

# Buying and land rental in the mountains: what are the challenges for the development of modern farms? Case of the Bamboutos Mountains - West - Cameroon

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**Abstract**— Population growth, the globalization of trade and urban demand for agricultural products in altitude have made the Bamboutos Mountains a space with great challenges. The demand for arable land has resulted in the near saturation of agricultural land. Buying and leasing land has become the most innovative practices breaking down traditional rules of access to land. These new modes of access to land have led to the most profound agricultural changes in the mountains. This article sees this type of emergence of new modes of access to land as major agricultural development issues. The objective of this article is to show that the purchase and rental of land in the Bamboutos Mountains is an issue for the development of modern farms. The methodology adopts an approach that favors prolonged contact with the field and direct communication with farmers. A field survey by questionnaire was carried out with 240 farmers. Stratified and snowball sampling techniques guided our choices. At the end of these results, it emerges that: A transfer of land from landowners who are sometimes absent, into the hands of those who have the will and the capacity to develop them. Its purpose is the sale which represents 29%, better the rental of land which affects 57% of the cases observed. The mountain then entered an era of development (*sensu lato*) never equaled. This reflects the economic dimension taken by mountain agriculture. The ensuing consequences are: the construction or emergence of territories, the development of agri-cities connected to distant consumption centers, the development of land and the emergence of modern farms. However, if land reclamation leads to the emergence of land in the mountains, it should be noted that this land reclamation weakens this geographic space which is initially at risk.

**Keywords**— land purchase, land rental, modern farms, territoriality.

## I. INTRODUCTION

In West Cameroon, access to agricultural land since the years 1974 has undergone changes following the demographic explosion and the development of new cash crops such as market gardening (Kaffo and Fongang, 2005). These changes have resulted in the commercial nature of the land and an intense development of the heights of the Bamboutos mountains (Kuate, 2003). Buying and leasing have become the modes of access par excellence. The Bamboutos mountains, which are the subject of our article, nowadays constitute a development zone for modern farms. The

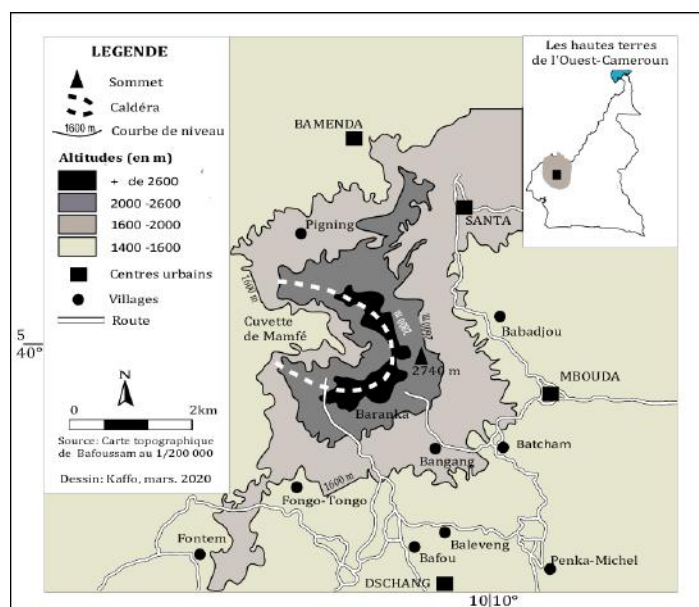
appropriation of land at mountain level generated developments that led to the construction of new agricultural landscapes. According to Nzoffou (2019), this development of land around mountains reflects the economic dimension that now characterizes them. This study hypothesizes that the emergence of the purchase and rental of land around the Bamboutos mountains is an issue for land use planning. This is justified by the emergence of modern farms, the development of agrovilles, the intensification of more commercial highland crops. This article is organized around two points. First he examines the emergence of buying and leasing which has led to acquisition by those who can afford

to develop them. Secondly, it analyzes the developments induced following the development of agricultural land.

## II. MATERIAL AND METHODS

### 2.1- Study area

The Bamboutos Mountains are located in the Bamboutos department in the West Cameroon region. They are located between three regions namely the Northwest, the West and the Southwest. According to Morin (1989), these slopes of the Bamboutos mountains benefit from very rich and fertile black alluvial soils suitable for temperate high-altitude crops such as potatoes, onions, garlic, cabbages, carrots ... These crops supply cities in the country and even in the Central African sub-region. With 2,750 m, the Bamboutos mountains constitute the third highest peak in Cameroon after Mount Cameroon and Mount Oku. The highest part of the massif, culminating at 2000 m above sea level, it has a mild and cloudy climate. Precipitation ranges from 2,510 mm 3 per year. Between 1800 and 2500 m altitude, there is nowadays a strong pressure on land. The population around the Bamboutos mountains lives on agriculture, animal husbandry, and rural transport. Buying and renting land are the modes of access par excellence. The main agricultural products are cash crops, which are widely practiced. Map 1 shows the physical presentation of the Bamboutos mountains in their topographical context.



