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RESEARCH ARTICLE

THE SOCIO-ECONOMIC CONSEQUENCES OF THE LAKE CHAD REGRESSION ON THE POPULATION: THE CASE STUDY OF KINASSEROM VILLAGE IN THE LAKE REGION

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ABSTRACT

The purpose of this paper is to examine the socio-economic consequences of the lake Tchad regression on the population of Kinasserom. The causes and the outcome of such a phenomenon on the various activities of the population are the keys point of our investigations. A specific documentation is used and the analysis of the population points of views confirm our results and interpretations. The regression of the lake chad is caused by the drought, significant year reduction among the different actors (Protagonists).

Key words:

Conflicts, Regression,
Fishing products, Population,
Consequences.

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INTRODUCTION

"Africa is provided with resources (water, forests and fish, including coal, gas, oil and other minerals) that dominate the economy of many of its countries. They represent the most important source of livelihood for the inhabitants mostly poor and living in rural areas and are the basis of income and livelihood of the majority of the population on one hand and one of the main sources of government revenue and national wealth on the other. (African Development Report, 2007). All this contributes to the development according to Bashir (2009). For him, development "is a dynamic prosperity that meets the basic needs of people based on their active participation."

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In this context, the Lake chad Basin still contains enormous resources which are carriers of income through ecotourism activities including, hunting, trade, fishing, and other useful products to rural communities (drug, Pharmacopoeia). However, these activities normally well managed, contribute to economic development and poverty reduction "could disappear forever from the African continent if the natural resource wealth of the region were operating effectively, fair and sustainable" (New United Nations Program for the 2006 environment Programme (UNEP). But unfortunately, the decline of this great hydraulic network shared between four countries bordering chad, Cameroon, Niger, Nigeria., in recent decades among other causes, an ecosystem degradation, disruption of the operation of production and ecological and cultural down regulation. Faced with this situation, therefore, constantly growing and the high number of people on the edge, it is a crucial problem: the lack of resources (food, fisheries,

economic etc.) not commensurate with the needs of a growing population from one year to another (approximately 200 people in 1980 it goes to 6000 in 2010.) (Le Tallec, 2010: 1). This is not without drawbacks since attends idlest and disinterestedness of fishermen, traders ... sometimes obliged to change activities such as agriculture, or to move to nearby villages to survive. Ziermann, (2003) supports this point of view and adds by stating that "in addition to the crop potential, such a situation increases competition between actors and worsening economic conditions particularly fishermen, in the sense that many have already left the area or earn their living with agriculture." Those of constraints, added to the difficulties of adapting to new living trains lead to conflicts which arise between the main classes that are fishermen, ranchers and farmers of the village Kinasserom claiming them for cultivation or fishing areas. So, the situation imposes new habits to residents with the result a total imbalance of their lifestyle and their work. Therefore the aim of this study is to first make an inventory of the situation in the village of Kinasserom to then assess the socio-economic consequences for its people.

Frame of the study

Physical Framework: Chad, with an area of 1,284,000 kilometer patch is located in the tropics, between 8th and 23th degrees north latitude, between the 14th and 24th degrees east longitude. Ports closest seas are over 1,500 km: Douala, Cameroon or Nigeria Port Harcourt, bounded to the north by Libya, to the south by the Central African Republic (CAR), to the east by Sudan and the west by Niger, Nigeria and Cameroon. With an estimated population of over 11 million inhabitants (Census 2009), chad is the 5th largest country in Africa in area after Sudan, Algeria, Congo-Kinshasa and Libya.

The village of Kinasserom: a center of fishing and commercial activities by excellence composed of several ethnic groups : Located just a few kilometers from Nigeria, the village has about 750 inhabitants (LCBC, 2012), in 9 districts where the population is ethnic groupings (Chart 1): Haousa (Nigeria, Cameroon, Tchad, Mali), Bornous (Tchad, Nigeria), Kanuri Buduma, Saras (Tchad), Kotoko (Nigeria, Tchad, Cameroon), Ngorkos, Arabs (Tchad).



