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**THE EXPLOITATION OF NATURAL RESOURCES BY
MULTINATIONAL FIRMS AND LOCAL DEVELOPMENT: THE CASE
OF A GENETIC RESOURCE BY THE V.MANE FIRM IN THE MAGHA-
BAMUMBU LOCALITY (SOUTH-WEST REGION)**

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sociology

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My late father Mr. NDAMA Jean-Marie.

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ABSTRACT

Local development in relation to the exploitation of natural resources in general and in particular genetic resources (GR) is a major challenge facing African nations today. Despite the abundant natural and biological resources found in Cameroon, more than half of its population, especially those living in rural areas such as Magha-Bamumbu endowed with these resources, still found it difficult to achieve a considerable wellbeing. The goal of this research is to evaluate the effects of the exploitation of the *Echinops giganteus* GR carried out by the multinational V. Mane fils, on the local development of the locality of Magha-Bamumbu. This research takes its roots from the observation of the state of being and the condition of living of the inhabitants of Magha-Bamumbu despite the advent of such project. Therefore, the problem that emerges is that of the local underdevelopment of the locality of Magha-Bamumbu. In order to shed light on this issue, we relied on the following central question: What socio-economic and environmental effects did the exploitation of the *Echinops giganteus* GR had on the local development of the locality of Magha-Bamumbu? The answer to this question leads to the formulation of a central hypothesis as follows: The measures taken around the *Echinops giganteus* GR exploitation project in Magha-Bamumbu led to a peaceful interaction between stakeholders while producing effects on the local development that can be read at several levels in the locality. This central question has been divided into three secondary questions. Similarly, the central hypothesis has been split into three hypotheses. In order to read, explain and analyze our research object, we use the stakeholder theory and the theory of social representation as well as documentary research, interviews and observation. The analyses of this research revealed that the exploitation of the *Echinops giganteus* GR allowed the local population during that period to care for some basic needs but it did not have a significant effect on the local development of the locality of Magha-Bamumbu. They still face difficulties in having access to basic needs. These basic needs include, portable water, improved sanitation facilities, improved health services, good diet, quality education, and good road infrastructure among others. Indeed, there exist a gap between what was agreed in the MAT and the reality on the field.

Key words: *Local development, Genetic resource, Echinops giganteus, multinational firms*

RESUME

Le développement local lié à l'exploitation des ressources naturelles en général et des ressources génétiques en particulier est aujourd'hui un défi majeur pour les nations africaines. Malgré les ressources naturelles et biologiques abondantes que l'on trouve au Cameroun, plus de la moitié de sa population en particulier celles vivant dans les zones rurales telles que Magha-Bamumbu dotées de ces ressources, ont encore du mal à atteindre un bien-être considérable. L'objectif de cette recherche est de faire une évaluation des effets de l'exploitation de la RG l'*Echinops giganteus* menée par la multinationale V.Mane fils, sur le développement local de la localité de Magha-Bamumbu. Cette recherche prend ses racines dans l'observation de l'état d'être et des conditions de vie des habitants de Magha-Bamumbu malgré l'avènement d'un tel projet. De ce fait, le problème qui surgit est celui du sous-développement de la localité de Magha-Bamumbu. Afin d'éclairer cette problématique, nous nous sommes appuyés sur la question central suivante: quels effets socio-économiques et environnementaux l'exploitation de la RG l'*Echinops giganteus* a-t-elle eu sur le développement local de la localité de Magha-Bamumbu ? La réponse à cette question conduit à formuler une hypothèse centrale comme suit: les mesures prises autour du projet d'exploitation de la RG de l'*Echinops giganteus* à Magha-Bamumbu ont conduit à une interaction apaisée entre les parties prenantes tout en produisant des effets sur le développement local qui se lisent à plusieurs niveaux dans la localité. Cette question centrale a été à son tour divisée en trois questions secondaires. De même, l'hypothèse centrale été scindée en trois hypothèses. Pour lire, expliquer et analyser notre objet de recherche, nous avons utilisés la théorie des parties prenantes et la théorie des représentations sociales, ainsi que la recherche documentaire, les entretiens et l'observation. Les analyses de cette recherche ont révélées que l'exploitation de la RG l'*Echinops giganteus* a permis à la population locale durant cette periode de subvenir à certains besoins de base mais elle n'a pas eu d'effet significatif sur le développement local de la localité de Magha-Bamumbu. Ils ont encore des difficultés à accéder aux besoins de base. Ces besoins fondamentaux comprennent, entre autres, l'eau portable, des installations sanitaires améliorées, des services de santé améliorés, une bonne alimentation, une éducation de qualité et une bonne infrastructure routière. En effet, il existe un écart entre ce qui a été convenu dans le CCCA et la réalité sur le terrain.

Mots clés : *Développement local, Ressource génétique, Echinops giganteus, firme multinationale*

ABBREVIATIONS and ACRONYMS

ABS:	Access Benefit Sharing
ADIC:	African Distilling Company
AIDS:	Acquired Immunodeficiency Syndrome
CCCA:	Conditions Convenues d'un Commun Accord
CBD:	Convention on Biological Diversity
CEPLODEV:	Centre for Promotion of Local Development
CSR:	Corporate Social Responsibility
COMIFAC:	Central African Forests Commission
CO2:	Carbon Dioxide
EITI:	Extractive Industries Transparency Initiative
ERuDeF:	Environment and Rural Development Foundation
FCFA:	Franc de la Communauté Française d'Afrique
GIZ:	Deutsche Gesellschaft für Internationale Zusammenarbeit, GmbH
GR:	Genetic Resource
HIV:	Human Immunodeficiency Virus
IUCN:	International Union for Conservation of Nature
MAT:	Mutually Agreed Terms
MINEPDED:	Ministry of Environment, Protection, Nature and Sustainable Development
MINRESI:	Ministry of Research and Scientific Innovation
MINEPAT:	Ministry of Economic, Planning and Regional Development
MINADER:	Ministry of Agriculture and Rural Development
MoBECoS:	Mount Bamboutos Echinops Cooperative Society
NGO:	Non-governmental organization
NTFPs:	Non Timber Forest Products
OECD:	Organization for Economic Cooperation and Development
PFNL:	Produits Forestières Non Ligneux
PGR:	Plant Genetic Resources
PIC:	Prior Informed Consent
PLANTECAM:	Plante Médicinal du Cameroun
SFC:	Sanaga Forestry Company
SDG:	Sustainable Development Goals
SOSUCAM:	Société Sucrière du Cameroun
STDS:	Sexually Transmitted Diseases
TK:	Traditional Knowledge
UNDP:	United Nations Development Programme
UPC:	Union of the Peoples of Cameroon
WDC:	Wabane Development Council
WTO:	World Trade Organization

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GENERAL INTRODUCTION

I- CONTEXT AND JUSTIFICATION

The African continent in general and in particular Cameroon is one which is endowed with many natural resources whether timber, oil, water etc resources. This explain the scrambled for African countries by Europeans. This is noted by Kodjo ANANI TOMEDONOU when he says, “*la ruée des compagnies minières d’origine étrangère vers le continent africain, depuis les années cinquante, témoigne du fait que ce continent regorge d’immenses ressources naturelle s*”¹. Qualified as Africa in miniature, Cameroon is endowed with many natural resources such as forest, wildlife, mining, agricultural resources. This explained her colonization by three different European powers to take advantage of them. Cameroon’s natural resources in general and that of the south-west region in particular attract so many companies in Cameroon to exploit them. It is therefore in this regard that Patrice BIGOMBE LOGO, notes that, “*si la forêt Camerounaise mobilise plusieurs acteurs, c’est au regard des richesses qu’elle permet d’obtenir*”². The south-west region specifically the mount Bamboutos in the Magha-Bamumbu is rich in many natural resources. As such, “*its dorsal part is exceptionally rich in terms of biodiversity including the cross rivers gorillas, the chimpanzees of Nigeria-Cameroon, species of birds in dangers and many more plant species from the IUCN red list*”³. Indeed, natural resources have always been at the heart of human activities. It is essential not only for human well-being but also for human activities around the world. It is due to the fact that, it has multiples stakes. It is a source of food to other, income to some and also an important raw material for industries.

These natural resources such as petroleum, forestry, fresh water, land, etc constitute an important asset for the growth of states. They also constitute a major stake in terms of food, environmental, geopolitical, health and socio-economic policy. However, it was only with the holding of the 1992 Rio Convention on Biological Diversity that genetic resources (GR) were seen as having significant potential like other natural resources. This is because they were once perceived as having no value and not constituting a threat to the environment. Indeed, “*plant genetic resources (PGR) is the pillar upon which world food security and agriculture depends*

¹ Kodjo ANANI TOMEDONOU, *L’exploitation des ressources naturelles en Afrique subsaharienne et le droit des populations à un environnement épanouissant*, Mémoire en droit, Université catholique de Louvain, 2016, p.6.

² Patrice BIGOMBO LOGO, *Le retournement de l’état forestier, L’endroit et l’envers des processus de gestion forestière au Cameroun*, Yaoundé, Presses de l’Université Catholique d’Afrique Centrale, 2004, p.14.

³<https://sgp.undp.org/spatial-itemid-projectslanding-page/spacial-itemid-project-search-results/spacial-itemid-project-detailpage.html?view=projectdetail>, consulted on 30/11/2020.

*especially with expanding global population*⁴. As such, the countries present at this convention agreed on certain objectives, the main ones were, the conservation of biodiversity, the rational use of GR and a fair and equitable sharing of the benefits arising from the exploitation of these resources. Leaders at the international and national levels have recognized the potential of GR and their contributions to development.

Cameroon, apart from being endowed with timber, mining, resources, is also blessed with a rich biological diversity with a variety of GR. For that, *Cameroon is Africa in miniature as far as biodiversity is concerned and for many years provided varieties of useful products for the local populations. These uses range from foods, medicines, shelter, cultural to economic pursuits*⁵. In fact, the country biological and genetic resources constitute a foundation for food security and health. Thus, *“dans la production rurale, pour l'alimentation et la nutrition, environ 80% des populations Rurales sont impliquées dans les activités liées à la biodiversité desquelles dépendent leurs moyens d'existence”*⁶. These rural populations depend mostly on traditional medicine and as such, the medicinal properties of the different species of plants and animals, offers them enough sanitary benefits. For that, Cameroon engagement and ratification of the CBD is firstly because it aims to conserve its biological diversity, use it in a rational way and give access to these GR while ensuring a fair and equitable sharing of the benefits derived from these resources. Second, aware of the potential of these GR for its socio-economic development, it aims to stop the exploitation of its GR by foreign companies without compensation. This is due to the fact that for years, *“companies had been given liberal access to these genetic resources and often had exploited the traditional knowledge of indigenous peoples and cultural groups about how to use such resources, generally without charge”*⁷. This is how companies whose raw materials are essentially GR had to now access these resources only under the jurisdiction of countries. We mainly have pharmaceutical, seed, biotechnology, agro-food companies etc. As a result, these companies have set their sights on African GR not only as a source of raw material but also to fight against poverty and to participate in the development of these isolated areas. The potential of these resources has not only attracted multinational companies to Africa but also to Cameroon.

⁴ Matthew OGWU CHIDOZIE, Moses Edwin OSAWARU and Michael AHANA CHIDOZIE, “Challenges in conserving and utilizing plant genetic resources (PGR)”, *In International Journal of Genomics and Molecular Biology*, Vol. 6(2), 2014, p.16. pp16-22.

⁵ MINADER, The state of biodiversity for food and agriculture in Cameroon, Country report, 2015, p.1.

⁶ MINEPDED, Stratégie et plan d'action national pour la biodiversité – version II, 2012, p.1.

⁷ Shawn N Sullivan, “Plant genetic resources and the Law”, <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc429328/> consulted on the 25/10/2022.

However, before a multinational firm starts any activities in a territory, it entered into arrangements to provide direct finances to various administrations with the aim of supporting the development of infrastructures and the implementation of other projects that can have a beneficial impact on the populations of the territory or living near their operating sites. This type of direct investment in local development has traditionally been encompassed under the term of corporate social responsibility (CSR). The projects usually supported in this context relate in particular to the construction of secondary schools, health centers and hydraulic infrastructures like the supply of electricity. In short, multinationals firms in the supply of such infrastructures aim to contribute to the local development of their area of implantation.

Indeed, the concept of local development has been part of economic policy speech both internationally and nationally for several decades. It has emerged in recent years in the countries of the south particularly in West Africa especially with the advent of decentralization. Decentralization resulted from the failure of policies from above to achieve development. *“States embark on decentralization with the objective of bringing the government closer to the people and thereby involve them more actively in the process of development”*⁸. The state then has to transfer some of its powers at the lower level. Indeed, *“decentralization refers to a process by which a central government transfers some of its powers or functions to a lower level of government or to a local leader or institution”*⁹. It aims to involvement individuals in the amelioration of their own standard of living with the mobilization of their own resources without neglecting external aids. For that, Local development is intended to be an approach to boost development from below and for that, it takes in account the mobilization of both endogenous and exogenous resources around a global project.

Local development is a process that involves more local communities (groups and individuals) in the development of their territory. This includes local actors as well as public and private institutions. In order to contribute to the local development of its areas, the Cameroon government put in place different measures. They involve the local population in the management of their natural resources and the conservation of their biological diversity so as to improve their standard of living and reduce poverty. They equally take the opinion of the local population concerning the implementation of a development project in their territory. By so

⁸ Cosmas CHEKA, “The state of the process of decentralization in Cameroon”, *In council for the development of social science research in Africa, Africa development*, Vol. XXXII, No. 2, 2007, pp.181-196, p.183.

⁹ USAID, “Issues in poverty reduction and natural resources management”, 2006, p.13.

doing, the Cameroon government aimed to ensure that the local population benefit from such projects through the amelioration of their living environment and their conditions of living.

But this is well surprising when we observed the state of being of those having natural resources. They still face difficulties in satisfying their fundamental needs. It is because the exploitation of their natural resources is done at the detriment of their well-being that is to say exploited with little or no compensation and having negative impacts on the physical and social environment. In fact, the abundant natural resources of Cameroon whether timber, oil, and latter GR did not allow the development of Cameroon at the national, regional and local level. This is the case of the *Echinops giganteus* GR exploitation project undertaken by the V. Mane fils company in the locality of Magha-Bamumbu. The expecting results around this project in terms of local development were insignificant. It is for this reason that we are conducting this research to assess the effects of this project on the local development of the locality of Magha-Bamumbu.

II- PROBLEM

Magha-Bamumbu village is a locality of Cameroon located in the department of Lebialem in the south-west region. Agriculture is the main occupation of the inhabitants of this locality. There is a high rate of agricultural production such as Irish potatoes, cabbages, carrots etc. The money gotten from the sales of these products is used for the satisfaction of the family basic needs. But the satisfaction of these needs is insignificant due to insufficient income. Indeed, the bad state of the road makes the transportation of these products to the neighboring market of Kombou to cost higher. In this case, the surplus income that could be used to increase their standard of living goes all on the transportation fees. The villagers sometimes arranged the road to ease the transportation of their agricultural products, but it does not last long because during the rainy season, the road is worse than it was. Also, this area witnesses a lot of migration out of the village due to insufficient health and educational facilities. The health center available is not well equipped and the schools apart from also being not well equipped do not have all the classes.

According to research and through ERuDeF, an NGO based on biodiversity conservation, a project was introduced in the locality of Magha-Bamumbu that is the *Echinops giganteus* GR exploitation project. The project was undertaken by the V. Mane fils company who uses the GR to produce perfume. But before the exploitation process started, the Cameroon government, the company and the locality of Magha-Bamumbu signed a MAT, an agreement in which the firm

commits on the economic plan, to grant 30% of profit resulting from the marketing of the finished product to the locality. Buy the roots of the GR to the local population, 400 CFA the kilogram (wet roots) while the dry roots are purchase at 2000 CFA per kilo. On the social domain, he undertakes to gives scholarship to students of this locality mainly women and to support local development projects. Finally, on the environmental domain, to ensure a rational and sustainable management of the site, the conservation of the environment and a culture of the *Echinops giganteus* GR.

All these measures taken aimed at alleviating poverty, increasing the indigenous standard of living and contribute to the local development of Magha-Bamumbu. In short, to ensure that the locality of Magha-Bamumbu, benefit from the exploitation of their GR. However, after some years, the *Echinops giganteus* GR exploitation project undertaken by the V. Mane fils Company does not seem to have the expected effects since a considerable change did not followed in the field. The locality still has inadequate infrastructures, increase in migration not only of young people but also of children aged six and above and equally find it difficult to satisfy their basic needs. Indeed, the locality of Magha-Bamumbu is still tormented by the specter of poverty. There is therefore a problem of local underdevelopment or a weak local development despite the introduction of this project in the locality of Magha-Bamumbu.

III- PROBLEMATIC

The exploitation of natural resources in general and in particular genetic resources is one of the projects that Africa, in particular Cameroon must consider to achieve its development objective. This is what Robert LEWIS-LETTINGTON makes us understand when he says,

Africa's biological wealth can be critical in alleviating poverty, ensuring food security, fostering industrial innovation, and developing new medicines. African peoples and communities depend on these resources for their economic, social, and cultural well-being. These gains can provide local, regional, and global benefits¹⁰.

Indeed, natural resources play an important role in the progress of states as they are the basis of raw materials of some businesses that cannot function without them. However, natural resources have always been a source of conflicts between the state and the local population on one hand and between foreign companies and the local population on the other hand in order to

¹⁰ Robert LEWIS-LETTINGTON, *African perspectives on genetic resource, A handbook on laws, policies, and institutions governing Access and Benefit Sharing*, Environmental Law Institute, 2003, p.1.

benefit from them, both for consumption purpose and as a means of obtaining more capital. These resources, which are a means of subsistence for some and a source of income for others, greatly contribute to the progress of states. In fact, in a document published on the direction of the secretary general of the OECD underline that,

The exploitable natural resources intervene in various ways in economic activities, in particular minerals, timber and fishing represent a large part of economic production in many countries. Soil and water resources are also at the heart of agricultural activities, which play a decisive role in the economy of goods in developing countries¹¹.

It shows how important natural resources are for life. Indeed, several works preceded our study in the field of the exploitation of natural resources by multinational firms. Among others in the field of forestry, petroleum, genetic resources etc. and also on the link that may exist between natural resources and development in general, especially local development.

1- The importance of the exploitation of natural resources in improving the living environment and the living conditions of the local populations.

Several studies have been carried out to show how the exploitation of natural resources improved the living environment and the conditions of living of the local populations. As such, natural resources exploitation plays a greater role in the amelioration of the living conditions of people endowed with them. In her study on the importance of fishing and gathering in the livelihood of a rural community in northern Namibia, Rita BROUWER¹² shows how the exploitation of these NTFP contributed in ameliorating the standard of living of the population in Sigone. In Sigone fishing and gathering are important activities because, it is a source of foods and income to rural household. The exploitation of these natural resources has improved the ways of living of the household in that, it is first of all a source of food. When they catch fish or gather wild food, it is first consumed in the house. Then, the remaining fish caught or wild foods gathered, is sold in order to earn money. Apart from being a source of food and income, it also contributes in maintaining solidarity among family and friends. Since as the author mentions, fishing or gathering is always done in groups of men, women or children. And also, when they make a big catch or gathering, they often shared it with members who do not belong to their own household. Though the quantity of fish and wild food available are

¹¹ OCDE, "Natural resources and pro-poor growth, the economics and politics", Paris, edition OCDE, 2008, p.17.

¹² Rita BROUWER, "The importance of fishing and gathering in the livelihood of a northern Namibian rural community", In *Utrecht Unitwin network for south Africa*, publication number 12, 1995.

reducing as a result of factors name by the author such as drought, the use of fishing net, catching young fish, increase in the population, the exploitation of these NTFP has being of importance since it provides sufficient food for rural households. It can also be sold in order to purchase other basic necessities. As such, she underlines that,

Both fishing and wild foods contribute significantly to the food supply of households. Fish and wild food are appreciated because of the taste and variety they add to the diet, but also with regard to the necessary nutrients, like proteins and vitamins, they enrich the diet, although most villagers are not aware of this (...) With the money earnt from fishing and gathering, these activities also indirectly contribute to the food supply, as most of these earnings are devoted to the purchase of maize meal. The availability of fish and wild food, therefore, not only reduces the risk of diseases, but also prevents many people from going hungry¹³.

It is also in this sense that Ousseynou NDOYE affirms,

les PFNL contribuent à la sécurité alimentaire et nutritionnelle: par leur consommation directe au sein des ménages et leur apport en protéines, lipides, minéraux et vitamines; et par leur commercialisation qui génère entre autres des revenus pour financer l'achat de produits alimentaires et de médicaments¹⁴.

Being in the same line with them, Frankline NGHOBUCHE analyse the role of the exploitation of NTFP on local livelihood. The author defined NTFP as, “*they are products of biological origin, other than wood, derived from forests, other wooded land and trees outside forest*”¹⁵. They may be collected in the wild, from trees outside forest or in forest plantations. NTFP is of plant and animal origins and examples are edible nuts, mushrooms, honey, fruits, herbs etc. Rural household around the Bamako forest exploit NTFP as it provides them with additional employment opportunities. The NTFP serve as a source of food and as a source of income to the different households. It is on this subject that Uklaine Alida TOUTAK DJIASSI writes,

La culture du palmier à huile génère des activités qui rapportent de l'argent à tous les niveaux. Cette filière exerce beaucoup plus dans la création des

¹³ *Ibid*, p.146.

¹⁴ Ousseynou NDOYE, “Sécurité alimentaire et nutritionnelle, amélioration des moyens d’existence et gestion durable des PFNL”, In *FAO, Vivre et se nourrir de la forêt en Afrique central*, Rome, 2016, p202.

¹⁵ Frankline NGHOBUCHE, *The exploitation of non-timber forest products for local livelihood in the Bamako forest reserve*, a dissertation in Geography, University of Yaoundé I, 2015, p.24.

*emplois dans le secteur informel où elle permet à la population locale d'avoir des revenus pour satisfaire leurs besoins vitaux et survivre*¹⁶.

By so doing, forest foods such as fruits, berries, nuts, young leaves and herbaceous plants gums and saps, contribute all types of nutrients for the build-up of the human system of the forest dependent communities. He therefore underlines that,

*All these proteins vitamins and minerals go a long way in reinforcing the human immune system of the local inhabitants preventing illness and diseases which then contributes enormously in reinforcing their agricultural potentials thus more production, more income and the overall consequence of poverty reduction and socio-economic development*¹⁷.

The author went further in showing the cultural importance of NTFP of Bamako forest to the forest-adjacent communities which can help to preserve the forest in general and in particular NTFP. Indeed, like Rita BROUWER, this author also observed that the quantity of NTFP in Bamako forest has reduced because of increase in the population of local communities and also an increased in the numbers of gatherers. Indeed, the protection of this forest is done through recreational areas and ecotourism which attract more operators and visitors and thus yield income both locally and nationally.

Also, the contribution of the exploitation of natural resource to individuals living condition is observed in mining exploitation. For that, Kevin N. FUNOH¹⁸ analyzed the role that artisanal gold mining play on the livelihoods of the local population and on the environment. He shows that artisanal gold mining is a lucrative activity since it generates income both for individuals in the mining camps and it surroundings. The standard of living of the miners has increase because of the higher income they get from mining. Also, as a result of the mining activities, other income generating activities have been created in the mining camps. He writes to this effect that,

The people have long practiced traditional activities such as agriculture, farming, hunting, fishing and the collection of NTFPs. Today mining has led

¹⁶ Uklaine Alida TOUTAK DJIASSI, *Impact socio-économiques et environnementaux de la culture du palmier à huile dans l'arrondissement de Banwa (Ouest -Cameroun)*, Mémoire de Géographie, Université de Yaoundé I, 2019, p.79.

¹⁷ Frankline NGHOBUCHE, *op.cit.*, p.90.

¹⁸ Kevin NWOKWANTOUE FUNOH, "The impacts of artisanal gold mining on local livelihoods and the environment in the forest areas of Cameroon", Bogor, Indonesia, CIFOR, 2014.

to intensification in the practice of some of these activities and let to the birth of new ones such as portage and new forms of businesses¹⁹.

As such, these income generating activities joined with the income they earn from mining makes it possible for the miners to increase their living conditions. For that, if miners remain poor is because they poorly managed their revenue. However, the higher income generated by this activity leads to the development of indecent activities such as prostitution. It thus leads to the spread of STDS including HIV/AIDS which affect the health of human being. Equally, mining activities include the cutting downs of trees, digging of holes and the use of some chemical (mercury) to remove the gravels. It thus causes deforestation, contamination of drinking water which causes diseases to the population, soil destruction. But for him, for mining activity to improve the miner's livelihood,

- They have to be taught on sustainable mining techniques to mitigate the negative environmental effects that mining generate,
- Give them technical assistance by carrying out prospection and allocating zones for artisanal mining activities,
- Give them the chance to benefit from social insurance to secure their retirement and facilitate procedures for obtaining artisanal mining permits. This will lead to a formalization of the sector and regularize many miners.

Going to the same direction, Punam CHUHAN-POLE, Andrew L. DABALEN and Bryan CHRISTOPHER LAND²⁰ shows that large-scale mining exploitation in Ghana, Mali and Tanzania have positive impacts on the amelioration of the wellbeing of the local population. This activity has created jobs for the inhabitants of these countries and allows them to earn high salaries. The higher income enables them to satisfy their basic needs. For illustration purpose, the harmful effects of this activities on health is been mitigated since with the higher income they easily have access to health facilities. Equally, to the government the large-scale mining exploitation generate higher tax revenue in both the three countries. It is now left for the government to make correct used of this revenue for the benefit of both those beside the mining site and other areas of the country which faces difficulties to survive. This activity also

¹⁹ *Ibid*, p.20.

²⁰ Punam CHUHAN-POLE, Andrew L DABALEN et Bryan CHRISTOPHER LAND, *L'exploitation minière en Afrique, les communautés locales en tirent-elles parti ?* WASHINGTON DC, Collection l'Afrique en développement, La Banque Mondiale, 2020.

contributed in the amelioration of their condition of living because it leads to the emergency of other activities such as corporate catering, plumbing etc. People are now able to build houses with permanent materials, own a car and a radio post which was not possible before the advent of the project. Although some negative effects resulting from this activity is being reduced, it still remains that the activity have harmful effects on the environment such as pollution, soil degradation with lead to structural transformation causing the reduction of agricultural product as some studies shows. But for these authors, despite the risks that mines pose to agricultural productivity for example through environmental pollution or structural changes in the labor market, there is no indication of a decrease in the greenness rate which is an indicator of agricultural production. For them, agricultural production does not reduce with the coming of mining activity exploitation but instead increase due to higher demand as a result of higher income earned from mining exploitation.

Indeed, natural resources have always played a special role in the life of individual especially the poor because, it is a source of food to then and a source of income. It is from the sales of these resources that they are able to care for their families by satisfying their fundamental needs. But the exploitation of natural resource instead of helping the poor, now become a cure to them with the involvement of other exploiting actors such as foreign and national industries. It often makes the population to see their right as being violated by these natural resource exploiters.

2- The violation of human rights in relation to the exploitation of natural resources by multinational companies

The exploitation of natural resources by multinational companies often leads to conflicts between them and the population having these resources. This is because their activities do not always respect indigenous rights. Delphine COUVEINHES-MATSUMOTO²¹ based her analyzes on the violation of the rights of indigenous peoples in relation to the exploitation of their natural resources by both the state, multinational companies and international institutions. Thus, it shows that the exploitation of natural resources by multinational firms do not respect the indigenous rights that they constantly violate. Indeed, multinationals firm involved in the exploitation of natural resources in Latin America deprive the natives from their land and at the

²¹ Delphine COUVEINHES-MATSUMOTO, *Les droits des peuples autochtones dans le cadre de l'exploitation des ressources naturelles en Amérique latine*, Thèse de Doctorat en Droit international public, L'université de Paris I, Pantheon Sorbonne, 2013.

same time their activities cause a lot of pollution which is harmful to the health of indigenous. This therefore creates tensions between foreign companies and the natives.

Based on the same point, Iyabo OLOJEDE point out that, the cause of the crisis in oil producing communities is as a result of the discharge of oil waste on the environment, inadequate compensation to the oil pollution and the lack of access to policy makers in government and oil companies. Indeed, the exploitation of oil in the Niger delta is at the origin of conflict between the oil producing communities and the multinational companies exploiting the oil. The benefit made from oil exploitation did not follow with the expectation of the population since it has harmful effects on the environment. The author the says that,

In spite of the huge economic gains this company and other oil multinationals have garnered from the oil producing areas over the years, they have not done much to alleviate the hazards contingent on their operations, nor have they seriously addressed issues of marginalization and pauperization of the oil producing communities in the Niger delta²².

Failure to address these environmental issues leads to reduction in farms products like cassava, yams etc and cause skin irritation. This anger more the local population of Niger delta which they manifested it with crisis. This is what Yousoufou Hamadou DAOUDO affirms when he says,

Au Niger, non seulement l'exploitation des ressources minières n'a pas véritablement permis d'améliorer significativement les conditions de vie; mais a, au contraire, accentué les problèmes de conflits armés dans les zones d'exploitation, et de gouvernance administrative et financière de la rente²³.

However, the author mention that for the state to resolve the crisis and conflict in oil exploitation communities and guaranteed peace and security in the Niger delta, they have to employ more youth, adopt the dialogue policy between companies, state and oil producing communities. They also have to allocate some revenues to the oil producing communities to cater for their development and finally, an environmental rejuvenation.

²² Iyabo OLOJEDE and AL, *Nigeria oil pollution, community dissatisfaction and threat to national peace and security*, African associations of political science (AAPS), 2000, p.21.

²³ Youssoufou Hamadou DAOUDA, « Responsabilité sociétale des multinationales en Afrique Subsaharienne, Enjeux et controverses, Cas do groupe AREVA au Niger », In *La revue électronique en sciences de l'environnement*, volume 14, Université du Québec, Montréal, 2014, p.6, consulted on the 22 April 2021.

Similarly, in his study, Lucy MULVAGH²⁴ also focuses on the violation of the rights of indigenous people who are expropriated from their lands and natural resources without compensation. Indeed, “*the forest plays an essential part in ensuring the physical, cultural, spiritual and economic well-being of indigenous “pygmy” peoples, who suffer extreme levels of poverty and ill-health without it*”²⁵. The different stakes of the forest over the years, have made the forests to be an important asset for different stakeholders. It has been transformed by the state and conservation agencies as protected areas while agriculturalists have cut it down for agricultural production. This has forced indigenous people especially the Pygmy of RDC who apart from extracting their source of food from the forest, also live in the forest, to migrate from other places in search of shelter. With the loss of their forest refuge, they experienced an increasing prejudice and discriminations which constantly violated their rights. Indeed, the author underlines three aspects of the violation of indigenous rights.

First, the indigenous “pygmy” people of RDC face racial discrimination which is manifested in the form of racial stereotyping, social exclusion and systematic violations of their human rights. It thus prevents them from having access to services such as health and education. Another way in which the indigenous rights are violated is in relation to nature conservation activities. The creation of protected areas prevents the indigenous people from carrying out their normal activities (farming, hunting etc) since they are being deprived of any access to the land. These lands are equally taken without any compensation or reparation for their losses. The conservation activities do not also implicate the indigenous people in the process due to the fact that it creates only temporal employment to them and they are not even allowed to enter the parks. The last aspect underlined by the author that shows the violation of indigenous rights is the forestry legislation in RDC. The legislation in RDC that is to say the forest code do not recognize indigenous rights and for that no measure have been taken for the protection of indigenous people. He thus says, “*the 2002 forest code is blatantly discriminatory as it fails to recognize the existence of indigenous peoples and protect their rights*”²⁶. For that, it fails to recognize the rights of indigenous people to participate in decision-making by allowing them to take part in the activities on their lands and territories. As a result, indigenous people rights are violated by legislation, logging and the mode of nature protection, that is to

²⁴ Lucy MULVAGH, “The impact of commercial logging and forest policy on indigenous peoples in the Democratic Republic of CONGO” In International work group for indigenous affairs de travail pour les peuples autochtones (GITP), *Exploitation forestière et peuples autochtones*, Paris, L’Harmattan, 2007.

²⁵ *Ibid*, p.2.

²⁶ *Ibid*, p.4.

say, a mode that does not take the participation of the indigenous population in the management of natural resources. Thus, “*the failure to recognize and guarantee these rights has led to gross violations of indigenous peoples’ human rights, undermining their means of subsistence and severely compromising their physical, cultural and economic integrity*”²⁷. Indeed, the State, the international institutions for the protection of indigenous rights does not put into practice the laws which protect the indigenous people from any exploitation.

Samuel ASSEMBE MVONDO and Danielle LEMA NGONO²⁸ equally based their analysis on the rights of local communities in relation to the conservation of natural resources. And underline some solutions or strategies to implement in order to harmonize human rights and natural resource conservation. There exists an interdependent relationship between natural resources conservation and human rights. Indeed, a well-protected and secured ecosystem can contribute in the amelioration of the fundamental rights of humans in the same way as a degraded environment lead to harmful effects which affect human rights. The natural resources conservation project in the Mengame gorilla sanctuary through the protected areas contributed to the violation of the rights of local populations because they do not have access to a number of facilities that allow them to flourish or that attempt to what they call human dignity. With the project, the local population have been deprived of having access to land, wildlife and plant resources, participate in the decision-making process in the protected area, information on the project, access to benefits from logging, the infrastructural development of the region and to exercise self-defense. It has thus resulted to “a climate of tension” at Mengame. Thus conserving natural resources does not means depriving local populations of their only means of existence. Because as sand points out, “*la conservation des ressources naturelles n’est pas une fin en soi, mais bien un des moyens susceptibles de permettre à la communauté humaine d’améliorer ses conditions d’existence sur terre*”²⁹. These authors therefore believes, as a solution to conciliate human right and natural resources conservation in general and in particular in Cameroon, the adoption of “*le modèle de gestion adaptative des aires protégées*”³⁰ at the Mengame gorilla sanctuary. It is a starting point in the sense that, it is democratic, representative and an objective management. With the aim of conserving natural

²⁷ *Ibid*, p.5.

²⁸ Samuel ASSEMBE MVONDO and Danielle LEMA NGONO, “Droits des populations locales et conservation des ressources forestières, Analyse du cas du sanctuaire à gorilles de mengame-Cameroun », In *Journal du droit de l’environnement et du développement*, Volume 3/3, 2007.

²⁹ *Ibid*, p.279.

³⁰ *Ibid*

resources, it will also allow the local populations to access the various elements on which their development depends while involving this social stratum or layer in all decisions related to the conservation of natural resources. It's only in this sense that he (the state) could protect its environment and make local populations understand the importance of conserving natural resources for present and future goods. Another solution underline by the authors is the seriousness of donors in the sense that, they should approve the financing of conservation projects only if, a socio-infrastructural development plan and for the benefit of the population, very clear and realistic have been presented or submitted to them. They also appeal to the population to understand the need and importance of environmental conservation in their present life and those of generations to come. The constant violation of the rights of populations in relation to the exploitation and conservation of their natural resources make the actions of companies insufficient or even insignificant. This leads to the ambiguity of CSR in their areas of influence.

3- The ambiguous role of multinationals in charge of the exploitation of natural resources in local communities

The potential of natural resources both for personal use and as a source of increasing wealth has prompted many industries to exploit them as raw materials. This has led to the advent of many multinational companies looking for strategic places where they will have easy access to these resources for the functioning of their industries and settle there. As such, in their area of establishment, more was expected of them because it is seen as an opportunity for the backward countries in general and in particular in the area where they are established, to develop. Indeed, multinational companies have always been perceived as actors of development due to the fact that their activities generate income in the economy. But, their activities having harmful effects on the environment, the Brundtland conference of 1987 called upon them to carry out their activities in a responsible way. That is to say, apart from generating income, these activities have to respect human rights and are less harmful on the environment. It is in order to achieve a sustainable development and their responsibilities towards the achievement of this goal is then refers as the corporate social responsibility (CSR).

