

Geographical Opacities and Socio-Economic Changes of Rural Areas in Sub-Saharan Africa: A Case Study of Goulei People's Territories of Dono Manga in Chad

Ndoutorlengar Médard
(Corresponding Author)
Department of Geography, University of Sarh
B.P. - 105, Sarh, Chad
E-mail: ndourock@gmail.com

Ludovic Baïsserné Palou
Department of Geography
Higher Teacher Training School of N'Djamena
B.P. – 460, N'Djamena, Chad
E-mail: paludovbapa@gmail.com

Don-Donne Goudoum Pierre
Department of Geography, University of N'Djamena
B.P. – 1117, N'Djamena, Chad
E-mail: dongoupier@yahoo.fr

(Received: 3-11-15 / Accepted: 26-12-15)

Abstract

In Chad, some areas are naturally disadvantaged because of their geographical position. Others, compared to the first, benefit from the climate advantages but are rendered less profitable by the failure of development that caused a slowdown in the economic race. That is the case of Goulei people's territories of Dono Manga in Eastern Tandjilé province whose degradation of the channels of communication severely limits the traffic. As a result, local weekly markets collapsed causing a socio-economic crisis which farmers, already poor, face it daily. Exhausted with strategies control, youth engage into mobility. People who are resistant to the rural exodus are regularly subject to a phenomenon that keeps the poor in an eternal restarting enjoyed by the haves. The cycle of the situation is such as to produce, the first category appealed per second from whom it liquids products before the next crop year.

Keywords: Dono Manga, Road, Mutations, Rural Exodus.

1. Introduction

The mobility is strongly involved in the daily geography, economics, sociology and the active social circumstances of population (J.J. Bavoux et al, 2012). It corrects the heterogeneities of spaces by the redistribution of productions and the approximation of human beings. But the lack of roads and networks' communication, even areas with high potential economic and human fall into geographic opacity in terms of accessibility that induces, in one way or another, the time and cost. It is the case in some parts of Africa.

Sub-Saharan Africa is one of the regions in the world where the networks' roads are least-developed in quality and quantity. The network road consists mainly of the trans-African road and strategic trade corridors which mark links between seaports and the interior of the continent (K. Seneh, 2012). The roads between these main routes of communication and the hinterland of the continent are insufficient. It is this state of affairs of the budgetary envelope that every country allocates to the sector related to a lack of source of funding independent for the construction and maintenance of roads on the one hand and the quality of the work performed on the other. Road expenditures are estimated to 2% of GDP, with important differences between countries (K. Gwilliam et al, 2008).

In Central Africa, Chad is the least favored in quantity and quality of road networks. The average road density is 19.5 km at the 1,000sq2. It varies from the Sahara climate zone (6.4 Km/1000 sq2) to the Sudanian zone (40.5 Km/1000 sq2) passing through the Sahelian zone (27.2 Km/1000 sq2). The global road network, all categories, is estimated at 40,000 km of roads including 25,000 km of roads of national interest or regional and 15,000 km of service of local interest. 24.8% of the national network routes serve urban centers and 75.2% connect these intermediate local authorities (regions and departments) (MIE, 2011). The runways of local interest are composed of rural and urban networks. The construction and maintenance of the slopes of the rural network is left to the initiative of rural communities compared to those of the urban network whose management goes back to local authorities and decentralized with a technical and financial support from the State. This creates a disproportionality of highways between cities and rural areas within the country. Favored areas have the advantage of the fluidity of transport, reducing the costs and time of flows. The poor suffer from the more or less direct increase in the costs of transport and delay of delivery or disposal of the products towards urban centers and the more important on the markets. This is the case of Dono Manga sub-division.

With an area of 15.964sq2, Dono Manga is a former Township erected in sub-division in 2010, with the leeward of administrative division that started since 1995. The latter is one of the five sub-divisions in Eastern Tandjilé department. Tandjilé region has three departments namely Western Tandjilé, Eastern Tandjilé and Central Tandjilé. It brings together 53 villages sheltering 62,378ames including 32,907 women and 29,471 men (RGPH2, 2009). The inaccessibility of the area related to the impracticality of the channels of communication led to a socioeconomic reorganization on the basis of survival strategies.