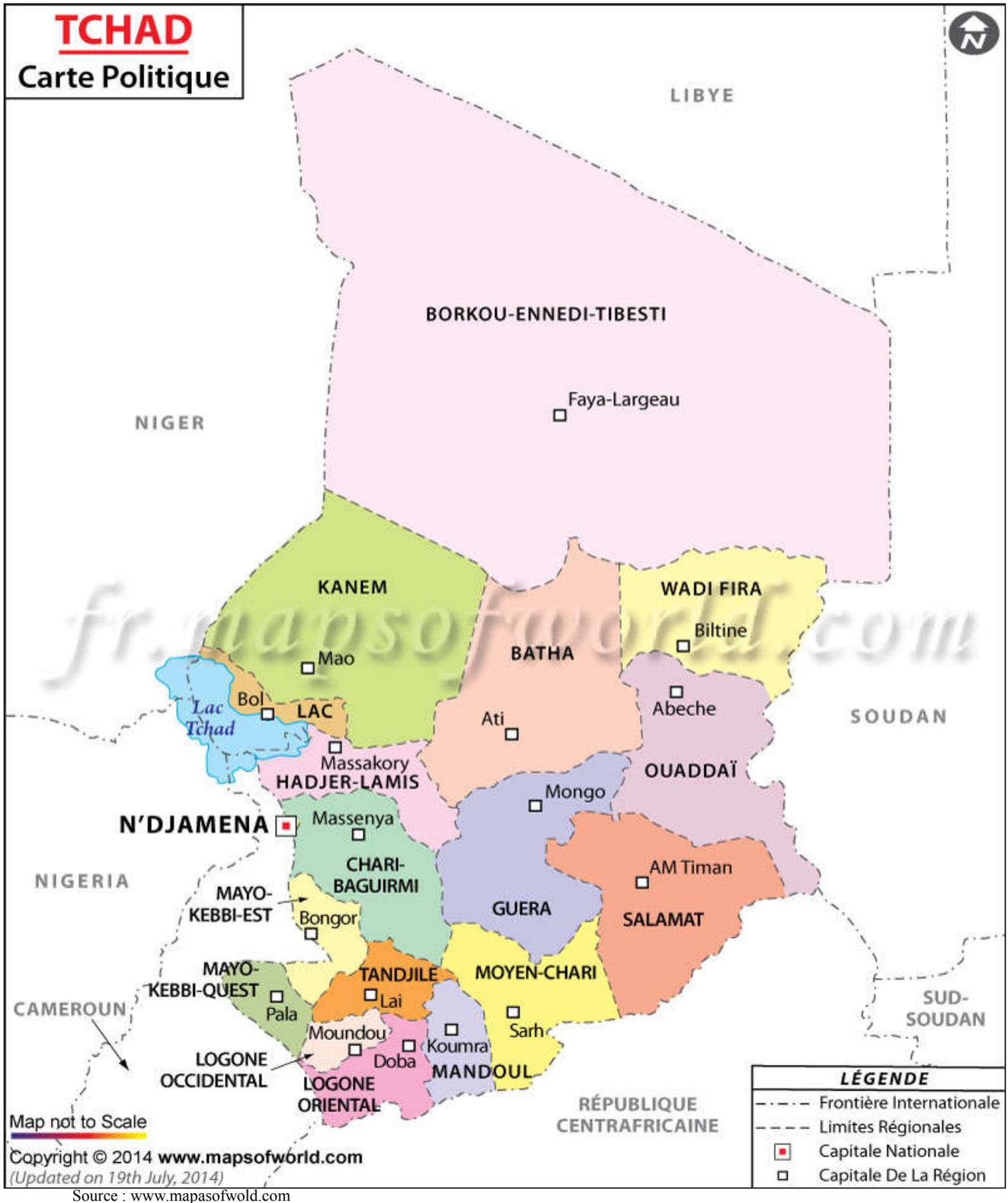


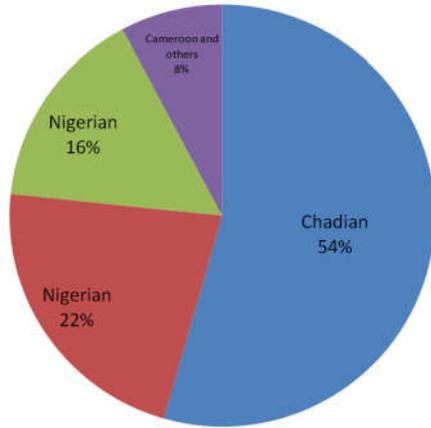
Figure 1. Map of Chad

Table 1. Summary of our quantitative and qualitative studies

Samples	User survey	PeriodsYears	Numbers	Objectives	Places
Population	Survey	2013-2014	90	Impressions and Suggestions	Home
LAT ¹	Interview		10	Knowledge of their views	
ARMLC ¹			10	Vision as Specialists	Offices

Source: Prepared by us on the basis of the data collected

Distribution of respondents according to their nationality in the village of Kinasserom

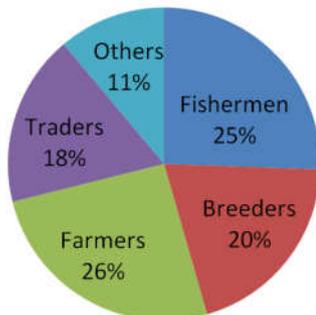


Source: data from the results of our surveys July 2014

Figure 1. Distribution of respondents according to their Nationality

This cosmopolitan population comes from various backgrounds. In this village consists of nine districts (Buduma, Kanuri, Saras, Ngambayes, Massas, Bornous, Kotoko, Kabalayes, Kanembous) are present traditional and customary authorities (sultans, chiefs of cantons, grouping of village chiefs, heads of districts and heads of land). In accordance with the authority granted to them by the Constitution of Chad and Decree No. 102 / PR.INT of May 6, 1970 on the status of leadership, project executing agencies, associations and groups working for the development of fisheries, are key players in resource management, private administrative institutions, such as NGOs, considered non-profit structures, taken by Ordinance No. 27 / INT / SUR of 28 July 1962 and the decrees n ° 167. But since the Lake Chad began to withdraw, the decline of fishing activities has been remarkable, most fishermen (Figure 3) was converted into other activities such as farming, trade, the Agriculture.

Opinion of respondents on the decline in profitability



Source: data from the results of our surveys July 2014

Figure 2. The opinion of respondents on the decline in profitability

