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## **Do Natural Resource Management Policies Ensure Environmental Justice in Benin?**

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### **Authors' contributions**

*This work was carried out by author IB with the scientific support of author IMM who contributed to the theoretical framework of the study. Both authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/AJAEES/2019/v37i230263

#### Editor(s):

(1) Dr. Ian McFarlane (Retired), School of Agriculture Policy and Development, University of Reading, UK.

#### Reviewers:

(1) Guilherme Moura Fagundes, University of Brasilia, Brazil.  
(2) Kholil, Sahid, University Jakarta, Campus Supomo (Universitas Sahid Jakarta, Kampus Soepomo), Indonesia.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/53050>

**Original Research Article**

**Received 22 September 2019**

**Accepted 27 November 2019**

**Published 04 December 2019**

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### **ABSTRACT**

This article aims to analyze natural resource management policies in Benin. Natural resources in Benin play an important role for the livelihood of the population. The management policies of these natural resources involve several actors at different levels. This sector has also undergone several reforms with changes in intervention approaches from colonial times to the present day. Current reforms involving private organizations born of dissatisfaction with previous reforms lead us to question the governance of these resources. By adopting the perspective of the theory of environmental justice, we have analyzed natural resource management policies in Benin. The results of our study show that natural resource management in Benin provides mainly procedural justice, justice that does not guarantee sustainable management. The distributive justice that is fundamental in this management is poorly considered. This study suggests empirical research to determine the links between justice, feelings of justice of the populations and social changes observed especially, the specific cases of the agro-pastoral communities.

*Keywords: Benin; governance; justice; natural resources; policy.*

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## 1. INTRODUCTION

In Africa, the exploitation of natural resources is the main activity of the majority of the population. They are essentially the livelihoods of the rural population. According to the Rural Development Sector Network [1], in sub-Saharan Africa, agriculture and forestry contribute more than 30% of GDP and employ about 70% of the population. These resources are under great pressure, especially with the increase in population accompanied by conflicts between actors. Sustainable and inclusive management is a growing concern for development policies in these countries. In Benin, various policies have succeeded in recent years to ensure good management of natural resources. These policies concern the regulatory framework, the institutional framework and the projects / programs. Despite these efforts to make natural resource management effective and efficient by taking into account the different stakeholders, making governance more participatory, it is still subject to much criticism. The results are not often satisfactory. Why have approaches to participation and collaborative governance not led to the desired results from the point of view of both the sustainability of resources and the improvement of the living conditions of neighbouring communities? This question challenges the actors involved in the management of natural resources. New orientation or a redefinition of the principles of management of these resources may be required.

Several authors proposed conditions or principles that can promote sustainable management of the commons including natural resources [2,3]. They found that by developing opportunistic behaviour, actors can undermine the sustainable management of natural resources. To better understand such behaviour, it may be important to consider carefully the issue environmental justice in the management of natural resources. According to Beerbohm and Davis [4], the consideration of justice in the management of the commons avoids distributive biases that under certain conditions favour a particular group. This approach based on a "neutral" distribution of the commons contributes significantly to sustainable management. According to Ritimo [5], for the preservation of the rare goods on which our future and those of our children depend, it must be based on the principle of justice. Justice is one of the key elements in explaining the behaviour of

individuals in an organization [6,7]. Indeed, there are three types of justices: procedural, distributive and symbolic. This consideration of justice must be based on the distributive neutrality of natural resources [4]. According to McFarlin and Sweeney [8], distributive justice has a great impact on the satisfaction of the actors in a given organization because it gives the feeling of equity. The participation and concerted governance that has so far been put forward in the management of natural resources in Benin is aimed at ensuring procedural justice. Justice appeared as a necessary condition for sustainable natural resources management. This suggests the issues of justice be taken into account in the management of natural resources. How procedural, distributive and symbolic justices are guaranteed by the policies through the regulatory, institutional and operational frameworks? Many studies on justice show that distributive justice better explains individual behaviour while procedural justice explains organizational behaviour [9,8]. On this basis we make the assumption that justice as practiced in the management of natural resources does not sufficiently take into account the distributive justice that guarantees equity. This contributes negatively to the sustainable management of natural resources.

