

Full Length Research Paper

Health Care in the rural areas in Chad: Accessibility and catch of load (case study of the sub-prefecture of Donon Manga in East Tandjilé)

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The Health sector occupies the 2nd of those which have profited from the financings of the oil incomes after education and agriculture for one decade. But in spite of this attention particularly given to the sector, the future remains dark. The average distance between the medical households and structures is 14 km at the national level against 26 km in the rural mediums which concentrate 80% of the population living with a minimal vital below 250 Currency of the African Financial Community. Poverty and the inaccessibility are thus the first factors of morbidity and mortality in the Chadian rural areas. The sub-prefecture of Donon Manga is an example. This article proposes to analyze the accessibility to medical care and the catch of load of the rural world through the case of Donon Manga in connection with the plans and project of company for a decision-making. The study is carried out starting from the investigations and the direct observations. Investigations were made near the populations, the looking after personnel and the patients of whom people living with human immunodeficiency virus (HIV) in the hospital complex of the sub-prefecture. Results of the investments are not with the height of the place to which the sector has been hoisted for one decade. The perpetuation of the problems with which people are confronted opens the door to the emergence of new actors who daily cause damage.

Key words: Rural, population, health, accessibility.

INTRODUCTION

The millenium objectives declaration is adopted when Chad started its entry in the oil economy. That is what enabled it to pledge among which the Health sector occupies a significant place. There is, inter alia, the reduction of the infant mortality and youth to 2/3, that

related to maternity of 3/4 and the stop of the propagation of the acquired immune deficiency syndrome (AIDS), with an inversion of the tendency during a period of 15 years (ONU, 2002).

Plans and strategies were undertaken and

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implemented into Chad to achieve these goals which the United Nations laid down. They aim all to improve public health by equipping the country with a coherent health system, powerful and accessible to all (MSP, 2008). The results awaited through the development plans of the sector are summarized in the decentralization of the health system, equity in the access and the integration of the health care activities. But it is advisable to ask to know, what are the states of places before the expiry day? Such is the apprehension that tries to appreciate this work through the case study of the sub-prefecture of Donon Manga. The right to health is a promulgation which can be made by all the countries without exception. But the decentralization of the health system in order to give equitable access to the populations of a nation to health care, as it is concerned, is an element which can be disturbed by many parameters. It engages the financial, material and human resources which can vary from a country to another. It results from our investigations that the results awaited by the millennium objectives are not for today when poverty and illiteracy come to tangle up the insufficiencies and the errors of the ones and others. The first problems to what the population is confronted are the difficult access to the health services. The relating data of the distance between the functional agglomerations and health structures post varied proportions (PAM, 2005). From more than 10 km to the national level, this distance practically passed almost to the double in the provinces in general and the sub-prefecture in question in particular.

The difficulties of access to the health care and the proportion of doctors per inhabitant which is the weakest one of the world (0.04%) contributed to produce new actors of health care of several natures and levels. The diffusion of the latter is encouraged and facilitated by the weak purchasing power of the population on one hand and the lack of control and reprisals by the authorities in load of the ministry on the other hand.

MATERIALS AND METHODS

The methodology of data acquisition for the realization of this work is based on the investigations, direct observations and talks. On the whole 200 people divided into two distinct groups, were the target of these investigations. The first category is made up of the personnel of the various health centers as well as public and private and the unauthorized actors of the health care of the sub-prefecture. It is about the complex hospital of Donon Manga, the Protestant private health integrated centers of Ter-Mission and Ter-village for the first case and then illegal and clandestine looking after and/or tradesmen of the pharmaceutical products of the principal agglomerations and the weekly markets of Kimré (every Monday) of Ter-village (every Wednesday) and of Donon Manga (every Sunday). The principal sought background information nearby these actors are the capacity of reception structures, the

type of their training, the level of study and the statute of holding to understand the quality of the care, the origin and the mode of conservations of the products. The second category of the people to which the investigations were managed is made up of the people randomly caught without taking in account their state of morbidity. Nearby the nonsick people, the sought objective information is to appreciate their comprehension of hygiene and to study accessibility, its mode and the limiting factors. Beside patients, on the other hand, we were in search of information concerning the mechanism of assumption of responsibility of the patients and their follow-up in the health centers. The direct observations provided necessary data making it possible to fill insufficiencies of the investigations through our stays in the surrounding villages of Donon Manga.

