

GOVERNING LOCAL COMMONS: WHAT CAN BE LEARNED FROM THE FAILURES OF LAKE AHEME'S INSTITUTIONS IN BENIN¹?

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FIRST DRAFT

Abstract

At different parts of the world, local commons are moving into more and more complex situations due to changing ecological, socioeconomic and cultural conditions of their exploitation. Therefore, successful institutions for governing them have emerged as a crucial issue of sustainability. Institution is defined as a set of rules, eligibility criteria, decision-making arrangements, punishment structures, and action assignments (see Ostrom, 1990). Sustainable commons are strongly related to the capacity of the stakeholders to design and share institutions that are enforced and continuously adapted in face of evolving conditions. The paper focuses on the specific case of the evolution of Lake Aheme's institutions: since the pre-colonial times (before 1894), through colonial (1894-1960) and after independence (1960-1990) periods, and to the recent democratization era (after 1990) in Benin. Lake Aheme is located in the southern area of Benin. With 24 km in length, the lake's surface is 78 square km during low level of water and 100 square km at the periods of inundation of its floodplains. More than forty villages are surrounding the lake. The Pedah (fishers) and the Ayizo (fisher-farmers) are the dominant ethnic groups around the lake, among many smaller other ethnic groups. Lake Aheme is a complex local common, which is continuously changing under the influence of several factors (ecological, socioeconomic, technological, cultural, and political) that have influenced its institutions since colonial times. Despite repetitive failures of these institutions, this case study helps gain a deep understanding into the relevance of institutions for governing local commons. The paper analyzes the evolution of Lake Aheme's institutions in relation to factors that influence the failures, from an historical perspective. Can successful institutions be designed to regulate use and access to local commons? In addition, beyond the insights gained into the ongoing struggles, conflicts, negotiation, mediation and adaptations of stakeholders, major learning points are identified to discuss the extent to which institutions can be better designed for governing local commons in the future.

1. Introduction

Several millions of rural people in the world depend on different types of local commons for their daily livelihoods. However, these commons are moving into more and more complex situations due to changing ecological, socioeconomic and cultural conditions of their exploitation. Political measures based on rationing, regulating, and controlling over, local commons' resource use have attracted many scholars (e.g.; Ostrom, 1990; Bromley, 1992; Hanna *et al*, 1996) and these issues present an existing area of study. Successful institutions for governing these commons have emerged as a crucial issue of sustainability. Key elements that stimulate reflection in the definition of institution by Ostrom (1990) concern: eligibility for decision-making, actions assignment, rules, procedures and provision of information. From that point of view, institutions for governing local commons can be seen as a frame of reference for collective action.

Institutions may change through time and space, in a given organizational setting. This situation is probably the reason why institution and organization are commonly used interchangeably and this contributes to ambiguity and confusion. North (1994) makes a differentiation between these two concepts by using metaphors and parables. He defines institutions as 'the rules of the game in a society, the humanly devised constraints that shape human interaction'. The rules can be informal (unwritten) or formal (written). North (1994: 4-5) argues that: Like institutions, organizations provide a structure to human interaction, and conceptually what must be clearly differentiated are the rules from the players. The purpose of the rules is to define the way the game is played. But the objective of the team within that set of rules is to win the game - by a combination of skills, strategy, and coordination; by fair means and sometimes by foul means. Modeling the strategies and the skills of the team as it develops is a separate process from modeling the creation, evolution, and consequences of the rules. In concrete situations, these parables and metaphors can help to avoid confusion. Institutions for governing local commons can be seen as rules within which organizations work. But the interaction between the two seems to be relevant for understanding changing patterns of institutions. Skills and knowledge that individuals and their organizations acquire can shape evolving perceptions - about opportunities, strategies, and new ways to go about change; which can incrementally alter institutions. In turn, institutions dictate the kinds of skills and knowledge that are needed for organizations.

Sustainable commons are strongly related to the capacity of the stakeholders to design and share institutions that are enforced and continuously adapted in face of evolving conditions. This paper focuses on the specific case of the evolution of Lake Aheme's institutions: since the pre-colonial times (before 1894), through colonial (1894-1960) and after independence (1960-1990) periods, and to the recent democratization era (after 1990) in Benin. Lake Aheme is a complex local common, which is continuously changing under the influence of several factors (ecological, socioeconomic, technological, cultural, and political) that have influenced its institutions since colonial times. Key literatures about the fisheries in the South of Benin and especially Lake Aheme (e.g., Pliya, 1980; Dagba, 1986; Mondjannagni, 1977), and the history, origin, and socio-cultural organization of the people around the Lake Aheme area (e.g., Manning, 1982; Meideros, 1984) were available during the study. These literatures enabled a detailed historical study. Despite repetitive failures of Lake Aheme's institutions, this case study helps gain a deep understanding into the relevance of institutions for governing local commons. After the description of the

lake and its stakeholders, the paper analyzes the evolution of Lake Aheme's institutions in relation to factors that influence the failures, from an historical perspective. Can successful institutions be designed to regulate use and access to local commons? In addition, beyond the insights gained into the ongoing struggles, conflicts, negotiation, mediation and adaptations of stakeholders, major learning points are identified to discuss the extent to which institutions can be better designed for governing local commons in the future.

2. Lake Aheme and the stakeholders

Lake Aheme as a complex local common

Lake Aheme is located in the Southern area of Benin and its resources are used by the stakeholders who are in different administrative divisions³: three provinces and five districts. Several villages are established around the lake. The lake is deeply embanked between plateaus, which consist of red soil called *Terre de barre*. Two plateaus of the localities called Comé and Bopa are in the western side and the plateau of Allada in the eastern side. The lake receives the River Couffo at the northern part. With 24 km in length, the lake's surface is 78 square/km during low levels of water and 100 square/km at the periods of the inundation of the floodplain (Dissou, 1986: 68). The Northern part is deep (2.10 m) while Southern part is less deep, 0.30 m during periods of lower water levels.

The connection of Lake Aheme to the sea (Atlantic ocean) goes through a complex channel called Aho, with 10 km in length, which joins the lagoon of Grand-Popo, a crossing point with other rivers flowing into the Atlantic ocean (see figure 1). During the dry season, the water flows from the sea through the Aho and causes increasing salinity in the southern part of the lake. This phenomenon happens very often in March according the stakeholders. When the rainy season starts, the River Couffo flows abundantly into the lake and causes decreasing salinity. The lake's shores were covered by mangroves (e.g., *Rhizophora racemosa* and *Avicennia africana*) which provided shelter, refuge, shade, food, and fish ponds for the lake's species (Pliya, 1980). The physical state of the lake has changed. According to Mondjanangni (1969) and Pliya (1980), the mangroves were completely destroyed, despite their importance for providing a suitable ecological niche for the reproduction and the growth of the lake's fishery resources. Lake Aheme is a common-pool resource⁴ with different ecological settings, which regularly change according to natural factors such as heavy rains (inundation) and drought (salinity problem). The interest here is not to focus on ecological understanding from this dynamic, but the description aims at establishing the ground for the understanding of the fishing practices and strategies, which are used by the stakeholders. In other to judiciously exploit ecological settings of the lake, the stakeholders also have created conflicting fishing practices, as it will be discussed later. Coalitions related to fishing methods emerged. However, if the Lake Aheme is to be used in a concerted manner, an agreement among the different groups of stakeholders seems to be the only way for developing perspectives on solutions at the level of the whole lake.