2. Method and Materials

The method that has enabled us to carry out these works is hypothetical-deductive approach. It is a reasoning which starts from the hypothesis in the confrontation of theory with the reality. The field work served as the plausibility of theories audit framework. Field work conducted, intentionally, in three phases to two distinct climate seasons. The first field in March has allowed us to observe the accessibility of the area and mode of organization during the dry season. In rainy season, our researches have been conducted in June and September. During this period, the objective is to assess accessibility in the rainy season and the agricultural production system. The data collection is to support:

- Direct observations that allowed us not only to compare the statements of others to our personal assessments, but also to raise the coordinates to refresh the map data for the realization of the MapInfo 9.0 software cards.
- Interviews by group or focus group. We have achieved by consolidating a dozen people in 4 different villages on the edge of the rib and 6 in depth of the territory. In terms of the channels of communication, priority was given to the elderly (60 years old and above) which represent 30% of the respondents;

- Individual interviews in the villages and the fields were completed with usurers and the beneficiaries of the loans. They have been to understand the mechanism of wear (conditions) and methods of reimbursement and remuneration of labor by nature;
- Surveys by questionnaire were carried out using the cards prepared for the circumstance.

The inadequacies of land have been supplemented by the work of one and other that preceded us on the topic. Dono Manga has been very little subject of research.

3. Results and Discussions

3.1 Geographic Opacity of Dono Manga Sub-Division

The main factors that contributed to the geographic opacity of Dono Manga sub-Prefecture are threefold. The first is related to the impracticality of the channels of communication. The second stems from cotton sector crisis (M. Ndoutorlengar *et al.*, 2015). The last has its source in institutional relocation of the canton of Dono Manga to Ndjamen.

Since the independence years (1960) to 1990, among the all national road networks, only a long stretch from a distance of 153 km was paved from Ndjamen capital to Guelendeng at the intersection of two axes from the southern part of the country (see fig. n ° 1). The right axis of the bifurcation successively passes by Bongor, Kelo, Moundou, Doba to Sarh to continue to Central Republic African border. The left side crosses through Bahili, Bouso and Kounoto overlap the first Gueraat 25 km to Sarh town entrance. The first, Sarh, is 830 Km of long to the capital while the second is 300 km less. More or less equal state of defect, it is this shortcut which was preferred to another. It allowed saving cost and time to reach DonoManga and its surroundings. Through more or less near localities of the former township of Dono Manga, the road facilitated the connection of the urban area and there was fluid and frequent traffic flows.