CSR is as Youssoufou HAMADOU DAOUDA says, “*elle traduit l’engagement volontaire des entreprises à prendre en compte les attentes sociétales des parties prenantes (salaries, société civile, ONG, collectivités locales, populations riveraines etc*”³¹. This is how in his studies in Nigeria, he shows the limit of the social responsibility of multinational companies in

³¹ Youssoufou Hamadou DAOUDA, *op.cit.*, p.2.

the exploitation of uranium. CRS is a three dimensional concept that is, it has an economic, social and environmental dimensions. Indeed, in the Niger delta multinationals companies among which we have AREVA (the principal company on which the author based his research) have carried out voluntary activities in their zone of implantation. But they are not free from ambiguity due to the fact that, the rate of the exploitation of uranium by AREVA in Niger did not offer the possibility of an economic take-off in this area. As a result of this, tensions grow in the area which leads to conflict. In order to appeal the local communities, the multinationals associated with NGOs to solve some issues. Entrusting part of its societal activities to local or national NGOs, these companies offer the possibility to the population to be actors of their own progress. But these actions turn out to be quite ambiguous in the sense that, they are just there to perfect or credit the company's image. These NGOs are financed by certain multinationals and thus they used them for as Jeannette LEUMAKO says, "*pour implanter leur vision dans les états Africains*"³². It therefore makes these actions not to be seen as those in favor of development. Thus, this exploitation did not really make it possible to significantly improved the living conditions of the population since, "*à part la courte période 1975-1980, considérée comme celle du boom de l'uranium n'a pas eu d'effets d'entraînement appréciables sur l'économie nationale*"³³. For that, AREVA has an insignificant social responsibility because his activities did not only maintain the population in a low standard of living but it results in conflicts not only between the company and the indigenous population but also between the State and the company. These tensions result from the fact that the expectations of the village populations regarding the exploitation of their resources in terms of profit are often either insignificant or not met compared to what the company gain. It has made natural resources to be regarded as a curse because it fails to contribute to the development of the country, region or local areas which own it. In order for CRS to be more concerned with well-being, the author prompts the mixture of voluntarism and regulation.

Also, in her study, Anne BEKELYNCK³⁴ analyzes the role of multinational or private companies in the local development of sub-Saharan Africa in general, specifically in the field of

³² Jeannette LEUMAKO, *Exploitation des ressources naturelles et développement locale, Le cas de l'exploitation des terres dans le département du Moungo (Littoral-Cameroun)*, Thèse de doctorat, Université de Yaoundé I, 2016, p.339.

³³ Youssoufou Hamadou DAOUDA, *op.cit.*, p.7.

³⁴ Anne BEKELYNCK, « Le rôle des entreprises privées dans le développement local en Afrique subsaharienne, l'exemple du VIH/SIDA en côte d'ivoire », In *Revue internationale des études du développement*, 2017, <http://www.carin.info/revue-internationale-des-etudes-du-developpement-2017-3-page-149-htm>, consulted on the 22 April 2021.

health. Indeed, with the spread of the disease, few people in Ivory Coast had access to screening and then to treatment due to its high price. But with the establishment of companies that worked for health and those that the activities were not on the health sector, access to screening and antiretrovirals was high thus increasing the health status of individual in Ivory Coast. This is as a result of the fact that these companies in their programs give access to antiretroviral treatment to all their workers. They also build hospitals and equipped them with goods materials which did not only reduced the spread of HIV/AIDS but equally reduced other illness prevailing in the country such as malaria, typhoid etc. for that, these companies have enormously improved the health status of the local population thanks to easy access to antiretrovirals and other health facilities.

Again, Bertin DJIAGOUE³⁵ insists on the impacts of agro-industrial activities on the environment. According to the author, the installation of SOSUCAM in Mbandjock is a blessing because the multinational carried out some development activities in the area. This includes the construction of schools, health centres, etc. Indeed, the author underlines that, “*l’implication de la SOSUCAM dans le développement de la localité est immense, dans les domaines de l’éducation, de la santé, de la sécurité et des loisirs*”³⁶. But all these actions are insignificant in that, the activities of the company have harmful effects on the natural environment. These industries (SOSUCAM-ADIC) have enormously through their different activities (extraction, processing phase, etc.) had negative effects on the environment since they affect the health of the local population in which they are established. He underlines these environmental problem and they affect both the local population and the biodiversity. Thus, the industrial cultivation of sugar cane leads not only to soil loss, but also to the occupation of vast flat expanses.

Also, Mbandjock agro-industries extract large quantities of surface water and groundwater for multiple uses in their operation. It does not only reduce the amount of water left for households but also affects the quality of water consumed as part of the waste water and effluents from the sugar factory are dumped inside water and nature. These effluents exposed to nature without any protection measures for the population, pollute the waters and also all the biodiversity. The burning techniques used for sugar cane harvesting equally harmed the environment. Though the techniques protect the cutters against tearing by the leaves, they are

³⁵ Bertin DJIAGOUE, *Impact environnementaux des agro-industries dans l’arrondissement de Mbandjock, (département de Haute-Sanaga)*, Mémoire en géographie, Université de Yaoundé I, 2003.

³⁶ *Ibid*, p.42.

harmful to the environment as a whole. It is due to the fact that, it results from an increase in the rate of CO₂ in the atmosphere, deposit of ashes and black debris in housing, warming of the locality, migration and disappearance of plant and animal species. In fact, as the author affirms, *“les industries agro-alimentaires apportent leur contribution à la résorption des problèmes de chômage, mais elles ne le font qu’au prix de ce qui nous est de plus chère, le capital naturel”*³⁷. So, the agro-industries or multinationals in Mbandjock benefit more from the area compare to local population since they played a harmful role on the overall environment of the locality.

It is also in this sense that Cécile RENOUARD and Hervé LADO³⁸ are interested in the contribution of multinationals to development while revealing their limits and carefully evaluating how these limits can optimize their contributions and minimize the damage they generate from an economic, fiscal, social, societal and environmental point of view. Indeed, the concept of CSR which emerged in response to ecological and social stakes appeared as a way to associate companies to development aid. As such, international development organizations will massively engage in the promotion of CRS. As a result, the actions of multinationals companies in their areas of establishment will therefore be perceived as development aid that is to say, support for local development. However, multinationals companies contribute to development through four elements which according to these authors are, foreign direct investment and taxation, local employment, the supply of goods and services as well as support for local economic development in their areas of influence. They contribute to the development of their areas of establishment through investment flow which is count under foreign direct investment. Claire Mainguy emphasizes in this regard that,

*L’intérêt porté aux investissements étrangers dans les pays en développement est généralement justifié par de nombreuses attentes: (...), la hausse de la productivité, l’amélioration des capacités de gestion locales et les transferts de technologies*³⁹.

This increased the financial autonomy of host country, as they enter positively into its balance of payment. Multinationals also create employment before and after the start-up of its activities. In their areas of influence, they equally undertake voluntary activities such as the construction of social infrastructures as a support to development. But these development

³⁷ *Ibid*, p.92.

³⁸ Cécile RENOUARD and Hervé LADO, “Multinationals and the impasse of development through growth” <https://journals.openedition.org/ethique publique/1213>, consulted on the 19th May 2021.

³⁹ Claire MAINGUY, Les investissements directs étrangers dans les pays en développement, La diversité des impacts, In *Revue région et développement*, n°20, Paris, L’Harmattan, 2004, p .65.

actions have some limits in that it does not really favoured development or local development. It is in this sense that ZHANG (1996) affirms in these words, “*bien que la chine aie fait de la construction dans les transports une priorité de sa stratégie de développement, l’investissement dans ce secteur fut loin d’être suffisant*”⁴⁰. In this regard, for sustainable development to be achieved the author recommend a voluntary commitment or binding regulations. Companies will not more be based only on the creation of wealth but also carried out their activities in respect of human and the environment that is to say, the polluter-pays principle.

Another limit of the actions of multinational companies on local development or development is seen in the exploitation of forest resources that is timber products. Forest is of political, socio-economical, cultural and ecological importance. It is a source of income to some, a vital resource or a business to others through conservation projects. For that, Patrice BIGOMBE LOGO writes in these words, “*la forêt est donc un réel enjeu économique à la fois pour les populations, l’état et les opérateurs économiques. Tout le monde y gagne, à des degrés divers et de diverses manières*»⁴¹. Indeed, “*forest resources provide the basis of a wide range of uses for both subsistence and commercial purposes, including medicines, mats, baskets, furniture, timber, fuel, fruit, mushrooms, bush meat and many others*”⁴². For that, the forest mobilizes several actors which often have different interests. Indeed, economic operators are the one benefiting more from the exploitation of forest products especially timber exploitation. It is in this respect that he says,

*Lorsqu’on considère ce qui se passe dans nos villages et campagnes, il est fort aisé de constater que l’exploitation forestière industrielle ne profite pas aux populations locales du moins par rapport aux attentes qu’elles en expriment. Elle n’a pas d’emprise consistante sur le développement*⁴³.

It is due to the fact that, these operators carried out development activities with temporal material that do not last for long. For illustrative purposes, Jean-Georges ZALANG affirm when he writes, “*dans le domaine de l’aménagement infrastructurel, les performances de l’exploitation forestière industrielle sont fondamentalement médiocres, certes, on trouve*

⁴⁰ ZHANG 1996, cited by Séverine BLAISE, In Claire MAINGUY, *op.cit.*, p.17.

⁴¹ Patrice BIGOMBE LOGO, *Le retournement de l’état forestier, l’endroit et l’envers des processus de gestion forestière au Cameroun*, Yaoundé, Presses de l’Université Catholique d’Afrique Centrale, 2004, p.17.

⁴² Phil WOODHOUSE, “Natural resource management and chronic poverty in sub-saharan Africa”, an overview paper, Chronic poverty research centre, Working paper 14, 2002, p.12.

⁴³ *Ibid*, p.18.

quelques équipements construits par les forestiers, mais ils sont pour la plupart précaires”⁴⁴. It is also in this sense that Christophe QUOYIKA in his study on logging by the sanaga forest company in the kesham village affirms that “*the company plays a big role in the progress of the kesham village although partially because it did not respond to the basic needs of this population*”⁴⁵. Thus, the company benefits more than the local community. For this, the sanaga forestry company (SFC) operating in the Kesham village has partially met the needs of the local population. This due to the fact that, major and essential necessities such as drinking water, a health center and sustainable employment in the trade of the natives of the Kesham village were absent. The roads and small bridges that were built by SFC only play a seasonal role, although huge volumes of wood of various species including the precious *Njabé-baillonella toxisperma* are regularly evacuated to Douala and Europe from these forests traditionally preserved and managed by the local population without significant destruction. Indeed, the balance sheet of the SFS in the development of Kesham cannot be said to be negative though most of the requests made by the local population was not met. As such, consequence of industrial forest exploitation in terms of local development is insignificant.

However, these authors recommend that it is the duty of the State to take its responsibilities and correctly use the revenues from logging for the benefit of the community in which the activity is carried out. It also recommends the involvement of indigenous peoples in decisions around the exploitation project. This is seen in the words of Celestin MODESTE BOMBA when he underline that, “*la participation des populations apparaît, dès lors comme la clé de succès de la nouvelle politique forestière qui entend notamment faire des ressources forestières un facteur de développement en milieu rural*”⁴⁶. Thus, multinational companies in the exploitation of forest resources failed to achieve good living conditions for the populations where the resource is being exploited. It is also observed in the exploitation of mining resources by multinationals.

Moreover, oil exploitation is another area where multinationals have played an important role. The involvement of multinational companies in the mining or oil exploitation has being perceived as a condition of progress in that these companies will carried out

⁴⁴ Jean-Georges ZALANG, (Dir), *op.cit.*, p.144.

⁴⁵ Christophe QUOYIKA, “Industrial exploitation and rural development in the Mayu division, The case of forest exploitation in Kesham village of Akwaya sub-division south-west province of Cameroon”, In Patrice BIGOMBE LOGO, *op.cit.*, p128

⁴⁶ Celestin MODESTE BOMBA, Patrice BIGOMBE LOGO (Dir), *op.cit.*, p.219.

development projects such as the construction of social infrastructures. This has been a nightmare because after the exploitation has ended, the multinational returned back living the environment in deplorable conditions such as extreme poverty, pollution of water which affect the health of the population, degraded environment etc. Mining or oil exploitation is an important stake in that it is an income generating activity. The income obtained from it makes it possible for the population beside the project and those coming to get advantage of the project to satisfy their fundamental needs. It is what Jonam NDIGIEMBAYE NDEIKOUNDA notices when he says, *“les revenus issus de cette exploitation permettent aux familles d’assurer les besoins fondamentaux, d’investir dans le commerce, la construction de logements, l’épargne etc”*⁴⁷. By providing income, it also acts as a source of employment thereby reducing the rate of unemployment and the number of job seekers in the state. But it has no impact on development. Indeed, the advent of the construction of the Chad-Cameroon oil pipeline, which was perceived as a condition for progress, is turning into a nightmare. This project has more negative effects than positive effects on the lives of the local population. Indeed, the activities in this area have led to the pollution of the environment which in turn affects the health of the local population. It is equally in this direction that Rose NKUMBAT writes,

*L’implantation de ce projet a contribué à la perturbation de la biodiversité voire son bouleversement. Le lotissement des routes qui convergent au site et celui du site de la mine elle-même a contribué à la destruction des forêts, des sols et la fuite des animaux sauvages vers d’autres localités*⁴⁸.

It has also led to the spread of diseases due to the displacement of many people coming from everywhere in search of jobs. These authors also note the loss of culture resulting from the mixing of cultures. As such, the local population has benefited from both social and economic aid, but as Joel MBRING asserts, *“they are more punctual, temporary because their long-term positive impact is minimal”*⁴⁹. It is also on this subject that Jonam NDIGIEMBAYE NDEIKOUNDA affirms, *“les projets de construction des centres de santé par les sociétés d’exploitation de l’or, à l’instar des salles de classe, demeurent sans suite des années Durant”*⁵⁰. To say it all, just like forest exploitation, mining or oil exploitation by

⁴⁷ Jonam NDIGIEMBAYE NDEIKOUNDA, *L’exploitation artisanale de l’or et ses impacts socio-économiques et environnementaux dans le département du Mayo-Dallah (Région du Mayo-Kebbi ouest du Tchad)*, Mémoire en Géographie, Université de Yaoundé I, 2017, p.65.

⁴⁸ Rose NKUMBAT, *Le projet d’exploitation du minerai de fer de Mbalam, Etat d’avancement et attentes des populations locales*, Mémoire en géographie, Université de Yaoundé I, 2014, p.100.

⁴⁹ Joel MBRING, *Les impacts de l’exploitation pétrolière tchadienne sur la population locale du nord Cameroun*, mémoire de Master en sociologie, Université de Yaoundé I, 2005, p.138. (Our translation)

⁵⁰ Jonam NDIGIEMBAYE NDEIKOUNDA, *op.cit.*, p.89.

multinationals companies did not contribute to the development of their areas of operations compared to what they have benefit.

Serafeim POLYZOS and Olga CHRISTOPOULOU⁵¹ examine the relationship between natural resources and development in Greece which according to them is negative due to some reasons that they outline. Indeed, natural resources are of importance to the wellbeing of humans since one cannot do without it. “*Natural resources play a special role in the life of the poor. More than 1.3 billion people depend on fisheries, forests, and agriculture for employment-close to half of all jobs worldwide*”⁵². As such, “*nous ne pouvons pas vivre sans l’air pur que nous respirons, les plantes que nous mangeons ou l’eau que nous buvons*”⁵³. These resources are also important in that it is a source of capital to humans in general and in particular industries that uses them as raw materials. For that, it is a condition of development since, « *elles constituent la “richesse naturelle” et par conséquent, leur valorisation est une condition indispensable pour créer de l’emploi et de la prospérité économique*”⁵⁴. It is also in this order that Jennifer BANSARD and Mika SCHRÖDER says, “*les ressources naturelles sont souvent considérées comme des actifs essentiels qui stimulent le développement et la création de richesses*”⁵⁵. Indeed, it is a fundamental factor in the localisation of industries but they often create inequality in regional development as observed by Serafeim POLYZOS and Olga CHRISTOPOULOU in Greece. Greece is endowed with many natural resources that the authors divide it into, cultural, agricultural, forestry, mineral and littoral resources. In Greece, regions endowed with many natural resources are less developed while those which do not have the resources are more developed. Whether cultural, agricultural, forestry, mineral and littoral resources, their contribution to the development of the regions that own them is negative and insignificant. It is due to the fact that, the revenue obtained from these natural resources is transferred from those regions that possesses industries for the manufacturing of these resources. The high population of the urban area also plays an important role in the prosperity

⁵¹ Serafeim POLYZOS and Olga CHRISTOPOULOU, « Investigation de la relation entre les ressources naturelles et le développement régional en Grèce », In *New medit* N.4/2010.

⁵² USAID report, 2006, *op.cit.*, p.3.

⁵³ Jennifer BANSARD and Mika SCHRÖDER, « L’exploitation durable des ressources naturelles, Le défi de la gouvernance », In *Toujours qu’une seule terre*, Les leçon de 50 ans de politique de développement durable des Nations Unies, 2021, p.1.

⁵⁴ Serafeim POLYZOS and Olga CHRISTOPOULOU, *op.cit.*, p.20.

⁵⁵ Jennifer BANSARD and Mika SCHRÖDER, *op.cit.*, p.2.

of these areas since productivity increase due to an available market compared to rural areas with low population density. It is in this sense that Bruno BARBIER and AL writes,

Une population dense permet de réaliser des grands travaux (barrages, terrasses, routes) à moindre coût. Elle induit aussi une baisse des coûts des investissements publics (école, centre de santé). Elle induit encore une spécialisation des métiers qui favorise à son tour les gains de productivité⁵⁶.

However, for the authors, natural resources alone cannot create the necessary development conditions for the departments which have them and contribute to their development. Thus, as he says,

Il est certain que la prospérité économique de chaque région ne dépend pas exclusivement de l'existence ou non de ressources naturelles. D'autres facteurs comme la taille des agglomérations urbaines, la structure de la population, les concentrations industrielles, la politique de l'état etc. sont tout autant importants⁵⁷.

The decisive elements that will positively lead to regional development in terms of the exploitation of natural resources are, increasing the attractiveness of each region vis-a-vis direct foreign or national investment for the valorization of natural resources (and more specifically, those that are not transferable), improving the level of technology used and improvement of human capital. To say it all, when the secondary and tertiary sectors outweigh the primary sector based on the valorization of natural resources.

Moreover, Andrianianja Tiana TONINTSOA⁵⁸ analyzed the impact of the exploitation of natural resources on development and shows that although these exploitations by national or international companies are a source of income and jobs, their activities have repercussions on the environment. Indeed, Madagascar is endowed with many natural resources both ground and underground natural resources. The author observed and noted that,

Madagascar is a large island full of natural resources and has in its underground, natural resources of all kinds. She is among those who enjoy

⁵⁶ Bruno BARBIER and al, « Les enjeux du développement agricole dans le grand nord du Cameroun », In *Savanes africaines : des espaces en mutation, des acteurs face à de nouveaux défis*, Actes du colloque, 27-31 Mai 2002, p.4-5.

⁵⁷ Serafeim POLYZOS and Olga CHRISTOPOULOU, *op.cit.*, p.24.

⁵⁸ Tiana Andrianianja TONINTSOA, *Impacts of the exploitation of natural resources by private or foreign companies in Madagascar*, a dissertation in Economic science, University of Antananarivo, 2017.

*exceptional natural wealth. She could count on these resources to contribute to its sustainable development*⁵⁹.

But the exploitation of these natural resources by multinationals and foreign private companies did not make it possible for this country to reduce poverty and achieve sustainable development. Indeed, as the author affirms, “*despite the existence of abundant and diversified resources which offer a strong potential of production for agriculture, fishing, mining and tourism, the country still remains in the tunnel of poverty*”⁶⁰. Though natural resources exploitation is an important source of income, employment, tax revenue in the economy etc, it leads to the destruction of the environment. As such, natural resources exploitation in Madagascar had negative impacts on the environment. Though it created employment and gave revenue to the inhabitants, it affected the environment negatively. These repercussions according to the author include, soil and water degradation, air pollution, resource depletion etc. and also on the living conditions of local populations through food deficits, upheavals in the conditions of people's lives, the impact on public health, etc. Thus, in order for Madagascar's natural resources to contribute significantly to its development, the author recommends to the state to,

-Align the process of the exploitation of natural resources with the fight against poverty in exploited sites,

-To benefit peasant populations from modern means of agricultural production in order to raise the level of agricultural output,

-Strengthen public institutions at the regional level and formulate environmental policies with a view to sustainable development strategies, etc.

Once again, still on the impacts of the exploitation of natural resources on development by multinationals, some authors assert that there is a link between them, that is to say that the exploitation of natural resources contributes to the development of the state who own them. What to look at are the ways in which the income from this activity is used. As such, Blavasky NZIMBU-MAKAMU⁶¹ in his study seek to shows that, there exist an ambiguous relationship between the exploitation of natural resources and development in Africa. Indeed, the

⁵⁹ *Ibid*, p.1.

⁶⁰ *Ibidem*.

⁶¹ Blavasky NZIMBU-MAKAMU, *The socio-economic and environmental impacts of the exploitation of natural resources in Africa and the role of china, the case of the DRC and Angola*, a dissertation in public and international affairs, University of ottawa, 2015.

exploitation of natural resources in the Democratic Republic of Congo and Angola as well as the involvement of china in the exploitation of these natural resources have a positive impact in the development of these countries. Through the different agreements signed between china and these two African states for the exploitation of natural resources, china contributed in their development through the construction of roads, rails, schools, universities, hospital, provision of electricity, water and the introduction of manufacture goods such as clothes, shoes and industrial constructive weapons. Indeed, the investments made by china in these African states resulted in corruption. As such, the author writes that, “*Chinese aid has greatly contributed to the increase in corruption within even African governments and corporate partners*”⁶². Indeed, in order to secure contracts, Chinese companies incited corruption practices after African politicians. Also, Chinese’s items introduced in these countries intensified competition between them and local producers thus affecting negatively local industries.

But the author observed that there exists a relationship between the exploitation of natural resource and development in Africa and that, the part of China in this relationship is positive. He thus noted that, “*the contribution of china in this relation is largely positive in the Congolese and Angolan economies which make him a stabilizing element of their economic growth*”⁶³. This is due to the fact that, china in Africa fulfills development activities such as the improvement of infrastructures, the opening of news markets, the injection of investments etc. Thus for him, the poverty situation still faced in the democratic republic of Congo and Angola is due to the fact that, the income obtained from the sales of their natural resources has being used for the satisfaction of personal needs at the detriment of the entire society. This is as a result of the political instability that characterized these states as well as the poor institutions of these countries. It leads to corruption and lack of responsibilities in the oil sector and result in the contribution of the progress of the State and not to overall development of the country. The income from these resources has not being managed for the well-being of the whole population but mobilized for other personal ends. To say it all, this development depends on the institutions set up by the state. Thus, whether for the DRC or for Angola, the exploitation of natural resources leads to a real development of these countries on the social, economic, political, environmental scales only if good governance, political stability and the struggle against corruption are insured.

⁶² *Ibid*, p.31.

⁶³ *Ibidem*, p.81.

Also, in her study base on natural resources exploitation (soil exploitation) and local development, Jeannette LEUMAKO⁶⁴ attribute the weak local development of the Moungo division to certain actors such as the state, communes, substantial actors, local communities and other actors of the civil societies such as traditional chiefs, local elites etc. There exist a positive relationship between natural resources and local development in that, “*natural resources provide the foundation for maintaining and improving the quality of life of the world’s population and can make invaluable contributions to sustainable growth*”⁶⁵. It is equally in this lines that the author says, “*en effet, les ressources naturelles constituent un levier du développement local, dans la mesure où, ils sont une richesse sur laquelle le territoire s’appuie pour s’améliorer et conserver ses forces vives*”⁶⁶. As a result, the exploitation of land is an important factor in the local development of a territory. This is because it is a source of income to some in the amelioration of their living conditions and a source of employment. Indeed, soil is the foundation of agriculture, which in turn is the basic building block in the livelihood of all people. In fact, like Jeannette LEUMAKO writes,

*La terre joue ainsi un rôle incontournable dans le processus de développement local; tout d’abord par le fait qu’elle constitue un fonds pour la pratique des activités agricoles au sens large et non agricole utiles pour la croissance économique, et ensuite parce que sa répartition équitable et sa mise en valeur peuvent contribuer à la réduction de la pauvreté*⁶⁷.

As such, the impacts of the exploitation of land on the local development of the Moungo division are negative due to the fact that, these actors mobilize strategies which do not favour progress at the local level.

Thus, the state through its land and agricultural policy contributed to the underdevelopment of the Moungo division. Indeed, these policies deprived indigenous people of their land, favoured large scale agricultural production at the detriment of small scale production. As for multinationals, their responsibilities in the negative local development observed in the Moungo are attributed to their activities. Though they carry out some actions in the name of CSR, their activities maintain the indigenous people in a situation of poverty. As the author mention, “*dénuement caractérisé, selon la perspective socio-économique soutenue*

⁶⁴ Jeannette LEUMAKO, *op.cit.*

⁶⁵ World Bank report, Annex D, *Natural resource management, Making sustainable commitments, An environment strategy for the world bank*, 2013 p.153.

⁶⁶ Jeannette LEUMAKO, *op.cit.* p.60.

⁶⁷ *Ibid*, p.89.

par Séverin Cécile ABEGA, par l'incapacité à bien se nourrir et se vêtir, à se procurer un logement décent, à s'offrir des soins de santé appropriés, à accéder à une éducation de qualité ; à quoi s'ajoute la dégradation de l'environnement"⁶⁸. Indeed, the author underline the action of multinationals which hindered the local development of Moungo and they include, land grabbing, exploitation of labor, tax delinquency and the closure attitude towards their areas of implantation. The part of communes in the under development of Moungo is in relation of the nature of the taxes and duties paid by companies in the Moungo. They often used these taxes not for the wellbeing of indigenous people or the local development of the Moungo division but for order purposes. Also, the author underlines the actions of the indigenous people of the Moungo division in the weak local development of their area. They develop behaviours which hindered the amelioration of their conditions of living. These are as underline by the author, the difficult interaction between natives and non-natives, local communities driven by the attitude of attentism, elites preoccupied with their personal interests and finally NGOs whose actions are conditioned by donors. Indeed, the weak local development of the Moungo division according to her is attributed to multinational companies, the state, communes, NGOs, elites and the indigenous people themselves.

Also, the potentials of GR that were once ignore gain room with the convention of Rio 1992. For that many researchers turn their attention to these resources and as such several studies were carried out. ST.B BRUSH and E.MENG⁶⁹ focus on the value of landraces (traditional and local crop varieties) to farmers in centers of agricultural diversity. For them , farmers prefer to cultivate a particular crops in relation to the transportation cost, search cost , economic(quantitative) and ethnobotanical (qualitative) approaches to examine farmer selection of particular crops genetic resources. As such, the continuous cultivation of wheat landrace in turkey which resulted to a successful promotion of modern varieties is because of factors such as soil heterogeneity, water availability, altitude. But, they seem to face unavoidable trade-offs as they select for particular traits like yield, risk, taste etc.

⁶⁸ *Ibidem*, p.253

⁶⁹ Stephen BRUSH and Erica MENG, "Farmer's valuation and conservation of crops genetic resources", department of human and community development, university of California, davis CA 95616, US (e-mail: sbbrush@ucdavis.edu)2 centro Internacional de mejoramiento de maiz y trigo (CIMMYT, INT), lisboa 27 Apdo, In *Genetic Resources and Crops Evolution*, 45: 139-150, 1998.

Still in the area of genetic resource, Helene GILBERT⁷⁰ based its analysis on the different users of GR and also for what purpose that is how these users make good use of these resources. It thus appears that most users of GR used it for non-profit purposes since they used it most for research that is scientific purposes. Also, Carine Samankeu YANKAM⁷¹ in her studies on the rational exploitation of the *Prunus africana* shows that it is a condition of progress because it contributes to development both on the economic, social and environment domain. Indeed, the exploitation of this plant is a source of employment and income to those involved in the activity. This income allows the local population to increase their standard of living through the satisfaction of their needs. It is observed in her speech as she says, “*l’exploitation de P.africana contribue à l’amélioration des conditions de vie des populations qui l’exploitent car grâce à cette activité, certains problèmes liés à la santé, l’éducation des enfants et l’alimentation trouvent leur solution dans les ménages non seulement ruraux mais également urbains*”⁷². Also, the income resulting from this activity contributes to the socio-economic development of the riverside villages. It is due to the fact that, this revenue enables the construction of community homes, the development of markets and the provision of social infrastructure such as drinking water supply, electricity, schools and health centres. Both the national and local level, measures have been implemented for the sustainable use of the plant and it is being carried out. Indeed, the exploitation of the P. Africana has contributed to the sustainable local development of these people.

From the above, studies on the exploitation of natural resources, whether in forestry, petroleum, wildlife, agriculture, genetic resource etc was approached from different angles. Some authors show how the exploitation of natural resources has contributed in the amelioration of the living conditions of the local population though having negative effects on the environment. Nevertheless, with certain measures these environmental problems were mitigated. Others analysis shows that natural resources exploitation either by Multinational firms or national firms is a source of conflict with the indigenous since their rights are constantly violated. Equally, some authors based their works on the role that multinational firms play in the local development of the areas where they carried out their activities.

⁷⁰ Gilbert HELENE, « Portrait de l’usage des ressources génétique au Québec, résultats et analyse d’un sondage auprès des utilisateurs des ressources génétiques », In *Société Provancher d’histoire naturelle du Canada, Québec*, 2008.

⁷¹ Carine SAMAKEU YANKAM, *Analyse de l’impact de la gestion actuelle de Prunus Africana (Hook. F) kalkman au mont Cameroun (région du sud-ouest Cameroun)*, Mémoire en géographie, Université de Kinshasa, 2013.

⁷² *Ibid*, p.48.

However, our research is based on the effects that the exploitation of the *Echinops giganteus* GR by the V. Mane Company had on the local development of the Magha-Bamumbu locality. For us, it is therefore a question of analyzing the overall effects of the project in the study area.

IV- RESEARCH QUESTIONS

A question designates a point to be discussed, to be examined, a difficulty to be resolved. Cyril LEMINEUX specifies that “*si le plus difficile en sociologie n’était pas de produire des réponses mais de formuler de bonnes questions?*”⁷³ This shows that in sociological research, it is the question that is important since it gives the direction to be followed by a researcher, that is to say that the formulation of a question to a research subject is the first conductor thread of this research. Hence, Claude LÉVI-STRAUSS asserts that “*le savant n’est pas l’homme qui fournit les vraies réponses; c’est celui qui pose les vraies questions.*”⁷⁴ Thus the questions which structure this study are divided into central question and secondary questions.

IV.1- CENTRAL QUESTION

The question that governs this work is as follows: what socio-economic and environmental effects did the exploitation of the *echinops giganteus* GR had on the local development of the locality of Magha-Bamumbu?

IV.2- SECONDARY QUESTIONS

1- What are the measures taken by the Cameroon government to ensure the local population enjoyment of the benefits derived from the exploitation of the *Echinops giganteus* GR?

2- What are the opinions expressed by stakeholders concerning the exploitation of the *Echinops giganteus* GR in the locality of Magha-Bamumbu?

3- What interaction exists between stakeholders around the exploitation of the *echinops giganteus* GR in the locality of Magha-Bamumbu.

⁷³ Cyril LEMIEUX, « Problématiser », In Serge PAUGAM (dir) L’enquête sociologique, 2012, pp.27-51. Online on Cairn.info on the 19/06 2021 <https://www.cairn.info/lenquete-sociologique-9782130608738-page-27.htm>, (Our translation).

⁷⁴ Claude LEVI-STRAUSS, *Le cru et le cuit*, Paris, Plon, 1964, p.14.

V-RESEARCH HYPOTHESIS

A hypothesis is a provisional proposition to the question asked whose researcher aims is to confront it with observation in order to confirm, refute or qualify it. The formulation of hypotheses is an important phase of research in the sense that it translates by definition not only this spirit of discovery which characterizes all scientific works but also guides the researcher in the collection and analysis of data. It also allows the researcher to avoid not to distant from its object of study. Thus, Luc Van CAMPENHOUDT and Raymond QUIVY underline that, “*ells constituent en quelque sorte des réponses provisoires et relativement sommaires qui guideront le travail de recueil et d’analyse des données et devront en revanche être testées, corrigées et approfondies par lui*”⁷⁵. This leads us to formulate hypotheses on the questions previously elaborated, namely, the central hypothesis and the secondary hypotheses.

V.1- CENTRAL HYPOTHESIS

The measures taken around the *Echinops giganteus* GR exploitation project in Magha-Bamumbu led to a peaceful interaction between stakeholders while producing effects on the local development that can be read at several levels in the locality.

V.2- SECONDARY HYPOTHESIS

1- To ensure that the local population benefit from the *Echinops giganteus* project, the government sign agreements with the company and the locality concerned as well as the creation of a co-operative to manage activities at the level of the locality.

2- The stakeholders around the *Echinops giganteus* project expresses favorable opinions in terms of it policultural, economic and social functions..

3- The stakeholders around the *Echinops gigantues GR* exploitation project hand an untroubled relationship but the exist an imbalance between them at the level of the fulfillment of their obligations

⁷⁵ Luc Van CAMPENHOUDT, Raymond QUIVY, *Manuel de recherche en sciences sociales*. 4^e Edition Paris, Dunod, 2011, p. 111.

VI.3- RESEARCH OBJECTIVES

Here, the researcher underlines the reason why he undertakes this research. Just like the research questions and research hypothesis, the research objectives are divided into general and secondary objectives.

VI.1- General objective

The general objective is as follow; To know the effects of the *Echinops giganteus* GR exploitation project undertaken by the V. Mane company on the local development of the locality of Magha-Bamumbu.

VI-2 Secondary objective

1-To assess the different measures taken by the government to enable the local population benefit from the exploitation of this GR.

2-To know the opinions of stakeholders concerning the *Echinops giganteus* GR exploitation project.

3- To examine the type of relationship that exists between the different stakeholders around the exploitation of the *echinops giganteus* GR.

VII- METHODOLOGY

This is the stage during which the researcher specifies the different data collection techniques that he used to collect information relating to his object of study as well as the theories that were used to read, explain and analyze his research object. As part of our study, the aim is to specify the data collection techniques that we use in the field as well as the different theories that have been used to explain and analyze the role of *Echinops giganteus* exploitation in improving the well-being of the inhabitants of Magha-Bamumbu.

VII.1- THEORETICAL FRAMEWORK

At this stage, the researcher specifies the theories he uses to explain and analyze his object of study. As such, theories are intellectual constructs taking the form of concept systems and serving to explain real phenomena. Being in the same direction, GRAWITZ defines them as “*un système de propositions rendant compte des faits*”⁷⁶. So in the course of our research we

⁷⁶ Madeleine GRAWITZ, *Méthodes en sciences sociales*, 11eme Edition, Paris Dalloz, 2001, p.111.

are going to make use of two different theories which are; stakeholder theory and the theory of social representation.

VII.1.1- STAKEHOLDER THEORY

Developed in the late 1970s with the work of FREEMAN, stakeholder theory states that the company must take into account the expectations of different stakeholders and not just those of shareholders. As such, FREEMAN defines stakeholders as “*any group or individual who can affect or be affected by the achievement of an organization's goals*”⁷⁷. Indeed, stakeholder theory is concerned with corporate social responsibility which goes beyond the function of profit maximization but also takes into account the legal interests of non-shareholders. Thus, ANSOFF underlines that “*la responsabilité de l'entreprise est de concilier les intérêts contradictoires des groupes qui sont en relation directe avec elle ; dirigeants, salariés, actionnaires, fournisseurs, distributeurs*”⁷⁸. In this regard, company executives have an ethical obligation to contribute to the increase of the well-being of the society. As part of our research, this theory makes it possible to identify the responsibility and the role of each actor in the smooth running of the project in the locality. That is to say the role plays by each stakeholder in the *Echinops giganteus* exploitation project in order for both stakeholders to benefit mostly the local community.

VII.1.2- SOCIAL REPRESENTATION THEORY

Social representation theory draws its roots from the concept of collective representations enunciated by Emile Durkheim in his study on religions and myths. In this study, he shows that totemic beliefs can only be explained by essentially intellectual parameters. They would result from a type of thought shared in the community, illustrating the way in which society apprehends the environment to which it belongs. Indeed, a representation is collective when it is shared by the members of a community. Thus, collective representations are a priori categories of thought that translate society as reality.

It is with the works of the psych-sociologist Serge MOSCOVICI that the concept of social representation was truly developed. For him, social representation has a changing and dynamic nature which is constructed and transformed rather at the level of social groups than at the level

⁷⁷ Edward R FREEMAN, *Strategic management, A stakeholder approach*, Boston, Pitman, 1984, P. 46.

⁷⁸ Igor ANSOFF, *Stratégie du développement de l'entreprise*, Paris, Edition hommes et techniques, 1968, p.35, (Our translation).

of the society as Durkheim point out. It manifests at the interface between the individual and the collective by integrating at the same time cognitive, affective and social elements. In other words, the individual is above all a social being and is inscribed in a dialectical relationship with the society. Moreover, to show the dynamic character of a social representation, Serge Moscovici releases two major processes that account not only for the way in which the social transforms knowledge into representation but also for the way in which this same representation transforms the social. This is the process of objectivities and grounding.

Following Durkheim and Moscovici, many authors have therefore carried out works on social representations for several decades. These are authors such as Marie-José CHOMBARD DE LAUWE⁷⁹; HERZLICH⁸⁰; ABRIC⁸¹; JODELET⁸². They addressed a wide variety of themes such as health, education, religion. However, for JODELET, social representation constitute a “*forme de connaissance, socialement élaborée et partagée, ayant une visée pratique et concourant à la construction d’une réalité commune à un ensemble social*”⁸³.