RESULTS AND DISCUSSION

The rural area in Chad, like those of other countries of sub-Saharan Africa, is characterized by poverty in spite of the decade of the passage of the country to the row of the oil producers. This situation has effects enormously on the people's life quality by the difficulties of access to drinking water, to health care, knowledge, instruction and improvement of the incomes without which one cannot speak about the human development.

Rurality and poverty

Rurality and poverty are appreciated in the context of this study on the basis of geographical accessibility of the area and of services availability and offered to the populations. The first elements determine the distribution of the goods and services while the second determines their access mode and quality. Donon Manga is the chief town of one of the five sub-prefectures which counts the department of East-Tandjilé (Figure 1). Located at the South-eastern of the latter, it is accessible by tracks built and arranged by COTONTCHAD Company liking which is, itself, in financial difficulties to normal function since the Eighties. This makes the zone difficult to reach during the rainy season from Laï, the chief town of the area and Doba, a close town of the area of East-Logone in the south. Only the South-eastern axis, starting from Koumra in the area of Mandoul, is practicable in any season. It is in the canton Donon Manga, chief town of the sub-prefecture which is built a hospital complex located at the western entry of the village. Indicated by "Saint Michel" from the name of a French monk having been useful a long time in the area, it was built in 2004 to function in 2006. It is a realization of the Catholic Church with the support of the Chadian state.

Donon Manga is separated from the chief towns of the close areas and Laï where the reference hospitals are on an average distance of 80 km. At the interior of the area, it is of a distance of 50 km against 35 in the department.