Despite the changing ecological status of Lake Aheme, there are, still, many fishery resources, which have economic value, and are well appreciated in the markets (see table 1). Further discussions will reveal that since economic valuation of the lake's resources emerged, the more scarce they are, the more interesting economic value they have, and the more complex is the implementation of institutions for governing the lake.

Table 1: Example of fishery resources in Lake Aheme, which have economic Value according to the stakeholders (source: survey, and Pliya, 1980)

Scientific name	Local name (Pedah)
Sarotherodon melanotheron	Akpavi (fish)
Mugil cephalus	Guessou (fish)
Polynemus quadrifilis	Siko (fish)
Elops lacerta	Nongban (fish)
Chrysichthys migrodigitatus	Blolo (fish)
Ethmalosa fimbriata	Ahouè (fish)
Penaeus duorarum	Degon (shrimp)
Callinectes latimanus	Asson (crab)
Myrophus punctatus	Todan (eel)

The stakeholders of Lake Aheme

Who are the stakeholders of Lake Aheme and how to identify them?

First attempts on Lake Aheme were based on the use of historical sources (e.g., Karl-August, 1984; Pazzi, 1984; Merlo & Vidaud, 1984), which were available, to focus on the understanding of the socio-cultural diversity and the social practices which characterize the people who settled at the shores of the lake.

From the social cultural diversity side, two important ethnic groups, the Pedah and the Ayizo were identified. The Pedah people are the dominant ethnic group of the lake (cf. also Pliya, 1980). They are at the western side of the lake, and live in the consecutive villages Agatogbo, Gonguè-gbo, Kpétou, Acodeha, Houégbé-Pedah, Sêhomi, Tokan, Tossouhon and Ouèdemè. At the eastern side of the lake, Pedah people are dominant in the villages Agbanto, Sègbohòuè and Adjatopka. The Ayizo people live in the northern part of the lake in Bopa (western side) and in some important villages, Dékanmè, Tokpa-Domè, Yémè, Houago, Houédjro and Kpago at the eastern side. There are some similar cultural patterns with respect to beliefs and religious practices in the two ethnic groups (Aguessi, 1984). Several rituals of voodoo are common to Pedah and Ayizo people. Those two ethnic groups originated from Tado, a village in Togo (Pazzi, 1984; Karl-August, 1984). There is a resemblance in the language used by these two ethnic groups.

From the social practice side, the Pedah people are fishers while the Ayizo people are fishers-farmers. The fact that fishing activities are common for the two ethnic groups means that they hold a stake in Lake Aheme and may have different

voices and interests. Identifying different categories of the stakeholders of Lake Aheme, and their social practices and interests was a methodological dilemma because it was not easy to know from where concrete investigations should start in the lake area. One of the solutions to overcome this problem was to focus on a specific location to enter gradually the arenas around the lake. From that point of view, Guézin was identified as a village, which is historically remarkable as a center where some people had played a crucial role for the governance of and the control over the lake. Starting intensive interviews from Guézin helped identify other key informants in the other villages of the lake. The practices and the methods used for the fishing activities, especially those, which presented conflicting grounds, were identified. They constituted the basis for the identification of the following main groups of potential stakeholders of Lake Aheme: The Dê (=King) Zounon, the Xha people, the Akaja users.

The Dê Zounon is the King of Guézin. The dynasty of the Zounon was governing Lake Aheme and the kingdom was supported by the catches from a fishing practice called Xha which is a kind of fishing barrier installed at the southern part of the lake (see photograph 1). The Xha enables the owner to catch shrimps and fish species, which migrate from the sea. The Xha people are the relatives or the family of the Dê Zounon⁵. They practice the Xha in the lake. The Akaja users are the stakeholders who designed the Akaja system, a kind of fishing device based on the principle of setting dense masses of branches in the shallow water, which attract a large number of fish because of its resemblance to the mangrove. This fishing device is used at the deeper central and the northern parts of the lake. The owner of the Akaja is the only one who appropriates, after a certain period (6-12 months), the catches of a large quantity of fish, which is in this fishing device. The Xha and the Akaja fishing practices enable few stakeholders to catch more fishery resources like fish, shrimps, crabs, etc. in Lake Aheme. The majority of the other stakeholders has little and became frustrated and they use some fishing methods and tools, which are, perceived as one of the causes of the depletion of the lake.



Photograph 1: Xha in Lake Aheme

The development of conflicting fishing practices (Xha and Akaja systems) and unacceptable fishing tools in the area of Lake Aheme is a long process, which started since the pre-colonial time in the history of Benin. For that reason, historical perspective may be the best way to analyze changing patterns of institutions for governing this lake.

3. Evolution of institutions for governing Lake Aheme

Pre-colonial period, before 1894: successful local institutions

Context of the formation, and the content of Local institutions of Lake Aheme

The first people of Lake Aheme are the Pedah ethnic group. Their settlement in the lake area was a long migration process in a problematic context. During the 15th century, the capital of the Pedah ethnic group was the village called Sahè and they were organized in chiefdom (Pliya, 1980). The second king of Sahè created Ouidah⁶ and developed commercial relations, which was prosperous with the Portuguese at the coast of Ouidah. The success of the chiefdom in Sahè attracted the kingdom of Abomey, which was one of the more military and politically organized at this period. In 1727, the King Agadja of Abomey kingdom conquered Sahè in order to control economic activities with the Portuguese. Therefore the King Huffon of the Pedah people and his population had fled towards Lake Aheme where they found a refugee place on a small island that they called Mitogbodji⁷. At this place, they could protect themselves against the soldiers of Abomey kingdom. However, living on the small island was difficult. From this place, they created some villages at the West shore of the lake include Guézin. The Pedah started the fishing activities to survive. They found it very fruitful and adapted to the situation. At the same period, the Aïzo gbossin (other ethnic group) of the Allada plateau, who were hunters has started their settlement in the northeast of the lake.

A migrant hunter locally built Lake Aheme's institutions during the pre-colonial times. According to a local mythology, which is known by the stakeholders, and the existing sacred places in Guézin, the panther had a great significance for the generation of the local organization for governing Lake Aheme in the past. The mythology concerns a hunter called Ekloussè who left Niaouli (village at the northeast of the lake) and reached Guézin while hunting on the eastern shore of the lake. In Guézin he killed two panthers, which terrified the Pedah people. For that reason, Ekloussè was welcomed and he started fishing activities with a kind of basket-trap he made with the veins of the oil-palm tree (*Elaeis guinensis*). The tool was efficient and Ekloussè had the idea to design a fishing barrier in zigzag in the lake and fixed the basket-trap in the angles along the barrier. Fish, shrimps and crabs were captured in the basket-trap. Ekloussè was admired by the Pedah people in Guézin because of his astute way of fishing with the Xha. The Pedah people had benefited from his catches (cf. Pliya, 1980: 91). After killing the two panthers, and inventing the Xha practice, Ekloussè was named the Zounon (which means literally: the mother of work). The Pedah people appointed him the King of Guézin (or Dêh Zounon in Pedah).