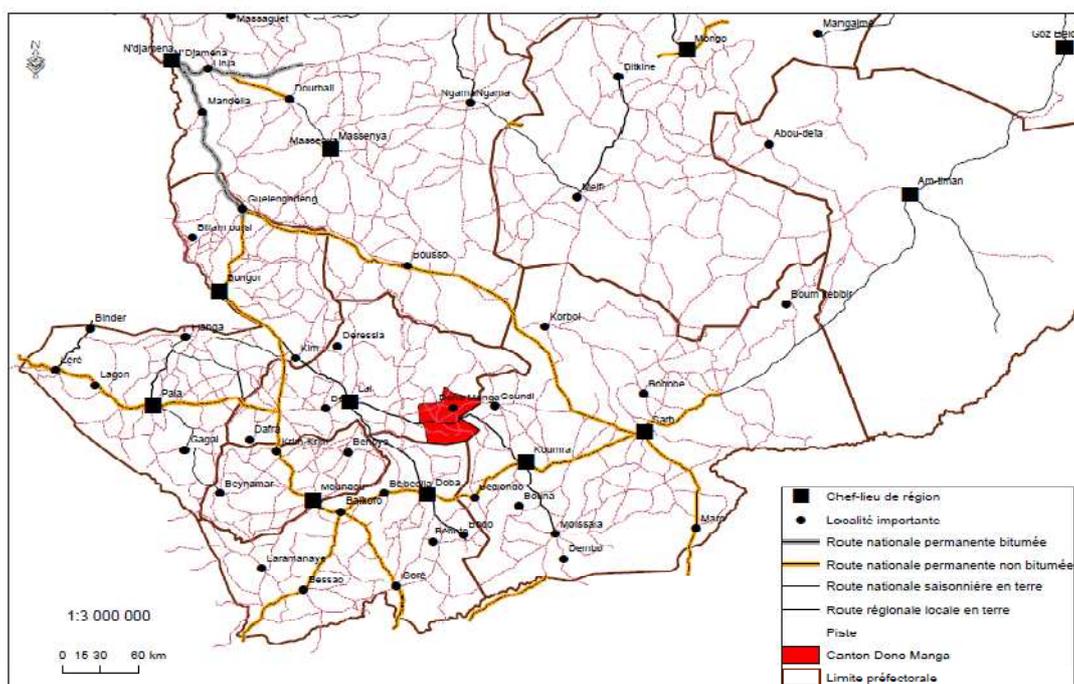


Figure 1: Road network in southern part of Chad before the 2000s

But since 1999, with the development of the national transport strategy (2000-2009) to date, data have changed. The right side of the crossroad asphalted capital up to Sarh. So, for comfort and speed, the axis that favors Dono Manga's development is forgotten to the benefit of the other.

1950- 1980 period was the prosperity of cotton sector in Chad. 25 cotton ginning plants were established in the areas of productivity of the country (G. Magrin, 2002). Dono Manga is fortunate to be located between two towns sheltering plants namely Guidari located at 35 km in Tandjilé region and Koumra in former Moyen Chari at 75 km. It also housed one of the most important centers for cotton purchasing. Because of this geographical position the canton enjoyed doubling of the prosperity of the sector. Each household produced cotton that was the primary source of income. Cotton market could hold in the canton team of purchase of the product for two or three weeks. Also to link factories, cotton tracks were regularly furnished by the company COTONTCHAD. Thus, Lai-Koumra axis through Dono Manga was also rebuilt annually.

But since the 1980s, with the instability of world prices and subsidies made by the rich countries to their producers on the one hand, and political and military conflicts in Chad on the other hand, have contributed to harm the functioning of society (G. Magrin, 2002; Oxfam, 2004; A.T. Touré et al., 2003). So to reduce costs, the company closed some of its factories and adopted a new mechanism of marketing of the cotton at the expense of the first. The mechanism of the new market is to lay with producers the organization of sale of product from the village up to the factory hence the appellation of "self-directed market". So since that date, the intensity of society on cotton tracks traffic decreased and, therefore, reconstruction of communication channels was hardly the priority of the company that sees more a need. Roads that linking Dono Manga to other localities is not rebuilt for more than three decades. Thus, access to Dono Manga became therefore difficult by all three axes (Doba, Koumra and Lai) in dry season. In the rainy season, only entering through Koumra remains possible (see fig. n°2).