Just as JODELET, Jean-Claude ABRIC defines social representations as follows; “*une représentation sociale est un ensemble organisé d’informations, d’opinions, s’attitudes et de croyances à propos d’un objet donné*”⁸⁴. Indeed, social representation is made up of several elements such as attitudes, opinions, beliefs, values and prejudices. They are therefore preconceived ideas, accepted a priori and based on a subjective feeling. “*Social representations are very often imaginary, symbolic constructions based on cultural, ideological elements, opinions subjective values*”⁸⁵.

However, according to authors, social representations have several functions. It makes it possible to interpret reality in order to better integrate it. It allows individuals to understand and explain reality, orientate and justify his behavior according to the situations he encounters, facilitating social exchange as well as the transmission of common sense knowledge. Social representation equally makes it possible to identify the attitudes, beliefs and opinions that an individual has related to a reality because they influence and guide the conduct and behavior of

⁷⁹ Marie-José CHOMBART DE LAUWE, *Un monde autre, L'enfance de ses représentations à son mythe*, Paris, Payot, 1971.

⁸⁰ Claudine HERZLICH, La représentation sociale, in Serge MOSCOVICI, *Introduction à la Psychologie sociale*, Vol.1, Paris, Larousse, 1972.

⁸¹ Jean-Claude ABRIC, *Pratiques sociales et représentations*, Paris, PUF, 1994.

⁸² Denis JODELET, A propos des attitudes à l'égard de la Science, in Michel TUBIANA, Yves PELICIER et Albert JACQUART (dir), *Images de la science*, Paris, Economica, 1984.

⁸³ Denise JODELET, *Les représentations sociales*, Paris, PUF, 1989, p.36.

⁸⁴ Jean-Claude ABRIC, *Méthodes d'études des représentations sociales*, Toulouse, Edition érès, 2005, P.59.

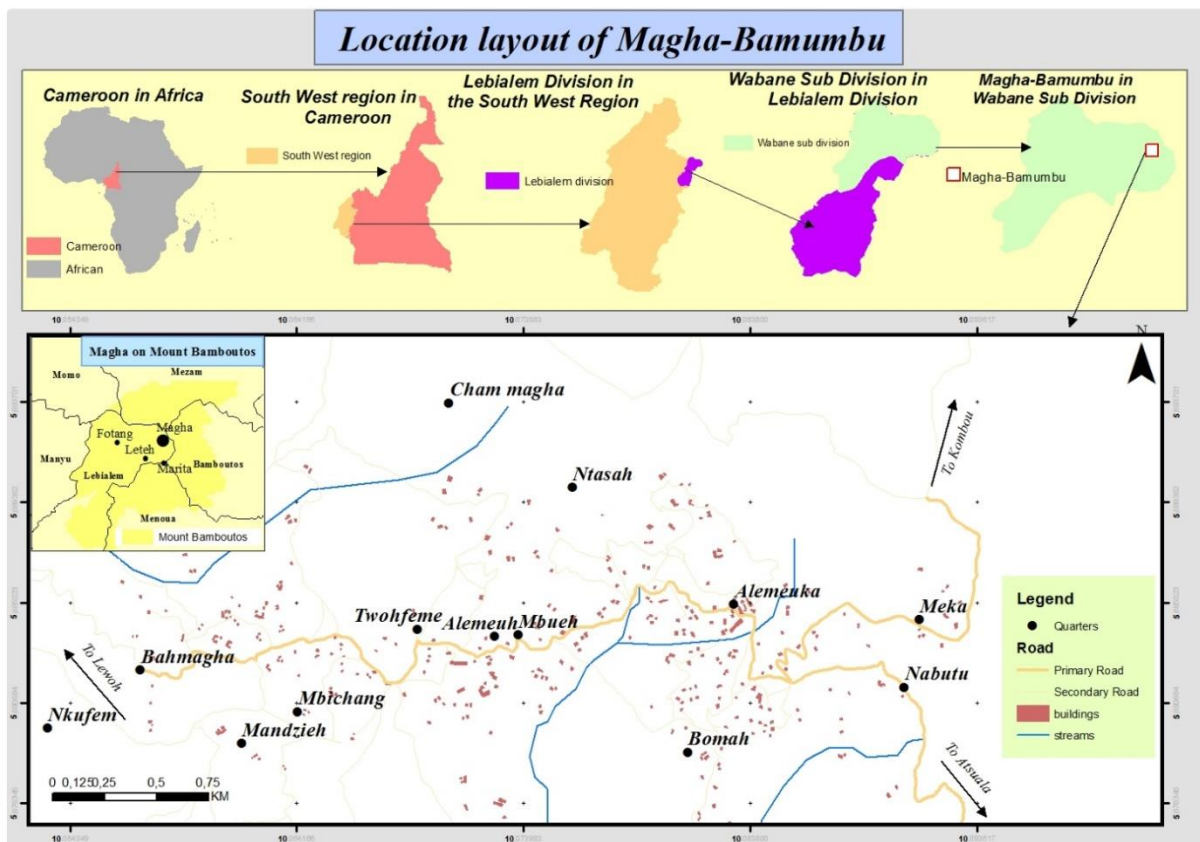
⁸⁵ Serge MOSCOVICI, *Social representations, Essays in social psychology*, NYU Press, 1984, p.308.

social actors while justifying behavior, attitudes and practices. As part of this research, the social representation theory allowed to know how the stakeholder in general and in particular the local population of Magha-Bamumbu perceived the *echinops giganteus* GR exploitation project. Indeed, it makes it possible to grasp the knowledge, opinions and the beliefs that this population has built around this project.

VII.2- DELIMITATION OF THE SCOPE OF STUDY

The present research is carried out in the department of Lebialem, southwest region of Cameroon. It is made up of three quarters which are; Alou, Fontem and Wabane neighborhood. The village of Magha-Bamumbu which is our area of study comes under the district of Wabane. The main occupation in this village is agriculture. It is endowed with both fertile soils and natural resources. Some local products like carrots and later the *Echinops giganteus* GR are bought by companies. But the present research is based only on the exploitation of the *Echinops giganteus* GR by the company V. Mane fils and will be limited only to the evolution of the plant GR, that is to say has little to do with other items found in the locality.

Figure 1: illustration of the geographical location of Magha-Bamumbu



Source: UNDP, 2019

The above maps show the geographical location of the Magha-Bamumbu locality. The Magha-Bamumbu clan lies in the Mount Bamboutos Caldera, located between latitudes 5°44' and 5°36'N and longitudes 9°55' and 10°07'E, and extending from an altitude of 200 m to 2700 m above sea level, is typical of a multi-agricultural production system in the western highlands of Cameroon. It shares boundaries with four major administrative divisions of Cameroon (Menoua, Bamboutos, Mezam and Momo). Bamumbu equally has three vegetation zones (forest, savanna and sahelian) that favor all systems of agriculture thus favoring the present of different species of plants amongst which, the *Acanthus montanus*, *Cythea maniana*, *Gambeya africana*, *Prunus africana*, *Echinops giganteus* etc. which is the genetic resource on which our current research is carryout.

VII.3- DATA COLLECTION TECHNIQUES AND TOOLS

They are necessary and essential for scientific research work in general and in sociology in particular in the sense that they make it possible to collect information and data while confronting the research hypotheses in the field. Thus, J.R MOGBA AND AL underlines that "*they are defined on the basis of rigorous operating procedures, transferable and applicable under various conditions to the phenomena and problems in progress*"⁸⁶. As part of our research, we will use the qualitative method, mainly documentary research, direct observation, interview and focus group discussion.

VII.3.1-DOCUMENTARY RESEARCH

It is a technique which allows the researcher to exploit all kinds of documents (books, articles, theses, etc.) related to its research topic in order to examine them and use them in the framework of his research. According to Valentin Nga NDONGO a document is designated as "*tout element materiel ou immaterial qui a un rapport avec l'activité des homes vivants en société et qui, de ce fait constitue indirectement une source d'information sur les phénomènes sociaux*"⁸⁷. This method therefore allows researchers to make adequate use of documents related to their research subject in order to obtain valuable information on their research object and also to bring it closer to the idea of a bibliography of books related to its study. For this, Jean-Pierre OLIVIER DE SARDAN affirms that,

⁸⁶ J. R MOGBA and Moukadas N, *Practical elements of methodology for the use of social science students*, University of Bangui brochure, 1995, p.27.

⁸⁷ Valentin Nga NDONGO, *L'opinion Camerounaise : Problématique de l'opinion en Afrique noire*, Thèse de Doctorat d'Etat ès Lettres et Sciences Humaines, Tome 1, Université de Paris x-Nanterre, 1999, p.23.

*For socio-anthropologists, written sources are therefore both a means of diachronic perspective and an essential enlargement of the context and of the scale, and at the same time an entry into the contemporaneity of those he studies*⁸⁸.

Thus, in the context of our research, we use a variety of works related to our research topic. This allows us to have some knowledge on the subject, guided us to the angle on which we will base our analysis and also constitute in large useful information. As such, we make use of books, articles, theses, audios, pamphlets etc for writing this dissertation. We consulted these documents in various bookstores among which, the philo-psycho-socio-anthropo library, the library of the Faculty of Arts, Letters and Human Sciences, the French Institute of Cameroon, internet documentation, etc which focuses their studies on the issue of the exploitation of RNs, specifically GR and on multinational firms.

VII.3.2 DIRECT OBSERVATION

It is a qualitative data collection technique where the researcher is physically present in the field but is content to watch, to listen without getting involved. The process consists of “*looking at a situation without changing it*”⁸⁹. It is in this sense that Luc Van CAMPENHOUDT and Raymond QUIVY define it as “*celle où le chercheur procède directement lui-même au recueil des informations, sans s’adresser aux sujets concernés*”⁹⁰. The specificity of this data collection technique is that it often collects hidden information. It equally put the researcher in an immediate interaction with his field, thus obliges him to have access to the field. Hence Sébastien CHAUVIN and Nicolas JOUNIN affirm that “*elle est aussi une method essentielle pour donner accès à ce qui se cache, retracer l’enchainement des actions et des interactions*”⁹¹. Actions and interactions, even grasp what is not said or "what goes without saying". It is also in this sense that they emphasize that « *just by sitting down and listening I had the answers to questions that I would not even have imagined asking if I had sought to inform myself only on the basis of interviews*”⁹². This shows that direct observation makes it possible to collect information that the interviewees seek to hide or to make unknown. As part

⁸⁸ Jean-Pierre Olivier De SARDAN, *La rigueur du qualitative, Les contraintes empiriques de l’interprétation socio-anthropologiques*, Paris, L’Harmattan, 2008, p.69, (Our translation).

⁸⁹ Rodolphe GHIGLION and Benjamin MATALON, *Enquête sociologique, théories et pratiques*, Paris, Armand Colin edition, 1985, p.50.

⁹⁰ Luc Van CAMPENHOUDT, Raymond QUIVY, *op.cit.*, p.150.

⁹¹ Sébastien CHAUVIN and Nicolas JOUNIN, « L’observation directe », In Serge PAUGAM (dir), *L’Enquête sociologique*, Paris PUF, 2010, p.145, (Our translation).

⁹² *Ibid.*

of this research, direct observation makes it possible to observe the behavior of the local population, the way of life of the local population after the advent of the project. We also observe closely, the effects of the project in the locality. Indeed, the observation grid was built through the analysis of the state of the infrastructures, the living conditions of the local population and the state of the environment in the study area.

VII.3.3- INTERVIEW

This information gathering technique is a technique in which the interviewer interviews the informant face to face. Madeleine GRAWITZ specifies that "*il s'agit d'une forme de communication établie entre deux personnes ayant pour but de recueillir certaines informations concernant un objet précis*"⁹³. She thus defines it as « *un procédé d'investigation scientifique, utilisant un processus de communication verbale, pour recueillir des informations, en relation avec le but fixé.* » It is also in this sense that JEAN-PIERRE DESLAURIERS says that,

*L'entrevue de recherche est une interaction limitée et spécialisée, conduite dans un but spécifique et centrée sur un sujet particulier afin de savoir ce que pense la personne et d'apprendre des choses qu'on ne peut observer directement comme les sentiments, les idées, les intensions*⁹⁴.

However, there are several types of interviews which differ according to the degree of freedom granted to the informant and the depth of the information collected. In the context of this study, we will use the semi-structured interview. This type of interview although the informant's degree of freedom is limited, allows the researcher to focus his discussion on the themes from which he must obtain the reactions of the informant but the way in which questions are asked depends on the judgment of the researcher. This information-gathering technique is advantageous in that it gives informants the freedom to respond in whatever words they want and in the order that suits them. The researcher only intervenes to refocus the interview on the objective each time the interviewee deviates from it. Indeed, this technique allow us, within the framework of our research, to collect information regarding the points of view, the behaviors and the attitudes of the actors involved in the project of the exploitation of *Echinops giganteus*. Also, information has been collected not only from the inhabitants of the

⁹³ Madeleine GRAWITZ, *op.cit.*, p.644.

⁹⁴ Jean- Pierre DESLAURIERS, *Recherche qualitative, guide pratique*, Montréal, édition Chenelière/Mcgraw-hill, 1991, p.33-34.

Magha-Bamumbu locality but also from the agents in charge of the project, local authorities of the locality and government representatives.

VII.3.4- FOCUS GROUP DISCUSSION

Focus group is a qualitative data collection technique centered on a group that aims to collect information on a limited number of predefined questions. Indeed, it consists of questioning a target population, that is to say a given social group or a given community in order to study and understand the ideas, beliefs and representations about an event, social phenomenon, etc. Therefore, Marc CORBIÈRE and Nadine LARIVIÈRE underline that,

La method (focus group) consiste plus précisément à interroger des petits groups de personnes (environ de cinq à douze participants) répondant à des critères d'homogénéité par rapport à leur expérience du sujet de discussion afin de susciter un échange ouvert⁹⁵.

What makes this technique unique is that it allows the researcher to have a rich and in-depth understanding of the participants' experience and beliefs about their object of study. It is also important in that it promotes the expression and emergence of different points of view. This technique can help to highlight this difference and to understand it or even to reduce it, by deepening the different points of view. Second, group discussion is a good technique when it comes to targeting the main questions to be explored in a more in-depth investigation. As such, based on our study, we carried out two focus groups discussions. One with the members of the cooperative and the other one with the local population. Each group composed of six individuals that is three women and three men.

VII.4- Data analysis technique

For the processing of data collected in the field after survey, we will use content analysis this in order to achieve a deep analysis of the data. According to Liva JACOBY and Laura A. SIMINOFF “*content analysis is a family of systematic rule-guided techniques used to analyze the informational contents of textual data*”⁹⁶. Thus, content analysis appears to be a technique that requires researchers to highlight objective and systematic procedures for the information contained in a text, in a speech etc. It is in this sense that BARDIN defined it as “*an*

⁹⁵ Marc CORBIÈRE and Nadine LARIVIÈRE, *Méthode qualitatives, quantitative et mixtes, Dans la recherche en sciences humaines sociales et de la santé*, Quebec, Presses de l'Université du Quebec, 2014, p.258.

⁹⁶ Liva JACOBY and Laura A SIMINOFF, “Empirical methods for bioethics, A primer”, In *Advance in bioethics*, volume 11, 2008, p.39.

*increasingly refined and constantly improving set methodological instruments applying to extremely diverse “speeches” (content and containers)”*⁹⁷. Also, for François DEPELTEAU content analysis is *“est une technique de codage ou de classification visant à découvrir d’une manière rigoureuse et objective la signification d’un message”*⁹⁸. It is important in the sense that it gives access to past phenomena as well as to present phenomena. It also makes it possible to study the thoughts and ideologies of philosophers, novelists, social classes, elites and even certain historical periods. In other word, it allows as Valentin Nga NDONG⁹⁹ point out, *cherchant à dépasser les apparences, l’analyse de contenu veut atteindre au coeur de messages, à leur face latent et à leur dimension invisible.*

This technique thus allows us to interpret information collected beside the different stakeholders involve in the project. It thus includes three dimension which are, the measures taken around the exploitation of the *Echinops giganteus* project, the perception of the local population vis-à-vis the project and the possible effets that the project had in the locality. Most precisely, to interpret the sense of words use and attitude of actors as well as the analysis of their frequency.

VII.5-SAMPLING TECHNIQUES

It is an operation which makes it possible to interview a small population. This reduced population is called the sample and designates all the elements extracted from the mother population on which the study is carried out and the result of which will be generalized to the entire population. As part of our research, we chose the non-probability sampling technique to conduct this research. Non-probability sampling is a sampling in which individuals do not have an equal chance of being selected for the sample. We chose this technique because of not having an exhaustive list of the population, the selection of a random sample will be impossible. Therefore, we used the accidental and the purposive sample technique for the selection of the elements on which we conducted our research. The use of these samples is due to the fact that, when we went on the field it was difficult to identify members of the cooperative since the project ended. So the president of the cooperative makes a list of those that were members of the cooperative and all of them were interviewed. As for non members,

⁹⁷ Laurence BARDIN, *L’analyse de contenu*, Quadrige manuel, PUF, 1977, p.13, (Our translation).

⁹⁸ François DEPELTEAU, *La démarche d’une recherche en sciences humaines, de la question de départ à la communication des résultats*, Bruxelles, De Boek, 2010, p.295.

⁹⁹ Valentin Nga NDONGO, *Les medias au Cameroun, mythes et délire d’une société en crise*, Paris, L’Harmattan, 1993, p.8.

we walk from house to house and interview the one we could find in the house. As for local administrators and government representatives we know where to find them. For this, our sample consisted of the population of the Magha-Bamumbu locality which includes local authorities, traditional leaders, elderly men and women and young people from the locality concerned as well as government representatives (MINEPDED) and an NGO (ERuDeF). We therefore carried out a total of 35 interviews (33 individual interviews and 2 groups interviews) divided according to the categories presented in the table below,

Table 1: List of the category if interviewed individual

Types of interviews	Categories of informants	Number interviewed
Individual	Government representatives	01
	NGOs ERuDeF	01
	Local administrators	03
	Cooperative members	12
	Local population	16
Group	Focus groups	02
	Total	35

VIII- CLARIFICATION OF CONCEPTS

The definition of concepts is necessary in any scientific work because it allows the researcher to properly appropriate his object of study in order to better construct it at the risk of falling into error. Thus Emile DURKHEIM affirm that,

The first step of the sociologist must therefore be to define the things that he treats, so that we too know - exactly what his subject matter is. This is the first and absolutely indispensable condition for any proof or verification¹⁰⁰.

So to be in conformity with this rule, the following notions will be defined.

¹⁰⁰ Emile DURKHEIM, *The rules of the sociological method*, Paris, PUF, 1894, p.32.

VIII.1- MULTINATIONAL FIRM

The definition of a multinational enterprise seems to be a difficult task because it is based on various criteria such as, the scope of the activity, the size of the enterprise, the existence of subsidiaries abroad, the number of country of establishment, the number of employees of a nationality other than that of the parent company or the organizational structure adopted. So in a simple way, the multinational firm is an active company established in several countries thanks to the subsidiaries it owns. The parent company is often located in the home country, which is why the subsidiaries are located in other countries of the world. However, some authors define a multinational firm in relation to its countries of establishment. For this, Adolf WEBER defines a multinational company as "*une entreprise qui produit au moins dans deux pays*"¹⁰¹. In addition, VERNON¹⁰² defines it as "*a sizeable company with industrial subsidiaries in at least six countries.*" MUCCHEILLI considered as multinational "*any company having at least one production unit abroad. This unit of production is its subsidiary; consequently, the logic of productivity takes over the dimensional logic*"¹⁰³. However, multinational firms are also characterized by their scope of activity. As such, the definition of international labor organization reads as follows; multinational enterprises include enterprises, whether their capital is public, mixed or private, which own or control production, distribution, services and other means outside the country in which they are headquartered. For Joel PROVOST,

*The multinational firm is generated by the desire to control its supplies of raw materials or energy sources, to expand its market, to produce on site by taken advantage of either cheap labor or skilled labor, and finally to "follow" the product sold by establishing distribution networks and after-sales service*¹⁰⁴.

Other authors like Maurice BAYE emphasize certain centralization by defining large inter-territorial units as "*un ensemble integer des organisations de production controlees en divers territoires, par un centre unique de décision*"¹⁰⁵.

¹⁰¹ Adolf WEBER, « L'étude des firmes multinationales dans l'économie alimentaire européenne », In *Reveu Française d'économie et de sociologie rurale*, 3^e numero 1980, P.37.

¹⁰² CNUCED, Rapport sur le commerce et le développement, 2004, p.375, (Our translation).

¹⁰³ Jean-Louis MUCCHEILLI, *Multinational et mondialisation*, Paris, Edition Du Seuil, 1998, p.17-18, (Our translation).

¹⁰⁴ Joel PROVOST, *Les mots de l'économie*, Paris, ellipses-marketing, 1989, p.165, (Our translation).

¹⁰⁵ Maurice BYE, *Relations économiques internationales*, 5^{ème} Edition, Paris, Dalloz, 1987, p.694.

From these numerous definitions, we can retain that multinational or transnational firms are generally large companies which own and control directly or indirectly from their country of origin, production and service subsidiaries established in several countries, different from the country of origin where its head office is located. Thus, in the context of our study, our analysis is based on the company V. Mane. Founded in 1871 by Victor Mane, the Mane Company specializes in the creation of aromas and fragrances, natural product extraction, distillation, purification, chemical syntheses.

VIII.2- NATURAL RESOURCES

It designates elements present in the physical environment without human intervention and which are useful to it in order to meet its needs. In other words, a resource is natural when it is in the natural environment without any effort from man and men uses that resource to satisfy their needs. According to the ECONOMIC GLOSSARY “*these natural resources include original factors of production, object of human work and including space, raw materials and energy*”¹⁰⁶. As such, natural resources are considered as all the elements of the physical environment that men and societies use and in which they can directly or indirectly satisfy their food, household and monetary needs. These resources could be a mineral raw material, a product of wild origin, a natural environment source of ecosystem services or fossil organic matter forming the ecosystem. Thus the exploitation of natural resources is nothing other than the use of these for profit. It decreases as the population increases due to satisfaction in terms of food and monetary purposes.

MALAFOSSE¹⁰⁷ going in the same direction as the LUGANO CONVENTION¹⁰⁸, considered that natural resources cover the abiotic and biotic elements of nature such as air, water, soil, fauna, flora and minerals and the interaction between the same factors. These authors do not associate to natural resources any economic value. However, for others, a natural resource is that which have an economic use and which is available in a limited quantity. For that, in the WTO Report¹⁰⁹ natural resources are define as being the stocks of raw materials present in the natural environment which are both scarce and economically useful for production or consumption either in the raw state or after a minimum transformation. In this report, a resource is considered natural if it is difficult to obtain and has an economic utility.

¹⁰⁶ Silem AHMED and AL, *Lexique d'économie*, 14^e Edition, Paris, Dalloz, 2016, p.742, (Our translation).

¹⁰⁷ Malafosse, *Le droit de l'eau*, Paris, Dalloz, 1997, p. 8, (Our translation).

¹⁰⁸ Lugano convention of June 21 1993, p.3.

¹⁰⁹ World trade report, 2010, p.46.

Indeed, the sea water which covers a large part of the surface of the globe and the air for them are not to be considered as natural resources since we get them for free and cannot be traded on the market. Also, natural resources are not only perceived as an input used or modified to create economic value but they are also all environmental media and processes that can be affected by the production, use and disposal of economic goods and services. Indeed, natural resources can therefore be understood as “*les attributs de la nature qui profitent aux humains et sont subdivisés en deux groups; ressources renouvelables et ressources non renouvelables*”¹¹⁰. Renewable resources are those that can be replaced after being exploited whereas non-renewable resources are those that get exhausted after uses.

VIII.3- GENETIC RESOURCE

Genetic resource is renewable natural resource which is defined by the CBD as “*genetic material, having actual or potential value*”¹¹¹. Here we expect by genetic material, *material of plant, and animal, microbial or other origin containing functional units of heredity*”¹¹². Indeed, being a natural resource that is to say, present in the physical environment without man intervention, men get their satisfaction from genetic resources. Thus it is a source of food and income to mankind. As such, using genetics resources, whether from plants, animals or micro-organisms, *refers to the process of researching their beneficial properties and using them to increase scientific knowledge and understanding, or to develop commercial products*¹¹³. The current research focuses not on the global GR but only on the plant GR and this is the *Echinops giganteus* genetic resource. It is an herbaceous perennial plant that has multiple uses and the part use and exploited it the roots.

VIII.4- LOCAL DEVELOPMENT

The term local is often understood as limited to a given area. It can be a place, region or a country. However, this specific area is characterized by economic, social, cultural and political homogeneity and a common broadly understood identity. They have similar behaviors with regard to attitudes, interests, habits and activities. The actors of this specific area sometime put

¹¹⁰ Eric IDELMAN, *Le transfert des compétences en gestions des ressources naturelles aux communes rurales de la région de Kita (Mali) ; d'un encadrement étatique à des logiques d'acteurs locaux*, Thèse pour obtenir le grade de Docteur de l'Université de Paris Ouest Nanterre-La Défense en Géographie humaine, économique et régionale, 2008. Cité par Jeannette LEUMAKO, *op. Cit.*, p.42.

¹¹¹ Rio convention of 1992, article 2, P. 3.

¹¹² *Ibid.*

¹¹³ Convention on Biological Diversity, ABS, Uses of genetic resources, 2010

resources together for the amelioration of their conditions of living and thus their local development.

Local development is the subject of a set of hybrid designations such as community development, territorial management and decentralized rural development, self-development, bottom-up development. However, these many appellations in the definitions put above all the emphasis on the participation of a population that is to say, actors sharing the same territory and mobilizing initiatives in order to achieve common objectives (poverty reduction, improvement of well-being and local development). Thus, for Jean-Pierre Olivier de Sardan, local development represents

Une famille de modes d'intervention occupant une place de choix au sein du marché du développement et qui insiste sur les dynamiques locales, la participation des populations, le rôle de la base, l'approche bottom-up, l'accompagnement de la société civile¹¹⁴.

However, other authors see local development as a process of economic development rooted in a space. Pecqueur emphasizes that,

Le développement local doit être durable, c'est-à-dire qu'il doit rendre la rentabilité économique compatible avec la viabilité écologique et démographique, tant dans une perspective à court qu'à long terme. Il doit impliquer une dynamique mettant en avant l'efficacité du marché des biens et services pour la valorisation de la richesse locale¹¹⁵.

Still in an economical perspective of local development, Helmsing defined local development as,

A process in which partnerships between local governments, community based groups and the private sector are established to manage existing resources, to create jobs and stimulate the economy of a well-defined territory. It emphasizes local control, using the potentials of local human, institutional and physical capabilities¹¹⁶.

¹¹⁴ Jean-Pierre OLIVIER DE SARDAN, Thomas BIIERSCHENK et Jean-Pierre CHAUVEAU, *Les courtiers du développement, les villages africains en quête de projet*, Paris, Karthala, 2000.

¹¹⁵ Bernard PECQUEUR, *Le développement local*, Paris, Syros, 2000, 2eme édition p.14.

¹¹⁶ Bert HELMSING, "Partnerships, meso institutions and learning, New local and regional economic development initiatives in Latin America", Institute of social studies, The Hague, the Netherlands, 2001, p.3.

Other authors emphasize a more social approach to local development. As such, according to Asselin, Ian and al., local development is seen as,

Fait reference aux notions de services de proximité, d'économie solidaire, de mobilization des personnes marginalisées, de réinsertion sociale, d'action communautaire et comme un ensemble d'activités économiques d'animation, de formation, de production et de développement des territoires, en ce sens, la priorité est donnée au social ou à l'utilité sociale des biens et services fournis tout en assurant la viabilité économique des activités exercées¹¹⁷.

Indeed, local development is the search for strategies by the actors of a territory around a global project in order to create favorable conditions for the improvement of the living conditions of the population by mobilizing to a large extent endogenous resources, without neglecting exogenous resources. Thus the objectives of local development are essentially, the improvement of the living environment while creating a healthy and pleasant environment, the increase in the standard of living so that each member or inhabitants of the territory can work and earn an income which will allow him to benefit from the advantages of the community and finally, the improvement of their living environment so that they can flourish in the community which offers them many social and cultural opportunities. In the present research, local development is associated to the exploitation of genetic resources by a multinational company.

IX- STUDY PLAN

This study is divided into two parts, each part having two chapters apart from the introduction and the conclusion. The parts with their chapters are presented as follows:

The first part deals with the mechanisms around the project of the *echinops giganteus* genetic resource. Thus, we will be interested in this first part as chapter one, on the measures adopted by the Cameroonian state to ensure the involvement of the local population of Magha-Bamumbu as well as their enjoyment of the benefit arising from the exploitation of their genetic resource (GR) and traditional knowledge (TK). Furthermore, it exposes the representations/perceptions that different stakeholders hold concerning the project (chapter two).

¹¹⁷ Ian ASSELIN, Dicko BALDE et al, *Valorisation des expériences de développement local en Haïti*, Rapport de recherche présenté à l'Agence Canadienne de Développement international (ACDI), faculté d'administration, Université de Sherbrooke, 2003, p.19.

The aim of examining the contribution of the exploitation of the *Echinops giganteus* GR on the local development of Magha-Bamumbu makes it possible in this second part, to analyse the interaction between stakeholders around the exploitation of the *Echinops giganteu* GR by insisting on the type of relationship between them and the role each stakeholder had to play for the good running of the project (chapter three). And finally, highlight the effects of the exploitation of the *Echinops giganteu* GR project firstly, on the lives of the local population and secondly on the whole wellbeing of the Magha-Bamumbu locality that is to say on its local development. It also specifies the expectation of the local population towards V. Mane Films Company (chapter four).

PART ONE:

**LEGISLATIVE MEASURES AROUND THE “*ECHINOPS
GIGANTEUS*” GR EXPLOITATION PROJECT IN THE
LOCALITY OF MAGHA-BAMUMBU**

Around the exploitation of natural resources by multinational companies whether forestry, mining, oil etc, a number of measures are taken. This in order to ensure a fair and equitable sharing of the benefits arising from the use of these natural resources. Talking of measures around the project of the *Echinops giganteus* GR, it is a question of approaching the legislative measures adopted for a fair and equitable exploitation of the natural resource. This part is divided into two chapters. The first chapter which deals with the measures around the exploitation of the genetic resource *Echinops giganteus* and the involvement of the local population of the locality of Magha-Bamumbu in the project has as goal, to expose the legislative measures taken in order for the local population to take part in the project and also enjoyed the benefit gotten from the project. It also places emphasis on the presentation of the locality of Magha-Bamumbu, the description of the *Echinops giganteus* GR, the V. Mane company as well as the usefulness of GR.

Base on the representation/perception of the project by the different stakeholders, the second chapter aimed at highlighten the opinion of these stakeholders on the project but most especially the locality concerned by insisting on the knowledge, perception and experience gotten from the project.

CHAPTER ONE:

MEASURES AROUND THE EXPLOITATION OF THE GENETIC RESOURCE “*ECHINOPS GIGANTEUS*” AND THE INVOLVEMENT OF THE LOCAL POPULATION OF THE LOCALITY OF MAGHA-BAMUMBU IN THE PROJECT

The state of Cameroon in their will to respect the convention on biological diversity (CBD) and to ensure that the provider of the GR (the locality of Magha-Bamumbu since he's the one holding the traditional knowledge on the resource) take part in the project and also enjoyed the benefits derived from the project, adopted some measures. The goal of this is to achieve a fair and equitable sharing of the benefits obtained from the exploitation of the “*echinops giganteus*” genetic resource. Before elucidating these measures, we will first in this chapter make a brief presentation of the study area while emphasizing on its physical and human environment. We will equally discuss about the importance of genetic resources while emphasizing on the different uses of genetic resources by mankind in general and in particular the uses of the *echinops giganteus* genetic resource firstly to the local population of Magha-Bamumbu and secondly to the V. Mane fils company.

I-1- PRESENTATION OF THE NATURAL ENVIRONMENT

The natural environment refers to the natural space that allows animals and plants to live. It is characterized by a set of factors such as temperature, light, humidity, soil type etc. Make a presentation of the natural and human environment of our study area it's to lead us to better know the territory as well as the study population. As TZU said, “if you don't know the local terrain, its landforms, its forest, its dangers, you won't be able to lead your troops there”¹¹⁸.

Following this quote, we will focus on the geographical elements of the locality of Magha-Bamumbu while insisting on its climate, its reliefs, its soil etc without however neglecting its human coordinates which inhabit it such as its demography, its human activities, its social organization and infrastructures.

I-1-1- Historical background of the locality of Magha-Bamumbu

Passed studies have traced the origin of the locality of Magha-Bamumbu. According to these studies and from the words of some elders of the locality, the populations of Magha-

¹¹⁸ Sun TZU, *L'art de la guerre*, Paris, Flammarion champs, 1972, chap .7,13.

Bamumbu are immigrants from Widikum. Indeed, following a royal succession dispute at the royal court of the widikum tribe, prince ketumonguh who is the founder of the locality (Bamumbu), left Menka with his supporter's in search of a new land to create his own fendom today known as Bamumbu. According to this elder, this movement was mainly for security reasons. As Tsou Ndzitouo M.X¹¹⁹ had already pointed out, in Magha-Bamumbu, after the local language called "*Mundani*", the "*Pidgin*" English language is also the most used as a means of communication and the most accessible to foreigners. The structure and composition of the population of Magha-Bamumbu as in order rural areas are modified by the rural exodus, migrations and the various social instabilities experienced in this area. Indeed, Tsou emphasizes that, "in fact, the Bamumbu chieftaincy in which the Magha village is located experienced a significant population growth following the UPC troubles which took place in the 1960s"¹²⁰. Also, during our field investigation, the inhabitants of this locality made us understand that the study area was not too much affected by the Anglophone crisis and for that, the inhabitants of Wabane and the surroundings migrated to Magha. Still, some of our informant during our interviews, to the question to know why they did not exploit the genetic resource, they replied that they do not even know about this project because it was the crisis that made them go up to Magha. We also see Bororo's encampments in Magha. These are nomadic herders who arrive a long time ago and they graze their herds of oxen and horses on the uncultivated slopes. To this end, we notice in this locality the presence of several ethnic groups, mostly from the surrounding regions of north-west, south-west and west. The inhabitants of Magha-Bamumbu depend highly on agriculture for their living. Indeed, Magha-Bamumbu economy is based on agriculture and livestock and this is particularly due to the natural and human condition of the area.

I-1-2- The natural and human aspects of the locality of Magha-Bamumbu

It is the description of the natural elements which makes the community attractive, habitable and favorable to carry out different activities. It is equally a question of making a description of the human activities carried out in the locality as well as the infrastructures at the same time economic, social etc that are found in Magha-Bamumbu.

Magha-Bamumbu is a locality of Cameroon in the south west region, situated in the Lebialem division and is part of the Wabane sub-division. Wabane subdivision where the study

¹¹⁹ Martial Xavier TSOU NDZITOUO, *Incidences environnementales et risques induits par les activités agropastorales à magha'a (sud-ouest cameroun, Mémoire de géographie, Université de Yaoundé I, 2007.*

¹²⁰ *Ibid*, p.25.

site is located has a surface area of about 298 km². It is found on the western slope of the Bamboutos Mountain located between latitudes 5° 43N and longitudes 9°58E and 10°07E¹²¹. It thus makes her to experience two seasons that is the dry season and the rainy season. The dry season start in number and ends in March while the rainy season begins in April and stretches up to October. The area has three zones owing to the difference in topography and vegetation. The lower belt popularly called lower Bamumbu has a characteristic hot temperature typical on a tropical forest zone. The middle belt (where the council building is found) has a higher altitude and the temperature is mild. The upper belt (north-west) is tropical savanna with an altitude of up to 2100 m. Here the temperatures can go below 18°C in the months of December to January¹²².

Concerning the vegetation types, the study area has two distinct vegetation types. The wooded and the tropical savanna vegetation type. It therefore makes Bamumbu to be endowed with many natural resources such as timber and non-timber forest products including medicinal plants and animal's species. The Environment and Rural Development Foundation (ERUDEF) has listed a number of animal species that could be found in the forest and grassland vegetation of the Bamumbu Court Area -some that are rare or endangered. Amongst others are the primates (chimpanzees and western lowland mountain gorillas) to wild cats like African civets, genets, foxes, stone hayracks, antelopes, deer, cameras, grass cutters and a variety of avifauna species like the banaman turacle, parrots etc.¹²³. The forest is also dominated with mostly adenocarpus mannii, agauria salicifolia, chytranthus gillettii, gambeya Africana and schefflera barteri¹²⁴. This vegetation equally served as an attractive area making Bamumbu to be a beautiful touristic site. While the forest vegetation demonstrates a great diversity of forest species including plants and animals, the savanna type holds great touristic sites including beautiful sceneries of savanna vegetation, the plateau and vegetation itself, the slopes and more particularly the beautiful mountainous landscape in the upper zones. The tropical forest of the lower zone holds a great diversity of wildlife that attracts researchers and conservationists. Outstanding touristic features include Mount Magha, Mount Mangwa ("Mont Bamboutus"), the Ndeoh Waterfall and Wabane at the "Twin Tree" which marks the boundary between bamumbu, Bechati and Folepi.