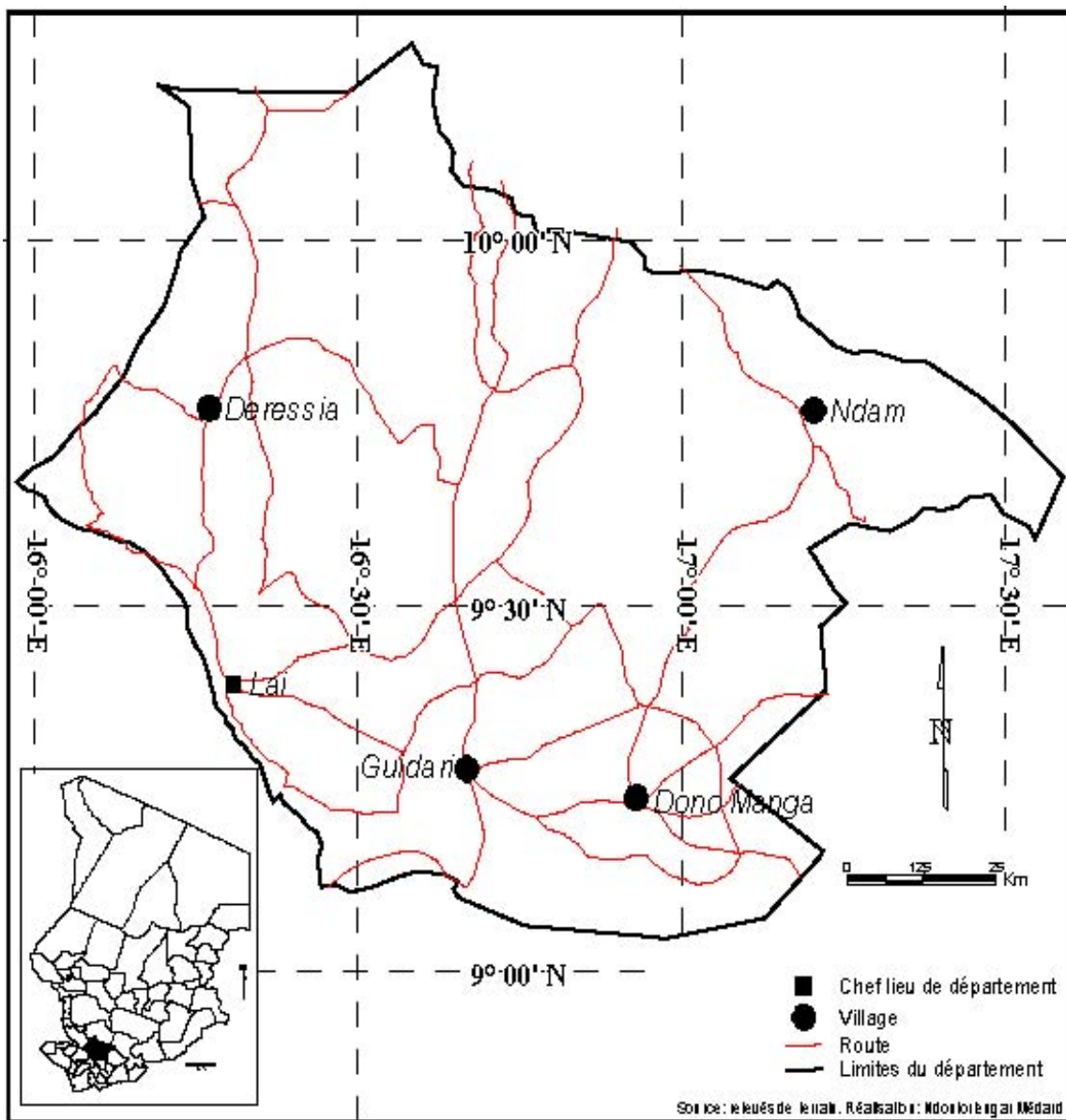


Figure 1. Localization of the sub-prefecture of Donon Manga.

The average distance between the villages and the center of Donon Manga is 26 km in the neighborhoods. The impracticability of the transportation roads weighs down, according to season, the time and the cost of access to the zone. These average costs represent those of the cars. But they vary when they are the motor taxis or carts. Except the market days where one can see the cars going and coming for the goods and the people, the average frequency of passage of the cars observed in the zone, all confused categories, is 0.25 car per hour. It leads the peasants to choose the motor taxis in the event of urgency. Then, in this case, the price of the way goes

from simple to the double. The carts of attachment are sometimes also used for displacements to reduce the cost. For this option, one earns money but not on time. Also, the risks to lose the patient during the way from one to two days of road which the cart can take are very high. The presence of the center of Donon Manga is salutary for the sub-prefecture and the department in general. But its distance and the transport charges related to this one, in time and space, limit the access to the health care and open the door to the improvisation and the maintenance of abstract in this sector of very significant health. Indeed, one of the factors which limit the access to the health

care is the distance which separates the residences from the patients of the center of health from Donon Manga and the latter from regional centers of the closest references. This difficulty of access to the level of the sub-prefecture is one of the causes of mortality: Time put to reach it, because of the distance and the defective condition the ways exacerbates the patient's health or cause death before arriving there. For example, on the 352 cases of cholera recorded in 2011, 22 of 33 deaths are recognized to take place in residence or on the road of the hospital. The false-layers and maternal mortality are mainly related to this problem. Sometimes, the women at the end of the pregnancy, in the absence of means of displacement or of the adequacy of those to cross the distance, are traumatized during hours by the traditional obstetrician ones. In fact, only the cases exceed these latter which arrived at the health centers whereas the victims are already exhausted to have a force to push in order to expel the baby. It follows the loss of the babies, the mothers or sometimes of both. 14 cases of death were recorded during the year 2012 in the hospital complex among which 8 were still-born children, at the same time, two were still-born children and two mothers and two mothers alone, respectively. There is also the case of the 8 people infected with HIV of the sub-prefecture which agreed to testify with disclosed face. Although weak, they met with difficulties of making tens of kilometers to reach the center in the search for their monthly catch of anti-retrovirus (ARV). They often face the rupture for the reason that the one charged with the follow-up of patients meet with difficulties of reaching the center of supply of the southern sector and south-west which is Moundou.