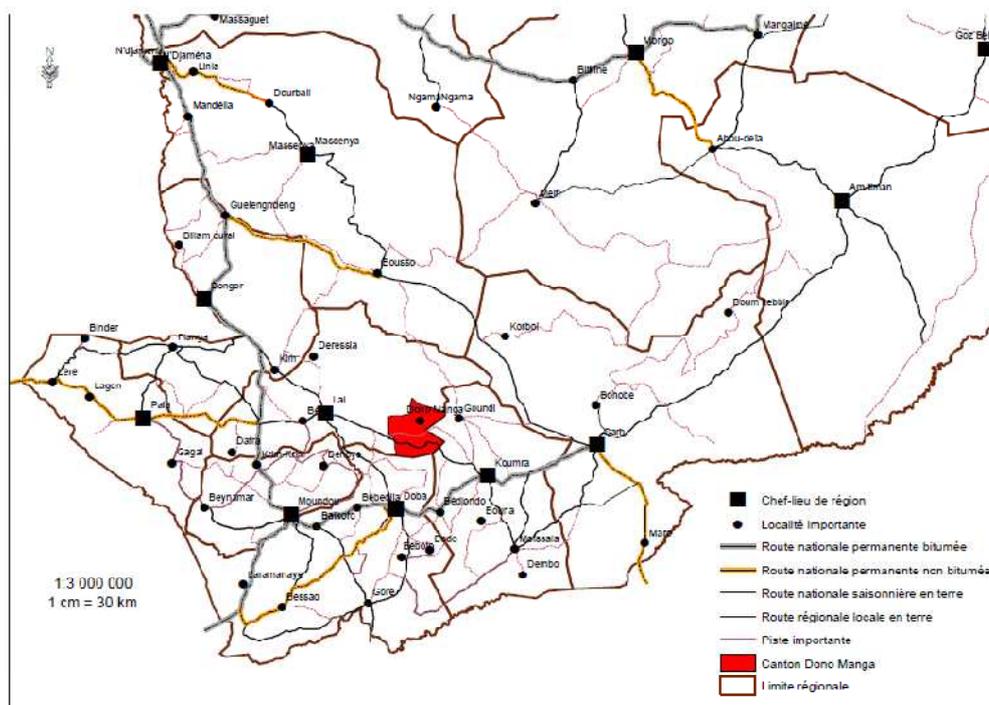


Fig. 2: Current network roads

To these first two factors of opacity of the area we may add another one which is directly or not contributing to the collapse of the canton: It is the institutional relocation of the cantonal heading to Ndjamena. Indeed, in the past the very influential traditional chiefs of Dono Manga namely Ngardemti (1902-1912), Dono (1912-1925), Moussoro (1925-1930), Ngarbaroum (1935-1964) had an influence that went beyond the boundaries of their electoral district (N. Ngaringuem, 2013). They held their capacity of mobilization and know-how that allowed them to dominate the people and respond to their needs. They could enlist the subjects for the work of common interest. Thus, per year and per segment, reconstruction of tracks including one that crosses the township was entrusted to village units. The channels of communication were thus regularly furnished by men with strong red soil.

But after the passing on of Ngarbaroum, the command was given to residents in the city and, the power is just delegated to cousin, uncle or brother. Djidingar Dono Ngardoum (1979-1981; 1997-2000). The first successors, revered by his subjects because of his traditional roots that helped perpetuate the humanist ideals of his predecessors, he had somewhat successfully. During his absence at the head of the township, the power was entrusted to the mentioned above relatives: he was the minister of post office during the reign of former Presidents Goukouni Weddeye and Hisssein Habre. Thus the traditional authority was delegated to his uncles, cousins, young brothers, nephews and sons. But after him, the development of channels of communication had been neither concern traditional administrators nor subjects. As a consequence, the socio-economic activities have increased and the weekly market of Dono Manga began to lose its importance because of the weakness of flow.

The decline of the weekly market of Dono Manga was a concern that attention to relief of the situation has led the traditional authorities to its relocation. Originally, the market created in the 1970s was located in Bel-Ter, a village located at 4 km to Dono Manga. The market was very flourishing on this site where the name of Kousseri that had been given to him by the ancient inhabitants of the capital Ndjamena, which retreated to the village after fleeing the civil war. Kousseri is the town in the extreme north of Cameroon border with Chad and closer to Nigeria. It is in Kousseri that inhabitants of N'Djamena used to purchase their manufactured goods from Nigeria and inside Cameroon. Kousseri of Dono Manga is also the place of supply for nearby communities.

The decline of Kousseri Ter market began in 1983. Then, it was moved to the public square of Dono Manga from 1984 to 1985. It was thought that the situation had expired to the atrocities of the rebels so called *Codo* and reprisals by the National Army Force (NAF) in the area, but the market situation has changed little even after the withdrawal of the latter in the area.

After disillusionment of the causes of the decline of Kousseri, the market was transplanted to Kaga Mbassa another village located at 9 km from the capital of the canton where it stayed from 1986 to 1987. This third site is the most shunned by traders. That is why the situation of the market was sinking further and further. The reasons of this disinterestedness of the merchants to this site are related to drinking water supply issues. Not only well water are muddy during all seasons to be consumed, but after the first three months of every year, wells drying up water. In 1988, the market was once more moved. It was that time the market was once more installed at Kakode, a village located at 6 km to Dono Manga. On this new site the market has survived ten years not, because its situation has improved but rather because of the weariness of each and others to be yet relocated. But in the last quarter of 1998, it was reduced to Ter at the original location where it operates limp until today.