Kinasserom: a village with a rich but fragile ecosystem

The village of Kinasserom is located in one of the wettest areas of the Sahel with a very special unique ecosystem extremely rich in natural resources and reserves of biodiversity of global interest. This area also contains animal species below: gazelles, jackals, monkeys, elephants, rodents (hares, pitfalls and rats), monitor lizards, snakes, hippos, crocodiles, guinea fowl, herons, hawks, vultures, teal, etc. In general, land cover of the area is dominated by herbaceous and Acacia. The vegetation is different depending on the soil.

MATERIALS AND MODEL ANALYSIS

Materials

Our study uses quantitative and qualitative approaches and addresses the social, economic and political areas in a comprehensive vision of development. Thus, given the diversity of the information collected, we have three types of target compounds first of the population (90) of the village of Kinasserom (fishermen, farmers, ranchers, merchants ...), then local and traditional authorities (10) and finally the agents responsible (10) of the management of Lake Chad (table 1). Because of the distance and or reasons of time, material and financial, we used a probabilistic method that does not obeying the chance to determine our sample at the target population. The objectives are to have their opinions respectively on the causes of this phenomenon and the conflicts that arise in their assessments as local authorities and their criticisms and suggestions as specialists. So, three (03) districts are selected because they are best placed to provide the reliable information: they are the first parts of the village namely Buduma, Kotoko and Kanuri. Also, we have used a literature search related to our topic based on the consultation of a number of scientific journals, newspapers, reports, dissertations, theses or specific books.