The access problem to the health care in relation to the other centers of references is also crucial. With the two general practitioners and six male nurses, the transfer in complicated case of diseases is imperative. But often, one over three referred cases carries out displacement for bound reasons, not only at the distance, but also with poverty. The transfer implies the assumption of responsibility of the medical expenses and the sick guards. That is, not often of reach to the peasants. The illustrative examples are numerous. Ndeng in the village of Kagama suffers from renal calculi which require an operation. But referred to a qualified center, he has waited for two years to join together the means being able to deal with the medical expenses and sickness before making the displacement to Koumra in Mandoul for its care. Neltongar with Mawa, operated at the "Sémour" hospital of Koumra, is unable to go back there for control after one year that his hernia operation lasted. The access to the health care in the rural medium is not only justified by the geographical distances, distance-cost and distance-time, it is also closely dependent on poverty, the educational level and of the beliefs of the

rural populations. The vital minimum of expenditure reached by anybody and per day at the national level is 376 F CFA (Inseed, 2009). This threshold is lower than 250 F CFA in the rural mediums and particularly in the sub-prefecture of Donon Manga whose incomes depend on the production of cotton, a sector which beats wing since more than one decade of years and whose company in load develops increasingly protectionist strategies. With the new system of market said "gone self-managed market", the money from cotton arrives a few months, if not one year later with the peasants, and exceeds hardly 100,000 F CFA for an average producer (Ndoutorlengar, 2012).

In ratio with the low incomes, the peasants are often unable to pay the 12,000 F CFA which request the hospital complex of Donon Manga for the treatment. This amount which represents the hospital expenses, whatever the duration of this one, is approximately 12% of the annual incomes of the rural agricultural producers. It is fixed in a contractual way to facilitate the access to the medical care to the stripped peasants. But in truth, it constitutes an obstacle for all and sundry. It is not only in the case of disease which asks for a short period of hospitalization that the peasants choose to go there. In this amount, for care of short duration, peasants prefer to direct themselves towards looking after abstract or pains clandestine calming. The incomes of cotton are often dragging. In the event of urgency, even if the peasant in question has goods to put on the market to pay the expenses of care, it is necessary to wait the day of this one which is weekly in all the zone. For the contrary case, it is necessary to make tens of kilometers to find it, if the day corresponds to that of a market of the sub-prefecture. The other alternative is to make recourse to the usurers to have the necessary means for the care.

The money put in loan by the usurers has several forms of refunding with interest rates which vary according to the mode of refunding. The interest rate is 50% when refunding is in cash and a bag of millet or groundnut, respectively for 8,000 and 10,000 F CFA borrowed. Whereas, even for the harvest millet, the selling prices of a bag of millet and groundnut are, respectively 12,500 and 15,000 F CFA. The educational level also contributes partly to the option of the orientation of rural people for the health care in the abstract one. The statistics confer on Chad 67.1% illiterates (Inseed, 2009). But these statistics vary from one area to another. Also, the majority of the people who can read and write is concentrated in the cities. The rural mediums in general contain illiterate people and the more poor. 83% of the second categories of the surveyed people are illiterate. This situation can hardly enable them to understand that the missed treatment or not kept tract can immunize the bacteria and contribute to complicate the disease. Or, they can no longer understand



Figure 2. Sight of a room of hospitalization. In the absence of bed of patient, a hospitalized woman is lengthened on two juxtaposed benches which are supposed to be used to sit in the waiting room. Source: Stereotypes Mbaïro (2013).

either that the badly preserved products or that of which the exceeded period of validity can harm the health in one way or another.