## 2. ANALYTICAL AND METHODOLOGICAL FRAMEWORKS

### 2.1 Justice Theory

To analyze the natural resource management policies implemented in Benin, we considered three components of policies: i) the regulatory framework which is made up of the constitution, laws, decrees, etc.; ii) the institutional framework that brings together all the stakeholders, the institutions, the management bodies; and iii) the operational framework consisting of plans, programs, projects, etc. These components frame together the natural resources management. The management measures must guarantee a certain justice. Justice, according to Rawls [10], is the way in which policies distribute fundamental rights and duties and determine the division of benefits arising from such cooperation. In terms of natural resource management, we can define three dimensions of justice. The first dimension is the procedural one. It concerns all the strategies used to achieve a fair distribution. It implies the notions of stakeholder participation in the decision-making and management process, the accessibility of

management managers by the actors, the speed of treatment of resource problems, the capacity of institutions or management bodies to adapt to the demands of the actors. The distributive dimension (redistribution of wealth) is an assessment of perceived equity. Perception of justice emerges through a comparison of effort made and benefits obtained by an actor. This brings out the concept of equity. In the same way, the individual makes an internal comparison of this equity according to his experiences. Based on the definitions proposed by Folger and Konovsky [9], MCFarlin and Sweeney [8] and Folger and Cropanzano [11], we identify several indicators of measures of distributive justice: access to production resources (water, forest, fodder, etc.) and access to socio-economic resources (education, agricultural service, health, microfinance, etc.). Symbolic justice is the third dimension that stipulates the recognition of the rights of populations to be treated in an egalitarian basis. In light of these definitions, one can ask what relationship exists between these types of justice. Does procedural justice lead to distributive or symbolic justice? Otherwise, by influencing a particular aspect of justice, does politics determine other types of justice?

## 2.2 What Justice for Sustainable Management of Natural Resources in Benin?

We propose a model of analysis, based on the theory of justice that provides the opportunity to integrate social, environmental and economic considerations into the management of natural

resources (Fig. 1). This model presents the types of justice and their interactions.

Starting from this model, we examine three scenarios of justice related to the sustainable management of natural resources. Distributive, symbolic and procedural justice taken individually does not prevent ensure sustainable management of natural resources. But taking the three dimensions into account (J4) guarantees a harmonious life between pastoralists and farmers. Conflicts between stakeholders involved in natural resource management (ex. farmers and herders, population and managers) come most often when one of the justices or all the justices are not applied. A pastoralist who is not involved in decision making is likely not to be aware of the decisions. And, even if he gets the information, he may not be willing to accept it. Pastoralists and farmers treated in different ways (symbolic injustice), will probably not be enthusiastic in observing the rules. For each of these justices, it is important to take them into account in conflict management. Distributive justice, when taken into account, avoids conflict more than other forms (J2) of justice. Most of the time, pastoralists are in transhumance. Farmers are sedentary. They are more likely to be associated with the management of common resources such as the management of dams or transhumance corridors. In this context, pastoralists have little interest in symbolic or procedural justice. A pastoralist whose animals are allowed to drink in the village dam at affordable cost will speak of good management of the dam. In the same way, a farmer next to the

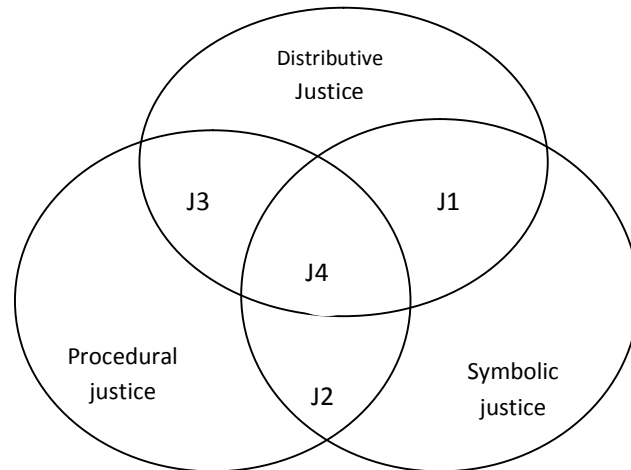


Fig. 1. Forms of justice and their interactions (Source: The author)

dam who receives money from the resource managers of the dam as a benefit from this management will be less critical on the management. Distributive justice contributes more to motivating actors to better manage a given common resource. The combination of forms of justice two by two (J1, J2 and J3) does not guarantee the same way sustainable management of natural resources between pastoralists and farmers. The chances of success when taking the justices two by two will not be the same. We make the assumption that distributive justice is the most important although it does not guarantee alone a sustainable management of resources. A management that takes into account distributive justice and one of the other two has more a chance of success.