¹²¹ Derek FOCHO, Walter NDAM TACHAM and Beatrice FONGE AMBO, "Medicinal plants of aguambu-bamumbu in the lebialem highlands, southwest province of Cameroon", In *African journal of pharmacy and pharmacology*, Vol. 3(1). pp.001-013, 2008, p.2.

¹²² <https://promouvoircompetences.com/ville-312-wabane.html>, consulted on 1 April 2022.

¹²³ MINEPAT, Wabane Communal Development Plan, Wabane Council, 2012, p.12.

¹²⁴ FOCHO Derek A and Al, *op.cit.*, p.2.

The climatic condition of Magha-Bamumbu and its vegetation types gives rise to various soil types. The area has alluvial soil (sandy-loam and silty-loam alluvial soil) which is conducive for the production of several crops. At the lower belt of Bamumbu the crops highly cultivated and exploited are oil palm and cocoa plantation, plantains, cassava, cocoyam's, bananas etc whereas at the upper belt, where our research is carried out, the rich alluvial and silty-loam soil are favorable for the production of highly commercial market gardening crops like Irish potato, cabbage, carrots, leeks etc.

For the human elements, BAMUMBU has an estimated population of 65000 inhabitants occupying a total land surface of about 1000 km² with huge tourist, and agricultural potentials. A significant proportion of its population resides out of the clan/Fondom, with many people in some parts of Littoral, centre, north-west, West Region where they form whole villages. As earlier mentioned, this population highly depends on agricultural activities for their livelihood and they cultivate both cash and food crops. The cash crops cultivated include palm oil, cocoa, Robusta coffee, gathering of non-timber forest products, and food crops like plantains, cocoyam, cassavas bananas, pepper, Irish potatoes, cabbages, carrots, garlic and licks, sweet yams, ginger are also produced. Livestock and fishery activities equally prevail in the area, though to a lesser extent. This is seen by the rearing of animals like cattle, goats, sheep in the upper zone and in a general trend in the entire municipality, each household may be having a few fowls let in the wild and a pig sty with at least a pig. Some hunting is practiced and fishing though to a very limited extent. This creates a place of exchange in the area.

More than 98% of the local population depends on subsistence farming and some small scale of commercial agriculture by the sale of produce from cash crops. This agriculture is supplemented by petit trading, fishing, hunting and transport services dominated by bike riders most particularly during the dry season though practiced by a minute proportion of the population. The intensity of market gardening in the Upper belt is very high. As well the rearing of cattle, goats, sheep and chicken etc and field survey by CEPLODEV team for WCD. The high intensity of market gardening products in the upper belt results to a higher per capital income to local farmers of this zone as compared to the lower zone where the local farmers have lower income earnings. This thus impacts the upper belt with increased economic activities by the presence of bigger markets. These increase agricultural activities generate secondary activities like transportation and commercial activities that lead to increase trade activities with the bordering Towns of Dschang, Mbouda and Bafoussam.

Apart from houses, the locality of Magha-Bamumbu has some infrastructures. The locality has 02 primary schools made up of 13 class rooms out of which 03 class rooms are built with temporal materials, 01 secondary school made up of 08 class rooms build with permanent material, 01 playing ground, 01 health center having 13 rooms, 01 market place where people from Magha-Bamumbu and those from the neighboring village come to buy or sell their produce during the market day. However, rural urban migration is significant in the council area due to the poor economic situation and low rate of social amenities thus posing a difficult livelihood. Indeed, the natural elements of this locality conferred to her many natural resources in general and particular genetic resource which is used both locally and for industrial purposes. The local used of the genetic resources are mainly for food, treatment of many illness and commercial purposes whereas industries used them for aesthetic, medicinal etc purposes. It is the case of the genetic resource “the *Echinops giganteus* plant” which is exploited by the V. Mane fils company in order to produce perfume. However, genetic resources have long been of important to mankind since it is at the same time a source of food and income mostly to the poor for their livelihood and also for industries.

I-2- Importance of genetic resources to rural areas in Cameroon in general and in particular to the locality of magha-bamumbu

Genetic resources have long been of important used to human being though it potential value was only recognized with the holding of the convention on biological diversity. Several rural areas in Cameroon in general and the locality of Magha-Bamumbu in particular rely on genetic resources or what they called non-timber forest products for their livelihood. Added to their main activity which is agriculture, genetic resources are of importance to them through direct and indirect consumption. Indeed, it serves as food for many and also as a source of income to rural households since they harvest goods and services directly from natural habits, such as food (fruits, leaves bush meat etc), medicinal plants, folders and cultural good. However, just like non-timber forest products, genetic resources are natural resources order than wood that are found in the forest or exploited widely. While non-timber forest products are gathered and sold for consumption purposes, genetic resources go beyond this. As Robert lewis-lettington and al underline,

One reason is that seeds or tubers collected and sold purely for consumptive purposes are valued for their taste, colour, and other similar properties. The “genetic resource does not lie in these properties per se, but rather, in the possibility that they may be multiplied, propagated, transferred into

*other varieties or species, or synthesized for use in some scientific or industrial purpose*¹²⁵.

It makes genetic resources not to be valued only for its consumption purpose but for other uses. Indeed, whether genetic resources of plant or animal origin, edible (food) or non-edible (non-food), they have an important capital in reducing poverty and enhancing development. Firstly, GR are fundamental in improving food and nutritional security through their direct consumption within households and their intake of proteins, lipids, minerals and vitamins. Also through the marketing of these resources, rural households get income which they use in order to purchase their basic needs like food, clothes, medicine etc and also pay their children's school fees. Secondly, apart from the fact that they guarantee food security, GR are equally used for the treatment of many illnesses which help to improve the quality of primary healthcare for rural populations. The use of either leaves, barks or roots of plants to treat illnesses makes it possible to reduce the financial burden of primary healthcare and thus contribute to poverty reduction.

Another importance attached to GR is that they are used for scientific purposes. This one gives more value to GR and if managed sustainably would lead at the same time to international, national and local development. GR are sometimes exploited by multinational or national industries for the manufacture of medicine, perfume, flavors etc which in turn are sold at higher prices. We have the cases of the *Echinops giganteus* and *Mondia whitei* GR exploited in the Lebaleme division by a French company the V. Mane fils. Another GR being exploited in Cameroon by PLANTECAM is the "*Prunus Africana*", for the manufacturing of medicine. As noted by Davis Kate, "*genetic resources provide information that can be used to develop potentially lucrative products and services, as well as to understand and support nature conservation*"¹²⁶. They also indeed as Robert Lewis noted,

*In reality, almost all aspects of genetic resources have potential implications for poverty reduction and development. Since, increased productivity in agriculture has been frequently heralded as a means of addressing rural poverty, while the labour productivity implications of the effective harnessing of genetic resources for medicinal purposes are also significant*¹²⁷.

¹²⁵ Robert LEWIS-LETTINGTON and AL, 2003, *op. cit.*, p.9.

¹²⁶ Kate DAVIS, "Introduction to the international framework for access and benefit sharing, promoting ABS-compliant use of plant genetic resources in research and development", In, *Botanic gardens conservation international*, UK Richmond, 2019, p.10.

¹²⁷ Robert LEWIS-LETTINGTON, *op.cit.*, p.24.

To say it also, GR if properly managed (both the genetic resources and the benefits obtained from it), would not only contribute to the increased of the standard of living of the area having the resource, but also to the national development of the nation endowed with it. Thus, this research focuses on the exploitation of the *Echinops giganteus* GR, a plant GR found in the locality of Magha-Bamumbu. It is a plant GR which is at the same time a source of food and a non-edible resource. An edible resource because the local population of the study area uses it for the preparation of meals and the treatment of illness. It is illustrated by the this statement, “long ago, according to local legend, a villager ate a meal of ‘yellow soup’ that was so tasty and smelled so inviting that he did not rest until he knew which ingredient was used to prepare the dish”¹²⁸. It is a non-edible resource in the sense that the company V. Mane fils used it for scientific purpose to produce perfume. However, we will make a description of the GR and the company involved in the exploitation of the *Echinops giganteus* GR.

I-2-1- Description of *Echinops giganteus* genetic resource

According to research, in Cameroon the GR “*Echinops giganteus*” apart from being present in the locality of Magha-Bamumbu in the South-West region is also found in the West and North-West regions. In these regions we found it in specific areas. Like in the West region, the resource is found in the Bafou while in the South-West region we found it only on the mountainous slopes of Lebialem division which make up the mount Bamboutos. Each locality in Cameroon has different appellations of *Echinops*. In Magha-Bamumbu it is called “Ayilagwem, in Bafou “Kahgoh or Tsegem”, in M’muock Leteh and Mbessang “Soapte or Kessa”¹²⁹. But from our field investigation, it resulted that this GR is present only in Magha-Bamumbu that is South-West region. It is due to the fact that, the study area shared boundaries with the west and the North-West region. It is a central point, meaning you cannot go to any of these places without passing across Magha-Bamumbu. Concerning its botanical aspect, the *Echinops giganteus* GR is a species of the genus *echinops*. According to the museum of national history cited in a document published by the UNDP, “the *Echinops giganteus* found on mount bamboutous range is *echinops giganteus* A.Rich.var.*Lelyi* (C.D. Adams) C.D. Adams.

¹²⁸ UNDP report, ABS is genetic resources for sustainable development, 2018, p.23.

¹²⁹ Sumbelle SALLY, *Echinops giganteus*, weed or giant miracle plant, <https://www.greenvision.news/echinops-giganteus-weed-or-giant-miracle-plant/amp/>, consulted on 21 February 2023

This plant is an herbaceous perennial plant belonging to the order Asterales and to the family Asteraceae/Compositae”¹³⁰.

Echinops giganteus is a hardy herb, subligneous at the base, annual or biennial, pubescent, reaching 1 to 1.20m in total height. The leaves are alternate, oblong, lanceolate, pinnately lobed, with a very pointed acumen terminating each lobe, with greyish underside¹³¹. The characteristics of these species are their large spiny leaves and globe thistles or ball-shaped seed heads, which grow at the top of the plants. Its habitat is in the meadows of altitude or susano-sahelian savannah¹³². The roots of this plant are used to spice up sauces in Cameroon and serve as an anthelmintic¹³³. *Echinops giganteus* is a GR that has multiple uses and the part use and exploited is the roots. The roots have diverse uses spanning from medicinal, culinary to industrial¹³⁴. The root of this plant is used to treat heart and gastric troubles¹³⁵. It is also used for the treatment of ailments such as yellow fever, abdominal pain, constipation, cough and menstrual pain, respiratory problems, hernias, dental pain and general body pains¹³⁶. Also, the root has aromatic properties and has been collected and distilled to obtain essential oils which are used in synergy with those from other plants to eradicate weevils in stored grains¹³⁷. It is equally used in Cameroon to prepare meals such as kui, achu soup etc. Indeed, in the western region of Cameroon its rhizomes are used as an ingredient in different culinary preparations and as a remedy against numerous diseases. This genetic resource also reveals to be an important plant for industrial uses since its roots contain an essential oil used in the fabrication of fragrance and flavors. It is the project carryout in the locality of Magha-Bamumbu in Cameroon by the V. Mane fils.

¹³⁰ UNDP, A bottom-up approach to ABS, Community level capacity development for successful engagement in ABS value chains in Cameroon (*Echinops Giganteus* and *Mondia Whitei*), Guide on best methodology of production and transformation process of *Echinops Giganteus* and *Mondia Whitei*, 2018, p.8.

¹³¹ Armand ABDOU BOUBA, *Contribution à l'étude du développement d'un aliment fonctionnel à base d'épices du Cameroun, Caractérisation physico-chimique et fonctionnelle*, Thèse de Doctorat, Université de Ngaoundere, 2009, p.50.

¹³² *Ibid.*

¹³³ NOUMI E, *Les plantes à épices, à condiments et à aromates du cameroun*, These de Doctorat en science biologiques, Université de Yaoundé I, 1984, p. 22-24.

¹³⁴ Christiana NGYETE NYIKOB MBOGUE and Al, “Phytosociology of *Echinops giganteus* in the western highland of Cameroon”, In *European scientific journal*, Vol. 16, No.36 2020, p.346.

¹³⁵ Mathieu TENE and al, “Lignans from the roots of *echinops giganteus*, phytochemistry” 65, Elsevier, 2004, p. 2101.

¹³⁶ Sumbelle SALLY, *Op. Cit.*

¹³⁷ Pérez S, ramos-lopez M, zavalala-sanchez M, and cardenas-ortega N, “Activity of essential oils as a biorational alternative to control coleopteran insects in stored grains”, In *Journal of medicinal plants research*, Vol.4(25) 2010, p.2829.

Figure 2: an image indicated by an arrow showing the *Echinops giganteus* plant genetic resources



Source: Lydienne Flore NDAMA, field investigation of 2022

This image presents the *Echinops giganteus* genetic resources. This is indicated by an arrow. It is a young genetic resources and it shows that, it is a natural resource that grow widely whether in the forest or in the environment without human interventions. And if exploited rudely, it causes the damaging of other important genetic resources.

Being a natural resource, it over exploitation leads to the loss of the plant as observe in the study area. Though the genetic resource has the capacity to naturally regenerate, it takes too much time to be matured. The local populations therefore in search of income and for consumption purposes, begin to exploit the young plants. Before the beginning of the project, different research was carried out on how to regenerate the plant. As such, the *Echinops giganteus* GR can regenerate either through seedlings, clump division or root cuttings. By sowing, scatter the seeds on a draining ground. But before, the clods of soil must be broken, the large stones and roots of weeds must be removed, the ground must be leveled in order to obtain a flat and regular surface to facilitate the regeneration of the *Echinops giganteus* GR. By dividing the tuft, it is a question of digging up the plant very delicately without damaging its roots and replanting it in a new location after having prepared the ground.

Another way of making the plant to regenerate is that after digging and removing the roots, you cut the head of the root and throw it in the hole then you close the hole and after sometime it will regenerate. During our field investigation, informants make us to understand

that the seedlings method did not do well. It needed chemical and the chemicals when apply destroyed the natural flavor of the resource. It is in this way that pa Johnas TANDONGAYOH TACHAM said, “*they plant the tree but it did not actually do well. We harvested the seed of the plant and replant but it did not do well*”¹³⁸. The appropriate method was that after digging the roots, you close back the hole and allow the plant GR to grow back alone. It took enough time for the GR to grow matured but this method allows the resource to have it natural flavor. The *Echinops giganteus* GR exploitation project was carried out in Magha-Bamumbu by the V. Mane fils company. It is a French multinational company which mainly used natural resources in general especially genetic resources in particular for the running of its operations.

I-2-2- The V. Mane fils company

Created in 1871, the company V. Mane fils is specialized in the creation of aromas and perfumes. Although it being a for-profit business, it also works to ensure that its activities are in accordance with the sustainable development goals, that is to say, to reconcile economic growth, respect for people and protection of the environment. It structures its sustainable development policy around four commitments consistent with its activity and strategy, namely; act ethically and responsibly, ensure responsible product stewardship, take care of employees and promote sustainable development throughout the value chain¹³⁹. This aims on the one hand to contribute to the achievement of the SDGs of the United Nations organization and on the other hand to invest in society, in particular with the communities in which it operates in order to contribute to their development.

Simplified joint-stock company, its workforce is between 1,000 and 1,999 employees. Over the year 2020¹⁴⁰, it achieves a turnover of 505,433,600,00 euro. The total balance sheet increased by 4.90 percent between 2019 and 2020. The share capital is set at one hundred and fifty-four million euros (€154,000,000) and divided into one million five hundred euros (1.540,000) share of one hundred euros (100€) each.

I-3- Measures taken around the exploitation of the *echinops giganteus* genetic resource and the involvement of the local population

The issue of genetic resources has been a concern for states and/or international organizations since the 18th century. The legal plan is one of the mechanisms used by these

¹³⁸ Johnas, TANDONGAYOH TACHAM, A member of the MoBECoS cooperative, interview of 30/01/2022.

¹³⁹ Rapport RSE, déclaration de performance extra-financière, 2019, p.6.

¹⁴⁰ V.MANE, Registre du commerce et des sociétés, In Greffe du tribunal de commerce de Grasse, 2020, p.1.

states and/or international organizations to frame and clarify the different axes concerning the issue. These measures correspond to the legal instruments adopted, signed and ratified at the international, continental and national levels in relation to genetic resources in general and particularly to the *Echinops giganteus* GR and their rational exploitation by the different stakeholders.

I-3-1- Measures around genetic resources especially the *Echinops giganteus* GR in Cameroon.

The rapid growth of the population and their pressure over the limited available natural resources (forest, water, mineral, genetic resources etc) was already a sign of showing the danger that threaten humanity. This consumption of human population which exceeds the capacity of ecosystems and current developments threaten the integrity of the biosphere, the quality of life as well as the survival of the future generations. Couple with other environmental problems such as the loss of biodiversity, desertification, climatic disturbances caused by greenhouse gases etc the Brundtland report concluded by suggesting the organization of an international conference that deals with the question of how to manage natural resources in general specifically genetic resources for the well-being of mankind. These conferences also call upon companies to carry out their activities in relation to the respect of the environment. They would not more be preoccupied only with the social and economic dimension of development but also integrate the environmental dimension. It is in these words that in 2002, the former secretary general of the United Nations Kofi Annan in his speech at the world summit on sustainable development in Johannesburg said;

Businesses are also affected. Without the private sector, sustainable development will remain an empty dream. We are not asking companies to do anything other than what they normally do, we are only asking them to do it differently¹⁴¹.

It recommends to companies to carry out their activities in sort a way that both stakeholders benefit socially, economically and environmentally. This lead to the holding of conventions, conferences, processes etc around both genetic resources and the social responsibilities of companies. The Rio convention adopted in 1992 focus on genetic resources, farmer's rights and a fair and equitable sharing of the profit resulting from the use of genetic materials. This convention resulted with the holding of the Nagoya protocol which is based on

¹⁴¹ United Nations, Secretary-general Kofi Annan to the world summit on sustainable development in Johannesburg, September 2002, <https://www.un.org/sg/en/content/sg/speeches/2002-09-03/secretary-general-kofi-annan-world-summit-sustainable-development>, consulted on 23/02/2023.

the access to genetic resources and a fair and equitable sharing of benefits arising from the use of it. But before this convention, in 1968, the Algiers convention was held by independent African states in order to make sure that the conservation of their natural resources in general specifically genetic resources contribute to their development. Concerning the company social responsibility, the EITI process, the 26000 norm, etc were adopted in relation to the responsibilities of companies vis-à-vis areas where they carry out their activities.

I-3-1-1- The importance of the convention of biological diversity in genetic resources exploitation

Conscious of the important value of biological diversity that is, its ecological, social, economic, scientific, cultural, aesthetic etc values and also it important for the evolution and for maintaining the sustaining life system of the biosphere, the CBD was held in June 1992 at Rio. This was to put measures for the conservation of the biodiversity for the benefit of both the present and the future generations. It was with the holding of this convention that genetic resources gain more value since its importance to mankind increased. Due to its abundant genetic resources, Cameroon ratified the CBD on August 29 1994 so as to ensure that its biological diversity is used in a sustainable way. Also to make sure that the benefit derived from it is shared in a fair and equitable manner.

Indeed, having taken part in this convention and having the sovereign right over its genetic resources, Cameroon had the obligation to conserve its biodiversity, use its genetic resources in a sustainable way as it was described throughout the convention from article 5 to 14. It includes, that is, cooperation, the in-situ and ex-situ conservation and the sustainable use of genetic resources, general measures, research and training, public education and awareness etc¹⁴². Article 3 refers to the principle of state sovereignty, grants states a right to regulate access to these resources, determine their use including the sharing of the benefit arising from it. In other words, states have the sovereign right to exploit their own natural resources and the authority to regulate foreign states, public institutions, and private institutions access to them. It also gives the state an obligation to conserve for sustainable use including by facilitating access to these resources according to their own environmental law. In response to this, the Cameroon government adopted the law N° 94/01 of 20 January 1994 based on the respect of forestry, wildlife and fisheries. This text provides in article 12¹⁴³ of part 2 entitled protections of nature and biodiversity recognize the state right over its genetic resources. For that, nobody may use

¹⁴² United Nations, Convention on Biological Diversity, 1992, p.5-8.

¹⁴³ Law no.94/01 of 20 January 1994 to lay down forestry, wildlife and fisheries regulations, article 12-paragraph 1.

them either for scientific, commercial or cultural purpose without having permission from the Cameroon government or states. It also recognized the right of the local population in the protection and conservation of the forest in general specifically GR. This law going in the same direction with the international texts mentions above, aimed to guarantee state right over its GR, recognizes the right of farmers or local population in the conservation and protection of genetic resources. And it also aimed to ensure that the revenues obtained from its exploitation is beneficial at both the national, regional and local levels. This was one of the measure put in place by the Cameroon government for the sustainable use of its environment.

Again, on July 9, 2021 the Cameroon government promulgated law n° 2021/014 governing access to genetic resources and the fair and equitable sharing of benefits arising from their use in Cameroon. This has a single goal which is to involve the local community to better protect the vegetation cover so as to increase the living standard of its population. Apart from this goal, it equally wanted to stop the exploitation of Cameroon GR without compensation. By doing so, the Cameroonian state guarantees¹⁴⁴;

- The valorization of genetic resources and associated traditional knowledge to encourage their conservation and sustainable use
- Regulate access to genetic resources, their derivatives and/or associated traditional knowledge
- The involvement of indigenous people and the local communities in the sharing of benefits arising from the use of genetic resources or associated traditional knowledge
- To contribute to the improvement of the living conditions of indigenous populations and local communities
- To improve the contribution of biodiversity to development and human well-being.

But before a foreign country uses a host country genetic resource, he has to fulfill two principles as stipulated by article 15 of the CBD convention. The genetic resources have to be subject to the prior informed consent (PIC) of the national authority of the state on the territory or jurisdiction of which the resource is located. It will result to the signing of a term (MAT) that authorizes the user access to the resource. These principles as recommended by the CBD led to

¹⁴⁴ Law no.2021/014 of 09 July 2021 to govern access to genetic resources, their derivatives, traditional knowledge associated with genetic resources and the fair and equitable sharing of the benefits arising from their utilization, Chapter 1-section 2.

the holding of the Nagoya protocol on the access to genetic resources and a fair and equitable sharing of the benefit arising from its utilization.

I-3-1-2- The Nagoya protocol around the valorization genetic resource

Face with the difficulty to put in practice the third objective of the CBD (the fair and equitable sharing of the benefit arising from the use of genetic resource, the CBD was expanded with the adoption of the Nagoya. The Nagoya protocol was adopted on October 29, 2010 during the 10th meeting of the conference of parties of the CBD, in Nagoya, Japan. It concerns the establishment of a regime of access and fair and equitable sharing of benefits related to the use of genetic resources. It is in this sense that the countries of the COMIFAC space develop and validate the “strategy of the countries of the COMIFAC space relating to access to biological/genetic resources and to the fair and equitable sharing of the benefits arising from their use one month after the adoption of the Nagoya protocol. Indeed, *“the 2014 Nagoya protocol on Access to genetic resources and benefit-sharing (Abs) has brought renewed impetus to the ABS policy making process by calling upon each nation to establish clear rules and procedures that bring legal certainty and security to both users and providers of genetic resources”*¹⁴⁵. For COMIFAC, this means guiding each member country in the development and implementation of a national framework to achieve the third object of the CBD. It is in this sense that Cameroon, as a stakeholder in the ABS process at the international, regional and sub-regional levels is led to define a strategy which will enable it, among other things, to put in place its national ABS framework.

The purpose of this strategy is to enable Cameroon to have a policy and a specific view to contribute to the improvement of the population’s income and their living environment, to the development of businesses, job creation and increased state revenue. Indeed, this strategy will be developed with the active participation of various stakeholders, namely, parliamentarians, sectorial administrations, research institutes, academics, civil society working in the field, traditional practitioners, indigenous peoples, local communities, the private sector and development partners.

To this end, it is up to them to determine a national ABS policy and to ensure its implementation. Thus, the objective access to genetic resources, to traditional knowledge and to the fair and equitable sharing of the benefit arising from their use in order to achieve national, regional and local development must be in accordance with the aspirations of the republic. It is

¹⁴⁵ UNDP report, 2018, *op.cit.*, p.9.

therefore up to the Cameroonian state to create a favorable framework in the implementation of activities related to the exploitation of genetic resources. Thus, with the help of COMIFAC, Cameroon in May 14 signed a memorandum of understanding on ABS relating to two GR (*echinops giganteus* and *mondia whitei*) with a french company (V. Mane fils) and also with the local communities where these resources are present. The UNDP noted that,

The implementation of the Nagoya protocol through the development of the value chains for echinops giganteus and mondia whitei have contributed to the achievement of SDG 1 no poverty, SDG 2 Zero hunger, SDG 3 good health and well-being, SDG 4 Quality education, SDG 5 gender equality, SDG 8 Decent work and economic growth, SDG 9 industry, innovation and infrastructure and SDG 15 life on land¹⁴⁶.

Thus, allowing access to its genetic resources, the involvement of the indigenous population and the local communities in the conservation and fair sharing of the benefit resulting from the exploitation of GR is quite simply, a matter of respecting the international and continental conventions that Cameroon has adhered to and ratified or laws it has made.

I-3-1-3- Responsibilities of companies towards their areas of operation

Also, concerning the social responsibility of enterprise, the Cameroon government equally took part in some convention like the EITI process. The EITI is a global initiative launched in 2002 whose objective is to assess the extend to which a country's oil, gas and mineral resources revenues are transparently managed. In order words, it aims to promote better governance in resource-rich countries through the publication and verification of all payments made by companies and all public revenues from the exploitation of oil, gas and mining resources. This initiative also emphasizes the social responsibility of companies toward countries rich in natural resources.

Cameroon joined this process on November 1, 2007. In this regard, the Cameroonian government recognizes that the prudent exploitation of natural resources wealth is an important driver for contributing to sustainable development and reducing poverty. It also recognizes that the poor management of its natural resources can have negative repercussions. As a result, it is therefore in Cameroon's commitment to report to the multi-stakeholder group of his country (government, companies and civil society) timely and accurate information on the management of the country's resources. The Cameroonian state must therefore put in place measures that allows the good governance of revenues from the extraction of its natural resources for the benefit of it population and for economic, social and environmental development. For that, with

¹⁴⁶ *Ibid*, p.27.

the exploitation of the *Echinops giganteus* genetic resource undertaken by the V. Mane fils company, the Cameroonian government laydown some obligations that the company need to carry out. The aimed is to ensure that the company fully fulfill it responsibility to the locality on the economic, social and environment level. Indeed, apart from wood exploitation, the Cameroon government saw another opportunity of achieving it development goals through the exploitation of genetic resources.

I-3-2- Measures taken for the involvement of the local population of Magha-Bamumbu in the project and for the enjoyment of the benefits derived from the exploitation of the *Echinops giganteus* genetic resource

The Cameroon government around the *Echinops giganteus* project adopted some measures so as to firstly involved the locality community at all stages of the project and secondly ensure their full enjoyment of the benefits gotten from the project. It brings together three stakeholders that is, the Cameroon government under the supervision of MINEPDED, The director of the V. MANE fils company Michel Mane and the Fon of wabane Lekunze Andreas. The sign of the involvement of the locality of Magha-Bamumbu especially it population is shown when fon LEKUNZE Andreas says that, “*from the start of the project, after obtaining a pre-authorization from the state, another authorization is required in the form of pre-informed consent (PIC) from the head of the local community at large who is the paramount fon of bamumbu in this case all of these took place in 2013 through 2014*”¹⁴⁷. From its words, before any activity was undertaken, the locality concerned had to make the final decision. As a result, a MAT was signed and through it each stakeholder had it role to play in order to ensure not only the sustainability of the project but also that each stakeholder benefit. For the inhabitants of the area to fully take part in the project, they had to create and build a cooperative hall which is finance by the company exporting the GR. Thus, a cooperative was also set up to manage the project in the locality. This cooperative is made up only of inhabitants of the Magha-Bamumbu locality which carryout activities related to the *Echinops giganteus* exploitation project.

I-3-2-1- The signing of a MAT

In his will to involve the locality of Magha-Bamumbu in the exploitation of the *Echinops giganteus* GR as international legislations recommend, a MAT was signed between the Cameroonian government, the company exporting the resource and the locality having the resource. MAT refers to the “*conditions and provisions of access and benefit-sharing, among*

¹⁴⁷ Andreas LEKUNZE, Fon of Wabane, interview of 07/11/2022.

others negotiated between the user and the provider and involving other relevant stakeholders”¹⁴⁸. This MAT stipulated the role of each stakeholder for the rational exploitation of the *Echinops giganteus* genetic resource. The company was obliged according to chapter 2 article 5 of this document to¹⁴⁹;

- To access the roots of *echinops giganteus* through the representation of the local community of magha-bamumbu
- To make available to MINEPDED, with copy to MINRESI, information concerning potential partners who are involved
- To provide scholarships to Cameroonian students, in particular to students coming from the local community where the plants are exploited (BAMUMBU) to encourage the students, above all the girls attending secondary school and university, to take an interest in environmental studies
- To pay 30 percent of the benefits associated with the selling of products arising from the utilization of genetic materials of the plant EG by bank transfer to the account of the local community specified in annex 1
- Not to hold any rights to intellectual property on the genetic material of *echinops giganteus*
- To ensure a rational and sustainable management of the site as well as the conservation of the environment.

On the other hand, the community of Magha-Bamumbu at his turn had as obligation¹⁵⁰:

- To grant exclusive rights of the exploitation of genetic material of the roots of *echinops giganteus* to the company V. MANE fils
- To provide, over the specified time period, the annual quantity mutually agreed upon with the user, and notifying the MINEPDED

¹⁴⁸ UNDP, Guidelines for implementing access and benefit sharing activities arising from the use of genetic resources and associated traditional knowledge, « building capacity through pilot experiences with *echinops giganteus* and *mondia whitei*, 2018, p.13.

¹⁴⁹ MAT, For the commercialization of genetic material of roots of the plant *echinops giganteus*, chapter 2, article 5, p.4.

¹⁵⁰ *Ibid*, article 6, p.6.

- To collect the amount of dried roots of *Echinops giganteus* between mid-february and mid-march of each year
- To ensure transparency in the management of benefits resulting from the exploitation of the material and the different transaction and associated procedure.

These obligations aimed to ensure a fair and equitable sharing of the benefit gain from the exploitation of the *Echinops giganteus* GR. But in order to fulfill their obligations, the locality has to act as one that is to say to be united. This makes them to come up with the idea of a cooperative and resulted in the forming of a cooperative called MoBECoS.

I-3-2-2- The forming and establishment of a cooperative (MoBECoS)

The idea of a cooperative arose during the first part of the 19th century. It equally arose at a point in history when the ideas of mutual aid and of an ordered, regulated economy, in which each individual has his duties and claims, were at their weakest, so that economic life was given up to unchecked competitive individualism. It excites workers who were living and working in deplorable conditions to form an association of individual which share a common interest that is the wellbeing of the worker in his place of work so as to mitigate and alter their condition of working. This association is then known as a cooperative. It leads to the forming of many cooperatives that tackle the issue of work, agricultural cooperative etc. For that a cooperative is thus define as an association of individuals having a common interest, who voluntarily come together so as to meet the common need of individual member by joint action based on mutual assistance. As it appears from the legal statutes of cooperatives in Cameroon¹⁵¹, cooperatives are particular civil societies of person with variable capital and personnel. They can form unions among themselves for the management of their common interests. Their main goal is to be the non-profit representative of the members, to exercise certain economic functions meeting their common needs. PIERRE SIMO asset that, cooperatives constitutes one of the essential pillars of the development of the rural world. Thanks to it, farmers can take charge of the organization of their activities, from production to marketing, so that their work is more profitable¹⁵².

Thus, in order to involve the local population of Magha-Bamumbu in the *Echinops giganteus* GR exploitation project, one of the measures taken by the Cameroonian state was the

¹⁵¹ Law no 69-7-Cor of 6 december 1969.

¹⁵² Pierre SIMO, *Les planteurs et les cooperatives agricoles dans le Nyong- at So'o*, Mémoire en géographie, Université de yaoundé I, 1979, p.4.

creation of a cooperative. A cooperative known as the MoBECoS (Mount Bamboutos Echinops Co-operative Society) was formed and a hall was built in the locality. This was finance by the V. Mane fils company. The cooperative which, make up of some elites of the locality equally has as goal, to ensure the smooth running of the project and the participation of their fellow brothers and sisters in the project. It is in this word that Madame Esofor solange affirm that, “*the representatives from magha community who were actively involved in the harvesting, production and transformation of the echinops roots were given an oven where this root could be dried before selling*”¹⁵³. Meetings between the different stakeholders were held in the cooperative hall. The cooperative hall also serves as the collection site. It is here that the local population after digging and washing the roots come and sell it to the members that make up the cooperative. At their turn, they dry the root, package it and wait for Mane Company to come and collect it. The local population at time gathered at the cooperative hall for different workshops. The distribution of *Echinops giganteus* Seeds and other equipment needed in the management of the GR are given to the cooperative which in turns shared to non-members of the cooperative.

The taking of this measure by the Cameroonian states around the *Echinops giganteus* project aim to offer an opportunity for the community to get advantages from their natural resources, to sensitize them on environmental issue and make them know that each plant found in the ecosystem is of important value not to destroy them anyhow. Through the project, the inhabitants of the community of Magha-Bamumbu could increase their standard of living and also with the help of the Cameroon government, the V. MANE fils company will carry out activities which contribute to their economic, social and environmental development. It is up to the Cameroonian government and the company to provide the locality of Magha-Bamumbu with equipment’s that will allow them to carry out the activities around the *Echinops giganteus* project smoothly. However, the measures taken did not favor the participation of all the inhabitants of the study area in the project. The measures which aimed to involve the population of Magha-Bamumbu turn out to be a nightmare for some individuals since they were prevented from getting advantage of the resource.

¹⁵³ Solange ESOFOR, Policy and legal officer and coodinator of Bio Trade Bio Business at ERuDeF, interview of 13/10/2022.

I-3-2-3- Problems faced by the local population of Magha-Bamumbu to participate and benefit from the project.

A project launched in a rural area is usually interpreted in different ways by the inhabitants of the area receiving the project. This perception sometime creates division among the local population concerned with the project. This is why we see people that do not take part in the project due to the idea they develop towards the project. Also, the non-participation of individual to a new project introduced in their area is due to the fact that they sometime faced difficulties in adopting and accepting the project. However, Barthélemy DOUI¹⁵⁴ distinguished three categories of individuals which adopt different behaviors toward a new product or project. Firstly, we have the pioneers. They are people who easily accept a new product, project or a new method that is introduced in their area. At the second category of people, we have those who wait to see the evolution of things while doing an in-depth analysis by identifying the advantages and disadvantages before joining the project. He called them attentists. The last categories of people which he named refractories are those which resist any innovation in a given system.

The project of the exploitation of the *Echinops giganteus* GR in Magha-Bamumbu did not experience any of these behaviors since the project was a direct income generator. With the case of the exploitation of the *Echinops giganteus* GR, the non-participation of the local population is attached to the measures taken around the project. Though the idea of a cooperative was to ensure that the local population fully enjoyed from the project, it hinder some people from digging and selling the GR. During our field investigation, informants make us to understand that those whose names were not in the list of the cooperative or non-cooperative members found it difficult to sell their roots. For that, one of our informants affirms that, “*my name was not there but when they said that there should dig, we dig and go and take our money but our names were not there. Someone stands in front you dig and give it to him or her, he/she sell and give you the money*”¹⁵⁵. From her words, to successfully sell your roots after harvesting, you need to have a relative who is a cooperative member for him to sell and give you back the money. Those that do not have relatives or closely friends that are part of the cooperative abandoned the digging of the GR and concentrated on other activities. This was because their roots were either stolen or not finally weight. As ma Janetor underlines:

¹⁵⁴ Barthélemy DOUI, *Approche systémique de la gestion des ressources naturelles, cas de la forêt domaniale de Ngotto en République Centrafricain*, Mémoire en sociologie, Université de Yaoundé I, 2004, p.109.

¹⁵⁵ Anonymat, interview of 08/10/2022.

If your name is in the cooperative, you will make your children to dig it and come and give it to you to measure and take your money, If my name is not in the cooperative and I come with my roots, if you do not like me, you will tell me to come tomorrow you will measure it. The next day I come, you turn me until they go without taking my own, then I will not dig the plant again. When I wake up in the morning I go to my farm and work small then I come back in my house and cook my food and eat¹⁵⁶.