Analysis Model

Social perceptions of issues on socio-economic consequences of the decline of Lake Chad on the village population of Kinasserom, in the department of Lake Chad, are therefore at the heart of our approach. It is true that a number of more or less theoretical work has already provided strong assumptions about the problems caused by this phenomenon of regression waters in the world in Africa. For us consider the perceptions and representations of the populations concerned nationally, becomes essential to understanding all that it generates as consequences. This would show their suffering on the one hand facing a change in their immediate environment and also to see what provisions and useful measures to be taken by the authorities at all levels to monitor and control the situation.

It is a matter to collect and analyze their perceptions and opinions. This is why the theory of Pages (1993) based on the analysis of opinions, will serve us as a model because it considers that the speeches of each other to be considered in such circumstances and that is all these speeches then forming the controversial field where players compete and public perpetually adjust, to achieve a dynamic equilibrium, characteristic of power relations, in a struggle for the appropriation of property and defense of values.

DISCUSSION

The Lake Chad: a regression of ceaselessly evolutionary waters due to natural causes

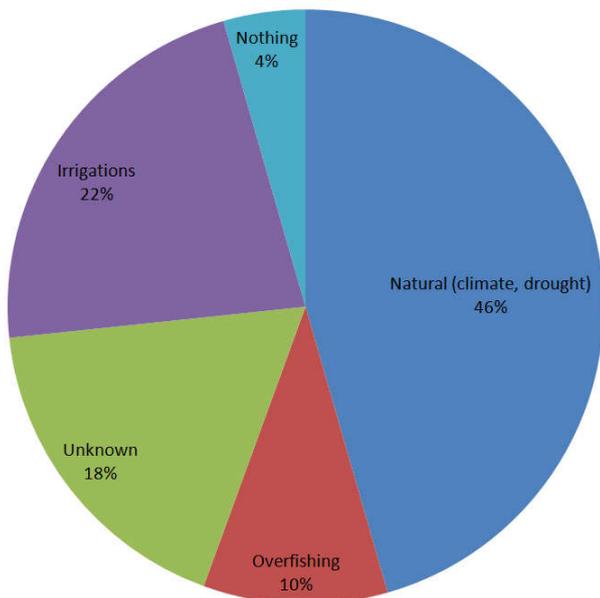
According to Le Tallec (2010) "Studies have revealed, there are six thousand years, the existence of a of lake 340, 000 square kilometer and 160 m deep. Vast in the eleventh and twelfth centuries, the lake has reached a very low level in the fifteenth century and the early twentieth ...; an area of 25, 000 square kilometer in 1963, Lake Chad today would be around 8000 km2 or 2,500 square kilometer, according to various estimates, to an average depth of only three meters. A phenomenon that affects the fisheries sector, crucial activity for local residents. As he still emphasizes, "the causes of water withdrawal vary. The decline in rainfall, from 1968 caused a drought cycle, from 1973. Global warming would favor the evaporation of water and its infiltration into the reclaimed land surrounding."

Because it is from the Earth Summit held in Rio in Brazil in 1992, that sustainable management of the environment has become a major concern for many countries of the world in general and Africa in particular. Thus several actors (national and international institutions, state and private structures) have truly addressed this problem that manifests itself in different ways in the world. Include the Organization for Food and Agriculture (FAO), for which the causes are primarily natural (represented by global warming, declining rainfall) and then as human, caused by high pressure demographic of the population, the high water consumption (irrigation of food crops) (FAO, 2010). Similarly to Freken idea, (2005), on notice that Africa is the second driest continent in the world in terms of water, behind Australia. Regarding the decline of Lake Chad, Ibrahim (2005) also credited to natural causes including increasing the temperature. Better, the 8th Global Forum on backing development of Lake Chad held from 29th to 31st October 2010 in N'djamena on the question "What to do to save Lake Chad drying threatened" ?, Toguebaye (2010), estimated that the decrease of the lake is the result of the failure of the policy of the Commission of the Lake Chad Basin (CLCB). As for Dimbele-Kombe (2010), "shrinkage" has two main causes : one type is "anthropogenic" and the other "natural", not without consequences on the population of the village of Kinasserom.