### 2.3 Methodology

We conducted an analysis of the natural resource management policies in Benin. To this end, we selected study reports, legal documents (laws, decrees, etc.), projects and programs related to the management of natural resources in Benin. In addition, we conducted interviews with key informants. The main documents that were used for the analysis are presented in Table 1.

Qualitative content analysis was applied to policy documents and interview data. First, we established the chronology of the different events from colonial period until now. This analysis allowed us to then make a brief history of actions taken in natural resource management in Benin. Second, we looked at whether policies were designed and implemented in the way that the different dimensions of justice (procedural, distributive and symbolic) can be assured. Subsequently, three case studies of natural resource management projects were analysed to complement the policy documents. This made it possible to capture the way aspects of policies related to justice were translated into practices.

## 3. RESULTS

### 3.1 Historical Analysis of Natural Resource Management Policies in Benin

Natural resource management policies in Benin can be ranged into 4 periods: i) pre-colonial management policy, ii) state management policy; iii) participatory management policy; and iv) lease (private involvement).

- **Precolonial management:** Before colonization, natural resources were managed mainly based on traditional and religious beliefs. Resource management was controlled by traditional leaders [12]. Prohibitions rules allowed preserving the fauna and the flora. Illustrative examples sacred forests or animals, relics of which still subsist. These principles were accepted people and allow sustainable management of natural resources.
- **Colonial management:** During the colonial period, forest administration was created. The objective of forest administration was to protect natural resource. "Top down" management model was applied and the population at the ground was not involved in decision making. Forest products were exploited mostly for the benefit of colon. The different regulations are inspired by the French model. The exclusion of the population has not favored the protection of natural resources. This unsustainable management model led to a reduction in the potential of natural resources.
- **Conservation policy:** during the period from the 70s to the 90s, The Forest Code (Law No. 87-012 of 21 September 1987) was elaborated and implemented. Conservation policy gave to an extent the right of use to the population. This policy has gradually changed because of the droughts observed during the period. Collective forestry was promoted to combat desertification. However, the participation of the population remained weak. They were not empowered. Participation can be described as "passive".
- **Participatory and community-based management:** The previous approaches to natural resource management have shown their limits. The issues of protecting natural resources have become a global concern. This is how the United Nations Conference on Environment and Development of Rio (1992) came about. Several conventions and approaches have been developed for the protection of natural resources. For example, conventions on the fight against desertification, the management of biological diversity and the climate change and variability has ratified by Benin Government. The effectiveness of top down approaches was questioned. The

empowerment of the population is then retained as an approach to achieve sustainable management of natural resources. Different participatory approaches were adopted. But the objective of sustainable management of natural resources is still to be achieved. The new trend is the involvement of the

private sector in natural resource management.

- **Management by concession (involvement of private):** Since 2016 Benin Government has involved the private sector in this management. African Parks signed a 10-year agreement for the management of the Pendjari National Park.

**Table 1. Main policies for natural resource management in Benin**

	<b>Nature</b>	<b>Object</b>	<b>Period</b>
<b>Regulatory framework</b>	Convention	Convention on international trade in endangered species of wild fauna and flora	1984
	Convention	Convention on the conservation of wildlife Species	1986
	Law	Law no. 87-015 adopted on September 21, 1987 related to public hygiene in Republic of Benin	1987
	Law	Law no.87-016 adopted on 21 September 1987 related to water code in the Republic of Benin	1987
	Law	Law no. 91-004 of 11 /February 1991 on phytosanitary regulations in Benin republic	1991
	Law	Law no. 93-009 of 02 /July 1993 on forest management, protection in Benin republic	1993
	Convention	Convention on biological diversity	1994
	Law	Law no. 098-030/ February 12, 1999 on environmental framework in Benin republic	1999
	Law	Law no. 2002-016 adopted on October 18, 2004 related to fauna management in Benin republic	2004
<b>Institutional framework</b>	Law	Law no. 2010-44 on water management in Benin republic.	2010
	Ministry	Benin Environnemental Agency (ABE)	1995
	Ministry	Ministry of Agriculture, Livestock and Fisheries established (MAEP) by Decree no. 2001-364 on September 18, 2001	2001
	Ministry	Ministry of Environment and Protection of Nature (MEPN) created by Decree No. 2006-460	2006
	Community	Law no.97-029 on the organization of municipalities in Benin republic by empowering them in terms of planning and environment protection	-
<b>Operational framework</b>	Local institutions	National Center of Wildlife Reserves Management (CENAGREF); National Center for plant cover control (CENEATEL); Environmental Police; Departmental Directions for the Environment and Nature Protection (DDEPN); General Office of Forests and Natural Resources (DGFRN) the National Geographical Institute (IGN) for the aspects related to the occupation of the space, to the land, the development and the implementation of schemes of development	-
	Plan	Environmental Action Plan	1993
	Program	Management Program of Forests and nearby land (PGFTR)	2005
	Project	Conflict and crisis prevention project in the field of communal management of natural resources related to cross-border transhumance in Niger, Burkina Faso and Benin	2010
	Project	Agoua forest, Kouffé Mountains and Wari-Marou Forest Management Project	-