Map 1: Physical presentation of the Bamboutos Mountains

### 2.2- Methodology

This study is based on a questionnaire survey of a sample of 240 farms which were obtained by purchase and rental. It

takes place in three localities around the Bamboutos mountains namely vouch, Mehuie and feumork, located above 1800m altitude. The sampling technique was based on the cluster method and direct observation. The latter allowed us to identify the subgroups of farms to be investigated. Based on our assumptions and our verification indicators, our questionnaires and interview guides were created. The data obtained by the interview were transcribed, codified, grouped by area of interest and then interpreted.

## III. LITERATURE REVIEW

It all starts with the evolution of modes of access to land in Africa today. Des jeux (1982) points out that the modes of access are very diversified, evolving and give rise to the possibilities of multiple strategies within the framework of the rules of residence, filiation, alliance and geographical proximity. He points out that the modes of access to land have undergone changes over time. This development is characterized by the emergence of new modes of access to land ownership. In fact, the traditional ways of accessing land that have long maintained asset management have changed. Nzoffou (2019) The emergence of buying and leasing has allowed land to be transferred from those who have and do not have the means to develop it to those who have the means to develop it. According to Kuete (2001), we are going to witness a spatial recomposition which, according to him, has stakes on the organization and restructuring of farms. Large expanses of farms will be born, and more modern materials and techniques are the preserve of mountain farms. For Quesnel (2001), it is necessary to approach the dynamics of rural land tenure systems by the synchronic and diachronic articulation of demographic dynamics and agrarian dynamics. Many studies have been carried out in western Burkina Faso to show that rural land tenure systems are dynamic, evolving and adaptive, as much as they can, to socio-economic and ecological transformations and to the improvement of production techniques.

## IV. RESULTS AND DISCUSSIONS

### 1- PURCHASE AND RENTAL AS THE CURRENT MAIN MODES OF ACCESS TO LAND IN THE BAMBOUTOS MOUNTAINS.

#### 1.1- Access by purchase in the Bamboutos Mountains

The purchase of land can be understood as an act by which one party (the seller) transfers or undertakes to transfer ownership of a thing or a right to the other party (the buyer, or acquirer) which forces him to pay the price in money.

This mode of access to land is more practiced in the

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Bamboutos Mountains by farmers living in towns and who have the means to implement it. They are traders, officials, local elites etc. Anxious to invest in agriculture for more intense large-scale production or eager to build up land capital for a variety of reasons. Their high financial capacity is a strong argument for them to acquire, even from those who did not intend to permanently cede the land. The land stakeholders are born, multiply and become clearer in the group. Prices vary depending on negotiations, the social status of the buyer, the site of the plot and the degree of kinship between the seller and the buyer. For example, during surveys the price of a one hectare plot fluctuated between 500,000 and 900,000 CFA francs.

In the observation, we see a continuous sale of land from the poorest to the richest. The reasons mentioned by the peasants who sell their land are: distress sales, productive sales: this type corresponds to the sale of land with the aim of launching a commercial activity or integrating a son of the family into the administration public. Land is no longer just a tool of production but a good, an accessible capital. The sale is evidenced by formal contracts which attest to the final transfer of ownership from the seller to the buyer. For this point, we can say that the sale which is a definitive transfer of land ownership for money is a new trend of access that has become more and more frequent in the Bamboutos Mountains. The market for agricultural land is growing. It is run and maintained by a new class of landowners made up of traders, government officials, businessmen who buy land to expand their economic capital. The percentage of land acquired by purchase represents 29%. In reality, the current momentum is different. There is a concentration of land on the part of its urban elites who find agriculture a profitable investment sector. Their exploitation differs from that of small rural farmers by the size of their plots of at least 10 hectares.

### 1.2- Access to land by rental in the Bamboutos Mountains

Renting nowadays becomes a way of making the most of the land in the Bamboutos Mountains. This is a very widespread common practice that arises from the decrease in reserve lands and the dynamics of production methods. We have 56.7% of registered land transfers that are made by lease as shown in Table 1.