The first faltering steps of traditional powers and the disruption of thread of local economy which is compounded by the cotton crisis that does not end in the area resulted in a stalemate of poverty to the many consequences (R. Chambers, 1990; B. Gill, 1992). On the top of this squad of the consequences is the rural exodus which began therefore to empty valid populations that migrate to look for better living conditions in the cities making today Goulei

people the second subject to the rural exodus ethnic community after the Boulala an ethnic group in the region of Batha in Chad.

3.2 The Socio-Economic Changes

The difficulty to accessing to the area has contributed to the cause mutations in almost all peasant production systems. To deal with these challenges that create change, farmers have developed strategies that range from offensives to resign hence the migration.

3.2.1 Rural Exodus and Transformation of the Local Landscape

In the township, three out of four households are directly or indirectly affected by rural exodus. Mobility-prone age groups are especially those of young person (Cf. figure n°1).

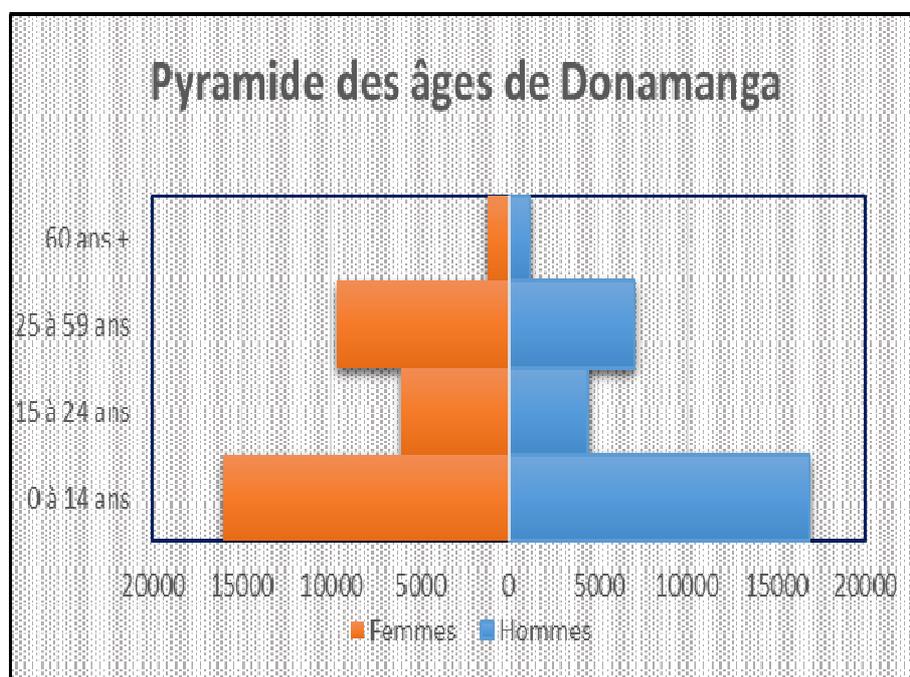


Figure 3: Population pyramid of Dono Manga

The above pyramid age of the population of Dono Manga, shows that most residents are in the age range between 0 and 14 years old. They respectively followed by persons aged from 25 to 29 and 15-24 years old. The 60 years people and above are minority. Thus, age groups not engaged to mobility are those of 0-14 years and 25 years to 59. This situation is due to the fact that children and adolescents are unable to take the decision to go to town. And adults, for the most part, founded a family and are not inclined to mobility. The 15-24 age brackets are ones that are subjects to the rural exodus. These young men full with dynamism and taste of adventure are often tempted to go looking for a best condition of life (B. L. Mumpasi, 2010.) Men are more likely than women to mobility. The host cities are mainly Doba where they serve as labor on oil site, Koumra, and Sarh where they are in general Mason and Dockers in N'Djamena, in travelling agencies or domestic workers. Beyond borders, the favorite countries of destination are Northern Cameroon and Nigeria. In Cameroon, the attraction is guided by the production of cotton market which is bound to no stress compared to that of Chad where the peasants are forced to reunification and the collateral security. In Nigeria the nationals of these territories are mostly in masonry, the fields where they serve as labor. (See fig. n°4).