The Dêh Zounon extended his authority to all the people (Pedah and Ayizo) around the lake. He succeeded to realize the unification of those ethnic groups. The Pedah people appointed him the king of Lake Aheme. The agreement was made that the Dêh Zounon was only one allowed practicing the Xha as a means of support for the kingdom. The Dêh Zounon took the control of the voodooos, the spiritual

representations of God, such as Dagboehounsou, which is located in Houèdjro, Kpohon in Sêhomi, Kpassè in Houégnogbé and Tohonon in Kpindji. These representations were perceived as the protectors of the lake and the stakeholders. He appointed the priests of these voodooos and they formed together the local organization for governing the lake. The priests were strategically located around the in order to enable an effective control of the stakeholders. The fact that the authority of the Dêh Zounon covered the economic, moral, social and spiritual dimensions of the people of Lake Aheme, provided some prerogatives to the local organization of the lake, i.e., setting rules, regulations, the protection of the environment, sanctions, treat of different conflicts, protection of villages, etc. Lake Aheme's institutions, synthesized in Box 1, were generated in the framework of this local statutory power.

Box 1: The local institutions of the Lake Aheme during the pre-colonial times

- The Djêtowlé (jumping in the lake) is forbidden in order to protect the spawning ground of the fish.
- The Dobou-doboui (chasing the fish by hands towards the fishing net) is forbidden.
- The Amèdjrotin (putting leaves in the water to attract the fish) was not allowed.
- The use of "Mandovi" (a fishing net with a small mesh) and "Djohoun" (a fishing tool which holds a lot of hooks) were forbidden.
- The fishers were not allowed to practice fishing activities two days per week.
- During the periods of the cult for the voodooos protecting the lake, fishing activities were not allowed. The cult ranged over 5 to 7 days.

Some taboos concerning the King Zounon were defined. For instance, he was not allowed to put his feet in the water because, according to the local people, this would provoke the anger of the spiritual representations which would create serious floods in the agglomeration of Guézin and a lot of diseases for those who were living there.

Analyzing the content of the local institutions

The stakeholders perceived already at the pre-colonial time that they collectively depend on the lake, their common property, which need to be managed. Therefore, the motives of creating the local institutions were aimed at keeping Lake Aheme from being destroyed. The local institutions of the lake revealed an ecological connotation, for instance, the fact that the Djêtowlé and the Doboui-doboui were banned, can be interpreted as a way to avoid habitat degradation of species in the lake. They included the idea of restricting the catches by reducing the fishing activities to 5 days in the week and of preventing the use of Mandovi, Djohoun, and Amèdjrotin. They involved a form of investment, which can be defined in terms of the contributions, required for the spiritual cults (goat, chickens, alcohol, money, etc. for the ceremonies) which stimulated the productivity of the lake, ensured the subsistence and the prosperity of all the stakeholders. The local institutions were successful.

Factors that influence the success of implementing the local institutions?

According to the interpretation of the stakeholders, Lake Aheme on which they depend for their livelihoods, is under the control of the spiritual worlds which has several representations of God. The institutions of the lake are embedded in spirituality, magic and witchcraft. Spirituality was a repertoire of the local understanding and interpretation to decision-making about the lake (cf. Pliya, 1980). Magic and witchcraft were used to enforce sanctions. In relation to the belief systems

of the stakeholders that the lake was under the protection of several voodooos, the decision-making about the lake was in the hands of the spiritual authorities: the King Zounon and the religious priests of the lake. The communication with the spiritual world was done through the consultation of the oracles, which would enable anticipation on the anger of the voodooos, which might create surprises in the lake area (inundation, decreasing of fish catches, etc.). According to the existing legends, the King Zounon had the possibility to influence the productivity of the lake with the aid of magic and supra-knowledge.

Under the local arrangement, the punishment structure and sanctions for the non-respect of the institutions for Lake Aheme were severe and very efficient according to historical sources (e.g., Pliya, 1980) and the information provided by the stakeholders during the study. There were different levels of sanctions for those who did not respect the local institutions (cf. also Pliya, 1980). Simple sanctions concerned the confiscation of non-authorized fishing tools which were publicly burnt in the village of the defector. A stakeholder explained what he had learned from his grandfather about severe sanctions of the defectors of the rules in the local institutions of Lake Aheme (see Box 2).

Box 2: The nature of the sanctions in the local perspective explained

In the old times of our ancestries, the respect of the practices, which were banned by the authorities of the lake, was a very serious affair. At that period, the religious priests and the old men in the villages were in charge of punishing those who were violating the local institutions of the lake. The sanctions were really severe and without any compassion to pity. At worse, you will be killed with the witchcraft power or the magic of the spiritual priests and the old men. After the tragedy, everybody would say that this was done by the voodoo Dagboehonsou, the guard of the lake. The body of the dead person who had violated the local institutions would be passed through the whole village to show to the other inhabitants that he violated the law of ancestors. There were many realities in our culture.

The fact that the stakeholders built trust on the local organization and institutions, for governing Lake Aheme during the pre-colonial times, was a crucial condition for success. This local perspective worked until the penetration of colonialism, which contributed to the degradation of this situation.

Colonial period, 1894-1960: the emergence of failing institutions

New socio-political and economic order with colonialism

Colonial authorities had progressively contributed to the weakening and killing of the endogenous socio-political and cultural organizations, which ensured the governance of Lake Aheme. The social status of the King Zounon changed and he held concurrently his position in the local organization for governing the lake and the one of the *Chef de Canton* (formal political authority at the local level during colonial times) of the Pedah. This new position gave other prerogatives to the King Zounon and he organized frequent tours in the villages where the Pedah people were living in the lake area. Then his activities were beyond the prerogatives of the Kingdom. This

situation, negatively, influenced the credibility of the local organization because according to the local taboo, the king was not allowed to have frequent mobility.

Colonial authorities introduced a new law (Decree of 23rd, October 1904), which stipulated that in the whole federation of Francophone West Africa, the State had the right to control all water resources. Public domains (e.g., fisheries, floodplain, etc.) belonged to the State. Water and Forests Service (WFS) was created in 1907. The existing local organization and institutions for the lake were not used while the new external organization; the WFS did not define the new institutions for the lake until 1939 (cf. Pliya, 1980). The lake covered several administrative divisions, which were created. The idea of maintaining one authority system for the lake was not applied. Several poles for the treatment of conflicts between the stakeholders emerged. Sanctioning stakeholders who were not cooperating for the implementation of the local institutions of the lake were no longer effective. Any attempts to revive the local arrangement at the end of the 1930s were not successful because the *laissez-aller* reached a certain level which created a loss of trust in the local organization, especially King Zounon who was ensuring the governance of the lake (Pliya, 1980: 119).