Table 1: comparison of old and new modes of access to land in the Bamboutos Mountains (%)

Category of access mode	Access mode	Effective	Pourcentages
old modes of access to land	Don	12	5.0
	Heritage	13	6.0
	Ready	10	4.0
New modes of access to land	Buy Sell	69	29
	Rental	136	58
<b>Total</b>		240	100

From Table 1, we notice that the new modes of access to land (85.5%) are rental (56.7%) and purchase (28.8%). The old modes of access to land represent (14.6%), these are: loan (4%), donation (5.0%) and inheritance (5.6%). The high proportion sufficiently shows the place occupied by newcomers in access to land today. The importance of these modes justifies the level of transformation of the occupation of space in the Bamboutos Mountains.

In practice, we distinguish several forms of rental: the short term and the long term.

Long-term rental refers to contracts that have at least a 5-year renewable term. It is recent and represents 34%. Observation shows that this type of rental takes place between people with a parental link or a strong close relationship. Trust remains the main characteristic of this mode of access to land. Written contracts are then the case, almost non-existent. The royalty is paid per crop year.

Short-term rental refers to contracts that have a renewable one-year term. According to surveys, this is more recent and represents 66%. It follows the multiple land conflicts and the market value which continues to develop in the area. In fact, in short-term rentals, the tenant is called upon to make new negotiations at the end of the contract. According to the testimonies of the tenants, at each end of the contract, the price changes upwards depending on the negotiations with the owner. The full rental fee is generally paid before the start of the crop year. The existence of formal contracts is noted in this case. The tenant must not plant perennial crops and trees. Only short cycle crops should be practiced. The price of the rented plot depends on its topographical arrangement in a lowland or on the hillside.

From the above regarding the purchase and rental of land in the Bamboutos Mountains, we can say that these two modes of access to land have become more common. Their

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emergence facilitated the construction of modern farms and new landscapes in the mountains.

## 2-THE PURCHASE AND RENTAL OF LAND IN THE BAMBOUTOS MOUNTAINS AS FACTORS FOR THE DEVELOPMENT OF MODERN FARMS AND AGROVILLES.

Mountain areas have always been places whose stability has depended on geopolitical changes and above all on factors internal to the group such as technical innovation, the introduction of new speculation and new modes of access to land. For several decades, the mountains and more particularly the Bamboutos Mountains have entered a new dynamic with the introduction of new speculations specifically mountainous and the influx of multiple actors with visions and projects that do not always converge. These changes have had an almost mechanical impact on rural landscapes. Indeed, the new modes of land transfer have played a preponderant role in the modification of the agricultural landscape. This modification concerns large agricultural areas: modern farms and soles.

### 2.1- Emergence of modern farms: specialization of crops by soil

A sole is defined in agriculture by the dictionary as a piece of land subject to rotation. It is therefore a division of the arable land of an estate. The soles are regularly in equal parts to establish there by rotation avoiding the fallow of different crops and thus obtain the best possible yield without exhausting the land. In the Bamboutos Mountains, the acquisition of large spaces and their cultivation gives another face to the organization of the agricultural mountain landscape. Indeed, large farms fully cultivated crisscross the slopes of the Bamboutos Mountains. The novelty lies in the partition of the space into the floor. Basically, there are two soles: that reserved for pastures and that reserved for agricultural production, themselves subdivided into subsoils. Each sub is specialized in a monoculture (photo 1 and 2).



*Photo 1*



*Photo 2 : Carrot plantation*

These partial views, measuring almost a hectare each, make them large farms in the mountains. Consequently, they testify to the level reached by some farmers and their ability to maintain a seasonal and permanent workforce in the Bamboutos Mountains.

Thyme which is an aromatic plant from temperate regions, used in cooking (condiment, lunch) and also as a medicinal plant reaches the summits of the Bamboutos Mountains. It has been cultivated intensively since 2006. It is in great demand by naturopaths for whom it constitutes a raw material. Natural medicine is thus an outlet which gives this plant a promising future. It can therefore be expected to play the leading roles in the near future and to request more space, contributing to a redistribution of space in the mountains. For the moment, it is cultivated to order, which minimizes the risks associated with production and marketing. It is marketed

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in Cameroonian cities and in the sub-region where it is sold wholesale or retail in small packages of one kg at 500F each. The photo an example of a parcel of thyme.



*Photo 3: Partial view of a thyme plantation*

The exploitation of nearly one hectare occupies the heights of the mountains. The arrangements are made in large ridges following the contour lines to avoid erosion by runoff.