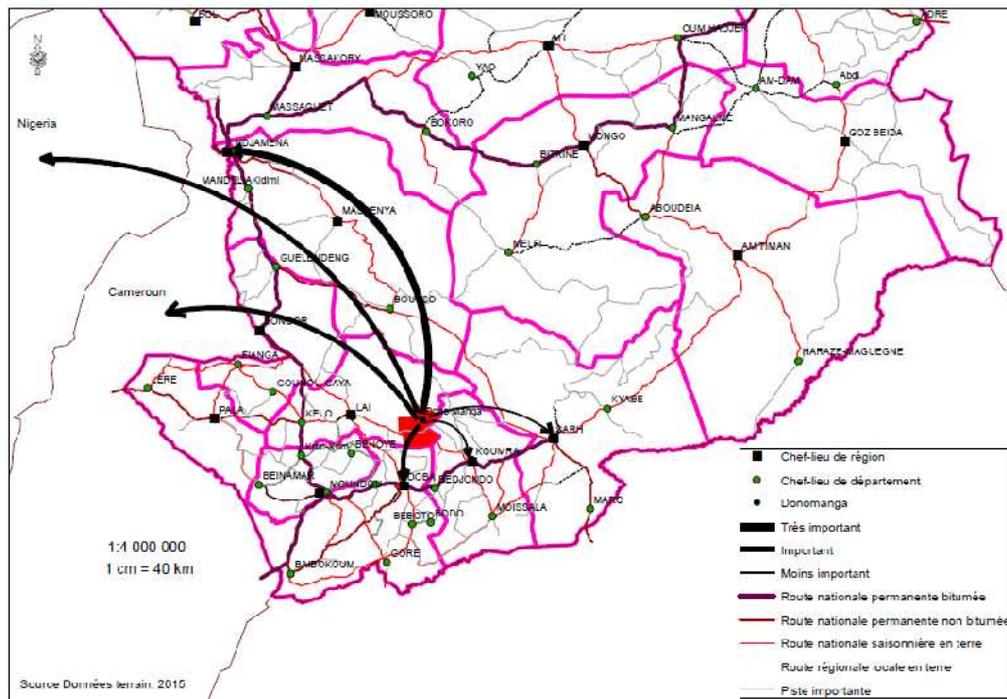


Figure 4: Flow of rural exodus

3.2.2 The Mutations of the Production System

The mobility of young people has led to a system of agricultural production based on pushed individualism, employee or by nature labor and the establishment of a form of wear.

In the past, Dono Manga Gouley people was recognized, solidarity and spoke on behalf of the community, hence the term 'djeikouweumbak' who wants it is between us. Any child is identified on behalf of the community and is bound to serve the interests of this. Thus, field works were organized in the youth group accompanied by elderly that encouraged them. The men welcomed the braves comparing them to the cultivator's ancestors of reference and women accompanied them with 'you-you'. It is at these times that the couples are identified. The weak were the object of sarcasm and they improvised songs which were bare their weakness. In compensation for the work performed, the owners were required to feed the workers or with local beers.

But with the mobility of young people, the process of the transformation of the rural world was launched (J. Bianco, 2007). Now, to attract the workforce, the haves provide paid work. The salaries were 200 CFA FRANCS for work of 6 hours (7 h-13) and 100 F CFA for 3 hours work in afternoon. These values will change from simple to double later. These paid works were initially interested civil and Christian associations.

It is also from that time that the concept of usury has penetrated the middle in all its forms. It is a system of loan with interest at repayment. The interest rate varies depending on the period, the duration and the quality of the borrower. For a value borrowed for a term ranging from 1 to 3 months, the interest rate is 50% of the capital. Beyond three months the rate is 100%. The deadline for veterans is tacitly quarterly and the interest rate is 100% of the amount. Poor underlying their hope on agricultural incomes, some of them repay in kind. Borrowed values and the amount of product made at harvest vary according to the types of products. For an amount of 5000 F CFA borrowed during the farming period, it makes a bag of millet. It is 10,000 F CFA for a bag of peanuts and 15.000 F CFA for sesame.