Economic opportunities attracted other ethnic groups like the Toffin and the Goun from the southeastern part of Benin and the Ayizo farmers who were living in villages not so far from the lake. The development of transport services and the facilities for joining market places encouraged the stakeholders to catch more fish in the lake. The emergence of market opportunity, a new valuation of the fishery resources, and the mounting population around the lake, all these issues favored an increased pressure on the lake. The problem of scarcity of the fishery resources emerged already at that period. The context in the pre-colonial time, which was based on insuring the subsistence of all the stakeholders, has changed.

Explaining the factors that influence failures

The emergence of failures in any attempt to enforce the local institutions started with the changing conditions about the lake and the stakeholders: economic opportunities, the loss of trust on the local organization and institutions and the political context.

Fishery resources of Lake Aheme acquired economic value. Beyond the subsistence of the stakeholders, there was an increased demand for fish and market opportunities were offered (cf. also Pliya, 1980). During the colonial period economic world entered the frame of reference of the stakeholders. All these issues altered the local perspective based on spirituality. This new context did not enable as a successful control over the lake as the situation was in pre-colonial times.

Fishery resources development was a neglected dimension and drew less attention from the colonial authorities who were more interested in cash crops (e.g., cotton, tobacco, oilpalm trees). Some concrete examples (cf. Boon et al, 1997: 267) were the *Compagnie Française pour le Développement des Fibres et Textiles* (CFDT), a company which was promoting cotton production; *Société de Commercialisation du Tabac* (SOCOTAB), a tobacco company; and the *Secteur de Rénovation de la Palmeraie* (SRP), oil palm development initiatives. The definition of laws or new rules and regulations was not done while the local institutions were not used. The absence of a research Institute or a development Center on fisheries or aquaculture in Dahomey (Benin was Dahomey before 1975) was a constraint for the provision of useful information about the Lake Aheme, which could have improved the performance of the professionals.

Investigations, which were done by scientists at that period, revealed that the ecological conditions for the reproduction of the species in the Lake Aheme were degraded (cf. Pliya, 1980: 143). There was also the evidence that the physical state of the lake was changing negatively, the mangrove was destroyed (Pliya, 1980: 48). The need to innovate and improve the productivity of the lake was felt. The Akaja practice was found as a solution but the stakeholders took the initiative and through a process of informal experiments, they put some branches in the shallow water of the lake to attract the fishes. Unfortunately, this practice has provoked many conflicts. The local institutions were very weak to address these new issues. The institutional framework for the development of the Akaja was not consistent with the nature of the lake's problem. A reason was that the professionals had a technical orientation while the socioeconomic and political tasks were more important.

Neo-colonial period, 1960-1990: conflicting arenas and failures

The emergence of competitive arenas with new fishing tools and methods

The Akaja practice increased the pressure on the lake. After the work of Welcome (1971) on the inland fisheries in Benin, especially Lake Aheme from 1967 to 1970, he found that the pressure on the lake was very high and the size of the fish caught from the lake too small. Then, he recommended that government measures might be taken quickly to save Lake Aheme. The professionals use the concept of the fishing effort as an indicator to explain the changing patterns of the physical use of the lake. The fishing effort is defined in relation to the way the tools used by the stakeholders are changing. The fishing effort of the stakeholders increase when they use more powerful tools, i.e., a fishing net with a smaller mesh size. According to a fishery development professional, fishing effort increases without an increase in the catches. This is perceived as a sign of the degradation of the lake.

Stakeholders explained that the meshes size of the nets had 5 or 4 'fingers' for catching the species, which migrated from the sea (e.g., *Elops lacerta*, *Polynemus quadrifilis*) and 2 fingers for catching fresh water species such as *Sarotherodon melanotheron*. After many people started using Akaja widely in the lake, it was difficult to catch more fish and everybody was using fishing tools, which have a small mesh size (1 finger instead of 2 fingers) to catch *Sarotherodon melanotheron*. The situation is changing, according to a stakeholder, before, a fisherman could spend a month to make a fishing net. Today, one can buy hundred of fishing nets a day in the market if one has money. In the market different types of fishing nets are available, including the ones with a very small mesh size.

The development of new fishing tools and methods by the stakeholders has a serious implication on the physical state of the lake. Signs of degradation were obvious while competitive arenas were established. Therefore, new institutions were required but an agreement between potential stakeholder was a necessary condition.

Unfortunately, the difficulty of concerted action between Akaja users and Xha people
When the idea of Akaja was introduced, the stakeholders did not know that it could provide economic opportunities. They discovered that the Akaja is a very good solution to the problem of fishery resource scarcity. Through an empirical observation and learning by the stakeholders, the Akaja became the only way to catch fish in the lake for some stakeholders. The Xha people perceived their practice as a legacy of their ancestors. The Xha became a means for subsistence instead of a privilege given

to the Dêh Zounon. Everybody knows this reality, which created a blockage for a concerted action with respect to the solutions of the lake's problems. There were many stakeholders who introduced new fishing tools, which provided the possibilities to catch more fish. According to a stakeholder, most of the people who used these tools knew that they were doing wrong things. With the presence of the Akaja and the Xha in the lake, there were no alternative ways to catch fish from the lake. Everybody was fishing as much as they could without any worries about the carrying capacity of the lake. Several conflicts emerged in complex arenas because one use of the lake's fishery resources seriously started interfering with other uses. Severe conflicts emerged among stakeholders and the institutional questions of the lake moved to the government level.

The definition of the institutions for the inland fisheries, especially Lake Aheme, moved to a higher level, the President of the Republic, because the problems deepened (high pressure on the lake, conflicts, wars, etc.). Information provision for the development of the inland fisheries in Benin was left. Experts like Welcome made many suggestions to the government (see Welcome, 1971). But, a closer look at the content of the government decree, which was proclaimed to solve the problem, revealed that the ideas prevalent in the local institutions were mostly used. Thus, the obligation for stakeholders to apply for a fishing permit was emphasized. Unfortunately this decree was not applied. The great political instability after the independence of Benin was not favorable for long term policies for fishery resource development. Also, agricultural development policies continued with the logic of cash-crops development as explained above. The *prise de conscience* for the development of fishery resources was visible in the late 1970s when the political engagement for the promotion of the aquaculture in Benin emerged. A concrete example was the creation of the Centre Piscicole de Godomey⁸, a center for aquaculture.