Beyond populations' poverty and illiteracy, beliefs oppose, they also serve as a barrier with the access to the health care. The latter is maintained by the tradition. The duality tradition-medicine is strong in the community where any phenomenon finds explanations in the supernatural one and through the ancestors. The illustrative cases are numerous. For example, a case of malaria with convulsion can be interpreted like the effect of sorcery. Thus, parents rather lead the patient at the tradi-pratician than in a health center to receive adequate care. In the village of Kaïmit, a wound on the leg of a man did not cure for 4 months. The explanations of the "clairvoyant healer" which could not bring solutions to the sufferings of this one sent him in the fate according to which its wound will never cure because he offended his ancestors. But in truth, at close view, the germs of the wounds are rather maintained by the recurring use of the same dirty band for the car-bandage without sterilization of any since the wound.

Actors and qualities of the health care of the rural mediums

The results provided by two general censuses of the

population and habitat which Chad knew are gathered from the area, which does not make it possible to make the ratio of looking after per capita. But the sub-prefecture of Donon Manga counts 12 great agglomerations. On the other hand, the hospital complex within the competence of the sub-prefecture counts two general practitioners and six male nurses. This numerical insufficiency of looking after personnel, reception facilities (Figure 2) and the distance of the center, evoked more and jointly contributed to create private "health care cabinet" in each agglomeration. It was given us to note, during our observations of grounds that, in each of the 12 agglomerations which the sub-prefecture counts, there is at least a cabinet. Some are old care centers resuscitated by the communities and others, residences of the individuals without any training in the field of health, are set up and held by these.

Three types of distinct actors, from their training and their mode of service, dispute market of health care in the rural space in Chad in general and in the sub-prefecture of Donon Manga in particular. The first group is consisted of the actors who operate under the banner of the religion and generally have a framework built. The second is composed of the semi-well-read men who, for lack of school or professional success, find a means of subsistence in the trade where the request does not miss. On the other hand, the third is a hold-all and is distinguished from the others by a type of trade hastily of

Table 1. Geographical distance, distance-cost, distance-time between Donon Manga and other areas.

Period	Time-distance (h)		Coût-distance	
	Dry	Wet	Dry	Wet
Donon Manag-Laï	2	4	2,500	5,000
Donon Mang-Koumra	2	2	2,500	3,500
Dono Manga-Doba	2	3	3,000	5,000
Donon Manga Bébaloum	3	7	4,500	7,000
Donon-Moundou	4	8	5,000	8,000

Our investigations, 2013

Table 2. Comparative examples of the prices of the products on the markets.

Designation	Price CFA	
	Pharmacy	Market
	Value (FCFA)	
Ceftriaxon	2,500	500
SAT	4,000	300
Palujet	2,000	1,000
Quinine injec.	2,500	1,500
Auréomycine	1,500	600

the pharmaceutical products. They are indicated by the term of Doctor Choukou. The common character of the first group is the use of a part or a room which makes office, at the same time, of room of consultation and medical care. The setting in observation of the patients under the trees and the out-of-stock condition of the products are quite usual. For example, the care center of Ter-Mission which is of the colonists' heritage to supply themselves must make recourse to the leading authorities of the evangelic churches. The response to the request can spend several months. Also, it is found there as a male nurse and an agent first-aid worker. The public ones such as those of Guidari, Darbet and Dar Modehelnagar are not better than the others. They are not equipped and function only with one looking after.

The deficiency of the first group generated a proliferation and made credible another. If the actors of the first await the decision and the means of the higher authorities to supply pharmacy, the independent ones who constitute the second group do not haggle over the means to implement to furnish the Table 1 and 2 case or "stamp". Especially, the trade is profitable which makes them efficacious to the eyes of the peasants. But the quality of services does not reflect appearances. The fact that these actors' group is mainly literate does not justify their knowledge of the domane and health care. In Gaga Mbassa, after having missed several times the

baccalaureat, an old Mister of forty withdrew himself at the village to open a health care cabinet where he consults and manages the treatments. Another care center is held in Ter-village by former Pastor. In Darbet, a former "déflaté" soldier exerts the same trade. With the absence of the training in health care, deontology and the practice of the trade which is practiced in the rural mediums, two interpretations with annoying consequences are possible: traumatism and infirmities to the patients.