Source: The author

### **3.2 Analysis of Policies, Institutions and Projects in Benin**

#### **3.2.1 Natural resources management policies**

Several laws or decrees allow the regulation of the management of natural resources in Benin. The laws are mostly adopted around the 1990s when the Beninese state took the control of the management of natural resources. These laws are mostly related to forest management and include:

- Law No. 93-009 of 2nd July 1993 on the Forest Regime. This law governing the forest regime in the Republic of Benin has divided forest areas into the classified domain, the protected area and human activity area. This law made it possible to involve local populations in the management of these resources. Beside the ecological function, the forest should also play an economic function in support of the livelihood of the surrounding population. This new paradigm made it possible today the share the products of classified forests between the State and the neighbouring populations while associating them with their rational and sustainable exploitation.
- The law n°87-013 of September 21st, 1987 on the regulation of the vain grazing: this regulates until now the guard of the domestic animals and the transhumance of a general way.
- Law No. 98-030 of 12 February 1999 on the environment. This law defines the general framework and the legal bases of the governmental action in the field of the environment. The law defines a number of general principles including the participation of different social groups in the conception and the implementation of the national environmental policy, the right of every citizen to a healthy environment and the protection of the environment.
- Law n° 2013-01 on land and tenure code in the Republic of Benin: This code determines the fundamental rules and principles applicable in land and public property in the Republic of Benin.
- Law No. 87-016 of 21 September 1987 on the water code, this law provided for the classification of water in natural public domain and artificial public domain. And each domain is operated within clearly defined conditions.

- Law No. 94-004 of 11 February 1991 on Phytosanitary Regulations
- Law No. 87-015 of 21 September 1987 on the Code of Public Hygiene: the Code are applicable in the context of the preservation of certain resources and human health: Hygiene on public roads and public water, house hygiene, and water hygiene for various uses.

The different laws have allowed foresters to have some legitimacy that facilitates the management of natural resources in general and forest resources in particular. Some of these legal provisions had introduced a strict ban on agropastor access to the forest. However, after the Rio de Janeiro Conference in 1992, which focused on the consecration and globalization of sustainable development, there was a change of view. The participation of the population has been understood as prerequisite to sustainable management of natural resources. This has thus facilitated the promotion of the participatory approach for many years. Agropastoralists have had much less difficulty in accessing parts of the forest.

#### **3.2.2 Institutions set up for sustainable management of natural resources**

Many actors intervene in the management of natural resources in Benin. The main actors are the public administration, the private sector, local communities and civil society. At the public level, we have the Ministry of Agriculture, Livestock and Fisheries. In the area of natural resource management, the mission of this department is to facilitate the exploitation of natural resources according to the regulation framework. For long time, the ministry has been represented in the ground by department and district offices. The Ministry of the Environment and Nature Protection is also responsible for the protection of environmental quality and the sustainable management of natural resources. It has a forestry policy and an environmental police. This ministry set up operational agencies such as:

- the Benin Environmental Agency (ABE) which is created by decree n ° 95-47 of February 20, 1995 on aspects of control, impact study; environmental protection;
- the National Geographic Institute (IGN) for planning aspects;
- the General Directorate of Forests and Natural Resources (DGFRN);
- the National Center for the Management of Wildlife Reserves (CENAGREF);

- the National Center for Remote Sensing and Surveillance of Plant Cover (CENEATEL), and
- the Departmental Directions for the Environment and Nature Protection (DDEPN).