When the government failed: the Xha people generate new institutions

The Xha people in Guézin decided to take the initiative and create a platform for collective decision making. In face of the incapacity of the political authorities to ensure the governance of the lake, they realized the need to have an organization at the level of the whole lake to implement new institutions like the situation was during the pre-colonial times. The event started in March 1990. Different representatives of each village around the lake, the priests of voodoo in the fishing communities, met at the place called Mitogbodji, which has historical importance (see previous paragraph on pre-colonial times). They discussed the problems of Lake Aheme and identified new rules, regulations and sanctions (see Box 3). The participants made the decision to create a committee called the Comité de Gestion de Ehen (COGEHEN) for the implementation of their decisions.

After a month, the Xha people organized another meeting in the village Guézin. The members of the bureau of the COGEHEN were elected⁹. The local priests of the lake became the advisers of the bureau. This idea was to revive the role of spirituality in the enforcement of the new institutions for the lake. A local police of the lake was created. It consisted of a group of 15 to 30 stakeholders appointed by the COGEHEN according to the size of the villages. Their role was to detect the stakeholders who would defect and to enable their sanctioning.

The initiative of the Xha people can be interpreted as a process, which was aimed to develop a platform for concerted action at the level of the lake. Stakeholders knew that they could not solve the problems of the lake without the creation of a

structural arrangement for decision-making and the implementation of the new institutions. These activities raised many enthusiasms among stakeholders, especially young fishers. Their actions were effective for a certain period but failed in the end.

Box 3: Rules and regulations set at Mitogbodji

- The design of Akaja is forbidden.
- The use of small-mesh fishing nets like Mandovi and Gbagbalulu is forbidden.
- The fishing method called Tohounga during the day is forbidden. The fishers are allowed to use this method from 6 hours p.m to 6 hours a.m. The number of fishing nets will not exceed 5.
- The fishing technique called "Djohoun" during the day and at the place on the lake which is not deep is forbidden.
- The fishing method called Gbodoego is forbidden.
- The fishing method with hand called "Lohè" or Gbaha is forbidden.
- The space between the Xha for boat circulation must be increased.
- One day per week (from 6 hours p.m. of every Saturday to 6 hours p.m. of every Sundays) is retained to not practice fishing activities (this day is called Tosse = 'law of Water' or resting day for the lake).
- Every 8th of January is used to commemorate the death of a militant of COGEHEN on the 8th of January, 1990 during the removal of the Akaja from the Lake Aheme. This day will be followed by one week resting of Lake Aheme called also Tosse.
- Sanctions defined at Mitogbodji: the fishers who do not respect these rules and regulations will have to pay the following amends: 20 litres of Sodabi (local alcohol distilled from palm wine), 2 bottles of Royal Gin (imported alcohol), 6 bottles of bier, 6 bottles of youki (minerals), 4 chickens (or 1500 FCFA), 1 goat (or 3000 FCFA) and 10.000 FCFA. Destruction of boats; burning of fishing nets. [1US Dollar ~650 FCFA]

Why new institutions failed again?

The idea of involving village representatives by the Xha people was aimed at creating one perspective at the level of the whole lake. Nevertheless, the exclusion of the Akaja users was a serious weakness of the COGEHEN. Then, this organization solved the half of the problem because the Akaja users formed an important coalition. There are also many prerogatives which were in the hands of the government, at various levels of social aggregation, i.e., the regional extension organizations, which covered Lake Aheme, the National Department of Fisheries and the Ministry of Rural Development. All those actors were not involved in the initiative of the Xha people, while they should mediate dispute potential stakeholders in conflicts. The COGEHEN did not operate in a legal framework because their actions were not legitimate by the governmental authorities. The local police established by the COGEHEN failed to enforce new institutions for Lake Aheme's fishery resource management.

Democratization era after 1990: the establishment of a new order and impasse

Re-building new institutions: the government effort for establishing a new order

Following the consecutive failures of the institutions of Lake Aheme, the first government at the beginning of the era of the democratization in Benin decided to find solutions to the problems of the stakeholders in a participatory way (negotiation and mediation). The idea of the *journée de réflexion* emerged. The *journée de réflexion* involves a debate about the problems of the lake for finding a compromise

with very high political authorities. The critical issues of the process concerned the methodology adopted for identification and selection of the participants, the collective decision-making procedure, and the solutions generated (see Box 4).

Box 4: An overview of *the journée de réflexion*: processes and outcomes

The preparation of the *journée de réflexion* started with the difficult question, which was defined in terms of who, should be the representatives of the stakeholders? This question has also its *raison-d'être* because the existing local organizations were not officially recognized because they were not created according to the official procedure defined by the government (official registration at the Ministry of the Interior). However, the president and some members of the organization of the Akaja users, the Bureau of the COGEHEN, some representatives of the women organization (UFGE: Union de Femmes de Guézin et Environs) were invited. Some representatives, for instance the local priests, the local leaders, of the stakeholders were identified by CARDER organizations. A particular attention was given to the Association de Développement. All the political representatives of the State in the lake area: the Chef de village, the Maires, the Sous-Prefets, the Prefets, the representatives of the CARDER (Mono and Atlantic) were invited. The Minister of Rural Development was the chairman of the *journée de réflexion*. Many professionals of the Ministries of the Rural Development, of the Environment, and of the Interior were identified as participants. The 28th of July 1992, all the participants were in Ouidah, the town where the meeting was held. The cost of transport and sustenance of the participants was covered by the government. At the beginning, the Minister of Rural development gave a speech and invited all the participants for comprehensive discussion during the meeting. As he said, the main objective of the meeting was the negotiation of another way to use the lake. The participants were invited to give a speech concerning their wishes, the problems and ideas that were relevant for the resolution of the difficult situation of the lake. Unfortunately the stakeholders, depending on the interest group they belonged to, were defending their interests. The Xha people argued that their fishing practice is heritage of their ancestors. The Akaja users argued that they could have fish in the lake only if they use Akaja. However they can make the concession to remove the Akaja if the Xha people should do the same. The participants found that the only way halt the conflicts between the stakeholders was to remove Akaja and Xha from the lake. Meanwhile, the participants did not identify any alternative economic opportunities for the stakeholders during the *journée de réflexion*. The second idea was the creation of the Comité de Suivi (follow-up committee) for the implementation of the decisions of the *journée de réflexion* and the continuation of the negotiation with the stakeholders about their difficult situations about Lake Aheme.

The *journée de réflexion* chose the win-win solution, which means in this context that the different potential interest groups lost something. But, beyond the conflicts between the stakeholders, their problems have an economic connotation. Therefore one should explore problem-solving directions and trying to locate options that satisfy both the parties in the conflict. In concrete terms, the engagement of very high levels political authorities like the Minister of the Rural Development and the professionals at the Ministry of the Rural Development and Ministry of the Environment was not exploited. Priority should be set up and human and financial resources negotiated. For instance, a joint committee of scientists, development professionals and stakeholders should be created and mandated publicly to continue the reflection and to develop alternative solutions to the problems of Lake Aheme. Unfortunately, the Comité de Suivi created by the government after the *journée de réflexion* involved 41 people and the Bureau of the Comité de Suivi consisted of 5 people and did not involve any stakeholder of the Lake Aheme (see Box 5).