Another informant ma Custance stops from interfering in the project because her own roots were being stolen. “*I dig my own they stole it. No one day I will dig it again. Those people say that they will give me money, those at the head but I did not see anything*”¹⁵⁷. The system of handing your roots to somebody who at the end will not weight it for you makes many individual not to dig the GR and also get advantage of it. For one to be able to sell its roots had to be in good terms with somebody who is a member of the cooperative. To say it all, the exploitation of the *Echinops giganteu* GR in one way or the other create a sort of troubles among the local population of Magha-Bamumbu thereby reducing their solidarity.

CONCLUSION

The goal of this chapter was to analyze the different measures that were taken around the exploitation of the *Echinops giganteus* GR firstly and those taken to make sure that the local population of Magha-Bamumbu participates in the project so as to benefit from it. But before highlighting these measures, we make a brief presentation of the locality of Magha-Bamumbu through its physical, natural and human environment. It appears that, its location makes her to be endowed with many natural resources which apart from agriculture which is their main activity enabled them to cope with everyday life situation. The next point was on the importance of GR to rural areas in Cameroon, particularly to the locality of Magha-Bamumbu. Genetic resources to mankind are important as illustrated above. Apart from being a source of consumption, treatment of illnesses, they are equally a domain where nation can concentrate in order to achieve their development goals. This is due to the fact that, just like wood or timber, GR can be transformed to other goods and services that are sold at higher prices. Being of important uses, its exploitation had to be done in order to ensure the benefit of each and everyone. Thus, the Cameroon government in order to ensure a fair and equitable sharing of the benefits arising from the exploitation of the *Echinops giganteus* GR signed a MAT with the company V. Mane fils exploiting the resource and the fon of Bamumbu. This aimed to make sure that the company act socially, economically and environmentally *vis-à-vis* the locality of Magha-Bamumbu. For

¹⁵⁶ Janetor, Inhabitant of the locality of magha-bamumbu, interview of 04/10/2022.

¹⁵⁷ Custance, Inhabitant of the locality of magha-bamumbu, interview of 06/10/2022.

that, a cooperative (MoBECoS) was set up and a cooperative hall build. But this goal was not fully achieved because it prevented people from digging and selling the genetic resource which make them to return to their usual activity which is agriculture. For that, different opinions have arisen concerning this project, hence the next chapter which focuses on the representations and perceptions that different stakeholders hold *vis-a-vis* the project of the exploitation of the *Echinops giganteus* genetic resource.

CHAPTER TWO:
**THE REPRESENTATION AND THE PERCEPTION OF THE EXPLOITATION OF
THE *ECHINOPS GIGANTEUS* GENETIC RESOURCE PROJECT BY THE
DIFFERENT STAKEHOLDERS**

As we notice in the previous chapter, the measure for the participation of the local population in the project did not favour everybody thus prevented them from enjoying from the project. It then leads us to question the how stakeholders perceived the exploitation of this GR. By representation/perception, we refer to the knowledge and opinions that each stakeholder developed concerning the exploitation of the *Echinops giganteus* GR. As we earlier mention, the fact that this genetic resource is present only in the South-West region precisely in the locality of Bamumbu make the project to be carried out there. Indeed, the introduction of a project in a rural area is conveyed by certain objectives that one wishes to achieve. This is due to the fact that such area faces difficulties to increase their standard of living through the satisfaction of basic needs. Like Jeannette LEUMAKO underline, “*l’élaboration de ce projet part d’un diagnostic des problèmes et opportunités du territoire local concerné, dont l’objectif général est d’apporter des solutions concrètes au travers dudit projet, pour la revalorisation des conditions de vie du milieu et de l’ensemble de ses acteurs*”¹⁵⁸. As such, the aim of this chapter is firstly to know why the project was being carried out in the locality of Magha-Bamumbu by emphasizing on the advent and objective of the project. We also analyze stakeholder’s opinion in relation to the *Echinops giganteus* exploitation project undertaken by the V. Mane Company and their experience with the project. But we will first of all focus on the knowledge that the people of Magha-Bamumbu have on the exploitation of the *Echinops giganteus* GR project.

II-1 Knowledge on the *echinops giganteus* genetic resources exploitation project

The exploitation of the *Echinops giganteus* GR in Magha-Bamumbu contributed in increasing the knowledge of the inhabitants on their natural environment. It eventually influenced their life style regarding their environment. By knowledge we mean the advent of

¹⁵⁸ Jeannette LEUMAKO, 2016, *op. cit*, p.300.

the project in the Magha-Bamumbu locality and the objective of the project according to the different stakeholders in general and particularly to the people of this locality that is to say the way the local population conceived the project.

II-1-1- The advent of the project in Magha-Bamumbu

The advent of a project in a country, region or locality does not always happen overnight. It is often due to reasons such as easy accessibility to raw materials, abundant labor and reduced cost of expenses compare to profits. The implementation of such project goes through administrative procedures such as meetings of the various stakeholders, signing of agreements etc. It is the case of the *Echinops giganteus* exploitation project established in the locality of Magha-Bamumbu in 2012 under the direction of ERUDEF (a non-governmental organization) established in Cameroon. It is responsible for the protection of the environment more precisely to environmental and rural development. In fact, when the V. Mane hears about the present of the *Echinops giganteus* GR in Cameroon, he contacts ERUDEF. Through a survey carryout by this organization, it resulted that the locality of Magha-Bamumbu has this plant in a large quantity compare to other regions of Cameroon. As such, the project was then brought in Magha-Bamumbu. It was confirmed by the surveys that were carried out in the locality during out field investigation. Indeed, in our question to know why the project was being carried out in Magha-Bamumbu, the fon Lekunze Andrea underline several reason. To him, “*the genetic resource was available in the locality in many quantity couple with the associated traditional knowledge*”¹⁵⁹. Another reason he highlight were the “*readiness of the community to collaborate with the stakeholders and the availability of communication means*”¹⁶⁰.

Also, the ethnobotanist that was employed to carryout research on the genetic resource say, “*according to ethnobotanical studies, there was a high abundance of this species in the region as compared to other localities*”¹⁶¹. So they chose and brought the project here in the village because the GR was available in high quantity. Many of our interviewees also told us that the advent of the project in their locality was because the genetic resource was highly available in their area. As pa Tandongayoh Johnas said, “*they chose this village because there was enough root of the Echinops here*”¹⁶². For the local population of Magha-Bamumbu, if the

¹⁵⁹ Fon Andreas LEKUNZE, *op, cit*, 07/11/2022.

¹⁶⁰ *Ibid.*

¹⁶¹ Walter TACHAM NDAM, Lecturer at the University of Bamenda, interview of 01/03/2022.

¹⁶² Johnas TANDONGAYOH TACHAM, *op, cit*, 30/01/2022.

project was implemented in their village and nowhere else, it is precisely because the genetic resource is available in large quantity and also easily accessible. To say it all one of the reason of the advent of the exploitation of the *Echinops giganteus* GR in the locality of Magha-Bamumbu is mainly because of a determinant factor that is to say the availability of the resource or raw material.

Although the implementation of this project is justified by the presence of this genetic resource, it is also a continuation of the project for the conservation of mount Bamboutos which is still found in this locality undertaken by ERUDEF. Indeed, the coordinator of bio trade bio business of ERuDeF Madame Solange ESOFOR say that, “*this project was of great help to achieving one of the objectives of ERuDeF which is to impact lives*”¹⁶³. For this purpose, according to one of our respondent, the introduction of the *Echinops gigantues* GR exploitation project in the said locality is justified by the fact that being close first of all to the project of the conservation of mount Bamboutos and with this new project which is also near mount Bamboutos, the pioneer of the project wanted that the villages near this mountain benefit from the project. For that he says,

*Well I reasoned out that the people who actually came about with the project, their targets were actually to meet the need of those who are needy and as they study and show that this area is nearer mount bamboutos, that project they called it mount bamboutos project. So they taught that this area who is nearer that mount bamboutos benefit that is why they came here*¹⁶⁴.

All in all, the *Echinops giganteus* GR exploitation project established in the locality of magha-bamumbu in 2012 shows that it was on the one hand for the Cameroonian state to compensate for the local development of this landlocked area. And on the other hand to preserve the natural environment of this locality in order to achieve its objectives of sustainable development as underlined by the Johannesburg conference of 2002. As Madame Solange ESOFOR underline, “*the fight against poverty was realized during this project as the population of Magha-Bamumbu upgraded their living condition, their children school fees*”¹⁶⁵. Like any other project, the project of the exploitation of the *Echinops giganteus* GR has a precise goal. This is the primary objective that the said project had. It will be developed in the following paragraph where it would be a question of dwelling on the objective of the establishment of the project in the locality of Magha-Bamumbu.

¹⁶³ Solange ESOFOR, *op, cit*, 13/10/2022.

¹⁶⁴ Jacob TANGONG AKEM, A retire teacher and a member of the cooperative, interview of 01/02/2022.

¹⁶⁵ Solange ESOFOR, *op, cit*.

II-1-2- The objective of the project

The goal of the *Echinops giganteus* GR exploitation project by the people of Magha-Bamumbu varied as each respondent defined it the way it appears to him. Although their conception varied but it focuses on one point which is the digging of the roots and selling it to the company V. Mane so as to better their living conditions. As such, according to pa Tangwa Moses,

The roots itself that is the echinops knowns as “aligwem” before the project little was known about that root. It was consumed locally that is in the past some of our mothers and fathers used to harvest it in a little quantity just for some traditional meals and like medicine. So with the coming of the project, it now came to the land light as being something useful only with the coming of the project. So the villagers started to harvest it, wash it and sell it to the company knowns as V.Mane fils¹⁶⁶.

Indeed, before the involvement of the V. Mane fils company in the exploitation of this GR, the inhabitants of the study area used it only in little quantity. They used it for the preparation of meals while traditional healers use it for the treatment of illnesses. Infact, pa Ketoum the chief of the village says,

Already in the village here before the NGO (ERuDeF) settled here for the project “conservation of mount bamboutos” at the start, there were certain individuals who came here in the village to exploit the roots of the echinops plant in which there was tafon tagni, which is like the legislator in which the populations went in the bush, removed these roots and came to sell it at his place. At that time he weight it at 60F, today with the mount bamboutos project that ERuDeF set up and its partners, this is where we saw how he made the seed fields and they learned to plant this echinops plant, in which they learned to shoot several other plants¹⁶⁷.

According to their words, the *Echinops giganteus* GR was only consumed locally by villagers and little attention was accorded to the resource. For that during the clearing of farms to cultivate, the resource was cut off or burn down to carryout agricultural activities. With the buying of the roots, the village people began to see the importance of the genetic resource and each time they passed across when cultivating they weed the plant without destroying it. However, one of the objectives of the project in Magha-Bamumbu is resumed simply on the buying and selling of the GR to better the living environment of the area. Indeed, “*the project aimed at providing general revenue for local population and council area thereby improving on*

¹⁶⁶ Moses TANGWA, A teacher and a member of the cooperative, interview of 6th /02/2022.

¹⁶⁷ Fabien KETOUM, Right hand of the chief of bamumbu, interview of 6th /10/2022.

the livelihood of the population”¹⁶⁸. The *Echinops giganteus* GR exploitation project is one that was based on the digging and selling of the *Echinops giganteus* roots to a company. The village people dig and sell the roots to the cooperative which after drying, package it and send it to the company concerned. Pa Odimus TAMOH asset that “*it is what we cultivate here, after we dig it and sell to the white man*”¹⁶⁹. Going in the same direction with him, pa Tanyi Martin says “*it was a tree that we were digging from the soil*”¹⁷⁰. The project according to them only resumes around the digging and the selling of the roots that is to say based on the exploitation and commercialization of the genetic resource.

Figure 3: illustration of an Irish potatoes field with the *Echinops giganteus* plant inbetween irish indicated by an arrow



Source: Lydienne Flore NDAMA, field investigation of 2022

This image shows a plot of land where Irish potatoes is cultivated. But inbetween the Irish potatoes, there is the *echinops giganteus* genetic resource plant which is indicated by an arrow. It is a proof of that, the inhabitants of Magha-bamumbu do not more carried out their agricultural activities blindly, that is to say by destroying other natural resources. Since at first, they cut down the genetic resource at the profit of their crops. They are now aware of the

¹⁶⁸ Mark ATOH TAKU, Council development officer of bamumbu, interview of 26th /07/2022.

¹⁶⁹ Odimus TAMOH, Inhabitant of magha-bamumbu and a member of the cooperative, interview of 10th/02/2022.

¹⁷⁰ Martin TANYI, Inhabitant of magha-bamumbu and a member of the cooperative, interview of 2nd/02/2022.

important of protecting their natural environment in general and in particular the *Echinops giganteus* genetic resource.

The project go far that is to say it does not base only around the selling of the roots but equally aimed to develop that locality in which the activities is being carried out. One of our respondents thus affirms that “*it is meant for the echinops roots to produce perfume and also for the development of the village*”¹⁷¹. The roots of the *Echinops giganteus* GR after being extracted fly back to France where the office of the V. Mane company is found. There, the company uses it to produce finished products such as perfume, aromas etc. The expectations of the local population are that the company through the help of the Cameroon government helps them to develop their locality through the realization of social infrastructures. It is what makes ma Tanyi Mariana to say that “*this project was to develop the community, to help the community*”¹⁷².

The topography of Magha-Bamumbu is highly dominated by slopes whose value oscillates between 11° and 87°¹⁷³. The intensive agricultural activities undertaken in this village (since it is carried out on these slopes) makes the area very accidental, thus leading to the occurrence of landslides. It is the case of the landslide that occurred in 2003 in the village causing several deaths. For that, some respondent conceived the *Echinops giganteus* project as a solution for the reduction or the stopping of these constant landslides and to restore the degraded environment of the locality cause by over exploitation of natural resources so as to maintain the ecosystem. In fact, madame Solange ESOFOR point out that, “*an overall objective of this project was to ensure sustainable management of the Echinops giganteus in Magha Bamumbu*”¹⁷⁴. This was to be achieved by as she underline, “*harvesting that does not threaten the survival of this specie and is respectful of the environment, harvesting that ensure the continuous and regular supplies to households, traditional users, the cosmetics, medical and food industries and finally, harvesting to improve livelihood of communities involve*”¹⁷⁵. Indeed, “*the echinops giganteus genetic resource exploitation project that was also based on tree planting and the maintenance of the ecosystem*”¹⁷⁶ as jong arosen says, was mainly to achieve a sustainable community development.

¹⁷¹ Johnas TACHAM, *op, cit*, 30th/01/2022.

¹⁷² Mariana TANYI, Inhabitnat of magha-bamumbu and a member of the cooperative, interview of 1st/02/2022.

¹⁷³ M.X TSOU NDZITOUO, *op, cit*, p.25.

¹⁷⁴ Solange ESOFOR, *op, cit*, 13th/10/2022.

¹⁷⁵ *Ibid.*

¹⁷⁶ Arosen JONG, Inhabitant of magha-bamumbu, interview of 10th/02/2022.

In the view of all these different definitions of the *Echinops giganteus* project and according to the confessions of the respondents, we can affirm without risk of being mistaken that this project aims to promote a fair and equitable distribution of the benefit resulting from the exploitation of the *Echinops giganteus* GR and ensure a sustainable management of the biodiversity of Magha-Bamumbu. In other words, it aims to ensure a sustainable local development of the locality of Magha-Bamumbu. Any new project introduced in a locality where the only source of income is the agricultural exploitation activity arouses several opinions vis-a-vis such a project. Thus, in the next point, we emphasize on the opinions that the different stakeholders and the local population of Magha-Bamumbu hold concerning the *Echinops giganteus* GR exploitation project.

II-2- Perception of the echinops giganteus genetic resource exploitation project by the different stakeholders

The geographical position of Magha-Bamumbu confers to her an environment rich in forest, wildlife etc natural resources. It is bordered to the north by Batibo sub-division of Momo division (North West region), to the south by upper baying sud-division of Manyu division, to the east by Mbouda-bamboutus (west region) and to the west by Alou sub-division of Lebialem division. This location offers her a variety of vegetation types or forests endowed with natural resources.

The forest constitutes for many rural populations, in particular the inhabitants of Magha-Bamaumbu, a starting point of their subsistence since it provides them with enormous wealth in timber and non-timber forest products and also in agricultural land. “*C’est dans la forêt et l’exploitation de la forêt que les populations prélèvent l’essentiel de leurs ressources alimentaires et économiques*”¹⁷⁷. Indeed, the forest is of great importance since it is from it that we feed and carried out multiples activities. “*La forêt est un milieu de culture et de vie sociale. Elle est utile à la formation de notre être, de notre personnalité, de notre humanité. Elle nous donne tout, elle nous nourrit, nous soigne, nous habille, nous protégé*”¹⁷⁸. Thus, the ligneous product in Magha-Bamumbu, that is timber is exploited mainly for domestic uses such as to make furniture, for the roofing of housing and also use as wood to prepare meals. This is as a result of the landlocked of the area with the lack of a passable road which makes it difficult for the transportation of products. However, bush fire is frequent in the locality of Magha-

¹⁷⁷ Patrice BIGOMBO LOGO, 2004, *op, cit*, p.15.

¹⁷⁸ *Ibid.*

Bamumbu. It thus causes not only the reduction of the ligneous or timber products without being replaced, the disappearance of some species but also the degradation of the environment.

Also, the biophysical conditions of Magha-Bamumbu give rise to the cultivation of a variety of crops. The agricultural land in this locality is used to produce crops such as beans, Irish potatoes, maize, cabbages etc. These crops are both for commercial and for consumption purposes. They are sold to the neighboring market of Kombou and Balepo in the bamboutos and the revenue earned from it is used for the satisfaction of some basic needs. As for the non-timber product, the local population of Magha-Bamumbu exploits them as condiment and medicine (treatment of ailments). However, some of these non-timber products are exploited by multinational companies. It is the case of the *Echinops giganteus* GR exploited by the V. Mane company in this locality. Brought in the locality thanks to an ethno botanical research carried out by a native of the locality doctor Walter TACHAM under the direction of ERUDEF, the *Echinops giganteus* GR exploitation project did not only increase the purchasing power of the inhabitants of Magha-Bamumbu. It also enlightens them on the necessity of always protecting their natural environment. Because any elements (plant, leaves etc) present in the natural environment is of importance in one way or the other.

However, the implementation of this new way of earning income has aroused positive opinions among the different stakeholders particularly the inhabitants of Magha-Bamumbu vis-à-vis this project. That is to say the way each stakeholder perceived the project. Henri MENDARS defines opinion as “*un accord, une formule nuance sur une question déterminée et à un moment donné*”¹⁷⁹. Thus in this work, the perception of which we refer is the speech, opinion that the stakeholders and the inhabitants of Magha-Bamumbu expressed concerning the *Echinops giganteus* GR exploitation project undertaken in the study area.

II-2-1- Opinions expressed by stakeholders on the *Echinop giganteus* genetic resource project

The *Echinops giganteus* GR exploitation project which aimed at reinforcing the capacity building of the local community of Magha-Bamumbu have different perceptions and was represented in different ways by the stakeholders. The field survey that we conducted with different stakeholders particularly with the local population of Magha-Bamumbu shows that they have favorable opinions regarding the *Echinops giganteus* GR exploitation project. As

¹⁷⁹ Henri MENDRAS, *Elément de sociologie*, Paris, Armand Colin, 1989 et 1996, p.59.

such, the exploitation of the *Echinops giganteus* GR which main objective was to reinforce community building capacity so as to help them in their local development although it did not achieve its goal but gave hope to this social layer of a possible better life in the future. Indeed, the *Echinops giganteus* GR exploitation project is perceived in terms of its utility that is to say the utilitarian perception. The utilitarian perception considers the project with its political, economic and social functions and its uses.

II-2-1-1- The political perception of the project

Perceived in its political aspect, Madame Dingom Aurélie inspector n°2 at MINEPDED makes us to understand that, “*the project led to the adoption and the promulgation of a presidential law which govern genetic resources exploitation in Cameroon*”¹⁸⁰. This is the law n° 2021/014 of 09 July 2021. As already discussed above, this law governs access to genetic resources, their derivatives, traditional knowledge associated with genetic resources and the fair and equitable sharing of the benefits arising from their utilization. This is what makes madam Solange ESOFOR say in these terms, “*this project was an eye opener to all stakeholders as they got to know the importance of echinops, it builds a business idea and how species could be used to develop many communities. This project has led to the development of ABS laws and gave the local population knowledge about this particular species*”¹⁸¹. “*It can therefore be said without ambiguity that CAMEROON IS NOW READY! Politically, institutionally and legally with all the necessary instruments to take better advantage of ABS*”¹⁸². Indeed, the exploitation of the *Echinops giganteus* GR in Magha-Bamumbu like other projects is well perceived by the Cameroonian state. It is due to the fact that, apart from adopting this law, it equally helps them to educate its population in general and the local population of Magha-Bamumbu in particular as madame DINGOM said, “*to be aware of the importance of their biodiversity*”¹⁸³. Today, the state has a department called the focal point which deal with genetic resources for the benefit of its local communities. Another aspect, in which the utilitarian perception of the *Echinops giganteus* GR exploitation project is viewed, is the economic aspect.

¹⁸⁰ Aurélie DINGOM TAYLOR PATIENCE, Inspector n°2 at MINEPDED, interview of 19th/01/2023.

¹⁸¹ Solange ESOFOR, *op.cit*, 13th/10/2022.

¹⁸² Aurélie DINGOM TAYLOR PATIENCE, ABS in Cameroon, “sharing benefits”: a new market fund mobilization tool for biodiversity conservation, 2022, p.1.

¹⁸³ Aurélie DINGOM TAYLOR PATIENCE, *op.cit*, 19th/01/2022.

II-2-1-2- The perception of the exploitation of the genetic resource in relation to its economic function

When a project is launched in an area, what is awaited from the project by the inhabitants of that area is that they benefit from it. Such benefit is mostly expected in terms of income so as to better their standard of living and their living conditions. Another good opinion expressed on the exploitation of the *Echinops giganteus* GR is due to the fact that, it gives income. One of the respondents we interviewed says this,

My opinion concerning the project is that I don't have any negative aspect concerning the project. Since 2013 up to 2017 if you want to go round to check what just the money that have been entry the village just from the project and if you get the money that people are going out for training for that. The almost had what they called a gift. This one help and we see that the project is good¹⁸⁴.

For him, the project increases his purchasing power, those of the inhabitants of Magha-Bamumbu since from the buying of the roots money entered the village. The people uses the money for the satisfaction of their basis needs and also used it to go out for training especially on how to grow that particular plant and other work apart from farming. *“It is a very fruitful project and it is beneficial to the local community and its populations. It represents an activity which contributes to the livelihood of its populations. They see it as an income generating source”¹⁸⁵*. This was expressed by the fon of Wabane when we ask about how he perceives the *Echinops giganteus* GR exploitation project and what it represents to his area of commend. It shows a new perspective that the inhabitants of Magha-Bamumbu in the quest of a developed Bamumbu have to merge it with their agricultural and agro-pastoral activities to increase not only their standard of living but the level of education especially that of girls and women.

II-2-1-3- The perception of the project according to its social function.

The inhabitants of Magha-Bamumbu believe that this new way of making money in connection with the exploitation of natural resources in their locality is of paramount importance because it does not concern only one category of individuals but takes into account the entire local population. This is the utilitarian perception of the project according to its social function. Children and adult (men and women) participate. It is what makes one of our informants say in these terms *“the project was welcome since nearly about 85 percent of the*

¹⁸⁴ Landnus TANDUWM, A teacher at magha-bamumbu and the president of the cooperative, interview of 30th/01/2022.

¹⁸⁵ Andreas LEKUNZE, *op,cit*, 7th/11/2022.

*local populations were involved since children and women participated in the harvesting*¹⁸⁶. The *Echinops giganteus* GR project unlike to other activities within this locality does not require too much time and is less stressful. Like the case of the cultivation of irish potatoes (main product mostly cultivated in this area) which is very stressful. This activity first requires the cleaning of the field, then comes the time to sow, to clean that is to say to weeds and put soil below, fertilized before waiting for the moment to harvest it for the market. The least effort requested by the *Echinops giganteus* GR exploitation project thus motivated the majority of the population to participate in it. But it happens that, those that take part in the project were mostly people from the same family that were either relatives or close friends. According to pa Tanyi martin,

*That project was very important for us because people were working and harvesting that root. We think that most of nearly everybody who was involved in that project, digging it, he was able to pay his children school fees, those who were paying house rented, they were able to pay their house rent. Other people were even able to manage for their living so, it was very important, it tries*¹⁸⁷.

Indeed, the *Echinops giganteus* GR exploitation project was positively perceived and represented to this people since at that time live had increased. As we earlier underline, the population make us to understand that the activities around the exploitation of the *Echinops giganteus* GR was not stressful compared to their normal agricultural activities. This is why even children were able to dig the genetic resource and hand it over their mothers or fathers who were members of the cooperative to sell it. It is in this direction that pa Tanyi says,

*The way that project was nearly everybody who was digging it, live well because it was a project where they do not put anything. They do not put fertilizer, they do not put manure, no nothing. Any man just goes and harvest it in the farm or in the bush, then he/she comes and wash it and just take it to the hall that we have down there (showing the direction to the place the cooperative hall is belt). Some people have money from it very well. People were living because of that thing very well because it did not have any stress*¹⁸⁸.

According to him, the *Echinops giganteus* GR project is a good project in that, it did not give a lot of stress to people, it gives money to individuals which they use it to satisfy their basic need and carry out others activities. Indeed, many respondents said they use the income from the exploitation of the *Echinops giganteus* GR to solve their daily problems like buying

¹⁸⁶ Follah NEMBO, Inhabitant of magha-bamumbu and member of the cooperative, interview of 3th/02/2022.

¹⁸⁷ Martin TANYI, *op, cit*, 2nd/02/2022.

¹⁸⁸ *Ibid*.

food stuffs, paying their debts etc. Thus it contributed in alleviating the ways of living of the population of Magha-Bamumbu in general and in particular his way of living also changes. It is confirmed by pa Moses when he says, “for me, I think it is a good project, when I turn around me I can see one, two things that have improved my life style because of that project”¹⁸⁹.

The construction of a cooperative hall in this locality thanks to the project contributed in reinforcing the relationship firstly between the inhabitants of Magha-Bamumbu and secondly between Magha-Bamumbu and its surroundings. During our field survey, the local population of Magha-Bamumbu told us that the V. Mane company was involved in the exploitation of two genetic resources in the Lebialem division. One in Lewoh, that is the exploitation of the *Mondia whitei* GR and the other one in Magha-Bamumbu, that is the exploitation of the *Echinops giganteus* GR on which the current research focuses. Through the project, their relationship with the local population of Lewoh intensifies especially through their different meetings and workshops. They jointly work together on how to plant and domesticate these respective plants. The interaction between the local population of Magha-Bamumbu and Lewoh was not only a moment of exchange of socio-cultural elements and social integration as a guarantee of social cohesion but also reinforces the type of mechanical solidarity dear to Emile Durkheim¹⁹⁰.

The solidarity did not only limit itself between the local population of Lewoh and Magha-Bamumbu but was also reinforcing in-between the local population of Magha-Bamumbu. The construction of the cooperative hall in this locality tackled issues concerning *Echinops giganteus* GR and equally went further to deal with issues that have nothing to do with the exploitation of this GR. In case an individual in Magha-Bamumbu has a problem, he will contact the president of the cooperative. At its turn, the president will call for a meeting and at that meeting, that problem will be solved. If it concerned money, the members of the cooperative will contribute money that will be lent to that individual. After having solved its problems, that individual will search for the money and come and refund back. So money was loaned to some farmers to go and work their farms and after they refund it. For that, pa Jacob affirms that

Actually, that project has, do you see this structure that they have put here like this, it is also helping (showing the building). Then it helps people even to come together to discuss other problems, they even have some sort of njangui that there was making in this building. They came together, discuss problems with them, contributed money for the njangui then help people.

¹⁸⁹ Moses TANGWA, *op. cit.*, 6th/02/2022.

¹⁹⁰ Emile DURKHEIM, *De la division du travail social*, Paris, PUF, 1893.

*They use to have some loan that they were given to women to work farm and then to come and re-inbox and I don't know whether it has even ended. That, they give you money to go and work farm, then when you harvest you come and re-inbox*¹⁹¹.

As such, the *Echinops giganteus* GR exploitation project introduced in the locality of Magha-Bamumbu contributed in reducing the gap between the inhabitants of this locality and reinforced their solidarity. To say it all, the *Echinops giganteus* GR exploitation project undertaken by the V. Mane company appears in the eyes of the local population of Magha-Bamumbu as a project which can help in the development of their locality since it shows them that working together as one is more advantageous to develop their community. In fact, “*it was a good project because it envisages the improvement of the population livelihood. To assist the council area on developmental projects*”¹⁹². The different stakeholders draw, hold and express favorable point of view or opinion about the *Echinops giganteus* GR exploitation project. Even though some people were hindered from exploiting the genetic resource, they perceived well the project as ma Custance affirms, “*their thing was good*”¹⁹³. The local population equally expressed the desire of welcoming project of such kind in their locality. For that, the next point focuses on their experience with the *Echinops giganteus* GR exploitation project.

II-3- The experience of the local population about the *echinops giganteus* genetic resource exploitation project

The introduction of a project (especially those based on the rational exploitation of natural resources) in a rural area at its inception always arouses in the inhabitants of these areas an attitude of refusal or mistrust. These local populations see these projects as an attempt on their development because it deprives them either of their natural resources, land etc and contributes in maintaining them in deplorable living conditions. As Patrice BIGOMBE observed and noted,

*L'utilisation des revenus forestiers dans les villages soumis à l'exploitation forestière industrielle ne répond pas encore aux préoccupations de développement économique et social des villageois (adductions d'eau, électrification, construction des routes, des ponts, construction et entretien des écoles, des centres de santés etc)*¹⁹⁴.

¹⁹¹ Jacob TANGONG AKEM, *op, cit*, 1st/02/2022.

¹⁹² Mark ATOH TAKU, *op, cit*, 26th/07/2022.

¹⁹³ Custance, *op, cit*, 6th/10/2022.

¹⁹⁴ Patrice BIGOMBE LOGO, 2004, *op, cit*, p.20.

For that, it makes that many development project sometimes faces disturbances that result in conflict between those implementing the project and the local population.

The *Echinops giganteus* GR exploitation project at its beginning was not accepted by the majority of the inhabitants of Magha-Bamumbu. It is with time that they finally saw the potential of this project and this motivated the majority of the local population to participate though the measures around the project still prevented some from exploiting it. Thus, this project which aimed more at raising awareness of the women of Magha-Bamumbu was of a significant experience not only for the women of this locality but for all the inhabitants of Magha-Bamumbu. By experience we meant the knowledge that the local population acquire with their involvement in the *Echinops giganteus* GR exploitation project. Out of intensifying the solidarity among this local population, through the exploitation of the *Echinops giganteus* GR, the local population of Magha-Bamumbu and his surroundings learned many things.

II-3-1- The training of the local population on diverse or different skills

Development project, especially those based on the protection and the conservation of the natural environment and its natural resources, has often weakness some failures. This is due to the fact that these projects do not involved the population concerned with it or involved them at a reduced level. Like Jacques POTAM WADJA KEMAJOU underlines, “*la population a toujours été ignorée et quand elle était évoquée, c’est pour savoir comment l’écartier ou la déplacer afin d’exploiter la forêt*”¹⁹⁵. For that, being deprived of exploiting their forest as they used to do for their living, the population developed strategies that are harmful to the environment. It therefore results in the degradation of the environment as we observed today. So in order to avoid a continuous degradation of the environment of Magha-Bamumbu, the local population had to be trained on how to conserve their natural milieu. As one of the experience they acquired from this project, during the project, the population of Magha-Bamumbu was trained in other skills. Apart from learning how to domesticate the *Echinops giganteus* and *Mondia whitei* GR, the equally acquired knowledge on how to keep honey that is to say bee farming, planting of trees etc in order to reduce landslide so as to maintain the ecosystem. One of our informants thus asset that, “*it teaches me something, through seminars*

¹⁹⁵ Jacques POKAM WADJO KEMAJOU, *Pression démographique et dégradation de l’environnement dans une région forestière du sud-cameroun : le cas du Moungo* In programme de petites sudventions de L’UEPA, 1998, p.21.

*and something like bee farming. I also benefited even now I still do my bee farming*¹⁹⁶. Although the *Echinops giganteus* GR exploitation project is not more going on because of one reason or the other, it brought some changes in the locality. A place where the only means of surviving was agricultural exploitation now see the introduction of other means of survival. Couple with this agricultural exploitation and the new handwork that he learned that is to say bee farming, pa NKEMCHOP Martin experience an increase in his way of living. This other informant estimate that,

*Through the project, I have been trained to be able to keep honey. Through that project, I know how to grow that particular plant then to harvest it and even bring to the collective center not sending anybody, I do it myself. Then the matter of the honey, I'm able to keep honey not only that. They have taught us how to even plant trees that is to maintain water because we really need water in this area. The water is actually diminishing so we need water. They have taught us how to plant trees to be able to maintain water*¹⁹⁷.

Apart from the experience that he acquires as a teacher, this informant equally acquired knowledge on the planting of the *Echinops giganteus* GR which at first grow widely in the locality. Indeed, all the members of the cooperative that we interviewed told us that they are now able to cultivate that particular genetic resource. The local populations were also trained on the planting of trees to maintain the biodiversity and water etc which constantly diminishing in this area due to agricultural activities. In fact, in Magha-Bamumbu, they cultivate crops both during the rainy and the dry season. During the dry season which last from October to March, farmer uses the irrigation method to produce crops. They canalized water with pipes from the stream to their different farms to water their crops. These crops include mostly Irish potatoes, cabbages etc. At its turn, it reduces the amount of water left for household. Indeed, the *Echinops giganteus* GR exploitation project introduced in Magha-Bamumbu by the Cameroon government in 2012 and undertaken by the V. Mane company enlighten the local population of this locality which do not more carry out activities blindly but in respect of their natural surroundings.

¹⁹⁶ Martin NKEMCHOP AKEM, Inhabitant of magha-bamumbu and a member of the cooperative, interview of 8th/02/2022.

¹⁹⁷ Jacob TANGONG AKEM, *op, cit*, 1st/02/2022.

II-3-2- The importance of education

The *Echinops giganteus* GR exploitation project carried out in Magha-Bamumbu involves the local population in general and particularly women. In this rural area like other, women are those that mostly carried out agricultural activities and the exploitation of natural resources while men practiced activities like teaching, carpentry, brickwork. Women are mostly the one which interacts with the environment and so, they are better conservators of the environment. Through the different seminars which were held and headed by women, the inhabitants of Magha-Bamumbu saw the importance of being educated. This experience makes them to see the place of children education especially girls in a different way. That is why many of them used the income they got from the selling of the *Echinops giganteus* GR roots to send their children to school.

Indeed, in rural areas, individuals stop school at early age either because of lack of money or because they see school less profitable compared to their present activities. Girl's children for that are mostly, after dropping from school send to marriage. The money collected from their bride price is used to send boy children to school whereas boy children that drop out from school engaged themselves in different activities in the locality. Just like these localities, the locality of Magha-Bamumbu is not exempted from such practice. With the *Echinops giganteus* GR exploitation project, many children especially girl's children in Magha-Bamumbu went back to school. From the selling of the roots of this genetic resource, the local populations get money which they used to send their children to school. Some individuals equally faced challenges and go back to school. Most of our informant said when we ask them of knowing the opportunity that the project offers them, "*that through the seeing of the roots, they were able to send their children to school and pays their school fees without stressing*"¹⁹⁸. The desire to go back to school was equally motivated with the non-monetary benefit that the V. Mane company had to fulfill that is to say a possibly scholarship for students and in particular women from the region concerned.

In fact, education as Ernestine ANTOINETTE NGO MELHA point out, "*l'éducation apparaît ainsi comme un facteur d'épanouissement au niveau individuel, un facteur de cohésion sociale et un moteur de développement*"¹⁹⁹. Through education, people are able to survive without the help of other since they can find jobs. With the income earned from

¹⁹⁸ Focus group interview with the local population of magha-bamumbu, 10th/02/2022.

¹⁹⁹ Ernestine ANTOINETTE NGO MELHA, *Education inclusive en Afrique subsaharienne*, Paris L'Harmattan, 2013, p.13.

performing these jobs, the take care of their family members. It is in this direction that Rita BROUWER in her study on the importance of fishing and gathering in the livelihood of the population of sigone observed that the people consider education of major importance. As she says, “*for without education one will not be able for find a job and a job enables people to survive without the help of others. For parents, sending children to school is a kind of investment for old age. With a job, children will be able to support their parents well*”²⁰⁰. In all, the *Echinops giganteus* GR exploitation project shows to this social layer how important education is for the development of a nation in general and their locality in particular. This experience enlightens the population of Magha-Bamumbu on the importance of education especially women and during our survey, they expressed the desire of an increase in the number of schools present in their locality. In order words, through the project and with the help of the government, the V. Mane fils company should help them in constructing more educational infrastructures in their locality.