In addition, the municipalities have been given, through the law 97-029 in the Republic of Benin, a certain competence for the planning of the territory and the protection of the natural resources (forest, soil, water and wildlife). Private sector actors such as Non Governmental Organizations (NGOs), civil society actors and professional organizations are also players in natural resource management. Professional organizations include the Departmental Union of Professional Ruminant Breeders Organizations (UDOPER) play an important role in the promotion of ruminant animal husbandry, commercialization and the circulation of information related to the management of natural resources.

### 3.2.3 Projects and programs: Development approach and some examples

In Benin, several projects and programs have been implemented to contribute to good management of natural resources. We will present in this part their genesis as well as the intervention approaches of those taken as case study. The natural resource management projects implemented in Benin have the same pathway. These programs and projects are usually developed in two main phases. In the first phase, the government defines the main orientations that allow the development of sector projects. Following this, projects from the priority sectors are elaborated with more details. This phase generate project ideas. The second phase consists of four stages namely: the diagnosis, the formulation of the problems identified in the program or project, the fund raising, the execution and the monitoring and evaluation of the project / program.

**Program for Management of Forests and Territories:** In 2010, the World Bank-financed Forest Management and Management Program (PGFTR) established a Participatory Management Plan (PAP) for the Three Rivers Forest. The main objective of this ten-year plan was to involve local communities in the sustainable management of the forest while promoting their own socio-economic development. According to this plan, the

classified forest of the three rivers is composed of three distinct zones. At first we have a buffer zone, which is a band of the forest surrounding the protected area. There are also outlying areas, which are areas outside the buffer zone, including the territories of all neighbouring villages and hamlets. Finally, there is the rangeland, which is the forest area open to grazing and watering herds. The institutional framework for forest management provides for the existence of a Participatory Forest Management Committee (CGPF) which is the body in charge of monitoring the strategic orientations of the participatory management process. At village level, Village Forest Management Committees (CVGF) and then village subcommittees are in charge of monitoring each forest resource exploitation activity. However, these committees are inactive or non-existent in the field.

Because of the potential offered by the classified Forest of the Three Rivers in terms of pastures and water points, the pastoral populations frequent the area and have developed strong socio-economic relations. Most of them even settled down and practice agro-pastoralism. As a result, there is strong pressure on the forest and its resource system, resulting in changes in land use. In addition, logging is a dominant activity around the forest and involves actors at various levels.

The forest governance system as stated in the PAP, reserves exclusive access only to local residents for the exercise of exploitation activities. They are required to obtain operating permits and pay taxes for ecosystem services. The procedures for obtaining permits and paying operating taxes should normally involve participatory management committees at various levels. Also at this level, the sluggish situation in which these committees find themselves leads to the preponderance of forest administration over other actors. The result is misunderstandings, especially because agro-pastoralists do not understand why they must pay to access the natural resources of the forest. They believe that pressure from loggers and climate change dramatically reduces animal pasture and impacts their livelihoods. Thus, a set of two related causes leads to the blocking of the participatory process and limits the access of agro-pastoralists to the resource. These include the failures of the governance system from the conception of the plan and the frustration of agro-pastoralists as a result of relations between the other actors involved.

**Project for Conflict transformation and crisis prevention in the communal management of natural resources related to cross-border transhumance in Niger, Burkina Faso and Benin:**

Pastoralists in sub-Saharan Africa practice mobile breeding, which consists of moving animals according to the seasons, in order to access natural resources such as water, pasture markets, etc ... This system, called "transhumance", requires a lot of space, which even goes beyond the borders of countries (mechanism of cross-border transhumance). Conflicts often fatal occur in the field of cross-border transhumance between farmers, local and transhumant pastoralists around the use of natural resources. Generally, mobile herders do not participate in decision-making processes in the area of natural resource management. They are considered as foreigners. The rules that are adopted are therefore not their rules and very often they do not even know them. The lack of a common language and communication channels is another factor exacerbating conflicts. With this in mind, the ZFD cross-border transhumance program was designed to promote dialogue between the various stakeholders around natural resources. This ZFD program operates in Niger (regions of Niamey, Dosso, Zinder and Diffa), in Burkina Faso (particularly in the Eastern region), and in Benin (departments of Borgou / Alibori and Atacora / Donga) for conflict transformation and crisis prevention in relation to transboundary transhumance and the use of natural resources. In Benin, the project is being implemented in the municipalities of Banikoara, Karimama, Malanville, Segbana, Nikki, Pereira, Kalale, Tchaourou and Bassila. Ségbana is one of the most active areas of intervention of the project and at the same time serving as pilot commune for the implementation of the project of biological materialization of the corridors of transhumant passage. This activity brings together several actors around the management of the passage corridor that allows transhumants and local agro-pastoralists to bring their herds to pasture and to drink at the dam of Liboussou (one of the districts of Segbana).