Box 5: Decision-making structure generated by the *journée de réflexion*

- Composition of the Comité de Suivi
 - 16 representatives of the fishers
 - 5 representatives of the Notables
 - 1 representative of the syndicate of the fishers and craftsmen in Benin
 - 5 representatives of the Association de Développement
 - 3 commanders of the "local police" in Mono and Atlantic Provinces
 - 5 Sous-Prefets who were at the journée de réflexion
 - 2 General Directors of the CARDER organization (Mono and Atlantic)
 - 2 representatives of the Ministry of Rural Development (MDR)
 - 1 representative of the Ministry of Interior (MISAT)
 - 1 representative of the Ministry of the Environment (MEHU)
- Composition of the Bureau of the Comité de Suivi
 - President: Representative of the MDR
 - 1st Vice-President: Representative of the MDR
 - 2nd Vice-President: Representative of the MEHU
 - Members: 2 representatives of the 'Association de Développement'

In face of the complexity of the lake's problems, one can critically analyze the effectiveness of such a committee decreed by the government (*Arrêté*: No714/MDR/MISAT/DCAB/SA, year 1992).

Analyzing the effectiveness of government initiative

The representatives of the stakeholders in the CS cover the whole level of the lake area. The CS is extended to involve the political authorities and professionals at different levels of social aggregation. From that point of view, the CS generated by the journée de réflexion is a platform for decision-making about Lake Aheme.

But the fact that, 41 people are in the leading organization raises doubt about the way the coordination of the activities between the members of this platform can be done. The roles of different categories of representatives (e.g., political authorities, professionals) in the platform were not specified. In practice, the functioning of this platform should not be effective because the members did not know a clear statement of the actions they are supposed to do in order to solve the problems of the lake.

The most critical issue for the platform generated concerned the Bureau of the CS, which can be seen as the operational unit for coordination, monitoring, and evaluation of the actions implemented at the level of the lake. Unfortunately, the bureau of the CS did not involve the stakeholders who are daily experiencing many problems in the lake area. How can the professionals at the levels of the ministries respond promptly to the problems of the stakeholders? Maybe, the Bureau of the CS had other objectives, (as this will be analyzed later) such as the control of the stakeholders instead of living with their problems.

Another critical issue of the platform generated by the journée de réflexion, is that of the involvement of the *Association de Développement (AD)* in the bureau of the CS. At the beginning of the creation of the ADs in Benin, the idea was that they should be active in the development processes at the grass-roots level. However, the objectives of the ADs changed in the era of the democratization because the leaders got involved with political parties. Controlling the people to gain a political position became more important than acting for 'development' at the grass roots levels. The presence of the AD in the Bureau of the CS would not help to resolve the problems of the stakeholders. The leaders of the AD would try to control the people

for their political interests. Yet promoting ecological awareness to resolve complex problems like the situation in Lake Aheme did not emerge in Benin.

The impasse on Lake Aheme's fishery resource management

After the *Journée de réflexion* in Ouidah, the win-win solution chosen was implemented. The government financed this action. Unfortunately, according to the director of the DCVP (Direction du Contrôle Vétérinaire et Phytosanitaire), the money was not sufficient. The Akaja and Xha were partially removed from the lake. The stakeholders were asked to continue themselves but they refused. Later a stakeholder in Guézin started the Xha practice. The members of the bureau of the CS were not in the lake area to react. The other stakeholders took many initiatives and forced the mediation of the political authorities. However, the Bureau of the CS did not function as it was explained above. All the members were outside the lake.

Coordination, monitoring and evaluation with the stakeholders of any actions were not done and nobody knew how the livelihoods of the stakeholders are affected when the Akaja and Xha are removed. The failure of the government intervention in 1985 was based on the incapacity to maintain the win-win solution they adopted (without negotiation). Why should the same solution be repeated again? The representatives of the government did not learn from their own practice to make the *journée de réflexion* more effective in terms of the resolution of the problems of the lake. From that point of view, the discovery by the stakeholders, of the weaknesses of the government for the maintenance of the actions, which were implemented, did not provide any incentive for changing their practices on the lake. The stakeholders did not believe that the professionals and the political authorities were able to find solution to their problems, which can be defined in terms of economic opportunities.

Why Are Lake Aheme's institutions continuously failing now?

The political context presented many dilemmas for improving the critical situation of Lake Aheme. On the one side, any attempt for breaking the impasse on the lake has a political connotation, i.e., and the decision-making for new rules, regulations, investments and resources mobilization. On the other side, the political decisions were difficult in the multiparty system adopted by the Beninese in the democratization era. The difficult situations of the stakeholders are exploited by the politicians during their campaigns: when the government decided to take some actions on the lake (e.g., remove Akaja and Xha), the political opponents would promise the re-establishment of these fishing practices to the stakeholders to obtain their votes.

The stakeholders also learned through decennia the relationship between the changing political context and their situation and to behave accordingly. It was not surprising that the president of the Akaja users explained, during the study, that any government effort towards the situation of the Lake Aheme should only be done after the political elections. The recent development on the lake confirmed his analysis.

4. Learning from failures

The historical analysis of Lake Aheme, has revealed continuous failing institutions from the colonial period onwards. This case illustrates dynamics with respect to common-pool resource use problems, and changing institutions, which should be adapted to new circumstances. Multiple stakeholders' responses to various interventions and changing patterns of policy contexts are dynamic from the pre-

colonial period to the recent democratization period in Benin. Institutions for governing Lake Aheme were successful before the impasses emerged. This situation presents a strong ground for drawing some conclusions about the factors that affect the success or failure. A main factor related to the success of managing the lake's resources during the pre-colonial time was that the stakeholders agreed upon local institutions and a platform, a self-organization for governing Lake Aheme. Other factors for success were the functioning of the existing local monitoring systems, periodic meeting of the local organization for decision making and deliberation, and the effectiveness of sanctioning structures. However, the success was achieved when the main concern was to ensure the subsistence of the stakeholders. Beyond this context the local arrangement failed.

During the colonial period, economic opportunities altered the way of thinking about the lake, and have changed the cultural dimension, which worked to insure the sustainability of the local institutions. Colonialism penetration weakened the local authorities for governing Lake Aheme, and deepened the problem. The lake's problem has moved to the levels of external supports and policy, without success. Factors related to failures were the difficulty for various interventions to set up new institutions for the lake, and enforce them. Inconsistent policy frameworks did not allow concrete actions like facilitating the development of a new organization among interest coalitions that emerged. Greater sustainability can only be achieved if the stakeholders agree upon institutions.

Beyond stories on repetitive failures, can successful institutions be designed to regulate use and access to local commons? Lake Aheme case is heuristic, formative, and reflects major learning points, which help analyze the extent to which institutions can be better built for governing local commons in the future? The analysis will focus on the following points:

- Nature of the problem in failing institutions;
- Perspectives on solution to prevent or halt failures;
- Adaptive local resource management and institutional change;
- Levels of decision-making, monitoring and enforcing

Learning from the nature of the problem in failing institutions

The Lake Aheme case suggests that stakeholders faced many dilemmas, which cause the failure of institutions. Problems are related to the provision for the functioning of the organization that govern the lake, competitive arenas around fishery resource scarcity, crisis (conflicts and wars), and lack of courage of the political authorities to make crucial decisions.