II-3-2- The benefits of working together

According to the Nagoya protocol, the two major actors involved in the sharing of the benefits resulting from the utilization of a plant, animal and microbial genetic resource in a fair way is the users of the genetic resource and the provider of that resource. The user here is “*any natural or legal person, with an ABS permit, who uses genetic resources, their derivatives and/or associated traditional knowledge*”²⁰¹. It can be a company or an individual that exploit it for commercial purposes. As for the provider, “*it is the state, as holder of genetic resources, or indigenous and local communities, as holders of traditional knowledge associated with genetic resources*”²⁰². Indeed, international conventions on the environment recognized the state sovereignty right over its natural resources like forest, mineral, genetic resource etc. During our interview with madam Aurélie DINGOM²⁰³, she makes us to understand that although the state is the first owner of genetic resources, ownership is also attributed to local communities because they are the one who hold all the traditional knowledge on these resources. It is what is often called the traditional knowledge (TK) associated with genetic resource. Thus being an owner or holder of the genetic resource (provider), these communities have to benefit from the exploitation and utilization of their resource. In order for the government to ensure that the locality of Magha-Bamumbu benefit from the exploitation of the *Echinops giganteus* GR

²⁰⁰ Rita BROUWER, 1995, *op, cit*, p.76.

²⁰¹ Law n°2021/014 of 09 july 2021, *op, cit*, chapter 1, section II, p.7.

²⁰² *Ibid.*

²⁰³ Aurélie DINGOM TAYLOR PATIENCE, *op, cit*, 19th/01/2023.

exploitation, they had to form a cooperative. This was to make sure that the benefit should not go in the hands of a single person who might use it for his personal interest at the detriment of the whole community. Indeed, the idea of a cooperative is another area where the inhabitants of Magha-Bamumbu acquired experience.

At first, this local population did not know about the word cooperative and its meaning that is to say the coming together of individuals having the same interest in order to better their living conditions. As we earlier said, the *Echinops giganteus* GR exploitation project leads to the formation of a cooperative (MoBeCoS) in Magha-Bamumbu. Through the cooperative, the locality was able to fulfill their obligation *vis-à-vis* the firm V. Mane fils. They make the roots always available on time to the company since they work in unity. In fact, “*the project brought the idea of cooperative which is now beneficial to them because through it two other cooperatives like the potatoes cooperative have been formed*”²⁰⁴. This project brought changes both in the locality of Magha-Bamumbu and in the behavior of the inhabitants of this locality since they realized that working together as a community enable them to take part in the development of their locality than working individually. To say it all, the locality acquires an associative experience. The population of the study area, apart from the experience they got as working together, they are now aware of the importance of their genetic resources. For that, nobody (a physical or moral person that takes it for commercial purposes) cannot more exploit resources from the area if he/she do not show an authorization issued by the state.

CONCLUSION

The task here was to analyze the different representations and perceptions that stakeholders expressed concerning the *Echinops giganteus* GR exploitation project. We started from the reason why they carry out the project in the locality of Magha-Bamumbu, follow by the main goal of the project. The locality of Magha-Bamumbu is the only place where the *Echinops giganteus* GR can be found reason why it was carried out there. This project had a particular goal that is to reinforce the capacity building of the local community of Magha-Bamumbu concerning the exploitation of genetic resources. For that, we dwell on the opinions and images that each of the stakeholders say about the exploitation of the *Echinops giganteus* GR. They mostly view the project on its utilitarian perception that is the political, economic and social function of the *Echinops giganteus* GR exploitation project. Indeed, the local population with

²⁰⁴ Wilfred MOFORTOH, Inhabitant of magha-bamumbu, interview of 4th/02/2022.

their involvement in the project acquires different knowledge. Like the planting of trees, the benefit of being educated and advantage it gives when forces are combined around a project. Indeed, the *Echinops giganteus* GR exploitation project from our analyzes, was well perceived and represented by the different stakeholders although they have each, their role to play and different interests.

CONCLUSION OF THE PART

Throughout this part, the emphasis has been placed on the mechanisms around the project while insisting first of all on the measures that have been taken to involve the local population in the project and the benefits linked to this activity. Then later on the representations/perceptions of the project. As for the measures, a MAT, a cooperative to carryout the activity at the local level had been form and a hall build. But some were prevented to fully enjoy from this activity due to these measures. This is due to the fact that not having a relative in the cooperative, he/she found it difficult to weight their roots. This makes them to stop digging the resource and went back to their normal farm work activity.

For the representations/perceptions, favorable point of view were expressed since on the political perception, it led to the adoption of a “*legal instrument which marks a new era for the valorization of genetic resources of national heritage, with a view of making them an important pedal for socio-economic development, thus responding to biodiversity conservation concerns*”²⁰⁵. As for the economic perception of the project, positive opinions were underline due to the fact that the project enables the local population of the study area to better their standard of living and their knowledge about the environment. Indeed, the exploitation of the *Echinops giganteus* GR was an activity that generates income directly through the selling of the roots of the resource. Favorable speeches were equally phrase concerning the project on it social function as it reinforces the solidarity among firstly, the inhabitants of Magha-Bamumbu and secondly between Magha-Bamumbu and its surroundings. Because of the project, the inhabitants of Magha-Bamumbu now know how to plant the *Echnionps gignteus* GR and many other plants. They now know the importance of conserving and protecting their natural environment since anything present in the environment is of capital value. Also, the population of Magha-Bamumbu has seen the importance of going to school thus ever with the Anglophone crisis, their children still go to school though not in the locality. Coming together as one, was another experience gotten by the local population of Magha-Bamumbu. For a better development of the area, they have to work together than working individually. For that, the second part brings us to examine the contribution of the exploitation of this GR on the local development of Magha-Bamumbu.

²⁰⁵ Aurélie DINGOM TAYLOR PATIENCE, 2022, *op, cit.*

PART TWO:

**THE CONTRIBUTION OF THE EXPLOITATION OF THE
ECHINOPS GIGANTEUS GR ON THE LOCAL
DEVELOPMENT OF MAGHA-BAMUMBU**

The exploitation of the *Echinops giganteus* GR is an important activity since it generates income at the local level. The involvement of a multinational company in the project makes that more is awaited from this activity in terms of an amelioration in the standard of living. To address the question of the contribution of the exploitation of the *Echinops giganteus* GR on the local development of the locality of Magha-Bamumbu, it refers to the changes that the project brought in the area it was carried out. Indeed, this second part is equally divided into two chapters which include chapter three and chapter four. Chapter three deal respectively with the interaction of stakeholder's in terms of their relationship and the fulfillment of their obligations. It equally elucidates the possible reasons for the non implementation of the V. Mane fils company obligations towards the locality of Magha-Bamumbu.

As for the last chapter (chapter four), it exposes the effects of the project firstly on the lives of the local population on the economic, social and environmental domain. Secondly, emphasizes is also place on the effects of the project on the local development of the study area on the economic, social and environmental domain and finally on the expectation of the local population towards the V. Mane fils company.

CHAPTER THREE

THE INTERACTION BETWEEN STAKEHOLDERS AROUND THE EXPLOITATION OF THE *ECHINOPS GIGANTEUS* GENETIC RESOURCE

The conservation of natural resources and the protection of the environment remains a major concern in Magha-Bamumbu. As such, strategies have been taken both at the local and national level in order to attain this goal. At the local level, the initiatives taken consist of developing traditional principles of access to the forest. This initiative consists of allowing only a minority of the population to have access to the forest. They include mostly initiated people and traditional doctors since they consider these forests as sacred forests. The objective sought is to guarantee the sustainability of natural resources and to prevent the loss of biodiversity. At the national level, this desire is reflected in the development policy such as the legal instruments regulating access to resources and the establishment of environmental conservation projects has been taken. They include the project for the management of Mount Bamboutos biodiversity based in Magha-Bamumbu and later on the *Echinops giganteus* GR exploitation project on which our current research focus. Such project mobilizes different stakeholders which have each a part to play and an objective to achieve. Indeed, through the exploitation of the *Echinops giganteus* GR, the government aimed to achieve its goal of a sustainable management of Magha-Bamumbu biodiversity.

Like other projects, the *Echinops giganteus* GR exploitation project mobilized different stakeholders among which, we have two major actors that is the user of the genetic resource (the V. Mane fils company) and the provider of the resource (the community of Magha-Bamumbu). The other stakeholders associated to this project are the state of Cameroon and a non-governmental organization called ERUDEF. Each of them had a role to play in order for the project to go on smoothly and be beneficial to each and every one. Indeed, the present chapter tackled the relationship between stakeholders, the role play by each of them, the way it was achieved and what hindered the fulfillment of some obligations

III-1- The relationship between stakeholders around the *echinops giganteus* genetic resource exploitation project

Development project, especially those that deal with the exploitation of natural resources generates disagreements which results in conflicts. According to Gilles FERREOL,

*“les conflits opposent sous des formes diverses des individus ou des groupes dont les intérêts sont divergents”*²⁰⁶. It is thus a situation of disorder between two or more opposing antagonistic litters. As a result, conflict arises when the rights of each other are not respected. In the case of a development project that deals with the exploitation of natural resources, conflicts arouse when the population having the resources is not involved in the project or is prevented from benefiting from it. Parfait MIMBIMI ESONO underline to this regard that, *“les conflits surgissent aussi, lorsque les pratiques traditionnelles locales ne sont pas considérées comme légitimes et légales et se trouvent incompatibles avec les politiques et législations nationales”*²⁰⁷. The exploitation of the *Echinops giganteus* GR is far from this situation. Indeed, as the Nagoya protocol require a fair and equitable sharing of the benefits resulting from the utilization of genetic resources between the provider and the users of the resources, the local community was involved at all stage of the project. This is the first benefit they received before waiting the one obtained after the selling of the manufacture products. In fact, at the research stage, a native from the locality was employed to carryout research on the availability of the GR and on the potential value of the roots of the said GR that is to say if it contains what the company is searching for. It also carryout research on how the resource can be manages so that it should not finish. In order words, on how the resource can be exploited rationally.

At the implementation stage of the project on the ground that is to say the exploitation stage, they equally make used of the local population. The role of the local population was to dig the roots and sell it to the cooperative which is constitutes of the indigenou of Magha-Bamumbu. Indeed, the company through ERUDEF gave a sum of money to the cooperative to buy the roots from the local population mostly the wet roots. After buying the quantity of the roots demanded by the company, the members of the cooperative now dry the roots. After the roots have dry, they package it and send it to ERUDEF which at it turn gives it to the company. Even for the domestication of the GR that is to say the replanting of the resource, they make used of the local population. They taught them how to plant the *Echinops giganteus* GR so as to ensure its sustainability. Nevertheless, at each stage that is from the digging to the replanting, the local population earned some money. The Fon of wabane thus says, *“the relationship of the leaders and representative of the local community as well as his people to the representative of the enterprise V.Mane fils S.A is cordial”*²⁰⁸. In fact, the interaction between the two major

²⁰⁶ Gilles FERREOL et al, *Dictionnaire de sociologie*, Paris, Armand Colin, 1991,1995, p.43.

²⁰⁷ Parfait MIMBIMI ESONO, 2004, *op.cit.* p.160.

²⁰⁸ Andreas LEKUNZE, *op.cit.* 7th/11/2022.

actors around the *Echinops giganteus* GR exploitation project was untroubled. As pa Landnus affirms, “*we are friendly*”²⁰⁹. But this good relationship that the locality maintains with the company is in the hope that the latter can in the future come to do what they had concluded in the MAT. Indeed, this good relationship makes the local population to develop a nickname to Michel Mane (the director of the V. Mane fils company). They called him “*Nkemgwen*” which means the person that discovered the GR. This make ERuDeF to continue to maintain goods ties with the community of Magha-Bamumbu. Like Madame Solange ESOFOR underlines, “*the local population of Magha-Bamumbu and ERuDeF maintain a good relationship as they continue to carryout different developmental projects in the community*”²¹⁰. However, the different stakeholders around the project had specific role to play. In order words, through the signing of the MAT, each actor had an obligation to fulfill vis-a-vis each other.

III-2- The role of each stakeholder in the good running of the *echinops giganteus* genetic resource exploitation project

A development project introduced in an area mobilized several actors of which the targeted ones is the population concerned with the project. Each of these actors has a part to play so that the project should at the same time be beneficial to all and reaches it ends. Indeed, around the exploitation of the *Echinops giganteus* GR, several actors interact. They performed different task but which aimed at a fair and equitable sharing of the benefit arising from the used of the *Echniops giganteus* GR. These stakeholders include the state of Cameroon, the NGOs ERuDeF, the company V. Mane fils and the community of Magha-Bamumbu.

III-2-1- Part plays by the Cameroonian government in the exploitation of the genetic resource.

According to article 11 of the Cameroonian constitution²¹¹, the government leads the policy of the nation under the authority of the president of the republic and in consultation with him. Indeed, article 3 of law n°96/12 of August 1996 states that,

*The president of the republic shall define the national environmental policy.
Its implementation shall devolve upon the Government, which shall apply it,*

²⁰⁹ Landnus TANDUWM, *op.cit.* 30th/01/2022.

²¹⁰ Solange ESOFOR, *op.cit.* 13th/10/2022.

²¹¹ Law no. 96-6 of 18 January 1996 to amend the constitution of 2 June 1972, Part 2, chapter 2, section 11, p.8.

*in collaboration with the decentralized territorial authorities, grassroots communities and environmental associations*²¹².

The state is therefore the actor in the design and administration of the management of the forestry in particular and the environment in general in Cameroon in association with other actors. And by delegation of authority, it is the ministry in charge of the environment, protection of the nature and sustainable development, the main actor to deal with the exploitation of the *Echinops giganteus* GR. This ministry has as mission, to develop and implement government policy on the environment and nature protection from a sustainable development perspective.

Thus, having the sovereignty right over its natural resources in general and genetic resources in particular, the government of Cameroon (MINEPDED) plays a great role in the exploitation of the *Echinops giganteus* GR in Magha-Bamumbu. When the company V. Mane fils contacted Cameroon for the exploitation of the resource, the state of Cameroon had to find an area in his country where the genetic resource can possibly be found. It then attributes this mission to an NGOs (ERuDeF) to search a place where the *Echinops giganteus* GR can be found. After some researches, Magha-Bamumbu was chosen since it is naturally endowed with the resources. Then for the project to be carried out, the state through MINEPDED lay down principles and modalities for a rational and sustainable exploitation of the genetic resource. These principles and modalities were underlined in the MAT as we listed above. The Cameroon government then had to ensure that both parties respectfully carried out its commitments. In order word, it had to make sure that the exploitation of the *Echinops giganteus* GR benefits more to the community of Magha-Bamumbu, though it was not achieved.

Another role played by the state of Cameroon was to reinforce the capacity building of the population of the study area in terms of the conservation of the natural environment. Different seminars were helped with the local population especially those who were members of the cooperative. These seminars were headed by representatives from MINEPDED. During the seminars, they were taught several skills which the local populations during our investigation on the field underline like the “*keeping of bee, the cultivation of the echinops giganteus genetic resource, the planting of other trees which in future will benefit us*”²¹³. Even with the outbreak of the crisis, the government still plays its parts as he holds the last seminar with the community on July 2018. As madam Aurélie DINGOM says, “*though the crisis disturbs the project since we finally ended seminars with people from the same family, we*

²¹² Law no.96/12 of 05 August 1996 relating to environmental management, part 1, article 3, p.2.

²¹³ Fabien ketoum, *op.cit.* 6th/10/2022.

conclude with the project''²¹⁴. From her words, the project did not stop with the Anglophone crisis as the local population of Magha-Bamumbu underlines but it came to its end. To say it all, the government of Cameroon through MINEPDED, fulfills its role, that he makes the *Echinops giganteus* GR accessible to the company according to its jurisdictions. Now come to see if the aimed of the state to have a sustainable development of Magha-Bamumbu was accomplished. Another area plays by the state of Cameroon was through NGOs like ERuDeF.

III-2-2- The role of the NGOs ERuDeF in the project

*Les ONG peuvent être définies comme des organisations regroupant des personnes volontaires et/ou bénévoles, mobilisées pour défendre une cause; organisation à but non lucratif privée et autonome, elles bénéficient d'une reconnaissance officielle par les institutions étatiques*²¹⁵.

From this definition, NGOs has as characteristics to be a private organization which goal is not to make any profits. It is therefore the voluntarily coming together of people in order to offer their services by defending a particular cause. Indeed, as Jeannette LEUMAKO underlines, “*se distinguant des pouvoirs publics, elles se présentent comme des organisations qui veulent répondre aux besoins et attentes dont l’incapacité des premiers à y répondre est avérée*”²¹⁶. They intervene where the action of the state has proven to be insufficient. To this fact, Basile KENMOGNE writes that,

*Les ONG interviennent dans ce contexte soit pour offrir des biens et services là où l’Etat et les pouvoirs publics ne peuvent intervenir, soit pour compléter les prestations là où les services de l’Etat ne peuvent répondre de façon adéquate à toutes les attentes exprimées par les populations*²¹⁷.

Thus, NGOs come into direct contact with grassroots populations in order to respond to the needs of communities where the state has experienced difficulties. However, this does not of course, preclude collaboration or financial assistance from governments. Mostly, these NGOs intervene to convey the ideas of donors whether national or international. On this subject, Jeannette LEUMAKO writes, “*souhaitant atteindre les populations à la base, ces bailleurs de fonds ont mis à la disposition des ONG, d’importants moyens financiers pour*

²¹⁴ Aurélie DINGOM TAYLOR PATIENCE, *op.cit.* 19th/01/2023.

²¹⁵ Armel GILDAS MOULOUNGUI, *Gouvernance des ressources forestières au Gabon, acteurs et enjeux*, Thèse de Doctorat en géographie, Université d’Orléans, 2014, p.226.

²¹⁶ Jeannette LEUMAKO, *op.cit.* p.338.

²¹⁷ Basile KENMOGNE, *Les organisations non-gouvernementales et le développement participatif, l’engagement des volontaires du progrès au Cameroun*, Paris L’Harmattan, 2003, cité par Jeanette LEUMAKO, *Ibid.*

parvenir à leur fin”²¹⁸. Thus, their implication in an area for the implementation of a project is not random. The implication of an NGO in a development project is either because the organization is located in the area where the project had to be implemented or because the activities of the NGO are in the same direction like the project. Thus, the involvement of the NGO ERuDeF in the *Echinops giganteus* GR exploitation project is first of all because the NGO is located in the south-west region precisely in the Lebialem division. Secondly, it is an NGO that deals with the conservation of the nature.

Established in 1999, ERuDeF is an award-winning non-profit Cameroonian conservation organization. It has been working for over two decades across Cameroon and has significantly contributed towards restoring fragile Eco-system regeneration of forest. This is achieved through plantation and agroforestry, conservation of biodiversity through wildlife habitat protection and protected area management, promoting environmental education, as well as empowering rural communities through innovation economic and livelihood development programs. As the leading national conservation organization in Cameroon, ERuDeF has been lobbying with the government to realize the need to gazette more protected areas and provide more protection or restriction that will lead to the conservation of the last ranging species of fauna and flora. As such, the organization launches several initiatives like “*the tofala mone corridor, the deng-deng national park, dje reserve corridor which is called the Cameroon corridor initiative*”²¹⁹. His involvement in the project is a continuation of the activities already undertaken by the NGO in the area of study. One of the projects carried out by ERuDeF in Magha-Bamumbu is the Mount Bamboutos biodiversity conservation project. Thus, the state of Cameroon further entrusts the *Echinops giganteus* GR exploitation project to ERuDeF for the NGO, to continue achieving the conservation of the biodiversity of Magha-Bamumbu in general and in particular, a rational exploitation of the *Echinops giganteus* GR.

In the *Echinops giganteus* GR exploitation project, ERuDeF placed an intermediary role between the locality of Magha-Bamumbu and the V. Mane Company. In fact, it was through ERuDeF that the company received the dry roots of the *Echinops giganteus* GR. As such, Madame Solange ESOFOR underlines that, “*ERuDeF who was an intermediary played a great role in connecting the local communities (Magha-Bamumbu) with V. Mane fils. ERuDeF made sure that all supplies of Echinops during the project to V. Mane were properly paid*”²²⁰. Indeed,

²¹⁸ *Ibid*, p.339.

²¹⁹ Who we are-ERuDef, <https://erudef.org/who-we-are-2/> consulted on 27th January 2023.

²²⁰ Solange ESOFOR, *op.cit.* 13th/10/2022.

the president of the cooperative MoBECoS makes us to understand that after they had collected the roots of the *Echinops giganteus* GR from the local population, they dry it and package it. When the package is done, they called ERuDeF to come and collect the dry roots. It is now ERuDeF that send the genetic resource to Douala so that it should be shipped to France to its users. The NGO send money to the cooperative members to buy the wet roots of the *Echinops giganteus* GR from the local population. To say it all, ERuDeF played a great role in the *Echinops giganteus* GR exploitation project since the project help the organization in achieving one of the objectives which is to impact lives. This is how madam Solange ESOFOR says, “*the fight against poverty was realized during this project as the population of magha-bamumbu upgraded their living condition, their children school fees*”²²¹. But was it really achieved? What part did the company have to do as the user of the *Echinops giganteus* GR so that the local community benefit? Indeed, the company V. Mane fils also had an obligation to fulfill for fair and equitable exploitation of the *Echinops giganteus* GR.

III-2-3- The company V. Mane fils as the user of the echinops giganteus genetic resource

Foreign companies have always been attracted by the natural resources of Cameroon but most especially by its timber forest product and mining resources. But before any exploitation is undertaken by these foreign exploiters, a specification is signed underlining the different activities that the foreign companies have to carry out. This is to make sure that the community having the resources and their surrounding benefit in terms of the amelioration of their standard and condition of living that is to achieve a local development. It is not always achieved because several studies have shown that, after the exploitation is ended, the communities are left in miserable conditions as they still face difficulties in satisfying their basic needs. Indeed, the exploitation of these resources by these foreign companies does not help these communities in their local development. On this subject Patrice writes that,

*Ils sont nombreux, dans le pays, qui souffre de l'exploitation forestière industrielle en victime résignées. Pourtant, l'exploitation de cette ressource aurait dû contribuer à l'amélioration des conditions générales de vie des populations locales*²²².

Indeed, the revenue obtained from the exploitation of these resources is not shared in an equitable way. By so doing, it does not change the situation of the area and when a

²²¹ *Ibid.*

²²² Patrice BIGOMBE LOGO, 2004, *op.cit.* p.19.

development activity has been carried out, it is of no use to the communities or it is being made up with second-hand materials.

In order to avoid this situation with the exploitation of genetic resources, an international convention called the convention on the biological diversity of 1992 specified at its article 15 how genetic resources had to be obtained. It also underlines how the benefit from it had to be shared in a fair and equitable way between the users of the genetic resources and the providers of the resource. The users can be botanical gardens, industry researchers such as pharmaceutical, agricultural and cosmetic industries, collectors and research institutes. This was later reinforced by the Nagoya protocol held in 2010 based on access to genetic resources and benefit-sharing. As UNDP noted,

The protocol has been brought to the attention of national and international users of genetic resources, who are approaching countries to access their genetic resources, development products, and make sure that the benefits derived from the utilization and marketing of these products are shared equitably with the providers of these resources²²³.

The users are therefore responsible for sharing the benefits derived from genetic resources with the provider. Thus, for the Cameroon government to ensure a fair and equitable sharing of the benefits from the exploitation of the *Echinops giganteus* GR and for the good running of the project, he assigned some obligation to the V. Mane fils company.

As we earlier said, the V. Mane fils is a French company which uses natural resources as raw material for the running of its business. The company uses these natural resources to produce finished products such as fragrance, perfumes, deodorants etc. In the case of the *Echinops giganteus* GR, from the different interviews we carried out, V. Mane fils company uses the roots of this resource to produce perfumes. As the user of the genetic resource, his role to play was to make sure that the locality of Magha-Bamumbu benefits from the project through the amelioration of their living conditions, in short, a sustainable local development of the study area. For that, he had to provide economic, social and environmental services as we have mention above to the community of Magha-Bamumbu that is to say, a deposit of 25% of the benefits from the sale of the finished product, award scholarship to students especially women of the study area, support to developmental project in Magha-Bamumbu etc. Indeed, the council development officer mark Atoh Taku, underline that, “*exploitation was to be weighted and sold*

²²³ UNDP report, 2018, *op.cit.* p.9.

to the company who exports for perfume production where part of the profit will come back to the population and part to the council”²²⁴. To say it all, as the user of the *Echinops giganteus* GR, the company V. Mane fils had to make sure that the resource is exploited in a sustainable way. As the Nagoya protocol talk mostly about the users and the providers of genetic resources, what role was attributed to the locality of Magha-Bamumbu in the project? Consider as the provider of the *Echinops giganteus* GR, Magha-Bamumbu under the supervision of the state had as responsibility to make the resource available.

III-2-4- The responsibilities of the community of Magha-Bamumbu in the *Echinops giganteus* genetic resource exploitation project

The community of Magha-Bamumbu has always depends on natural resources in general and in particular genetic resources for their livelihood. They exploit genetic resources in small quantities for the preparation of meals and treatment of certain illness. Before the advent of the landslide that occurred in the study area in 2003, Magha-Bamumbu had no health Centre. So, as Focho underline, “*people trek for about sixteen kilomteres to consult a medical doctor. The natives therefore depend on traditional medicine for the treatment of aliments prevalent in the region*”²²⁵. Although the study area now has a health Centre, they still relied on genetic resources since the hospital have inadequate health equipment’s. But they did not know about the importance of GR reason why they were just destroying them anyhow to carry out their agricultural activities. With the implementation of the *Echinops giganteus* GR exploitation project in the area, they realized how useful GR were. This is due to the fact that, they earned income from the sales of the roots which help them to manage their lives while waiting for the harvesting of their farm produced. Thus in order to educate them on the importance of a healthy environment and show their responsibilities vis-à-vis their environment, they had to actively participate in the overall project.

Being the one who holds the associated traditional knowledge on the *Echinops giganteus* GR, the community of Magha-Bamumbu is considered as the owner and provider of that resource. Indeed, the provider is as we ealier underline, either the state, as the holder of the genetic resources, or local communities, as the holders of traditional knowledge associated with genetic resources. The community under the state supervision had to make the resource available to the V. Mane fils company. The local community participated at different level. The

²²⁴ Mark ATOH TAKU, *op.cit.* 26th/07/2022.

²²⁵ Focho D. A. and Al, 2008, *op.cit.* p.1.

first part was played by the local administrative authorities of the locality while the other part was left in the hands of the local population. The Fon of Wabane as the representative of the local community signed all the agreements involved in order to facilitate the process amongst all other stakeholder by authorizing the exploitation of the GR. He noted that, “*we collaborate with V.Mane fils S.A, competent national authority (state) and all other stakeholders involved for the smooth realization of the project*”²²⁶. Indeed, they had to supervise the project at the community level and this was to be done through the cooperative that was formed.

The inhabitants of Magha-Bamumbu equally make effort for the smooth implementation of the *Echinops giganteus* GR exploitation project. As we earlier noted, a cooperative hall was built in the study area. This site served as the point of collection of the *Echinops giganteus* GR roots and the drying of the roots. MoBECoS was made up of the local inhabitants of Magha-Bamumbu. These individuals were the one buying the wet roots of the genetic resources to their fellow brothers, sisters, children, mothers and even fathers. Indeed, the president of MoBECoS noted that,

*The role of the cooperative was to collect the wet roots, to weight it and pay the farmers according to the kilo that they have and then we collect it when the farmers has already wash it. After the payment, it is the role of the cooperative that they would have a system that we usually cut it at least 30cm and so we dry it in the drying section that we have in the cooperative for 40 days. After the drying, the cooperative would buy bags for packaging. After packaging, we called the NGO that is in charge of them to come and collect it. The name of the NGO is ERuDeF based in bued*²²⁷.

Both the non-members of the cooperative and members of the cooperative exploited the *Echinops giganteus* GR. But the weighing, the drying and the packaging were done only by the members of the cooperative. It was also to the cooperative members, that the representatives of the government trained them how to replant the *Echinops giganteus* GR. They later trained their fellow brothers and sisters in their community how to domesticate the resource and also put in practices all the other handworks that they learned from the seminars. To say it all, the community of Magha-Bamumbu starting from the local administrative authorities to its inhabitants makes the *Echinops giganteus* GR available to the V. Mane fils company as the CBD and the Nagoya protocol underlines. Thus, as the provider, both the resource and the traditional knowledge associated to the resource were submitted to the company to ease the manufacturing of the finished product (perfume). But did each stakeholder really carry out their responsibilities? Were the benefits from the exploitation and commercialization of the *Echinops*

²²⁶ Andreas LEKUNZE, *op.cit.* 7th/11/2022.

²²⁷ Landnus TANDUWM, *op.cit.* 30th/01/2022.

giganteus GR shared equally? Indeed, though the major actors (V. Mane Company and the community of Magha-Bamumbu) had good relationship, the imbalance between them resides in the fulfillment of their responsibilities towards each other.

III-3- The non-materialization of its obligations at the local level

Whether the conservation of natural resources or its exploitation internationally or nationally, has always been beneficial to the foreigners more than to the local populations. On this subject Patrice writes that, “*les opérateurs économiques sont ceux qui semblent bénéficier le plus de l’exploitation forestière plus précisément de l’exploitation forestière industrielle*”²²⁸. All stakeholders benefit in different ways and at different levels. The fact that the exploiters or conservers benefit more compared to these communities and all that follows result to conflicts. In this sense, Iyabo OLOJEDE, Banji FAJONYOMI and al noted that, “*it is this environmental stress, occasioned by the discharge of oil waste on the environment that is at the core of the crisis in the oil producing communities and the conflict it engenders*”²²⁹. Indeed, these conflicts arise when the damage caused by the exploitation of natural resources on the environment and its population is not supported by these companies. Nothing is done to reduce or eliminate these damages which harm the survival and health of communities. To say it all, conflicts arise when companies do not respect the specifications, that is to say what the communities asked before any exploitation is carried out or ended. Indeed, the imbalance between the company V. Mane fils and the locality of Magha-Bamumbu is observed at the level of the fulfillment of their obligations, that is to say their part of the contract.

The United Nations Convention on Biological Diversity in its article 15 recognizes that states sovereignty extends over all genetic resources and underline that the access to these genetic resources shall be granted on a mutually agreed terms and shall be subject to prior informed consent of the country providing the resources. Therefore, when a resource, whether a plant, animal or micro-organism is used for commercial purposes, the country from which it comes has the right to take advantage of the resulting benefit that is monetary or non-monetary benefits. The monetary benefits include payment of royalties and relevant intellectual property rights for the state, sharing of the proceeds of sale and employment for local communities while non-monetary benefits include, development of skills and knowledge for local communities and the research community, biodiversity conservation for the state and the people.

²²⁸ Patrice BIGOMBE LOGO, 2004, *op.cit*, p.16.

²²⁹ Iyabo OLOJEDE and al, 2002, *op.cit*, p.4.

As we earlier said, around the *Echinops giganteus* GR exploitation project, a MAT was sign among the different stakeholders mentioned above. Through this agreement, the locality of Magha-Bamumbu granted access of the *Echinops giganteus* GR roots to the V. Mane fil company. The local population exploited the roots, prepared it and makes it available between mid-february and mid-march of each year as the MAT underline. They equally informed the company any time a problem arises mostly in case the amount of the roots needed for the year is not sufficient. Basically, the principle of access to genetic resources was applied by this locality but this was not followed by that relating to the sharing of the benefits derived from the exploitation of this GR. Indeed, concerning the issue of the sharing of the benefits resulting from the exploitation of the *Echinops giganteus* GR, most of our informants claimed that they did not benefit from the exploitation of the genetic resource. In fact, what they had requested from the firm was not materialized in the said locality. Thus one of the informants we interview exclaimed,

We agreed with them that they we send scholarship to female children but it didn't happen because of the crisis, even the road, the road was to be dog, it didn't yes because of the crisis in order word, the white man did not respect the part of the agreements. I mean the first time we sign the contract, yes he did not really respect the part of the agreements that was agreed that he will sponsored female school until the agreement ended²³⁰.

The Anglophone crisis according to this informant is the reason why the company V. Mane did not carry out it engagement as they agreed. But before the crisis, the community served the company with the *Echinops giganteus* GR roots, so if he wanted to play it part, he could have at least undertaken some development activities. As such, pa Elaja expresses himself in these terms,

Nothing was done, they didn't do anything about everything we asked for. We don't know before the crisis, we had already served them for three years. Within three years, they must have already done at least something. We had signed the MAT for three years and we respected the MAT for three years. They did not do what they had to do during these three years²³¹.

According to the words of this informant, the firm did not respect its part of the contract and that, this is not due to the crisis as some informants says. Since, before the crisis, they had already served the firm for years. So, if he wanted to do what the local population asked of him, he had to do it during those years. Though the crisis disturbed the project but it did not stop it, thus the V. Mane could at least give scholarship to female students as it was agreed. It is also in

²³⁰ Johnas TANDONGAYOH TACHAM, *op.cit.*, 30TH/01/2022.

²³¹ Elaja KETUM, Inhabitant of magha-bamumbu and a member of the cooperative, interview of 3th/02/2022.

this direction that Desmond TANTACHOP underlines that, “*it did not change anything since nothing was constructed*”²³². And like these three informants, all the informants make us understand that on all what they asked the firm V. Mane fils, nothing was done. This include the development of the road, support for local development projects, an establishment of part of the business in the locality. Thus, pa Moses underlines that,

*When the project started, we were told that if everything goes well, the company in charge will come back and developed the area because as they said, there were certain modalities laydown that when the company will produce whatever thing he had to produce with the roots, he will send back certain percentage to the community and now the community , they will joined with the community to develop the locality since things are not going but I hope that by the grace of God, should they come back and do it*²³³.

Thought the crisis is one of the reason underline for the non-implementation of its engagement to the locality of Magha-Bamumbu, another reason is due to the fact that, the V.Mane fils company is animated by *l’attitude de fermeture vis-à-vis du territoire*²³⁴ that is Magha-Bamumbu. Having no ties with the area of study, any development activity carried out will not be beneficial to him since he is not first of all implanted in the study zone. Profits made from the exploitation of natural resources in general and in particular genetic resources are not reinvested locally but expatriates abroad. Thus Jean-Pierre BELL and Patrice BIGOMBE points out, “*les bénéfices amassés ne sont pas réinvestis sur place, mais plutôt réexportés vers les capitales européennes pourvoyeuses, bailleuses et prêteuses des fonds et dont la participation au capital social des entreprises l’emporte sur les actions revenant aux nationaux*”²³⁵. It is also in this direction that Andrew MOLD affirmed in these words, “*the profit from the economic activity undertaken by multinationals tend to be distributed in an unequal manner, most of which ultimately flow abroad*”²³⁶. Like the timber and mining product that are exploited in Cameroon without contributing to the local development of its communities now come the case of GR which also failed to achieve the local development of Magha-Bamumbu.

The fact that the study area did not benefit from the exploitation of the *Echinop giganteus* GR is observed by the isolation of the locality of Magha-Bamumbu. It is due to the impassability of the road which constitutes a major obstacle for the development of agricultural

²³² Desmond TANTACHOP, Inhabitant of magha-bamumbu, interview of 8th/10/2022.

²³³ Moses TANGWA, *op.cit*, 6th/02/2022.

²³⁴ Jeannette LEUMAKO, 2016, *op.cit*, p.277.

²³⁵ Jean-Pierre BELL and Patrice BIGOMBE LOGO, In, Patrice BIGOMBE LOGO, 2004, *op.cit*, p.85.

²³⁶ Andrew MOLD, “FDI and poverty reduction, a critical reappraisal of the arguments”, In Claire MAINGUY, 2004, *op.cit*, p.110.

economics activities and for its local development. The bad road in the locality of Magha-Bamumbu hinders the cultivation of a variety of goods. An indigenous of this locality makes us understand that the absence of a practicable road in Magha-Bamumbu limits the cultivation of a variety of crops destined to the market. Some crops that easily get rotten such as green spices are cultivated only in a small quantity for self-consumption because the state of the road does not permit it to be transported on time in the market. This is why the most dominant crop cultivated in this locality is Irish potatoes which do not easily get rotten. He points out that, “*if one day we do like this and we have a good road that’s where people would cultivate everything*”²³⁷. The rural tracks that permit the delivery of the agricultural products to the market, the delivery of agricultural inputs, access to basic social services etc during the raining season cost higher. Thus, the local population through the *Echinops giganteus* GR exploitation project hope to see their road being arranged since it constitutes an important link in their local development.