By the pecuniary spirit of profitability which animates the experts, the latter can sell to the illiterate peasants, in the search of relieves, of the badly adapted products or of which the period of validity exceeded. Or, they can during the care, miss the veins with the attempts by the perfusion to the physiological serum. The attack of the same vein due to attempts of injection can entail not only traumatism but the damage such as the infirmity of the patient. In the village Kabogo, a pastor's girl lost a part of her right buttock following a missed injection having made the abscess. She spent two months in the hospital complex of Dono Manga before finding health care. During the observations of ground, it was given to us to meet 3 people who suffer from the infirmity due to missed injections.

Certain actors of the zone practice until today the null and void system of health care at risks which consists in



Figure 3. Trade of products in a street. A 12 year old boy hardly holds a trade of products of care of human health. Source: Stereotypes Ndoutorlengar (2012).

Using the materials of work for the treatment of the people after having boiled them. This practice opens the door to the various transmissible infections. The damages caused by the non-professionals' practices are numerous. For example, without knowing the serologic state of a patient, the amateur who poses the perfusion of the serum may entail the death of this one by posing the glucose serum in the place of Ringer, if the patient is diabetic. In Kagama and Ter-Mission, located, respectively at 3 and 7 km of Donon Manga, two young people saw, each one, a part of their penis-tip carried by the blades at the time, in the attempts of circumcision by the amateurs.

The third group is that of the doctors *choukou* called while still strolling around town. It is composed of people of all horizons, all ages and levels. Their common characteristic is mobility and convincing art. In large bags, they carry pharmaceutical products and cross the public places with the research of the customers instead of the reverse. In the weekly markets, a product, even little known by the carrier, can be commented on and with conceit by this one to be accepted by people not knowing neither to read nor to write.

Supply and risks

The proliferation of the actors of health care in the rural

mediums is due to easy access to products, poverty and lack and/or insufficiency of repressions. Before the nineties, on the extent of the territory of Chad, one could find products of health care and buy only in health centers and in pharmacies only on presentation of a medical ordinance. But nowadays, one can find the same products, at least of same name, in markets, streets (Figure 4) and in the shops like ordinary goods. In each market of each city of the country, a place concentrates shops (Figure 5) for the marketing of products of health care. They are of all qualities and any origin. They penetrate by the porous borders of Sudan, Cameroun and Nigeria close countries because Chad does not produce any of these remedies. They are spread through the country to reach today, even the most moved back corners. The increase in the quantity of health care products in the rural mediums has been supported by the reprisals undertaken by the public authorities for 3 years. These latter are only limited in Ndjamen, the capital. Thus, the privileged places of refuges and market are then provinces. Donon Manga is supplied in the large markets of Koumra in Mandoul, Doba in Logone Oriental, Moundou in Logone Occidental and Laï which surround it (Figure 3).

The doubtful origins, the bad conservation and the damage of some of these products are known to all. But the preference of their choice by the consumers is often guided by the weak purchasing power of the population