The mechanism for reimbursement by nature is more disadvantageous for producers. Indeed, the products are better than that on the market in time and space.

Table 1: Distribution of products by cost and period

Products	Cost by period	
	Harvest	May-June
Millet	12,000	20,000
Groundnut	25,000	35,000
Sesame	30,000	60,000

Source: Our surveys, 2015.

In this system of loan, the debtor gives more than 100% of the value of the harvesting of agricultural products to the creditor. These products related in time more values to creditor's traders.

The labor is also, in some cases, paid in kind at harvest. For products such as groundnut and pea, the unit of measurement is the "*coro*, a cup used for local measurement. The principle of the system is that, to harvest five *coro* paid to the owner of the farm, the manpower in compensation for slaughtered work of the fifth *coro*.

Bags used in rural areas for grain are those that come from Nigeria whose volume may contain between 43 and 44 *coros*. Whereas the average of 40 *coro* to minimize errors, then, to fill a bag of peanut not peeled, the producer loses an average amount equal to 8 *coro*. Under normal conditions of climate and temperature, a hectare of peanut gives the area an average yield, all deductions made of thirty bags of peanut kernels not average ten bags of peanut kernels. That assumes that the producer would in this case, lost about two hundred and forty (240) *coro* of peanuts or six bags of peanut kernels not giving turn two (2) bags and more than a third (14 *coro*) of peanut kernels.

At the time of the harvest of peanuts which corresponds to the month of October and November, the *coro* of peanut kernels is local markets six hundred twenty-five francs (625 CFA) which is twenty-five thousand (25,000) F CFA bag francs. What makes an expenditure of fifty thousand CFA francs (50 000). However, in the case of labor employed, by withholding the sum of two hundred francs per person and per day, the expenditure of the producer does exceed hardly ten thousand (10,000) F CFA even for fifty people used to harvest.

3.2.3 Implementation of Transport Systems

The impracticality of routes to accessing to the area has significantly reduced Dono Manga traffic rate with the rest of world and vice versa. This has allowed the implementation of a transportation system to join or exit Dono Manga. The surrounding cities of the sub-prefecture are installed in free spaces bags of food products which are used as travel agencies. It is the prerogative of individual owners or tenants of small vehicles that meet every morning to the agency or along major axes for destinations all-out depending on the days of rural markets. Dono Manga market day is on Wednesday every week. Departures are in the area generally on Monday and Tuesday. In the first case, the passengers mark a judgment to Kimre, a canton of the Sub-Prefecture that the market takes place every Tuesday. The journey from Tuesday is for passengers who land the eve directly on the market square.

From N'Djamena, there is only one departure every Sunday because of the distance-time and distance-cost related to the difficulty of access. Departure times depend on the number of

passengers and the stopovers of the moods of the drivers due to lack of competition. Shipping costs vary depending on the distance and the season.

Table 2: Distance cost of traffic to and from Donon Manga

Provenance	Distance/Season		Cost/Season	
	Dry	Rainy	Dry	Rainy
Lai	80	...	3000	4.000
Doba	60	180	2500	6.500
Koumra	90	....	4000	5000
Ndjamena	475	....	10000	12000

Source: Our investigations, 2015

During the rainy season all routes linking the Sub-Prefecture in other areas are invaded with water. Some become hardly passable and others are simply abandoned due to flooding. In the first case the transport costs are reviewed rising while in the second, the detour is required. It is the case of the Doba-Dono Manga path that is impassable in rainy season. Vehicles that are left are forced to go through Koumra located at 100 km further south to join markets lengthening the distance and the time set.

The area has about 30 veterans of the French army rescued from retired world war supported by France through its Embassy in N'djamena. Periodic movements in major cities for their retirement pensions are provided exclusively by a local trader based in Kimre. In this transport system, passengers have special treatment in time and space. The cities in which payments are made are N'Djamena, Moundou and Sarh.

Table 3: Movement of retired people on the basis of cost per season

Provenance	Distance/Season		Cost/Season	
	Dry	Rainy	Dry	Rainy
Sarh	175	....	7500	10000
Moundou	172	....	7500	10000
Ndjamena	471	....	10000	12500

Source: Our investigations, 2015

This travel system is expensive to the passengers concerned. Then, to minimize transportation spending veterans reduce the frequency of their displacement. They collectively choose to make the trip every six months instead of moving by quarter.