To say it all, for some informants, the only benefit the local population have received from the exploitation of the *Echinops giganteus* GR in terms of the sharing of the benefits resulting from this project, is the money that they have made by selling the roots of this resource. “*They say that they will send children to school but they did not do it. The only money they gave was the one that we receive from the selling of the roots before we send children to school*”²³⁸. The phenomenon of bioprospecting or bio piracy that the CBD convention try to mitigate did not succeed since communities in general and in particular the locality of Magha-Bamumbu did not benefit from the exploitation of its GR. Though the GR was exploited under legislative instruments and with the approval of the community, the profits obtained from it were not returned to the area from which the materials were extracted nor the finished product that results from the manufacturing of the resource. We can then understand this statement of Shawn N SULLIVAN according to which, “*people in developing countries from which the raw material originated had to pay the same prices as everyone else, and in some cases were not even given access to the invention derived from the indigenous material*”²³⁹. The inhabitants of Magha-Bamumbu did not receive their part of the benefits nor the perfume made with the essential oil gotten from the *Echinops giganteus* GR roots. Although the *Echinops giganteus* GR exploitation project cultivated among the inhabitants of this locality a hope of a develop

²³⁷ Fabien KETOUM, *op.cit*, 6th/10/2022.

²³⁸ Fedelis TANTACHOP, Inhabitant of the locality of magha-bamumbu, interview of 31st/01/2022

²³⁹ Shawn N SULLIVAN, Plant genetic resources and the law, <https://www.ncbi.nlm.nih.gov/pmc/articles/pmc429328/>, consulted on the 25th/10/2022.

Magha-Bamumbu which is observed by the good opinions that they hold concerning the project. The project did not reach the expectations of the local population of Magha-Bamumbu in terms of the construction of economic, social and environmental infrastructures. It can therefore be affirmed without risk of being mistaken that, the locality of Magha-Bamumbu has been robbed of its GR.

CONCLUSION

Around the exploitation of the *Echinops giganteus* GR, several stakeholders were mobilized. They have each different roles and obligations to fulfill first, for the smooth realization of the project and second for a fair and equitable sharing of the profits derived from the said project. The interaction between these stakeholders was analyzed in terms of the relationship they have and also by the action each and every one carried out around the project. Indeed, the relationship between these stakeholders was peaceful since first of all the companies is not implemented in the locality. The untroubled relationship between them was also due to the fact that at each level of the project that is starting from the research stage to the exploitation stage, the local population was involved. But this was not sufficient since the company V. Mane fils did not returned to the community their part of the profits derived from the roots of the *Echinops giganteus* GR. Thus, according to the field survey and the specification, the part played by the state was to ensure that its natural heritage is exploited under its jurisdictions and that the community properly benefit. As for the local community, it had to make the GR available all together with the associated traditional knowledge. The role of the multinational was to return to the provider specifically the locality of Magha-Bamumbu the benefit derived from the used of its GR and the viable product that came from it. Indeed, *“practice reveals that negotiating partners are often not equally empowered to effectively negotiate, and so benefits are not always equitably shared”*²⁴⁰ among stakeholders. Indeed, having no ties with the study area, and animated by the closing attitude towards the said locality, the multinational company did not carry out any action that could better the condition of living in Magha-Bamumbu. However, the purchase of the roots of this GR provided some income to the inhabitants of Magha-Bamumbu. This therefore led to the analysis of the effects that the project possibly has firstly on the lives of the local population and secondly on the local development of Magha-Bamumbu which will be examined in the next chapter.

²⁴⁰ *Ibid.*

CHAPTER FOUR:
**THE EFFECTS OF THE *ECHINOPS GIGANTEUS* GENETIC RESOURCE
EXPLOITATION PROJECT ON THE DEVELOPMENT OF THE LOCALITY OF
MAGHA-BAMUMBU**

Several reasons have been given around the introduction of this project in Magha-Bamumbu. Apart from the fact that the GR is available in the study area, the project also aimed to assist the locality of Magha-Bamumbu in its local development. Endowed with mountains such as Mount Magha, Mount bamboutos etc, the locality of Magha-Bamumbu have always depends on it environment for it survival and development. This zone served as a touristic site for some people and to other as a targeted area for their business. However, there is a high exploitation of natural resources by the inhabitants of this locality in order to cope with everyday life situation. The exploitation of soil is mainly carried out for agricultural activities, such as for the cultivation of crops for both consumption and commercial purposes. For that, faming (agriculture and animal rearing) is the main activities of the inhabitants of Magha-Bamumbu although some other alternative activities such as bricklayer, carpentry etc exist which enable them to better their standard of living.

In their will to reduce poverty and contribute to the local development of the area, the Cameroon government launched the *Echinops giganteus* GR exploitation project in Magha-Bamumbu. The project aimed to better the lives of this social layer and also to mitigate the rapid degradation of the environment observed in the area cause by intensive agricultural activities and natural resources exploitation. This activity for the time that it was going on still now supports people in the locality and beyond the operating area. It is an activity which consists in digging the ground in depth depending on the maturity of the GR to find the roots. Our ambition in this chapter is to present the economic, social and environmental effects of the project on the lives of the local population and on the local development of the study area.

IV-1- The effects of the *echinops giganteus* exploitation project on the lives of the local population of magha-bamumbu.

Depending only on the income obtained from agricultural exploitation to satisfy their basic needs, the exploitation of the *Echinops giganteus* GR in Magha-Bamumbu in one way or the other reduced this dependency. Compare to agricultural activities, the *Echinops giganteus*

GR exploitation project gives income rapidly to the local population. Indeed, since the introduction of this project in Magha-Bamumbu, the lives of the local population are no more the same. There have been changes in their way of perceiving and interacting with the environment. As such, we are going to examine the effects of this project on the lives of the local population on the economic, social and environmental domain or plan.

IV-1-1- The economic effects of the project on the local population

The exploitation of the *Echinops giganteus* GR has been a very important activity for the local population of Magha-Bamumbu and its surroundings. This is seen through the employment that the activity offers to the population and equally through the income generating nature of the project which has repercussions on the local and family economy.

IV-1-1-1- Provision of employment

What is awaited from the implementation of a project in a nation, region or locality is that it provides employment for the population closed to the project. For that, the part played by the *Echinops giganteus* GR exploitation project cannot be over emphasized on any other view point than the provision of employment to the local population. Though it is very difficult to evaluate or come out with any detailed statistics due to the nature of the activity and the way in which the activity was carried out in the area. The role of the provision or creation of employment is far from being insignificant.

Following the international legislative instruments that recommend the respect of indigenous rights in relation to the conservation and exploitation of their natural resources, and also in relation to the equitable sharing of the benefits resulting from these resources or traditional knowledge associated to the resource, the *Echinops giganteus* GR exploitation project employed a good number of the local population. And it also makes use of the available labor force of the locality of Magha-Bamumbu. A cooperative was set up and it employed only the inhabitants of the community. These people out of dealing with the weighing, drying and packaging of the root equally dig the genetic resource. Compare to other exploitation activities that excludes women and children like the mineral exploitation activities, the *Echinops giganteus* GR project involved and created employment to all age (from 10 and above) in the locality. It involves both children (boys and girls) and women since they participated in the digging, weighing, drying and packaging of the roots. Indeed, one of the objectives of the project was to increase women capacities since they are those who are mostly

in contact with the environment as “*les femmes constituent l’essentiel de la force de production*”²⁴¹. According to Doctor Walter TACHAM,

*Several persons of the locality are now involved in apiculture and producing honey for revenue generation. Others have been employed at different stages of the project and others have got training on development issues on ABS (Access Benefit Sharing project) and this project was the first to be executed in sub Saharan Africa*²⁴².

The project to the local population of magha-bamumbu was a source of employment. Thus we have expressions coming from respondents such as, “*to me it was like a source of employment*”²⁴³, “*it creates employment, it offers job for the people involved*”²⁴⁴, “*it create employment to the local community*”²⁴⁵. “*It provides employment to the local population*”²⁴⁶. The employment provided to them, allow them to increase their living conditions due to the fact that, the project was an income generating activity.

IV-1-1-2- An income generating activity

One of the merits that can be attributed to the *Echinops giganteus* GR exploitation project is the fact that it is an income generating activity which does not need too much strength. This explained the positive opinions that the local population of Magha-Bamumbu hold concerning the project. The activity which consists of digging the plant, removing the roots, washing, weighing, drying, packaging and replanting generated revenue to the local population since at each stage they were paid. They weighed the kilogram of the wet roots at 400 CFA and that of the dry roots was weigh at 2000 CFA. According to the words of an informant pa Jacob TANGONG AKEM, through ERUDEF, the company V. Mane fils sends some revenue which was latter send to the cooperative. This revenue was to be given to those involved in the replanting of the genetic resource so as to help them to grow the plant. When the plant has matured enough (the stage of exploitation) additional labor was needed to exploit it and transport it to the cooperative. Then ocada²⁴⁷ people transported it and from the transportation they equally earned some income and those who had to prepare it here also earn income. Though it was difficult to estimate the amount of income earned by an individual for a

²⁴¹ Tsou, *op.cit*, p.27.

²⁴² Walter TACHAM, *op.cit*, 1st/03/2022.

²⁴³ Vangeline AWAPARD, Inhabitant of magha-bamumbu, interview of 5th/02/2022.

²⁴⁴ Wilfred MOFORTOH, *op.cit*, 4th/02/2022.

²⁴⁵ Arosen JONG, *op.cit*, 10th/02/2022.

²⁴⁶ Linus ACHA, Inhabitant of magha-bamumbu, interview of 30th/01/2022.

²⁴⁷ Ocada here refers to Motorcylce riders.

week or month, some informants reveal that it was possible for somebody to earn 9000 CFA a day if he succeeds in digging a bag of the roots. To say it all, the *Echinops giganteus* GR exploitation project during the time it was going on and through the employment it created gives income to the inhabitant of Magha-Bamumbu. And this has repercussion not only on the family economy but also on the local economy.

IV-1-1-3- Repercussions on the family economy

The exploitation of the *Echinops giganteus* GR has been a very important and profitable activity for households. The households surveyed practice this activity and have confirmed the importance of this activity on the family economy. Family economy describes “*products, goods, and services, mostly produced in the home and where the workforce consists of family members*”²⁴⁸. As such, some individuals used the money from the activity to provide for their basic needs while others invest for the family. According to the president of the cooperative,

*The money that is coming out from this activity have been helping people for a lot and he underline that then we used the money since we are mostly farmers here you can use the money that is from the project and then you do your farm with it and after your farm you construct still from the money*²⁴⁹.

The income obtained help the local population to satisfy their basic needs and invest in agricultural and agro pastoral activities which is the main activity in the area. One of our informants then say that,

*I cannot explained the opportunity that it gave me because at that time, when I go and dig it and sell, I can pay my debts, buy oil to eat in the house. There were many opportunities inside, we even work like workers and they gives you something. We cut, dry and have small money you can buy your seeds for irish*²⁵⁰.

By so doing, during the time the project was going on, the income from this activity helps to increase the condition of living of household in Magha-Bamumbu since they were able to purchase what they were not able to have and equally eat quality meals. This was confirmed by an informant when we asked her of knowing whether the local population standard of living have change with the coming of the project and she underline that “*yes, the standard of living*

²⁴⁸ Family Economy, <https://exhibitions.nysm.nysed.gov/albany/econ/famec.html#:text=family%20Economy-,Gamily%20Economy,the%20pre%2Dindustrial%20community%20economy>, consulted on 4th/08/2022.

²⁴⁹ Landnus TANDUWN, *op.cit*, 30th/01/2022.

²⁵⁰ Odimus TAMOH, *op.cit*, 10th/02/2022.

*change. How can somebody sell the roots for 10000F and stay without eating fish?*²⁵¹ In order words, this activity allows the local population to have money so as to help their families. Apart from using it to satisfy their basic needs (eating, clothing) they equally used it to sponsored their children schools and access to health care.

IV-1-2- The social effects of the *Echinops giganteus* exploitation project on the local population

The exploitation of the *Echinops giganteus* GR lead to the creation of jobs to the local population of Magha-Bamumbu and at it turn gave revenue to them. They used it to satisfy their basic needs but mostly to finance their children school fee which was a difficult problem for them. The revenue equally allows them to have access to health services since they could leave their area and travel to another area for health care. Indeed, social structures such as school and hospital are very important for the forging of every social grouping. It is a very instrumental aspect in the evaluation of economic as well as political spheres of a region or area and back bone to all successes. It is not based on the quantity of these structures but on their quality and the ability to access them. So, this area purchases little infrastructures (few schools and one hospital) but they equally faced difficulties to access them. But the income from the *Echinops giganteus* genetic resource exploitation project in one way or the other gave them an opportunity to mitigate this hindrance.

IV-1-2-1- Educational aspect or accessibility to education

Magha-Bamumbu purchases few educational facilities but children face difficulties to access them and even end up dropping from their education due to the low income of their parents. Indeed, household in the locality mostly depends on the income from the sale of irish potatoes to take care of their family and also send their children to school. For that, Eric MOMANJONG says, “*when we go and sell that thing like that we achieve something that we used and managed before the time of potatoes comes to harvest*”²⁵². Going to the same direction, Ida TANTACHOP says, “*the money was very helpful because I uses it to send my children to school, to buy farm products and do other things since you could harvest it and have money immediately compare to Irish that you have to wait for months before harvesting it*”²⁵³. Thus, the moment that school starts, they are working on the Irish that is exploited during the month of November to December. So many children do not start school early and even

²⁵¹ Vangeline AWAPARD, *op.cit*, 5th/02/2022.

²⁵² Eric MOMANJONG, Inhabitant of the locality of magha-bamumbu, interview of 7th/02/2022.

²⁵³ Ida TANTACHOP, Inhabitant of the locality of magha-bamumbu, interview of 2nd/02/2022.

finish not going to school. The exploitation of the *Echinops giganteus* GR increased student's attendance rate to school and motivated some who dropout from school to go back. The local population during our survey makes us to understand that the exploitation period of the plant GR starts from September still March. September is the period of the extraction of the GR from the ground, followed by the period of drying. During this period, they earned income which makes it possible for them to pay their children school fee without any difficulties. Indeed, we link the revenue obtained from the sale of the *Echinops giganteus* GR roots and the education of children. Concerning the question of knowing the opportunity that the project offers to them, a good number of our informant said in this word:

*“The money gotten from the project enables us to send our children to school. We equally learn from the different seminars that were hold. Now we know how to cultivate that particular plant and keep bee honey which still gives us revenue”*²⁵⁴.

That is to say that, to the population of Magha-Bamumbu, thanks to the project both themselves and their children benefited. Children had the possibility to go to school without being driven for school fees and parents learned new technologies on agriculture (how to cultivate a genetic resource that first of all grow widely in the nature) and other activities that generate money. Indeed, one of our informants underlines that, *“the only improvement was that those who were able to manage their own the little money they had, send their children to school”*²⁵⁵. We can therefore see that the revenue from the *Echinops giganteus* GR exploitation project is greatly used for educational sponsorship.

IV-1-2-2- Amelioration of health status

Health is one of the indicators that show the rate of development of a country. It shows the level of human development of a country and for that development is said to be human when *“it promotes the satisfaction of the vital needs of human beings, in particular through easy access for the majority of the population to a decent standard of living, education and health care”*²⁵⁶. This include both in terms of the hospitals available, the equipment used and the accessibility of individuals to these health facilities. The locality of Magha-Bmumbu has only a singled hospital which takes care of the people of Magha and its surroundings. This

²⁵⁴ Focus Group interview with members of the cooperative and the local population of magha-bamumbu, on 10th/02/2022.

²⁵⁵ Follah NEMBO, *op.cit*, 3th/02/2022.

²⁵⁶ Samuel BENI ELLA ELLA, *Pour un veritable développement de la boucle du Dja : Contribution à l'enracinement de l'éco sociologie*, Presse Universitaire de Yaoundé, 2016, p.30.

hospital equally lacks equipment's for the caring of patients and the little available is not accessible to everybody in the locality due to lack of revenue.

In fact, the income obtained from the exploitation of the *Echinops giganteus* GR, increase the health standard of the local population since they could access the little equipment that the hospital in their locality had and even travelled to other area for health care. During the different seminars that were held, not only issues on the *Echinops giganteus* or *Mondia whitei* GR were discussed issues concerning equally health care were tackled. For that, the local populations were taught how to maintain hygiene and need conditions. Thought the use of traditional therapeutic care did not change, but coupled with the modern therapeutic care, the inhabitants of this area health statute increase compared to how there were before the project.

IV-1-2-3- The role of the cooperative MoBECoS

As a result of the exploitation of the *echinops giganteus* GR, the MoBECoS cooperative was formed. This aimed to ensure that after the community had received their own share of the benefit resulting from this activity, they used it for the benefit of the whole community and not for personal uses. Like we earlier said, the cooperative members were the one managing the project at the local level. A sum of money was given to them each year by the V. Mane fils company through ERuDeF to buy the roots of the *echinops giganteus* GR to the local population. They had to dry these roots and prepared it as the company wanted. But the cooperative did not only deal with issues concerning the exploitation of the *echinops giganteus* GR roots. This includes helping a fellow brother or sister who is in need of money to solve a particular problem, arranging problems among people. Some respondents during our field investigation like Angeline EKENG²⁵⁷ make us to understand that, funds were loaned to some members of the community to carryout their different works especially farm activities. After the harvest of their produces, they had to refund the money back to the cooperative. This was one of the action undertaken by the cooperative members to atleast help their fellow brother and sisters so as to better their lives. However, they did not carry out any action for the amelioration of social infrastructures. This is due to the fact that they were waiting for their own percentage to undertake some basic infrastructural development which they desire such fixing the road, equipe schools and the hospital etc. thus the development of Magha-Bamumbu is still left in the hands of local development actors such as the Wabane Council, Bamumbu Development and Cultural Association (BADECA), businessmen, traditional rulers etc. the MoBECoS

²⁵⁷ Angeline EKENG, Inhabitant of the locality of Magha-Bamumbu, interview of 2nd/02/2022.

cooperative interm of infrastructural development did not carried any action but they participate in improvement the standard of living of some of the countrymen.

IV-1-3- The environmental effects of the exploitation of the *Echinops giganteus* GR on the lives of the local population

Any exploitation activities have repercussion on the lives of those where the activity is carried out on the environmental domain. On the lives of the local population in most cases, it reduces the contact that they have with their environment due to the fact that they are deprived from exploiting it. It then results to the used of rudimentary methods of exploitation which leads to the degradation of the natural milieu. Talking of the effects that the *Echinops giganteus* GR exploitation project had on the lives of the local population on the environmental plan, we refer to the reinforcement of the relationship between the local population of Magha-Bmumbu and their natural environment. Certainly, it did not promote a healthy environment to this population but taught to them ways of environmental conservation.

IV-1-3-1- Environmental conservation methods

Through the project of the exploitation of this GR (the echinops giganteus plant), several methods of environmental conservations were taught to the local population of Magha-Bamumbu. First of all, on the GR itself, they learned how to domesticate the plant and cultivate it in order to increase its sustainability and protect the biodiversity against degradation. Doctor Walter TACHAM a lecturer at the University of Bamenda and employed at the research stage of the project underline that,

Experimental farms were sets up to tidy the different methods of multiplication of the plants for vulgarization in the region and community. Farmers were encouraged to do intercooling of the plant in their farms. Thus from the speeches of the local population, they know how to cultivate the echinops giganteus genetic resource and prevent it from being destroyed²⁵⁸.

Then, on the global conservation of the environment, trees were planted to mitigate soil erosion and modern techniques of agricultural exploitation were taught in order to reduce environmental degradation. They received training on biocultural development plan that is to say, the combination of biological and cultural factors in the cultivation of crops so as to obtain high yield and preserve the natural environment. It is in this sense that ma Victorine NKEMCHOP says, “tree planting that will even help to prevent erosion in the’ rainy season,

²⁵⁸ Walter TACHAM, *op.cit*, 1st/03/2022.

this is part of the project. They are training us how to plant tree besides the water all these types of things to prevent landslide that is disturbing us here it's part of the project"²⁵⁹. Still, before the project was implemented in the study area, ERuDeF has already been working with the population concerning the conservation of the environment. Indeed, one of the notable of Magha-Bamumbu (the right hand of the chief of Bamumbu) underlines to this effect that,

*Since the project brought by ERuDeF, they have already made the populations aware of the degradation of biodiversity and also reforested the edges of the river where they call it water catchments, reforested so that we no longer have the problems of drought for water sources and also sensitize populations for what people did not know*²⁶⁰.

It therefore makes the local population of Magha-Bamumbu to understand that the maintenance of the ecosystem is necessary. They thus have a conception of the importance of the conservation of their natural environment for the present and the future generation and continue to implement these conservation techniques.

IV-2- The effects of the exploitation of the *echinops giganteus* genetic resource on the local development of magha-bamumbu

Local communities and local populations have always been at the center of the protection and conservation of natural resources in general and genetic resources in particular. Aware of the role natural resources played in their lives, they have put in place traditional measures for the protection of their natural environment. These measures include the consideration of some forests as to be sacred making it to be accessible only to initiated people or traditional doctors that use the resources of the forest for treatments. For the protection of the soil they used the rotational bush fallow method which consists of allowing a plot of land for about three to four years without cultivating it for the soil to regain its fertility. This created a link between these local populations and their natural heritage. This link or relationship has allowed them to acquire innumerable endogenous knowledge about their environment. They have highlighted and perpetuated knowledge of these natural resources which have been transmitted from generations to generations in order to use them in a sustainable way on a daily basis. These traditional knowledges of the local population on the natural resources that they

²⁵⁹ Victorine NKEMCHOP, Nurse in the locality of magha-bamumbu and a member of the cooperative, interview of 5th/02/2022.

²⁶⁰ Fabien KETOUM, *op.cit*, 6th/10/2022.

exploit for food, medicines and other uses has enable them to lead a life in harmony with their environment.

But with the involvement of other stakeholders in the exploitation of natural resources, conservation and protection of the environment such as the state, international and national industries, these local communities have been deprived of their natural heritage on which their survival depends. It is thus for them to adapt to a new way of life and a new way of working which always seems difficult to adopt. In fact, the introduction of a new method of earning income and increasing standard of living from the exploitation of GR in the locality of Magha-Bamumbu is at the origin of many changes and mutations. The inhabitants of the locality of Magha-Bamumbu until then lived on income from farming. However, the environment of this locality constitutes a field of issue in which the interests of the stakeholders diverge.

Any development project carried out in a given area aimed at least at contributing to the progress of the zone through the provision of both economic and social infrastructures. The local population expects from the project to give them infrastructures such as school, health centers, portable water, electricity most specially to open up the area by constructing a good road. But this is not always meets due to one reason or the other. In reference to the MAT signed between the V. Mane fils company and the locality of Magha-Bamumbu, the local population expected in the future years to come to see a Magha-Bamumbu having more educational and health facilities, a population make up of mostly well-educated peoples. They equally expected to have a well construct road which facilitates the transportation of their agricultural product to the different markets of kombou and the easy displacement of peoples. Thus talking of the effects of the exploitation of this GR on the local development of Magha-Bamumbu, we refer to what the project brought to the locality as a whole on the economic, social and environmental aspects.

IV-2-1- The economic effects of the exploitation of this GR on the local development of Magha-Bamumbu

Local development refers to the mobilization of different actors making use of both internal and external resource to improve the living condition of the population. It is on this subject that Jean-Pierre OLIVIER DE SARDAN writes,

Le développement en effet fait intervenir de multiples acteurs sociaux, du côté des “groupes cibles” comme du côté des institutions de développement. Leurs statuts professionnels, leurs normes d’action, leurs compétences,

*leurs ressources cognitives et symboliques, leurs stratégies différentes considérablement*²⁶¹.

Thus, whether it is local or rural development, it brings into direct or indirect contact several actors who develop around a development project strategy that are both personal and professional, the purpose of which is to contribute to the wellbeing of each other.

But local development supposes the mobilization of actors mostly at the local level to take actions that will help in developing their area while seeking also external support. It is as underline by Jean Marc ELA, cited by Jeannette LEUMAKO, “*le développement local est alors un moyen de restituer le pouvoir à la base, et d’accorder une chance à celle-ci de donner le sens qu’elle veut à son propre destin, de “se prendre en main”*”²⁶². However, local development involves a number of political, socio-cultural, economic and ecological issues. Its economic stake as Jeannette LEUMAKO point out, “*le développement local implique pour ainsi dire, dans sa dimension économique, la capacité pour les populations à la base, de se prendre en main, en misant sur leurs ressources locales (humaine, naturelles, matérielles et même financières) propres*”²⁶³. But how can this be possible when their natural resources are being exploited without any compensation, their workforce constantly migrate to other places in search of better standard of living? Indeed, the exploitation of the *Echinops giganteus* GR by the V. Mane fils firm in Magha-Bamumbu provided jobs to the local population. Through these jobs, they earned income which enables them to increase their living conditions. It thus changes their standard of living but on the local development of the area, the changes were insignificant. To say it all, the economic stake of local development has not been achieved. We are going to examine these economic effects on the local development of this said locality on employment and agricultural activities.

IV-2-1-1- Employment sector

The employment created by this activity has repercussion on the lives of the local population of Magha-Bamumbu but did not contribute to the local development of the area. It created temporal jobs and the income obtained from it were used for the satisfaction of immediate consumption needs. During the period where the activities of the exploitation of the GR was carried out, money enter in the locality but this was only for a short period of time. For

²⁶¹ Jean-pierre OLIVIER DE SARDAN, *Anthropologie et développement, essai en socio-anthropologie du changement social*, Paris, Karthala, 1995, p.11.

²⁶² Jean Marc ELA, *Afrique l’irruption des pauvres, Société contre Ingérence, Pouvoir et Argent*, Paris, L’Harmattan, cited by Jeanette LEUMAKO, 2016, *op.cit*, p.52.

²⁶³ *Ibid*, p.73.

that, the money could not be used to carry out huge investment that could contribute for both individual and collective wellbeing. This is while the local population mostly used their revenue for the education of their children and carried out other minor activities such as paying their debts, playing their njangu. Based on our question to know if the project contributed to the development of the area, pa Elaja KETUM one of our key respondents said in these words,

It didn't contribute anything, we had 25% that we had to recover, we did not recover anything, there is nothing we built here to say that we benefited, it did not contribute anything. They said they had to do it but they did not do anything, since really when these people came we were expecting the 25%. We even asked them to take the children to school, but they did not. We asked them to come and do something here in Magha that people will see and be proud, they did not do, and it did not contribute anything in the locality²⁶⁴.

From the words of this respondent, the project did not contribute to the global wellbeing of the area since nothing was achieved. The financial benefits that the provider of the GR is supposed to get from the genetic material were not received by the local community. In fact, most of our respondents make us to understand that the project had an insignificant effect on their local development as the 25% benefits and other non-monetary benefits were not received. It is also in this direction that Desmond TANTACHOP underlined that, “*it did not change anything since nothing was constructed*”²⁶⁵. Indeed, the population of Magha-Bamumbu was waiting this financial benefit to carry out developmental activities in their area so that at least even those that do not take part in the project would benefit. This could enable them to widen their market and equally consumed a variety of crops for a better balance diet. Also, carry out huge economic investments that will continue to generate income in the area. That's what make this respondent to say, “*nothing change in my life because any project that have pay well, I say that was going on well then maybe after the project have passed, you see that people have money. I say they gain from the project but at the end nobody benefited anything*”²⁶⁶. According to informant's responses and also to our observations, the only improvement and construction that was carried out in the study area is the cooperative hall that was built. This is how ma Jeanette NAGAIN says, “*there is nothing, it is only that house they build down there*”²⁶⁷. The house refers to the cooperative building which after the project has

²⁶⁴ Elaja KETUM, *op.cit*, 3th/02/2022.

²⁶⁵ Desmond TANTACHOP, *op.cit*, 8th/10/2022.

²⁶⁶ *Ibid*.

²⁶⁷ Jeannette NAGAIN, Inhabitant of magha-bamumbu, interview of 8th/10/2022.

come to an end is abandoned at the mercy of the goats. To say it all, the locality and its inhabitants did not benefit from the exploitation of the *Echinops giganteus* GR in terms of local development since even the income paid for the weighing of the wet roots was very cheap compared to the work that the exploitation required. Apart from the low income they received this project equally affected their agricultural activities.

IV-2-1-2- Repercussions on agricultural activities

In rural areas in Cameroon in general and in particular the locality of Magha-Bamumbu, agriculture is the main activity of households. Thus, as Nigel D POOLE makes us to understand, “*rural production systems such as agriculture are held to be important because the majority of rural households are still engaged, to a greater or lesser degree, in primary production*”²⁶⁸. As such, it is from this agricultural activity that the local populations of the study area are able to send their children to school, to care for the needs of their families and to satisfy their basic needs by purchasing things such as clothes, food items, health care etc. Indeed, agricultural exploitation has long been perceived as a stake on which local development must be based. This is because as expressed by Robert S MCNAMARA,

*Aujourd’hui, l’agriculture est absolument essentielle à la croissance et au développement de l’Afrique subsaharienne, et elle le restera dans l’avenir prévisible. Elle fournit 34 pourcent du PIB, 40 pourcent des exportations et 70 pourcent de l’emploi. C’est de loin le plus gros secteur économique de presque toutes les économies d’Afrique, et c’est d’elle que dépendent la vaste majorité des africains pour leur subsistance et leur bien-être*²⁶⁹.

This is one of the sectors of activity that if well implemented, will contribute to both national and local development and reduce poverty. It is in this sense that H. Hengsdijk and al underline that,

*Agricultural development provides an effective means for both reducing poverty and accelerating economic growth. This is achieved not only by increasing incomes for producers and farm workers but also by creating demand for non-tradable goods namely services and local products*²⁷⁰.

²⁶⁸ Nigel D POOLE, “Perennialism and poverty reduction”, In *Development policy review*, Vol.22(1), 2004, p.52.

²⁶⁹ Robert S MCNAMARA, *La crise du développement de l’Afrique, Stagnation agricole, explosion démographique et dégradation de l’environnement*, Washington, Coalition Mondiale pour l’Afrique, 1991, p.8.

²⁷⁰ H. HENGSDIJK and al, “An analytical framework for linking biodiversity to poverty”, In *Plant research international* B.V, Wageningen, 2005, p.33.

But its development is often threatened by activities such as logging and mining. It is on this subject that Iyabo OLOJEDE and AL make it clear to us when he says, “oil pollution is known to cause skin irritation small and chicken pox, extinction of acquifers, it destroys farmland and farming; it kills fish tribes and fishing as a major occupation of the riverine people”²⁷¹. As for the effect of forest exploitation on agricultural activities, it reduces the portion of lands which were once used for agricultural production. These lands are now used for the planting of trees that will be exploited as timber. Indeed, the *Echinops giganteus* GR exploitation project which consists of digging a plant genetic resource and make used of it root involved several stakeholders among which we have a multinational company (the V. Mane fils company) is not spared from such practice.

As we earlier said, the V. Mane fils company used the roots of the *Echinops giganteus* plant for the manufacturing of perfume. However, the company was and/or is not established in the locality but a cooperative hall was constructed for the running of the activity at the local level. For that, just like any other exploitation project carried out in an area by companies, the exploitation of the *Echinops giganteus* GR had repercussions on agricultural activities in this locality. For the sustainability of the plant, portions of lands were used to cultivate the GR. These portions of lands were previously used to carry out agricultural activities such as the cultivation of crops for both consumption and commercial purposes. Indeed, one of our key respondents and a member of the cooperative pa Follah NEMBO says, “nothing is done to ensure the sustainability of the plant because of the scarcity of farming lands, farmers turn now to destroy the plant and plant their crops since the project is not more functional”²⁷². From the words of this respondent, farmers in order to ensure a rational exploitation of the *Echinops giganteus* GR, used part of their agricultural lands to plant the resource. But with the end of the project, the lands were reused for agricultural activities but the genetic resource is not destroyed but is left in between crops as picture four (03) above shows. Also, the drying of the roots was done from February to march. In Magha-Bamumbu during this period, farmers are planting their Irish potatoes which will be harvest during the month of June while those who were planted during the month of September are being harvested. For that, inhabitants that were members of the cooperative did not fully carry out their agricultural activities since they did not harvest and/or plant their crops on time. This is what ma Jeannette NAGAIN makes us

²⁷¹ Iyabo OLOJEDE and AL, 2000, *op.cit*, p.61.

²⁷² Follah NEMBO, *op.cit*.

understand when she says, “*I cultivated but it was not harvested, so it spoiled*”²⁷³. It is also in this logic that ma Mariana TANYI affirms, “*the quantity of farm product reduced because the day you have to go to the farm, you instead go for the roots and you will not more do what you was supposed to work in the farm*”²⁷⁴. Therefore, to affirm it without risk of being mistaken though we did not have concrete data on it, during the period the exploitation of the *Echinops giganteus* GR was going on, the lands available for agricultural activities reduced, leading to a reduction in farm products. Indeed, the project failed to uplift the economic wellbeing of the locality of Magha-Bamumbu and this has repercussion on the social life in the study area.

IV-2-2- The effect of the *Echinops giganteus* genetic resource exploitation project on the local development of Magha-Bamumbu on the social domain

One of the stakes of local development is, as expressed by Jeannette LEUMAKO “*se donne pour ambition de répondre effectivement aux attentes du monde rural afin d’y améliorer les conditions de vie et de sortir ses populations de la pauvreté*”²⁷⁵. Thus, all development projects and/or investments undertaken in a rural area aims to participate or contribute to the overall well-being of the population in such areas. It has to be achieved through the construction of social infrastructures such as school, portable water, health centre etc. Indeed, the project carried out in Magha-Bamumbu on the local development of the area on the social aspect had no effects. And this will be developed on the lack of provision of social infrastructures and the constant migration of the inhabitants of Magha-Bamumbu in search of a better livelihood.

IV-2-2-1- Lack of provision of social infrastructures

The infrastructures we are talking about here refer to schools, health centres, portable water, electricity, road infrastructure etc. As we earlier said, Magha-Bamumbu have one government secondary school, three primary schools among which two are government primary schools while one is the school of the Cameroon Baptist church. The locality is also electrified and there is a number of forage built though among all the forages we observed on the field, only one is functional. There is a health centre and one market place where the local population sell their different items and also go for entertainment each night. The only church in the study area where Christians goes every Sundays is the Baptist church. But all these infrastructures are the hand work of the Cameroon government. For that, ma Janetor though she did not dig the

²⁷³ Jeannette NAGAIN, *op.cit.*

²⁷⁴ Mariana TANYI, *op.cit.*

²⁷⁵ Jeannette LEUMAKO, *op.cit.*, p.71.

GR because of reasons mentioned above says in these words when we asked to her the question of knowing if the advent of the project brought changes in Magha-Bamumbu, “*it is only that cooperative that the build for that *Echinops giganteus*, but this area really developed in 2003 when that landslide occurs, That is when magha had electricity*”²⁷⁶. Indeed, the V. Mane fils company as the user of the *Echinops giganteus* GR did nothing to contribute to the social local development of Magha-Bamumbu. First of all, by not returning to the community both the monetary and the non-monetary benefits as agreed still maintain the area in poverty. As Arun AGRAWAL expressed, “*poverty is not simply about having a low income, it is multidimensional deprivation-hunger, undernutrition, dirty drinking water, illiteracy, having no access to health services, social isolation, and exploitation*”²⁷⁷. Going to the same direction, the USID says,

*Poverty involves more than money and income. It is a complicated and multifaceted deprivation that affects individuals’ different capabilities and their overall well-being. Access to land, education, health justice, family and community support, credit, and other productive resources, and a voice in institutions, are all important in developing sustainable livelihood*²⁷⁸.

Indeed, the local population of Magha-Bamumbu still face difficulties in transporting their things and displacing themselves due to the poor state of the road, difficulties in accessing portable water etc. They have turn back relaying on the exploitation of agricultural product to cope with everyday life situation. Their houses are built with temporal materials and they still used toilets build with sticks. To say it all, the way of living in the study area did not changed despite the implementation of such a large development project. The migration of people that was observed in Magha-Bamumbu before the project did not stop nor reduced. The youth still migrate in neighbouring areas either to search for better education or livelihood and sometime end up forming their families there and only returned in the villages in times of events such as marriage, death celebrations, traditional celebrations etc. as for the road, nothing have been done to arrange it in order to ease the transportation of things and the displacement of people. The road as the image below shows during the dry season is very dusty while in the rainy season it is as the picture shows. It therefore shows that the exploitation of the *Echinops*

²⁷⁶ Janetor, *op.cit.*

²⁷⁷ Arun AGRAWAL and Kent REDFORD, “Poverty, development, and biodiversity conservation, shooting in the dark?” In *Wildlife conservation society*, Working paper No. 26, 2006, p.7.

