge (modern and traditional), more operational and more consensual. Such action will certainly lead to a co-mobilization and sustainable co-management of all stakeholders including indigenous populations bordering these protected forests.

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