Before the biological materialization, the project had allowed delimitation by painting the corridor of passage. This delimitation involved all the stakeholders concerned including farmers and pastoralists. But this first delimitation and the dialogue, organized in the framework of the project, have not been enough to stop disagreements because the materialization by painting is not always visible according to

farmers. In view of these difficulties, the actors came together to adopt a local convention for the biological materialization of the corridor of passage. Nevertheless, difficulties still remain.

**Agoua Massifs, Kouffé Mountains and Wari-Maró Forest Management Project:**

Like the W and Pendjari National Parks, the classified forests of Agoua, Monts Kouffe and Wari-Maró represent an ecological unit whose specific diversity is higher than that of the two parks combined. The area covered by the complex of two forests classified administratively in the communes of Bassila and Tchaourou, and whose resources are also shared by a portion of the populations of the communes of Ouéssè and Bantè, two municipalities of the Department of the Collines. The two forests cover about 293 517.93 ha including 182,422 for the Kouffé Mountains and 111,095 ha for Wari-Maró. These forests are threatened by increasing incursions of agriculture and livestock. As classified forests of the State, they are exempted from the anarchic use by the riparian populations while authorizing the rights of use including the hunting by all the means authorized by the regulations. The main users of the forest are farmers, pastoralists, loggers and hunters.

The sound management of classified forests is required for the safeguarding of ecosystems. This management will make it possible to circumvent the strong anthropic and animal pressure on the 46 forest massifs constituted in classified forests of an area of 1.303.043 ha. To succeed in this, the Government of Benin requested from the assistance of African Development Bank to implement the Agoua, Monts Kouffé and Wari-Maró Forest Mass Management Project (PAMF). Thus, the PAMF has enabled the development of the participatory management plan that forms the basis of the overall management strategy for the classified forests of Wari-Maró and Monts Kouffé. It focuses on national forest policy based on the participatory approach, including the co-management of natural resources with local populations. Table 2 sums up the projects or programs as well as the approaches adopted and the types of justice taken into account.

Benin is rich in forest resources formerly managed empirically by traditional institutions. Since the classification of the forests by the colonial administration, these resources are under the permanent threat of anthropic actions encouraged by the erosion of the legitimacy of



**Table 2. Projects / Programs and their approaches to intervention**

<b>Projects / Programs</b>	<b>Activities</b>	<b>Approaches of intervention</b>	<b>Dimensions of justice</b>
Program for Management of Forests and Terroirs	Management of forests and riparian lands to ensure their sustainability. This is the Three Rivers Classified Forest consisting of three zones: a buffer zone, outlying areas, and the rangeland	Participatory and community management through the establishment of the Participatory Forest Management Committees which is the body in charge of monitoring the strategic orientations of the participative management process. At village level, Village Forest Management Committees and then village subcommittees are in charge of monitoring each forest resource exploitation activity.	Procedural justice
Project for Conflict transformation and crisis prevention in the communal management of natural resources related to cross-border transhumance in Niger, Burkina Faso and Benin	Promotion of dialogue between transhumants and other actors around natural resources	Community Approach to Conflict Management	Procedural justice
Agoua Massifs, Kouffé Mountains and Wari-Marou Forest Management Project	Management of the Agoua, Kouffé and Wari-Marou Forest Massifs	Participatory and community approach	Procedural justice

Source: The author

the traditional power to manage the natural resources, the galloping demography and the weakness of the human and material means of the Forest Administration.

## **4. DISCUSSION**

### **4.1 Do Policies Guarantee Justice in Natural Resource Management?**

From the colonization to now, several policies, institutions and projects / programs were initiated to ensure good management of natural resources in Benin. These organizations have adopted different approaches ranging from state-controlled management to the integration of the population into this management. Especially after the 1992 United Nations Conference on the Environment, participatory management approaches are used. But this participation does not guarantee sustainable management of natural resources, and conflicts are always recurring between the actors, especially conflicts between pastoralists, farmers and management organizations. It is then relevant to see how the actors conceive the notion of participation and

how the three dimensions of justice (procedural, distributive and symbolic) are taken into account in these different approaches used. The analysis of the different policies shows that the laws promulgated during the 90s, just before the Rio Conference in 1992, opted for exclusive management, with the State acting as a "policeman". The population was not at all integrated in the management. This management has contributed little to the sustainability of natural resources. The sense of social justice of the state was binding on all. That of the other actors, in particular the populations living near the resources counted little. This management approach was far from providing procedural justice. Since resources were considered almost exclusive property of the state, no plan for the fair distribution of benefits was really applied. The riparian populations being very often forbidden from access to resources, there was a resignation of one and a violation of the law by the others. The proliferation of poaching is a reflection of this circumvention of the law.