The case of the potato is instructive. Indeed, this tuber is among the most popular products. It has experienced the most dazzling spatial expansion on the slopes of the Bamboutos Mountains. This food not only occupies a good place in the dietary habits of Cameroonians, but is in great demand by neighboring countries, so much so that exporting no longer means surplus production, but almost all production.



*Photo 4: Plantation of more than 5 hectares of cultivated potatoes*

The partial view of this photo shows us a modern potato farm of more than 5 hectares that stretches as far as the eye can see.

Next to a few fragmented plots, there are large farms fully cultivated on the slopes of the Bamboutos Mountains. Before, agriculture in the area was mainly oriented towards self-subsistence. Reserve spaces were available. The demand for altitude crops and the emergence of new players mark a decisive turning point in the issue of access to mountain land. This new dynamic leads to the occupation of reserve spaces and to special arrangements for operations in the space.



*Photo 5: A potato farm*

These large farms of more than 5 hectares, which sometimes extend as far as the eye can see, testify to this intensification of market gardening on a commercial and industrial scale. Businessmen entered farming and turned the mountain into a modern farming area (photo 5)

## 2.2- More and more modern techniques

The farms in the Bamboutos Mountains following the development of the land have taken on a modern character. These are farms whose plot layout respects a certain number of dimensions, they have water pumps and irrigation ducts.

The special feature of these farms is the use of abundant agricultural labor. This labor is daily for activities such as harvesting potatoes and by task for activities such as bagging, loading, transporting produce from the fields to the main roads.

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*Photo 6: A modern farm*

These large farms, which sometimes extend as far as the eye can see, bear witness to this intensification of market gardening on a commercial and industrial scale. Businessmen entered farming and turned the mountain into a modern farming area

The previous photo shows a modern farm already cultivated with potatoes. We observe a vertical arrangement of the plots. These plots have the same dimensions and have water transport ducts for their irrigation.

Some of these large mountain farms have a particular structure. They include: an inhabited space where there is a long modern building (tin roof, plastered and painted cinder block wall, cement or tiled floor and internal toilet, satellite dishes on the roof which indicates the presence of a television set which connects the occupants to the outside world. The occupants are generally the family of the herdsman on one side, that of the farm manager. Alongside these residential buildings there are one or more long stores for the storage and drying of products such as the potato and the storage of fertilizers. In addition to these buildings there is a barn or often a pen for housing the cattle and a well-equipped watering hole. Indeed, every modern farm provides its water supply for agriculture. and intended for consumption by humans and livestock from a source located at a higher altitude than the residential area. Water is thus brought there by gravity or by pipe line. On these farms, the presence of one or more dogs then one or two horses is required. Very often, the farm is connected to the main road by an easement which allows owners who are generally absent, because they are city dwellers, "city dwellers" to access the farm by car. Around these landscaped areas extend agricultural and livestock areas to which are added, a fragment around the water catchment area. In terms of work tools, a few farmers have a tractor, which allows large areas to be cultivated in a

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limited time. The tractor owner offers the possibility of leasing the machine from other operators with large areas of land. It should be noted, however, that the use of the tractor for plowing did not significantly affect the demand for labor. Indeed, apart from plowing, all other activities remain manual.



*Photo 7: Warehouse*



*Photo 8: Modern residential building*

In these photos, we can see a large store for storing and preserving potato seeds, built with permanent materials, and a residential building built with concrete blocks and painted. Improved seeds are now stored in appropriate stores. Thus, a landscape is born which is opposed to the traditional landscape.

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The modernization in question has reinforced the push for brands of individualism in the Bamboutos Mountains. Enclosure is a characteristic practice of farms that combine agriculture and livestock. Like traditional farms, they also surround themselves with hedges of which eucalyptus forms the framework. However, they are well maintained to control the movement of livestock. The innovation lies in the fact that the eucalyptus trees and the almost joined stakes are tied up by barbed wire instead of lianas. Agricultural areas are temporarily transformed into pastures, that is to say open spaces dedicated to livestock as shown in photos 7 and 8.

In general, we can say that the recomposition of the agricultural landscape is closely linked to the evolution of modes of access to land. The reserves of highland lands are completely disappearing, giving way to intensive market gardening. This observation is consistent with that made by Fotsing (1995) in his work on land competition and land tenure strategy in Bamileke country where he specifies that now the hillsides are exploited and the slopes are increasingly intensively exploited.