²⁷⁸ USAID report, *op.cit.*, p.5.

giganteus genetic resource did not contribute to the local development of the study area. It equally revealed that, the V. Mane company exploited this important genetic resource without no compensation to the area having it. Indeed, no infrastructural development was undertaken in the study area whether in the domain of schools, hospital, road etc.

Figure 4: illustration of the state of the road of Magha-Bamumbu



Source: Lydienne Flore NDAMA, field investigation of 2022

This image present the state of the road of Magha-Bamumbu. During the rainy season, this is how the road of Magha-Bamumbu looks like while in the dry season it is very dusty making Transportation cost to increases and displacement of people difficult. Farmers during this period stock their farm products in the house and also allowed other in the farm and release them in the dry season when transportation cost has reduced.

IV-2-2-2- The constant migration of the inhabitants of Magha-Bamumbu in search of a better livelihood.

Population has always been seen as a major source of development in that, it is a source of labour and also an important market. Thus, as Jacques POKAM point out, “*tous les projets de développement accordant une place importante à la population, en portant l’attention sur sa taille. Ainsi, une faiblesse démographique est un frein au développement*”²⁷⁹. From his words, a weak population do not favour development but it is not only the amount of the population that determined the level of development but also the state of health of the population. However,

²⁷⁹ Jacques POKAM WADJO KEMAJOU, *op.cit.*, p.19.

rural exodus deprived the rural areas of its able and strong work force while leaving the areas with children below productive age and old people. It is another obstacle to development because as Jeannette LEUMAKO expresses, “*l'exode rural qui résulte à la désertion des villages et à une population vieillissante a pour conséquence, un réel état de stagnation, du fait que les forces vives n'y sont plus*”²⁸⁰. Therefore, to say, Magha-Bamumbu has always witnessed even before the crisis, the displacement of its population to the neighbouring town of Bamenda, Mbouda etc for better educational quality, health purposes, better livelihood etc. The only ones that remain in the village to carry out agricultural activities and later on the exploitation of the *Echinops giganteus* GR were the olds and children.

Indeed, during our investigation on the study area, most of the youth we approached did not know about the *Echinops giganteus* GR exploitation project. The answers they gave to us when we asked them why they did not dig the GR, they say that they were out of the village by that time for school purposes and that it is the crisis that makes them to come back in the village. It is visible in the speech of Odette NAGAI as she expresses, “*I was not in the village because I was out for school and only came back in 2017*”²⁸¹. This constant displacement of youth out of the village does not only reduce the work force but equally affect their way of living and behaving. In fact, during our interview with Janitor, she makes us to understand that when those youths come back in the village, instead of the Irish potatoes (in all forms) that they first have for breakfast, they now want but tea, egg, bread etc. The lack of these items makes them to now stay in the village only for a short period of time. To say it all, the exploitation of the *Echinops giganteus* GR did not stop nor reduce the migration of the population out of Magha-Bamumbu since no new social infrastructures were constructed nor the old ones renovated or refurbished. As such, on the social local development of Magha-Bamumbu, the exploitation of the *Echinops giganteus* GR had no effects and this goes for the same on the environmental aspect.

IV-2-3- The environmental effects of the exploitation of this GR on the local development of Magha-Bamumbu

Local development which puts the population at the center of its development also places these populations at the center of the conservation of its natural resource in general and in particular genetic resources, in short, of its natural environment. Indeed, talking of

²⁸⁰ Jeannette LEUMAKO, *op.cit.*, p.322.

²⁸¹ Odette NAGAI, Inhabitant of magha-bamumbu, interview of 4th/10/2022.

development, it refers to as Pauline lydienne ebehedi king point out, “*c’est faire allusion à un cadre environnemental meilleur, à une création d’un mieux-être dans un environnement multidimensionnel donné*”²⁸². Thus, it has to provide means which allows individuals to meet their basic human needs without damaging the environment. However, individuals have always being put at the centre of the protection and conservation of natural resources and have developed means for it protection because, their livelihood depend on. So, their involvement is to ensure that the benefit from the conservation of their natural resource and recognized the benefit of doing so. It is in this sense that Jeannette LEUMAKO says,

*Ainsi, engager la responsabilité des paysans permet une meilleure protection des ressources naturelles, du fait d’une exploitation mesurée de celle-ci, qui tienne compte de la nécessité de les pérenniser pour le bien-être à long terme du territoire, est nécessaire*²⁸³.

The *Echinops giganteus* GR exploitation project which is an important economic activity recognized as such both in the locality of Magha-Bamumbu and by the Cameroon government involved the local population in the sustainability of this resource. Indeed, it is an activity which consists in digging the ground in depth depending on the maturity of the GR to find the roots. But the aimed of avoiding the loss of the GR so as to conserve the environment was not achieved. Thus, this part presents the different effects of the project on the natural environment of the study area.

IV-2-3-1- Lost of the genetic resource.

A finger has always been pointed at the population as being responsible for the depletion of natural resources and the degradation of the environment. Indeed, increase in population growth, increased pressure on the consumption of natural resources. It is in this sense that Robert S Mcnamara says,

La pression démographique, jointe aux pratiques agricole traditionnelles provoque à un rythme alarmant une dégradation de l’environnement (désertification, déboisement, érosion du sol, destruction du couvert végétal, et perte de diversité biologique). Le grand problème n’est pas la pollution

²⁸² Pauline LYDIENNE EBEHEDI KING, “Langue, vecteur de développement », In KALIAO (dir), *Langue, savoir et développement local*, In Revue pluridisciplinaire de l’école normale supérieure de Maroua, Volume 9, Numero 18, 2011, p.46.

²⁸³ Jeannette LEUMAKO, *op.cit.*, p.74.

*industrielle, mais plutôt l'épuisement des ressources naturelles de l'Afrique, qui menace gravement les générations actuelles et à venir*²⁸⁴.

For this author, if Africa natural resources are depleting and environment, degrading, it is simply the fault of the population and their rudimentary agricultural techniques. But the population pressure is only one factor among other factor that causes environmental degradation and reduction of natural resources. There are also both modern agricultural techniques, without neglecting natural disasters. As such, for Jacques POKOAM WADJO KEMAJOU, the environmental degradation observed in the Mounjo is at the same time due to population pressure and agricultural modern techniques. He writes on this subject that,

*La démographie ne peut, à elle seule, être tenue pour responsable de la dégradation de l'environnement. Les modèles sociaux, techniques et économiques interviennent également et en interaction sur l'exploitation de ces ressources naturelles que sont les terres, les eaux et les forêts*²⁸⁵.

Thus, both the method of production and overpopulation interact in the depletion of natural resources and environmental degradation. The *Echinops giganteus* GR is not spared from that. Both the local population of Magha-Bamumbu and the modern techniques used for the reforestation of the GR are at the origin of the reduction of this resource.

However, the *Echinops giganteus* GR is a natural plant which grows widely in the environment of Magha-Bamumbu. Before the project, it was present in higher quantity in the locality since the local population only exploits it in a small quantity for the treatment of some illness and as condiments for some meals. Thus in every corner in the environment, the GR was present. With the coming of the project, the quantity of the GR reduced even though the firm in order to prevent the GR from disappearing gave seeds to the local population and taught them how to plant it. Indeed, some of our respondents made us to understand that, the experimental farms that were set up did not do well due to lack of support from the firm that is financial support and other equipment to take care of the GR. It is how this respondent says, “*they give us seeds that we should go and nursed it, but they gave it and did not tell us how to do it, so we did it and it did not do well*”²⁸⁶. The modern seeds that were given to the local population of Magha-Bamumbu did not permit the GR to germinate since the only way for the resource to grow was by natural means.

²⁸⁴ Robert S MCNAMARA, *op.cit.*, p.4.

²⁸⁵ Jacques POKAM WADJO KEMAJOU, *op.cit.*, p.3.

²⁸⁶ Desmond TANTACHOP, *op.cit.*

Another reason why the reforestation of the GR was not achieved was because of the application of chemical on it. Indeed, the GR did not require any chemical and is one that has to grow naturally. For that, the chemicals used on it resulted in the destruction of the plant by pest and the GR material loosen its natural flavor. Pa Martin NKEMCHOP AKEM underlines that,

They did an experimental garden and develop. They did not do well because, it shows that we did not have to use chemicals because it will deform the flavor of the plant. And when we transplant, it did not grow and we realized that the best method was that when you dig you close again that hole since you cannot remove all the roots then it germinate back or when you dig you cut the head and throw in the hole²⁸⁷.

The method of closing back the hole for the plant to regenerate takes a lot of time for the GR to grow mature. Pa Denis MOMANJONG equally says,

We were expecting that, if one is being harvest, more should be planted and less should be harvested to withstand any. The planting was done but not achieve because of the pest problem. People had to plant and the pest will destroy so they were not able to supply chemicals that will stop the pest destroying the genetic resource²⁸⁸.

This therefore reduced the quantity of the GR in the environment and in order to meet the quantity demanded by V. Mane fils, the locality had to dig all the possible areas where the genetic resource can be found thus causing the loss of the resource and the continue loss of the biodiversity already observed in the locality. Pa Fabien KETOUM affirms that, *“that plant when you arrived in the village you found its everywhere but now it is difficult to see it again”²⁸⁹*. For somebody to have it now, he/she has to work for a long distance before having and in small quantity. One of our respondent said in this words, *“if they want it now and want to buy it at higher price then he will have it, but if it is at a cheap price, nobody will go for it because if you go to the bush now, you cannot see it since it finish where they were digging”²⁹⁰*. This simply shows that; the local population are willing to go far distance to dig the remaining genetic resource if they have to earn higher income. Thus, making biodiversity conservation in order to achieve a sustainable development difficult to be accomplished, unless alternative jobs

²⁸⁷ Martin NKEMCHOP AKEM, *op.cit.*

²⁸⁸ Denis MOMANJONG, Inhabitant of magha-bamumbu and a member of the cooperative, interview of 10th/02/2022.

²⁸⁹ Fabien KETOUM, *op.cit.*

²⁹⁰ Desmond TANTACHOP, *op.cit.*

which reduced the dependency of the population on that resource are introduced. To say it all, the exploitation of the genetic resource intensifies the loss of biodiversity of Magha-Bamumbu due to the reduction of the *Echinops giganteus* GR and other plants.

IV-2-3-1- Cause landslides

Magha-Bamumbu has always being described as a cave because it is surrounded by mountains. Apart from being surrounded by mountains, it is also covered with high hillside or slopes. It is on these slopes that they carried out their agricultural activities and the exploitation of the natural resources. This therefore causes landslide like the one that occur in 2003, which apart from causing a lot of human death equally lead to the degradation of the environment. The area still faces landslide like the one we observed during our field investigation as shown on the picture below. Lucky that, it did not caused human death but it destroys the road making transportation more difficult and very expensive.

Indeed, the *Echinops giganteus* GR is mostly found on top hills and the way it is being removed from the ground causes landslide. The activity consists of digging holes before extracting the genetic material (roots). The roots of the GR over go down in the soil and making the local population to dig big holes to be able to remove the roots. The big holes dug at a certain moment, can lead to the occurrence of landslide. Indeed, “*when they harvest it poorly from the mountains, erosion takes place and because of harvesting they destroyed other grasses around the plant*”²⁹¹. From the words of this respondent, this activity has a negative effect on the environment in that apart from causing landslide with causes the death and the destruction of housing of the local population, it equally destroyed some plants that served as medicine and food for the local population. Thus, the exploitation of the *Echinops giganteus* GR thought they try to mitigate it has a negative effect on the natural environment of Magha-Bamumbu. It did not reduce or stops the constant landslide observed in the study area especially during the rainy season nor have it prevent the reduction of that genetic resource. For that, the conservation of the biodiversity that ERuDeF have being working on in the study area has not be attained.

IV-3- Expectations of the locality towards the v. mane fils company

The expectations of individual in relation to the exploitation and conservation of their natural resources has not always being met. Whether in the exploitation of the forest, oil, land, etc the project having come to it end, do not uplift the conditions of living of the population

²⁹¹ Follah NEMBO, *op.cit.*

concerned with such projects. They still face difficulties in satisfying their basic needs, such as having a balance diet, go for health care etc. Indeed, this is also observed with the exploitation of the *Echinops giganteus* GR in Magha-Bamumbu. The project having come to its end, did not follow with an amelioration in the condition of living in the locality of Magha-Bamumbu. The activities that the company has to do in favour of the study area were and/or are not carried out. But the local population still hope that the company will at least undertake one or two things that the population asked of him. Talking of expectation here, we refer to what the local population of Magha-Bamumbu as the provider of the GR is waiting from the company V. Mane fils, as the user of the resources.

On the question to know the expectation of the population from the V. Mane fils company, different answers raise up from the cooperative members and non-cooperative members but all aimed at the well-being of the whole community. Though the project ended without any infrastructural change in the study area, both from the cooperative and non-cooperative member, they expect that the project should start back. But the cooperative members wish the restart of the project so that the company will fulfilled its commitments as they discussed during the signing of the MAT. This is observed in the words of this cooperative member when he says, *“if it starts again that is where I will be a bit proud, I can't wait for the 25% without waiting for the project, we are all waiting because if the project starts again that is where we are going to get the 25%, we are waiting the project night and day”*²⁹². While the non-cooperative members that is to say those that exploited the GR but were not in the cooperative recommend the restart of the project so that they will earned income that we help them in everyday life situation. This is because they will be able to manage the revenue from the sales of the GR roots before waiting for the harvesting of their farm products. Another expectation from the company by the whole community is that, the company should help in the development of the road. As such, they expressed in these words, *“what we expect from the company is that if possible they should help us in constructing this road that will help us a lot”*²⁹³. As we earlier said, the bad state of the road in the study area is a hindrance to agricultural development. Agriculture is an important activity since it is a source of food for both rural and urban people. Indeed, *“urban dwellers depend on agriculture for food and textiles and a healthy agricultural sector generate employment in other sections as rural*

²⁹² Elaja KETOUM, *op.cit.*

²⁹³ Extract from the group interview with the members and non-members of the cooperative.

incomes rise and create demand for additional goods and services”²⁹⁴. Magha-Bamumbu is blessed with good fertile soil suitable for the production of a variety of crops. But what they mostly cultivate there is Irish potatoes because it does not easily get spoiled and when the price of the product reduces, the local population allowed it in the farm and only harvest it as seed to sell at higher prices. In fact, what the locality is waiting from the company is that he should carry out all what they agreed before the exploitation of the GR started.

CONCLUSION

In this chapter, we try to analyze the effects of the *Echinops giganteus* GR exploitation project on the lives of the inhabitants of Magha-Bamumbu and on their local development. Indeed, on the lives of the local population of Magha-Bamumbu, this was analyzed on the economic aspect through the provision of employment, and as an income generating activity. On the social aspect, the project allows children of the study area to go to school, while on the environmental aspect, they were trained on how to domesticate the *Echinops giganteus* GR. Thought the selling of the GR roots gave them some income, the changes on their life’s were insignificant. This is due to the fact that, they use the income to carry out only minor things like paying children school fees, paying debts, investing in their farms but the income did not make it possible for them to carry out huge investment which could have being beneficial to them even with the end of the project. Just like the effects of the project on the lives of the local population, the effects on local development were also analyzed on the economic, social and environmental aspect. Indeed, the project did not permit the development of Magha-Bamumbu at the local level since no infrastructure was built nor the one present renovated. The study area still sees it population reducing due to lack of good educational infrastructures. But the local population still expects and hopes that the multinational company will come and fulfill it part of the deal.

²⁹⁴ Francisco J PICHON and Jorge E UQUILLAS, “Agricultural intensification and poverty reduction in Latin America’s risk-prone areas, opportunities and challenges, In *The journal of development areas*, Vol. 31, n°4, summer 1997, pp 479-514, <https://www.Jstor.org/stable/4192714> Consulted on 26/10/2022.

CONCLUSION OF THE PART

The goal of this was to question the contribution of the exploitation of the *Echinops giganteus* genetic resource on the local development of Magha-Bamumbu, by emphasizing on the interaction between stakeholders around the project and on the effects of the exploitation of this resource firstly on the lives of the local population and secondly on the local development of the area. Regarding the interaction between stakeholders, from the data we collected, the stakeholders around the *Echinops giganteus* project maintain a good relationship. The imbalance is observed at the level of the fulfilment of their obligations especially on the part of the V. Mane fils company. The non-fulfillment of its obligation is explained by the fact that having no ties with the area and not established in magha-bamumbu, any development activity carried out will not be beneficial to them. Another reason raises up by respondents for the non-implementation of its role is that of the Anglophone crisis. The locality has been deprived of its GR with little or no compensation. That's what makes Madam Dingom says, *we would have liked the community to benefit 100% but that wasn't always possible*²⁹⁵. This shows the failure of the state to set up policies that allows the exploitation of its natural resources to contribute to the development of its citizens. Because foreign exploiters are the ones who always benefit the most compare to communities. Like all policies adopted around logging, mining, agriculture, the policy around the exploitation of the *Echinops giganteus* GR failed to contribute to the sustainable local development of Magha-Bamumbu.

As regards the effects of the exploitation of this resource on local development, this has been highlight at two levels. First of all, on the life of this population the effects are felt at the economic level (source of income), social level (pay for education and health services without stress) and environmental level (awareness of the importance of conserving its natural environment). As for the effects on local development, it was also based on the economic, social and environment level. At the economic level, the project provides temporal jobs, at the social level, it fails to achieve infrastructural development while the quantity of the genetic resource reduced. Indeed as Patrice BIGOMBE LOGO points out,

Elle est loin de contribuer de manière significative à l'amélioration des conditions générales de vie des population villageoises par la réalisation des œuvres économiques et sociales (adductions d'eau, électrification, construction et entretien routes, des ponts, des ouvrages d'art ou des

²⁹⁵ Aurélie DINGOM TAYLOR PATIENCE, *op.cit.* 19th/01/2023

équipements à caractère sportif, construction, entretien ou équipement des établissements scolaires et des formations sanitaires, acquisition de médicaments, financement des micro-projets générateurs de revenus, etc) et à la gestion durable des écosystèmes forestiers²⁹⁶.

To say it all, just as forest, mining etc exploitation, the exploitation of the *Echinops giganteus* GR did not contribute to the amelioration of the general condition of living in Magha-Bamumbu in short, to its local sustainable development.

²⁹⁶ Patrice BIGOMBE LOGO, *op.cit.*, p312

GENERAL CONCLUSION

Arrived at the end of this reflection, the research on the sociological analysis of the effects of the exploitation of the *Echinops giganteus* GR on the local development of the locality of Magha-Bamumbu started from some observations. Genetic resources in general and in particular plant GR have always being of important for human wellbeing specifically rural dwellers. They are a source of food, income for rural dwellers and raw materials for industries. These industries have always exploited these GR without any compensation for those owing the resource. Indeed, the CBD convention held based on biodiversity conservation aimed to ensure that, local community GR resources should not more be exploitation without any royalties because, without the TK that these people hold on the GR, any possible use of the GR for industrial purposes is impossible. African nations in general and Cameroon in particular adhesion and ratification of this convention was due to the fact that they have a rich biological diversity and wanted to ensure that their local communities benefits from its exploitation.

As such, Cameroon adopted laws and created institutions in charge of a rational exploitation of natural resources and biodiversity conservation but little attention was accorded to GR. This is shown by the limited consideration given to this issue in domestic laws and policy. It makes GR more attractive for industries which then operate with less oversight and greater discretion. Indeed, “in Cameroon, only forest-based natural resources are regulated”²⁹⁷. This is why with the *Echinops giganteus* GR exploitation project, Cameroon not having ratified the Nagoya protocol nor adopted a legal framework for ABS agreements, gets support from the Deutsche Gesellschaft fur international zusammenarbeit (GIZ) GMBH and developed a national ABS strategy to carry out this project. Thus, the national ABS legislation makes is possible for the signing of a MAT between the company V. Mane fils, state of Cameroon and the community of Magha-Bamumbu for a fair and equitable exploitation of the *Echinops giganteus* GR.

It was therefore a question in this work, on the one hand to know the effects of the exploitation of the *Echinops giganteus* GR on the local development of Magha-Bamumbu and on the other hand, to grasp the different opinions that each stakeholders associate or attached to this project. This objective was built around a main research question whose interrogation is as follows: What socio-economic and environmental effects did the exploitation of the *Echinops*

²⁹⁷ Robert LEWIS-LETTINGTON, *op.cit.*, p85

giganteus GR had on the local development of the locality of Magha-Bamumbu? This led to the formulation of a main hypothesis in relation to the question, the examination of which was declined in the light of the subsidiaries. First of all, the main hypothesis was articulated in these terms: The measures taken around the *Echinops giganteus* genetic resource exploitation project in Magha-Bamumbu led to a peaceful interaction between stakeholders while producing effects on the local development that is read at several levels in the locality.

This main question gave rise to three corollary secondary questions and these questions in turn produced three hypotheses. The verification and interpretation of these hypotheses was done through the qualitative approach. The choice of this approach does not disqualify other approaches which are sufficiently credible in the treatment of several other themes, in the case of the quantitative approach or the combination of the quantitative and the qualitative approach. The use of the qualitative approach in this research finds its relevance because it looks at the question of the apprehension of the different representations that the stakeholders assign to the project of the exploitation of this GR. Thus, the verification of the hypotheses was effective with the support of the data collection techniques and the theoretical frameworks implemented. The information collected was interpreted from a theoretical perspective such as stakeholder theory and social representation theory. The stakeholder theory makes it possible to identify the responsibilities of each actor for an equitable sharing of the benefits arising from the exploitation of the *Echinops giganteus* GR. As for the theory of social representation of Denis JODELET and Jean-Claude ABRIC, it makes it possible to show the manifestations of various opinions with regard to this project by various actors involved.

In terms of data collection, our method was operationalized in particular with documentary research, semi-structured individual interviews, focus groups and observations. The documentary research allowed us to identify the writings around our subject in order to clearly define our object of research. The semi-directive interviews make it possible to collect information about the opinions, representations and beliefs in relation to the project of the exploitation of the *Echinops giganteus* GR from various stakeholders. Direct observation has made it possible to observe and attest that the environment of Magha-Bamumbu has not been modified in terms of the construction of socio-economic infrastructures and the conservation of biodiversity. It also made it possible to verify that the information collected during the interviews corroborated that observed. The focus groups discussion allowed to have more in-depth opinions with regard to this project.

First, it emerges from the different data collection techniques used in this research that, the measures adopted by the government in order to firstly involved the inhabitants of Magha-Bamumbu in the project and secondly associate them in the benefits arising from the project had some limits. It did not favour everybody in that, some people who were willing to also benefit from the selling of the roots of the GR were hindered by such measures. It creates a kind of discrimination in the sense that, except those having brothers, sisters, husbands or friends in the cooperative had the possibility of having their roots measured. Those with no relatives in the cooperative saw their roots stolen and not measured due to the lack of consideration towards them by the members of the cooperative.

Also, the fact that you submit your roots of the *Echinops giganteus* GR to another person for the measure did not favour the inhabitants of Magha-Bamumbu as well. This is due to the fact that the members of the cooperative weight it below the amount fixed in the MAT. Indeed, as this respondent says,

I did not have any gain on it, do you know, it is like that because if something is here and you are having it, if it is somebody that go and sell it for you, you cannot gain except it is you that is selling it, because if it is something for 100CFA maybe if he says it is 25 CFA, you would not refuse²⁹⁸.

The kilogram that had to be weight for 400 CFA at time was weight at 350 CFA considering the hard work that the extraction of the roots required.

Then, the interviews revealed that, the stakeholders around the exploitation of the *Echinops giganteus* GR hold and build favourable opinions concerning the project. This favourable representation of the project is explained by the fact that, it leads to the adoption of a legislative law governing the exploitation of GR in Cameroon. Before now, little attention was accorded to the exploitation of GR in Cameroon but most attention went toward timber and oil natural resources exploitation. The absent of a law specifying a rational exploitation of GR makes the resources to be exploited by companies with little or no compensation. But the *Echinops giganteus* GR exploitation project led to the promulgation and adopted of the Law No 2021/014 of 09 July 2021 on GR exploitation. Another favourable opinion build around the project is its income generating nature. Indeed, the income obtained from the sales of the roots make it possible for the local population of Magha-Bamumbu to satisfy some of their needs

²⁹⁸ Calcius, Inhabitant of Magha-Bamumbu, interview of 8th/10/2022.

before waiting for the harvesting of their farm products. Thanks to the project, the inhabitants of the study area acquired some experiences in terms of biodiversity conservation.

Finally, the field observation as well as the interviews made it possible to observe that the project failed to improve the general living conditions in Magha-Bamumbu. The user of the GR did not fulfil its obligations towards the provider of the resources (Magha-Bamumbu). No infrastructural development was carried out, the quantity of the GR reduced. The study area after the end of the project still face difficulties in having access to quality education, health care reason why Magha-Bamumbu still witness the loss of it young population from neighbouring urban areas. Thus, “*rural urban migration is significant in the council area due to the poor economic situation and low rate of social amenities thus posing a difficult livelihood*”²⁹⁹. But they still expect from the V. Mane fils company to come and fulfil what was ask of him by the local community reason why they still maintain good relationship.

Briefly summarized, the three hypotheses have been confirmed according to the data collection techniques used in the field such as direct observation, interviews and focus group discussions.

Therefore, this research aiming to assess the effects of the exploitation of the *Echinops giganteus* GR on the local development of Magha-Bamumbu has revealed the shortcoming (limits) of Cameroon institutions and legislations. It shows the inability of Cameroon to adopt legislation that will allow its communities to fully benefit from the exploitation of their natural heritage. This was first observed with agricultural exploitation, the exploitation of the timber forest project, then with oil exploitation and finally that of genetic resources. Thus, the exploitation of this resource did not allow a socio-economic take-off of Magha-Bamumbu. This locality was stripped of its GR with little or no compensation, so the company benefited more than the locality.

Also, the importance given to the social representations and perception of this project has made it possible to discover that the exploitation of GR is a sector in which Cameroon must look to achieve its sustainable development. Cameroon is blessed with a rich biodiversity which have many GR. Being a source of food and income to rural dwellers, it is equally used for the treatment of many illnesses. The exploitation of the *Echinops giganteus* GR makes it possible for the local population to have income immediately which they could use to care for their family

²⁹⁹ MINEPAT, *op.cit.*, p.13.

and themselves. For Cameroon to benefit more from it GR it has to take regulations that will obliged companies (foreign companies) to carryout development activities for the wellbeing of the nation in general and it particular the community owning the TK.

The human work is not perfect, limits can inevitably be attributed to the previous reflections. The realization of this research did not take place without difficulties. This was felt at several stages.

First of all, at the level of documentary research. We witness the scarcity of documents related to our theme. We could not also have access to the little books that were available due to financial problem. Thus, it is important to emphasize that access to information was limited and we admit that a more in-depth reading could have been done on this theme.

At the level of the field investigation, there were reluctance behaviors from the resource persons. It is explained by the fact that they were not chosen as members of the cooperative. So when we approach them they always tell us in these words, *I was not a member of the cooperative so I can't say anything about the project*. These behaviors have earned us many refusals of interviews which could have been instructive in the context of this research. Another difficulty we face on the field is related to the activity of the inhabitants of Magha-Bamumbu. Being a rural area, they depend mostly on agricultural exploitation for their survival. They mostly leave their house and go to the farm very early in the morning that is a 6 o'clock and come back at 5 pm in the evening. Thus for us to meet them at their home, we had to go either early in the morning or 5 pm in the evening to be able to meet them in their house. Also, the company V. Mane fils was and/or is not established in the study area thus, no interview was conducted with this company. However, we had in our possession a copy of the MAT signed by the various stakeholders specifying the obligation of the company towards the locality of Magha-Bamumbu.

Ultimately, it was a question of analysing what effects did the exploitation of the *Echinops giganteus* GR had on the local development of the locality of Magha-Bamumbu. This project having not achieved its objective (an equitable sharing of the benefits derived from the exploitation of this GR), it would be interesting to carry out a study on the national policies and legislations in relation to the exploitation of GR. This project being in its infancy, a study on these policies and legislations, will correct the errors observed with the industrial exploitation of wood and many other natural resources.

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APPENDIX

APPENDIX 1: INTERVIEW GUIDES

Interview guide with government representatives

Hello sir, madam, I am Ndama Mafaur Nagai Lydienne Flore, a student at the University of Yaounde I in the Department of Sociology. I am carrying out research on the subject “**multinational firms and the exploitation of natural resources in Cameroon; case of genetic resources by the V. Mane firm in the Magha-Bamumbu locality (south-west region)**” and I need your kind assistance in answering the questions below. We point out that the information you provide us will be used for a purely scientific or academic purpose. Therefore, all questions will be treated confidentially. For that, so please be as truthful as possible

Module 1: Respondent Identification

LAST NAME AND FIRST NAME

sex

PROFESSION

Module 2: knowledge and perception of the project

- 1- Tell us briefly about the *echinops giganteus* exploitation project located in the locality of magha-bamumbu.
- 2- What are the measures taken to ensure the participation of the local population both in this project and in the benefits linked to the project?
- 3- According to you, what does this project represent for Cameroon in general and particularly the locality of magha-bamumbu?

Module3: effects of the project

- 4- What relationship do you have with the company?
- 5- What are your relations with the local population?
- 6- In relation to the *echinops giganteus* exploitation project, what arrangements have been made to ensure the local development of this locality?
- 7- What does this project bring in your fight for the local development of this locality?

Interview guide for local administrative authorities

Hello sir, madam, I am Ndama Mafaur Nagai Lydienne Flore, a student at the University of Yaounde I in the Department of Sociology. I am carrying out research on the subject **“multinational firms and the exploitation of natural resources in Cameroon; case of genetic resources by the V. Mane firm in the Magha-Bamumbu locality (south-west region) ”**and I need your kind assistance in answering the questions below. We point out that the information you provide us will be used for a purely scientific or academic purpose. Therefore, all questions will be treated confidentially. For that, so please be as truthful as possible

Module 1: Respondent Identification

LAST NAME AND FIRST NAME

sex

PROFESSION

Module 2: Knowledge and perception of the project

- 1- Can you tell us what the echinops giganteus project consists of?
- 2- What do you think of this project?
- 3- What does this project represent for the local population of magha-bamumbu?

Module3: Effects of the project

- 4- How were the economic, social and environmental objectives assigned to the project accomplished in the locality?
- 5- How is your relationship with the company and the local population?
- 6- What does this project add to your local objectives?
- 7- What contribution did the echinops giganteus project brought on the local development of this area?

Interview guide for project officers

Hello sir, madam, I am Ndama Mafaur Nagai Lydienne Flore, a student at the University of Yaounde I in the Department of Sociology. I am carrying out research on the subject **“multinational firms and the exploitation of natural resources in Cameroon; case of genetic resources by the V. Mane firm in the Magha-Bamumbu locality (south-west region) ”**and I need your kind assistance in answering the questions below. We point out that the information you provide us will be used for a purely scientific or academic purpose. Therefore, all questions will be treated confidentially. For that, so please be as truthful as possible.

Module 1: Respondent Identification

LAST NAME AND FIRST NAME

sex

PROFESSION

Module 2: Knowledge, Representation and Perception of the Project

- 1- What does the echinops giganteus project consist of?
- 2- How did the project came all about?
- 3- In which year did the project really started on ground?
- 4- How was the exploitation carried out during the year?
- 5- How many tones of the roots were supplied each year?
- 6- What does the project represent in the life of the local population?
- 7- How has the project changed the living environment of the local population?

Module 3: Impact of the Project on Socio-Economic life and local development

- 8- what was the role of the locality in the project and how did they fulfill it?
- 9- What type of relationship do you have with the company?
- 10- What is the socio-economic contribution of the project in this locality?
- 11- How does the advent of the project modify the socio-economic life of the populations?
- 12- Has there been improvement in other areas in the locality? Where?
- 13- How are the economic, social and environmental objectives assigned to the project accomplished in the locality?
- 14- Has the exploitation of the plant had repercussions on the environment? How?
- 15 - What is done to ensure the sustainability of the plant and fight against environmental degradation?

Interview guide for the local population

Hello sir, madam, I am Ndama Mafaur Nagai Lydienne Flore, a student at the University of Yaounde I in the Department of Sociology. I am carrying out research on the subject “**multinational firms and exploitation of natural resources in Cameroon; case of genetic resources by the V. Mane firm in the Magha-Bamumbu locality (south-west region)** ”and I need your kind assistance in answering the questions below. We point out that the information you provide us will be used for a purely scientific or academic purpose. Therefore, all questions will be treated confidentially. For that, so please be as truthful as possible

Module 1: Respondent Identification

LAST NAME AND FIRST NAME

SEX

OCCUPATION

HOW LONG HAVE YOU BEING IN THE VILLAGE

Module 2: Knowledge about the project

- 1- Have you heard of the echinops giganteus exploitation project?
- 2- Did you dig the plant? If no, why?
- 3- In which did the project started going on?
- 4- What are the different stages for the extraction of the plant?
- 5- How many kilo of roots could you sell in a day?

Module 3: Representation and Perception of the Project

- 6- What do you think of the involvement of the multinational MANE in this project?
- 7- What opportunities does it offer you?
- 8- Is the project beneficial for the population? How?
- 9- What do you think of the compensation linked to the exploitation of the plant?
- 10- What type of relationship do you have with the company?

Module 3: Impacts of the Project on Socio-Economic Life and Local Development

- 11- How did the advent of the project brought changes in the village?
- 12- According to you, your current situation is the same as the one you lived before the project? Why?
- 13- How did your involvement in the project affected the quantity of the farm product that you produced?

14-Can you tell us in detail what the multinational is doing to fight against the loss of biodiversity in your area?

15- What is your expectations vis-a -vis the project to boost the development of your locality?

APPENDIX 2: SAMPLE

LIST OF INTERVIEWEES

N°	IDENTITY OF INTERVIEWEES	STATUS IN SAMPLE
01	Andreas LEKUNZE	Fon of Wabane
02	Solange ESOFOR	Policy and legal officer and coordinator of Bio Trade Bio Business at ERuDeF
03	Walter TACHAM NDAM	Lecturer at the university of Bamenda
04	Mark ATOH TAKU	Council development officer of Bamumbu,
05	Aurélie DINGOM TAYLOR PATIENCE	Inspector n°2 at MINEPDED
06	Fabien KETOUM	A notable from the Bamumbu chiefdom
07	Johnas, TANDONGAYOH TACHAM	Inhabitant of Magha-Bamumbu member of the MoBECoS cooperative
08	Jacob TANGONG AKEM	A retire teacher and a member of the MoBECoS cooperative
09	Moses TANGWA	A teacher at Magha-Bamumbu and a member of the MoBECoS cooperative
10	Landnus TANDUWM	A teacher at Magha-Bamumbu and the president of the MoBECoS cooperative
11	Follah NEMBO	Inhabitant of Magha-Bamumbu and member of the MoBECoS cooperative
12	Odimus TAMOH	Inhabitant of Magha-Bamumbu and a member of the MoBECoS cooperative
13	Martin TANYI	Inhabitant of Magha-Bamumbu and a member of the MoBECoS cooperative
14	Mariana TANYI	Inhabitnat of Magha-Bamumbu and a member of the MoBECoS cooperative
15	Martin NKEMCHOP AKEM	Inhabitant of Magha-Bamumbu and a member of the MoBECoS cooperative
16	Elaja KETUM	Inhabitant of Magha-Bamumbu and a member of the MoBECoS cooperative

17	Victorine NKEMCHOP	Nurse in the locality of Magha-Bamumbu and a member of the MoBECoS cooperative
18	Denis MOMANJONG	Inhabitant of Magha-Bamumbu and a member of the MoBECoS cooperative
19	,Arosen JONG	Inhabitant of the locality of Magha-Bamumbu
20	Wilfred MOFORTOH	Inhabitant of the locality of Magha-Bamumbu
21	Janetor	Inhabitant of the locality of Magha-Bamumbu
22	Desmond TANTACHOP	Inhabitant of the locality of Magha-Bamumbu
23	Fedelis TANTACHOP	Inhabitant of the locality of Magha-Bamumbu
24	Vangeline AWAPARD	Inhabitant of the locality of Magha-Bamumbu
25	Linus ACHA	Inhabitant of the locality of Magha-Bamumbu
26	Ida TANTACHOP	Inhabitant of the locality of Magha-Bamumbu,
27	Custance	Inhabitant of the locality of Magha-Bamumbu
28	Jeannette NAGAIN	Inhabitant of the locality of Magha-Bamumbu
29	Odette NAGAI	Inhabitant of the locality of Magha-Bamumbu
30	Anonymat	Inhabitant of the locality of Magha-bamumbu
31	Eric MOMANJONG	Inhabitant of the locality of Magha-Bamumbu
32	Calcium	Inhabitant of the locality of Magha-Bamumbu
33	Angeline EKENG	Inhabitant of the locality of Magha-Bamumbu
34	Group of interview with six cooperative members	Inhabitant of the locality of Magha-Bamumbu
35	Group interview with six individual of Magha-Bamumbu	Inhabitant of the locality of Magha-Bamumbu

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