Socio-economic consequences some of the regression of Lake Chad on the population of the village of Kinasserom

According to our chart 4 the 72,28% of the population confirm that there is a drop in profitability in the village of Kinasserom and are really aware of the change of Lake Chad, especially its impact on production, soils, vegetation cover and wildlife.

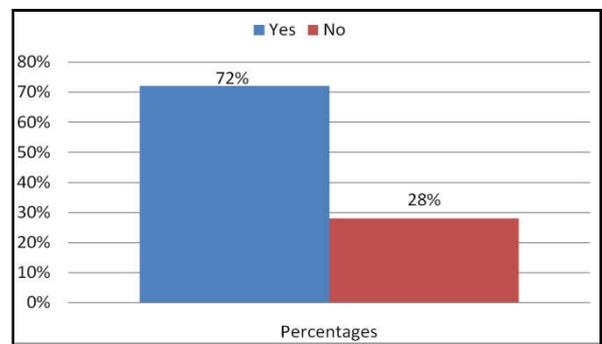
Causes of the decline of Lake Chad



Source: data from the results of our surveys July 2014

Figure 3. The causes of the decline of Lake Chad

According to Figure 3, the majority of Kinasserom villagers, that is to say 46%, evoke the same reasons (climate change, desertification ...), while 22% believe that it would be of irrigation of food crops and 10,00% attributed it to overfishing. In reality, this regression is a current problem and the opinion of the villagers seems visibly marry that of all researchers.



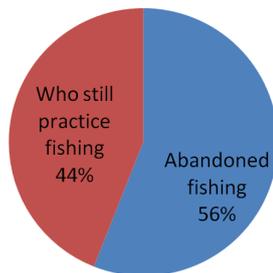
Source: data from the results of our surveys July 2014

Figure 4. The causes of the decline of Lake Chad

Indeed, this situation causes rapid degradation of the aquatic and terrestrial ecosystem. Animal and plant life are disturbed and become unable to play their balancing role. Given this, the fishing population to survive, is obliged to use of prohibited fishing methods (fish chambers trap dams, dams bamboo, fine mesh nets etc.) thus destroying the fishery resources. This is a new situation that is scared away many residents to other areas or other countries. However, in previous years, the majority of the population were fishermen. But now a days because of the regression of the lake, 56% as shown in Chart 5, abandoned fishing to retrain in other activities in order to survive. The result is a relationship between the lake and the survival of people having settled its surroundings. This once peaceful and

fruitful relationship is severely disrupted today, as all derived their livelihoods from the lake.

Distribution of respondents according to their change of activities in the village of Kinasserom



Source: data from the results of our surveys July 2014

Figure 5. The causes of the decline of Lake Chad

One of the traditional authorities also certify that "The village has really changed, the harmony that existed between time is over, everyone wants to get his head above water, life has become very expensive and every person seeks what will fix it. "As a result, conflicts arise from all sides, and threaten both people and the environment of Lake Chad and the village of Kinasserom.

Regular conflicts between local fishermen and migrants

According to Klein, (2004) "Water is, with the air, one of the abiotic components of the biosphere, without which all life is impossible." This imperative of water makes it today one of the most valuable assets and most played in the world through conflicts that the author considers the relationship between two or more players acting against each others. Since the decline in the level of Lake Chad waters, fisheries diversity has also seen a considerable decrease and fishing is possible that periodically southern basin. This leads inevitably and daily declining production in tonnage resulting competition on scarce resources. This often results in conflicts between local fishermen and those migrants; and is explained by Mustapha *et al.* (1971), noting that "relations between the two groups become confrontational when their desires to achieve tangible assets become inconsistent, especially when resources are scarce. "But, although these conflicts are without violence, local fishermen blame the migrants from using the prohibited material whose nets a small mesh to capture and destroy the different varieties of small fish: an act that should be punished. Unfortunately they escape the control of the authorities, because agents are poorly equipped and cannot control the whole area. It's a mess insofar as each conform to prescribed standards and use for fishing than just hardware as the bait, the trap, the net while others violate the standards regulated by law.