Public good dilemma in face of sustaining local institutions

A closer look at the way the local institutions were operational during the pre-colonial times reveals a situation of a public good provision. Stakeholders collectively contribute to the functioning of the local organization and institutions. A comparison of sanctioning structure for resource use in Lake Aheme during the pre-colonial and post-colonial times suggests that the less rigid the monitoring and sanctioning structure for preventing and punishing free-riders, the more frequent public goods dilemmas arise. Problems are related to the free-riders that do not fear to be detected and punished or believe that they can get out trouble by means of corruption, as happened around Lake Aheme. The situation became complex with the emergence of resource scarcity.

Social dilemma in face of fishery resource's scarcity

The historical approach adopted for analyzing Lake Aheme shows that social dilemma emerges in a situation where scarcity of fishery resources leads to competitive arenas. In these conditions, stakeholders pursued their 'self-efficacy' to make a difference and affect the outcomes (cf. Bandura, 1982). According to Holling & Sanderson (1996), stakeholders aim for continuity and stability, while fishery resources, which are used can become scarce.

Scarcity is a crucial issue because the scarce the fishery resources, the more they are economically valued. Lake Aheme case reveals that problems are related to the lack of alternative economic opportunities for the stakeholders and the degradation of their livelihoods. This situation makes difficult the choices, which should prevent the local commons from being destroyed. Social dilemmas present market failure to regulate fishery resource use. Social crises are signs that the situation should change.

Social crises among interest coalitions

Social crises evolve when the stakeholders fail to agree upon institutions and organizations for managing local commons, and to avoid situations characterized by anarchy and chaos. Problems are related to the diversity of resource use practices of various groups and coalitions of stakeholders in the local common. Lake Aheme presents a theater of arenas among different interest coalitions and tensions over resource exploitation. In these circumstances, the actions of one group/coalition of the stakeholders affect the others' activities and livelihoods. Conflicts become a refusal to accept attempts by one group /coalition of stakeholders to exert powers over the use of fishery resources.

Second order dilemma in face of political interests

The second order dilemma is a phenomenon related to the move of a resource management problem to the policy level, especially in the ambiance of an electoral system such as Benin. Problems are related to the fact that any political decision about an endangered local common such as Aheme, under siege, is not neutral and will demand sacrifices of the stakeholders. It denotes the choice between, on the one side, controlling the stakeholders and maintaining political power, and on the other side, making decision to save local commons. Political authorities prefer to be neutral or maintain the *laissez-aller* because they fear that taking measures might make some stakeholders unhappy. In consequences, they should loose the control of people and their votes.

This choice overshadows the issue of building institutions, defining political measures, and creating conditions to solve problems related to the sustainability of local commons. The second order dilemma has the consequence of, raising the cost for resource management, and creating a very complex situation for the future generations.

Perspectives on solution to prevent or halt failures

Solutions, to current problems related to the sustainable institutions for governing local commons, are very complex. They present many trade-off for the stakeholders. However, resource managers should many routes to achieve certain goals, by learning with stakeholders.

Lake Aheme case suggests that public good dilemma can be overcome if the stakeholders agree to 'give more' for the provision required to maintain institutions for governing local commons (cf. also Röling, 1997; Dawes, 1980). Individual behavior is governed by rules and codes of conduct, the genesis of which is often explained by how well such rules serve the interest of the group. According to Bandura (1977), individual stakeholders judge their self-efficacy and realize that their staying power, capability and strength are individually vulnerable. Then, they perceive the importance of collective efficacy that is also an expression of interdependence. Perceived interdependence with respect to resource management problems positively affects change from individual to collective action, which is necessary to solve public good dilemma.

Lake Aheme case suggests that social dilemma can be overcome if the stakeholders agree to 'take less' from the local common-pool resource (cf. also Röling, 1997; Dawes, 1980; Messik & Brewer, 1983). The analysis of the lake reveals that self-efficacy falls down due to the 'zero-sum game' (cf. Roe, 1993: 31) with respect to the appropriation of scarce fishery resources. The fact that everybody is suffering from it creates a situation in which the stakeholders perceive their interdependence. Stinting/quota measures and distributive fishery resources for the Akaja practice in the Lake Aheme, during the colonial period, were not successful because the stakeholders did not accept collective action. Policy prerogatives for establishing social justice, equity and enabling conditions are required to support these conditions.

Local commons degradation and/or critical social crises about resource use can be perceived differently by stakeholders and interventionists. Then these problems can be solved if there is a shared understanding on the causes to adopt collective responses. The challenge is the way one learns towards a shared understanding.

The lake case shows that second order dilemma is a serious blockage for generating sustainable institutions. Political issues are addressed but the challenge depends on the stakeholders themselves. Therefore a condition for solving it could be the facilitation of organizations and institutions at the grass-root level that integrate politics and ecology (Dryzek, 1995). Yet an ecological democracy at the grass-roots level or a collective 'green environmental' movement to breaking impasses did not emerge in Benin. Communicative intervention should address these issues through a long process of consciousness raising of stakeholders.

Adaptive local resource management and institutional change

The evolution of institution of Lake Aheme demonstrates that many situations comprise harmony and disharmony, congruence and incongruence (see also Maarleveld & Dangbégnon, 1999). Interactions between stakeholders and the local commons they live in, are going on.

Social crises are signs of disturbance and very hard competitive arenas. They are indicators of the degradation of the stakeholders' lives. They stimulate debate and conditions for thinking about negotiated agreement as the situation is going on now with Lake Aheme.

The dynamics in the status of the local commons necessitate the observation of their behavior for the purpose of management. Not all their changing patterns are visible. The specificity of their strategic dimension is that they do not speak for

themselves, but are always represented by ‘spokes persons’ (Mougenot & Mormont, 1997), such as the voices of stakeholders of Lake Aheme.

Lake Aheme case suggests that stakeholders and intervening agencies should operate in an adaptive cycle, which involve management institutions, monitoring of the status of the local commons, and the stakeholders’ desires. Learning loops can be applied to cope with dynamics in local resource management (cf. Maarleveld & Dangbégnon, 1999). So one can say that adaptive local resource management requires a move from single-loop learning to double-loop and triple-loop learning to cope with evolving conditions. Single-loop learning occurs when detection and corrections of errors by stakeholders and an intervening agency permit to carry out resource management activities based on initial objectives. Double-loop learning occurs when, as an example, initial resource management objectives and institutions are changed. Triple-loop learning occurs when initial ways of learning in organization are changed.

Adaptive local resource management takes for the granted that institutions need to be continuously revisited for tackling evolving conditions, which are emergencies in resource use situations. Institutional development is a process, which should accompany adaptive management.