## V. THE EMERGENCE OF AGROVILLES

The development of land in the mountains makes us observe not only the establishment of large farms, but also the regrouping points which have become agrovilles. Non-agricultural activities, such as petty trading, also bring income to the area. It is oriented towards the tools for packaging products such as the sale of essential equipment and those useful for rural activities (hose, needle, thread, bags for bagging crops, chemicals). The points of sale are located in the vicinity of the fields and collection points. In addition, the small restaurants and bars are not the rest. They thrive on activities related to agriculture. They are used to rebuild the strength of young people who only earn their living by the sweat of their physical strength.



*Photo 9: place of gathering of producers*

The small shops observed above are used for the sale of essential materials for the production and packaging of agricultural products. These shops are located at an altitude of over 2400m.

In short, we note that market activities in the area are mainly focused on agriculture. These activities, which are an endogenous economic reality, are the basis of the internal dynamism of residents in the Bamboutos.

## VI. THE CONSEQUENCES OF PURCHASE AND RENTAL IN MOUNT BAMBOUTOS

### 6.1-The association of crops and pressure on the soil

The development of commercial land transactions reduced the land to its productive dimension. In fact, agricultural practices that are not favorable to sustainable development can be observed in this mountain area undergoing a transformation. The association of crops remains a practice widely used by land tenants in the area (photo 2).



*Photo 10: Example of mixed market gardening (carrot and cabbage)*

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According to the farmers, it is necessary to combine the maximum number of crops on the same ridge to hope to obtain the maximum benefit from the investments made corresponding to the investment cost, including the rental of the land. Associated crops are generally apple + cabbage and green condiment or potato + cabbage + carrot etc. we can see this in photo 2.

### 6.2-Pressure on water resource

The competition for access and control of water in the Bamboutos Mountains has been very tense and sometimes violent for several decades. On farms, there is strong pressure on water resources, which is materialized by the presence of numerous catchment pipes around the same river or the same water point. Polyvinyl chloride pipes or orange sheathed pipes crisscross the village and sometimes carry water for several kilometers for irrigation. We are witnessing an abusive appropriation and sometimes even the diversion of certain water sources, which contributes to the drying up of entire neighborhoods and certain production areas. Kaffo and Fongang (2009) also speak of the pressure of activities on a declining resource and a very strong dependence of agriculture in this region on irrigation water, especially with the systematization of off-season agriculture.



Photo 11: Pressure on the dry season water ponds.

The orange colored sheaths seen in Photo 3 are the most common method of transporting water for sprinkler irrigation. As many ducts as many owners. Thus, the use of these sheaths constitutes a strategy for the farmer to go to the depths of the ponds to collect water.

### 4.3-Disappearance of fallow

The disappearance of fallow is also a practice linked to changes in access methods. It results from a logic of securing land in a context of land saturation. In fact, faced with the scarcity of cultivable land, surveys in the peasant localities of the Bamboutos Mountains have shown that farmers, in a logic of land tenure security, believe that putting a piece of land fallow implies having more land. An uncultivated parcel is exposed to land withdrawals which are increasingly recurrent in the area. The study shows that around 39% of farmers no longer fallow their plots. It is in this capacity that a farmer "if you leave your field today without cultivating, you will find that another person has cultivated". This denotes the pressure that various actors exert on land in the locality. This result is close to those obtained by Andriamanalina et al (2014) in Madagascar. Indeed, its results have shown that landowners in Madagascar who entrust part of their plots to a sharecropper and / or a farmer first seek to secure their agricultural plots. This logic of securing land tenure constitutes a significant strategy to be taken into account in the dynamics of modes of access to land.

## VII. CONCLUSION

The analysis of the issues of buying and renting in the mountains clearly shows that the transfer of land into the hands of those who have the means of implementation has led to the emergence of large farms and agri-cities. These farms have now changed the configuration of the mountain agricultural landscape and form the basis for the development of agrovilles in the area. We have points of assembly of production and transport of products for urban areas, the development of markets related to agriculture. The reclamation of land and the intensification of cultivation paved the way for the emergence of modern farms. These include, among others, farms that extend to more than 10 hectares and have plots of the same size, farms that require significant manpower and have modern tractors and warehouses.

However, if the development of these large modern farms is due to the opportunities offered by the emergence of purchase and rental, it should be noted that the production environment remains fragile and exposes the mountains to degradation risks.

In reality, the Bamboutos Mountains area with regard to the



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dynamism and economic challenges of potato production needs to be observed with great attention. Indeed, this mountainous area is nowadays confronted with the problems of erosion, lack of drinking water for the residents because of its channeling for crops in the dry season. There are four agricultural seasons per year: It is desirable to reduce the number of agricultural seasons as much as possible not only to leave the land at rest but also to avoid faster degradation of the environment.

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