Inside the zone, the only means of transport are the motorcycle taxis so called "clandos". They are used in emergency cases of ordinary days where it is rare to find vehicles with four wheels. But their cost is often inaccessible. The cost goes beyond 10,000 f CFA at all seasons due to the shortage of fuel from rural areas. Otherwise, the plows are also used.

Conclusion

Communication channels are one of the important factors of socio-economic development of a given region. Rural or urban, built and maintained roads may allow the opening up of areas to facilitate the flow of agricultural products and goods to markets and access to goods and services. However, the lack or the deterioration of the roads, the high cost of transportation cost can induce the inflation of the prices of necessities limiting the purchasing power of the

population. The case of Donon Manga territory, which is only one example among many others, including the geographic opacity spawned many socio-economic mutations is edifying. It must address the administrative and traditional authorities to rethink the issue of management of road networks in Chad.

References

- [1] A.T. Toure and B. Compaore, Your farm subsidies are strangling us, In the *New York Time*, New York, July 11 (2003).
- [2] B. Goual and B.M. Naygotimti, La manne cotonnière : La rechute et la désillusion de paysan, *Dossier Coton. Tchadet Culture*, 129(1992/12), 2-6.
- [3] M. Ndoutorlengar and al., Peasants of tropical Africa face the challenges of agricultural produce markets (Case study of the self-managed market of cotton in Chad), *International Journal of Sciences*, 4(7) (July) (2015), 21-27.
- [4] J.J. Bavoux, *Géographie de Transport*, (2012), 231, Collection U, Armand Colin, Paris, France.
- [5] Ministère des Infrastructure et des équipements (MIE), Réseaux de transport en République du Tchad, (2011).
- [6] R. Chambers, *Développement Rural: Pauvreté Cachée*, (1990), 374, Paris, Wageningen, Khartala, CTA, Economie et Développement.
- [7] INSED, *Recensement Général De La Population Et De L'habitat Deuxième Edition*, (2009), 19-29, RGPH 2.
- [8] G. Magrin, Le sud du Tchad en mutations: Des champs de coton à la sirène de l'or noir, *Thèse de Doctorat*, (2002), Université Paris I, Paris, France.
- [9] K. Seneh, Système territorial et développement, Impact de la route Nouakchott Nouadhibou sur le parc national du banc d'arguin, *Thèse de Doctorat*, (2012), 315, Université du Havre.
- [10] N. Ngaringuem, Historique sur l'origine des Gouley, *Actes du Forum Sur La Communauté Gouley Tchad*, Du 20-23 Novembre (2013), à Koutoutou I.
- [11] B.L. Mumpasi, Les migrations en Afrique centrale: Caractéristiques, enjeux et rôles dans l'intégration et le développement des pays de la région, Université de Kinshasa, (2010), 1-27, Available from URL: <http://www.imi.ox.ac.uk/events/ghana-african-migrationsworkshop/papers/lututala.pdf>.
- [12] K. Gwilliam et al, Diagnostics des infrastructures nationales en Afrique/Les routes en Afrique subsaharienne, Résumé de rapport produit par la Banque mondiale et le SSATP, (2008), 1-10, Available from: URL: <http://www.eu-africa-infrastructure-tf.net/attachments/library/aicd-background-paper-14-roads-sect-summary-fr.pdf>.
- [13] OXFAM, Dumping, Le commencement de la fin? Implication de la décision dans le différent sur le coton Brésil/ USA, Edit Oxfam, Document d'Information d'Oxfam, Août (2004), Available from URL: http://hubrural.org/IMG/pdf/oxfam_coton_64_fr.pdf.
- [14] J. Bianco, L'exode rural: Un défi posé aux pays en développement, Mouvement pour une organisation mondiale pour l'agriculture (Momoagri), 1-3, Available from URL: http://www.momagri.org/FR/articles/L-exode-rural-un-defi-pose-aux-pays-en-developpement_162.html.