The conflicts between herders and farmers

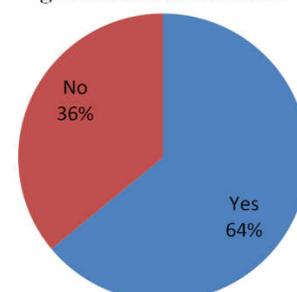
For Mboudou, (2009) "when there's lack of water, this is where conflicts arise the sources because it conditions of life." Fleeing a land that no longer offers them nothing, populations migrate in large numbers in search of water and more fertile land. But with that comes, usually, many tensions. Also this

research farmland causes the regression of grazing areas plus the drying up of wells and pastures surfaces. That is what causes the movement of farmers to the shores of Lake Chad. Many fishermen around the year 1973 were nomads before the decline in the level of Lake Chad waters. But since the 1990s up to today, breeders practice a side of farming some agriculture; suddenly, the expansion of agricultural areas contributed a reducing fallow. In normal time, cattle were grazing in fields left fallow, and for the rural cultures, they move to other unused land. But given the growing demand for feed and reducing grazing areas, many farmers have reduced the size of their livestock. The pressure on land resources makes it difficult to find free space to produce enough forage. With increasing crop fields and the density of the population of the Lake Chad Valley, which was initially a temporary transit camp for local fishermen or migrants has become a permanent village farmers and ranchers (Franke-Scharf, 2000). According to him, farmers covet arable plains occupied by migrant fishermen claiming their return under the pretext of having a particular interest in these lands.

A very necessary collaboration between local, traditional, and the agents responsible for the management of Lake Chad

If each of the authorities should protect its own interests without consideration to local values, no lasting solution would be found in the management of litigation. This will successfully develop solutions and preventive measures for conflict to prevent the participation of local people in decision-making is low. Is not that what emphasize Kabala *et al.*, (1994), noting that "the lack of planning and lack of strategies and sound management are major gaps here." For both authors, the drama that lives in Africa, lies in the mistakes of policy choices of development strategies. That is why they opt for an integrated development strategy based on principles of equity built for sound management of natural resources. This should be part of a development policy based on natural active not only at the global level (State), but also to the micro level (villages, department, regional, municipalities). That is the need for people of Kinasserom. Unfortunately, the participation of the local population to LCBC projects was too little observed. For this reason, several NGOs (Environmental rights, Action, Friends of the Earth and the movement for development and progress in Kinasserom) should work with the people at local level.

Distribution of respondents according to their views on government assistance



Source: data from the results of our surveys July 2014

Chart 6. Review of government assistance

But, according to most opinions collected within populations, there is nothing at all, since 64% of residents say that neither the government nor NGOs support them and their hope in the rehabilitation of resources their village.

Conclusion

Regression of Lake Chad is a disturbing and persistent natural situation despite attempts to resolve the various nations and the LCBC institution. It is not without consequences on socio-economic activities of people, including the village of Kinasserom who lead a life increasingly difficult and where to create conflicts between different social and professional groups: fishermen, farmers, ranchers, law enforcement ... It is urgent then to sensitize the various hierarchical stakeholders on the importance of Lake Chad in the development of Chad in general and the village of Kinasserom in particular. To do this, it is useful to set up an effective system of management of this lake including a tripartite mechanism including the people, the Government and traditional or local authorities. This would establish and reinvigorate the dialogue between representatives of communities, village leaders, traditional leaders, municipal, administrative authorities, the agents in charge of the management of the lake and the state. On the local level, the work of advocacy is a necessary measure for that level of municipalities spanning the lake shore, the budget lines are allocated for management. So do we will initiate a communication plan to educate local people about the factors that contribute to its degradation. Government control proves to be continuous at the point of target populations (traditional chiefs, administrative) to ensure a coordinated implementation of the tasks according to the contracts to be signed with various partners and under the legislation in force. To allow to the shores of Lake Chad including Kinasserom, an attractive business location, investment is important to reduce unemployment and underemployment therefore, participate in the considerable improvement of the living conditions of the inhabitants. These shores are seen as competition and conflict areas to which financial and technical answers are not enough. Since this is rather profound social problems that also require better social responses thoughts.

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