After the Rio Conference of 1992, efforts were made to include people in management through

the development of participatory approaches. However, the application of these different participatory approaches has suffered from several weaknesses. The concept of participation is for the most part confused with procedural justice that just allows people to be included in decision-making. Distributive justice is not taken into account. This state of affairs gives rise to frustrations among the population. The diagnostic analysis carried out in 2008 by the United Nations Environment Program (2008) in Benin in relation to the management of the Volta Basin shows that Benin institutions need capacity building in natural resource management. The different approaches used do not achieve the objectives of sustainable management of natural resources. This same observation is made by Roe et al. [13]. According to them, the governments in Sub-Saharan African countries have failed to apply the principles of participation, that is, social justice. They still keep power and total control over these resources. They try to always apply obsolete technocratic solutions to solve the problems of resource management, for example in the case of conflicts between farmers and pastoralists during transhumance. According to Gallard and Koné [14], participation is at the centre of debates on strategies for sustainable development. For them, it is important to put people at the centre of the process by making them responsible.

The reform of de-concentration and decentralization in Benin has to some extent favoured procedural justice without ensuring the distributive justice that motivates the population. A similar finding is made in Africa by Roe et al. [13] who have shown that the costs and benefits of using natural resources must be distributed to ensure the sustainable management of natural resources. This is a way of encouraging the community. They show the importance of distributive justice that strongly influences the behaviour of stakeholders. When this justice is not taken into account, it will be difficult to achieve the expected results. According to Ostrom [15], in case of institutional change, the management of natural resources will be successful only if the benefits of the new way of managing are significantly higher than the old method. The comparison between top down methods of natural resource management and those currently practiced is no different in terms of distributive justice, as these participatory approaches have tried to ensure procedural justice. Roe et al. [13] show that governments in Africa are reluctant to leave the control of

precious resources such as wildlife and timber. For Gohl (1993), participation is the process that allows people to gain more autonomy and management structures to lose power. This definition highlights the symbolic dimension of participation. Natural resources should also be managed in such a way that the population feels this recognition, an egalitarian interaction. Both distributive and symbolic justice have been not been considered enough in the implementation of natural resource management policies in Benin.

## **5. CONCLUSION**

Natural resource management in Benin has changed from colonial times to the present day. Approaches to natural resource management have changed over time; from the technocratic approach through participatory management to the concession approach with the involvement of the private sector (in experimentation). Several actors intervene in this natural resource management environment (public, private, community and civil society). The various natural resource management laws, especially those related to agropastoralism, have not had major changes or at least in their application in terms of approaches. This explains recurring conflicts between farmers and transhumant pastoralists. The analysis of intervention approaches in the management of natural resources shows that management is still directive although efforts are made to disengage the State by increasing the responsibility of municipalities in the management of natural resources. The participatory or community approach as implemented in the field does not guarantee sustainable management of natural resources. In the light of the theory of justice as the theoretical basis of our analysis, we have noted that procedural justice is the one that officials at all levels try to put into practice. However, for sustainable management of natural resources, it is important to take into account distributive justice, which according to several studies can motivate actors.

In view of the emerging mode of natural resource management involving more private actors in Benin, mechanisms that can take into account the issue of justice are required. Clearly, it would be useful to reflect on forms of justice appropriate to the types of natural resources. Beyond the simple normative justice, it would be interesting to take into consideration the feelings of justice of the actors at the grassroots level.

Empirical studies are needed to highlight the links between justice, feelings of justice of the populations and observed social changes. In particular, the specific cases of agro pastoral communities are very fertile case studies for debate.

### ACKNOWLEDGEMENT

We would like to thank Dr Mohamed Nasser BACO, Ms Chérifatou SINAGNISSIRE, Mori GOUROUBERA (PhD Student) and Dr Latifou IDRISOU for their valuable contribution to this research.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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