Levels of decision-making, monitoring and enforcing institutions

Lake Aheme case reveals that the level of decision-making is a crucial issue for the local commons such as fisheries. Stakeholders must agree upon an organizational set at the appropriate level of the whole resource system if sustainable institutions are to be achieved. A major assumption from the lake's case is that, the core of these issues is related to the extent to which an effective platform works to ensure the governance of the local commons. Then, what are the conditions for the effectiveness of a platform, which enable continuous monitoring of resource use, enforcement of management institutions, and adherence to covenants among the stakeholders?

Platform works if collective action is being achieved

In many circumstances, intervening parties for resource management start directly by creating committees (example of platforms) which are not functional because of the absence of conditions for collective action. The Lake Aheme case shows that the local platform of stakeholders was effective when the conditions for maintaining collective action were present, while many committees created afterwards failed when these conditions disappeared. Collective action is not only the action done together by two or many people. It means also that individual actions are consistent with norms, rules, etc. agreed upon collectively. Collective action can be expressed through the willingness of many stakeholders to act beyond their individual interest, maybe, because of stimuli from their environment.

A platform is based on representation at the appropriate level of the resource system

A positive impact of a platform depends on the representation of all the stakeholders, who are relevant at the perceived ecosystem level, which is appropriate for collective resource management. However, this condition works when the resource system boundary is a relevant issue as it is in the case of Lake Aheme. Interest groups, coalitions, categories of stakeholders need to be involved or represented in the platform to enable collective resource use. The Lake Aheme case shows that the

initiative of the Xha people failed because (among other reasons) they did not involve the coalition of the Akaja users and other categories of the stakeholders in the lake area.

Quality of leadership to play a catalytic role at the grass-root level

The quality of leadership among the stakeholders is a condition, which contributes significantly to the effectiveness of platforms. This notion is seen in a positive sense, which means that the leaders can lead their fellows in dealing with ecological imperatives. These does not necessary include political leadership. As the Benin context shows, the involvement of the *Association de Développement* (which was supposed to pool grass-roots development efforts) in political arenas transformed the leadership into serving the interests of political parties. The facilitation of leadership becomes a crucial issue to enable a social movement towards collective resource management.

Possibilities to meet for decision-making and monitoring

Regular meetings enable the participating stakeholders in a platform to assess the resource use situation for decision-making and deliberations. Ostrom (1990) also perceives this condition when discussing monitoring as a criterion for long-enduring common-pool resource institutions. The governance of Lake Aheme during the pre-colonial time shows the importance of platform meetings.

Capacity for implementing mechanisms for concerted action and conflict resolution

Concerted action depends on platforms and refers to the ability of its participating representatives to negotiate with the wider community of resource users. This role of platforms depends also to the nature of the local common under siege. Concrete example from the case studies show the importance of the mechanisms for concerted action. In the Lake Aheme case, the mechanisms are complex and involve meetings of the coalition committees, inter-coalition' meetings, village assembly, fishing community's meeting with representatives of the government and political bodies (e.g., *journée de réflexion*). The more the representatives in a platform can set up mechanisms for conflict resolution, the more the stakeholders will trust the functioning of the platform. Ostrom (1990) perceives this issue as a design principle for long-enduring common-pool institutions. She argues that stakeholders should have a rapid access to low cost local arenas. However, what should be crucial for a platform is the capacity to judge what types of conflicts they can probably resolve and what should go beyond their competence and require some actors at higher levels (than the platform). Repetitive failures of conflict resolution by a platform affect its credibility.

Stakeholders are the main concern for the functioning of operational platforms

The platform is perceived to involve not only the stakeholders, but also other potential actors at higher levels of social aggregation (Röling & Jiggins, 1998: 303; Steins & Edwards, 1998). Still, this arrangement can impede the effectiveness of a platform for resource management when many functions are translated to a higher level. The Lake Aheme case shows that the *Bureau* of the committee generated after the *journée de réflexion* involved only representatives at the ministry level and from political associations. Afterwards, when problems emerged in the lake area, they were not present. Actors at higher levels should support decision-making, create enabling

conditions, mediate complex disputes and facilitate the *responsabilisation* (transfer of competence through, e.g., non-formal education) of the stakeholders.

Possibilities for continual learning towards adaptability

Continued learning towards adaptability involves modification of rules, monitoring and desired decision-making, re-evaluation of covenants among the stakeholders, etc. These issues are vital for long-enduring platforms for resource management. Lake Aheme case shows ongoing dynamics both at the level of the resource system under siege and the stakeholders.

5. Conclusions

Lake Aheme case demonstrates that failures are sources of learning. The analysis of the evolution of this lake since the pre-colonial times to the recent democratization era has revealed that institutions are dynamic and malleable. They are continuously changing in relation with the influences of many players and environmental surprises at the level of the resource system. Institutions are encapsulated in a broad array of the cultural, social, economic, political, and ecological principles that trigger many changes with respect to the evolution of institutions for governing local commons.

Temporal analysis of Lake Aheme has revealed that, governing local commons in the future will depend on the extent to which sustainable institutions are developed, shared and enforced. Sustainability depends on the extent to which management institutions are internalized or become a body of community social capital in which they build trust. It depends also on the extent to which community decision-making capacity, quality of leadership, and management capacity, are maintained.

Governing local commons in the future calls for the new roles, for professionals, such as conflict resolution, facilitation of institutions building, and platform development, and according to Röling (1997:21), negotiated self-restraint of human greed.

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Notes

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Lake Aheme case is partially used in Maarleveld, M & Dangbégnon, C. 1999 *Managing natural resources: a social learning perspective.* Agriculture and Human Values 16: 267-280

² Institut pour la Gestion intégrée des Ressources naturelles et le Développement (in english: Institute for integrated natural Resource Management and Development), a non profit organization established in Benin, West Africa.

³ Benin is divided in 6 provinces. Each province (called *Département*) comprises many districts. Each district (called *Sous-préfectures*) comprises many Communes. Each Communes comprises many villages. Some villages are divided into hamlets.

⁴ Common pool resource refers to the definition of Ostrom (1990), for instance it is costly to control CPR.

⁵ Zounon family is an 'extended family' of the dynasty of the Zounon in Guézin. A chronology of all the King Zounon in Guézin is shown at a sacred place in Guézin.

⁶ The original name of Ouidah was Gléhoué (Glé = farm; houé = my locality). Gléhoué was created by the second King of the Pedah ethnic group for farming. Finally he had had a contact with the Portuguese for commercial relations. The village Sahè is located in south Benin and is now called Savi.

⁷ Actually Mitogbodji is considered as a spiritual place by the *Pedah* ethnic group. Nobody is living there.

⁸ The *Centre Piscicole de Godomey* was created in 1978. The objective was to supply fry for the aquaculture activities in Benin. But this centre collapsed and is not functional nowadays.

⁹ The *Bureau* of the COGEHEN was led by a president and comprises nine members.