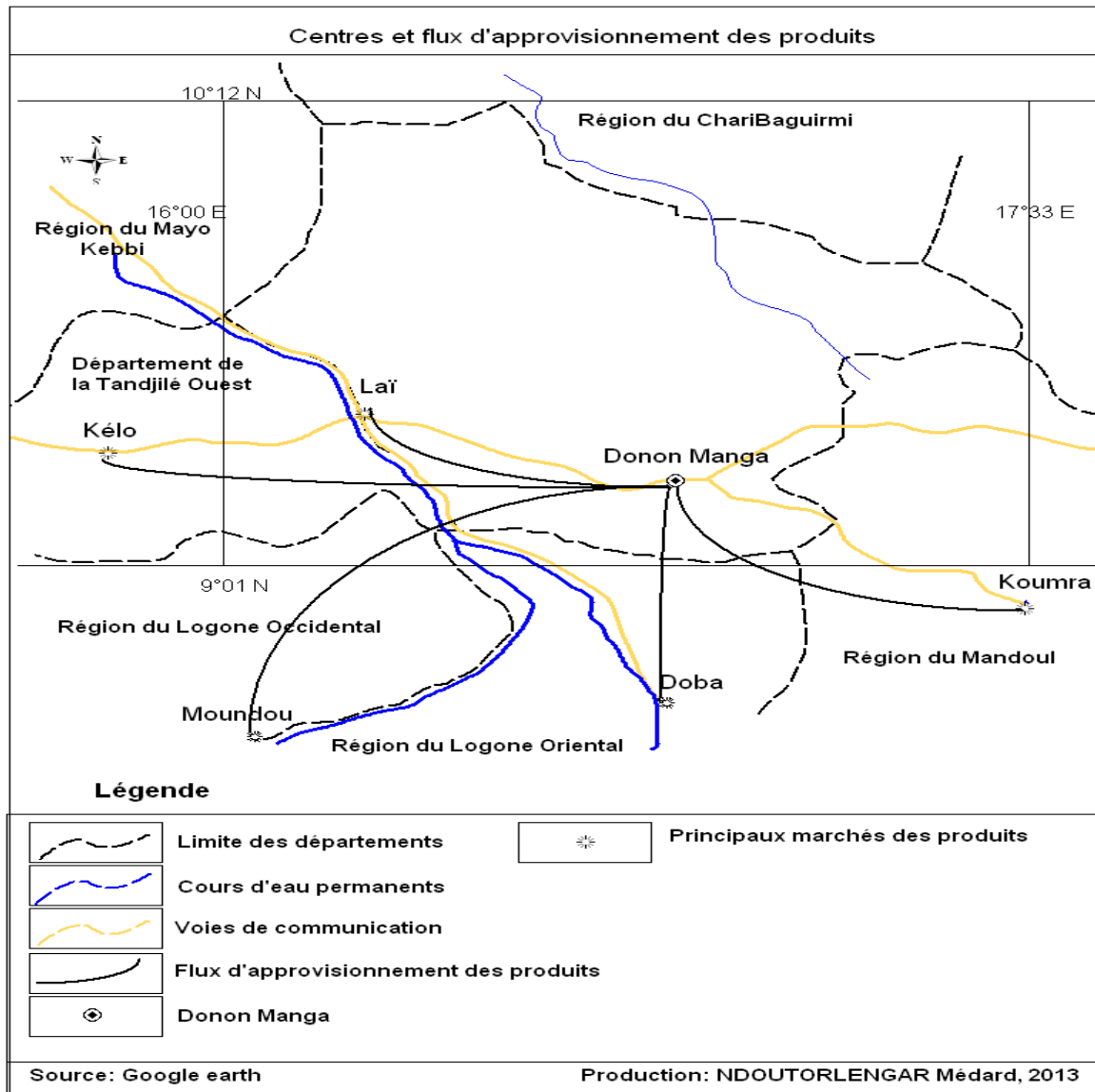


Figure 4. Provisioning and flow of the pharmaceutical products.

with equal finality that is to calm the pains or to cure a disease, prices of the products differ according to whether one buys those in the approved pharmacy or market.

The difference between prices of the products paid in the pharmacy and the same bought in the markets is such that it cannot leave indifferent. For example, for the same product ceftriaxon, the one who buys at the market earns four times less expensive than the other who pays in pharmacy. With this price, it arrives sometimes that the legal actors supply themselves in the markets for pharmacies of health centers in making consequent benefit. The expensiveness of the medical care products

to pharmacies is legitimate. They are justified by the fact of the loads of hiring, taxation and of the labour to be supported, whereas at the market, the tradesmen are only satisfied to pay the right of place perceived daily by the communes. In this latter, the head of company ensures all the activities which are supposed to generate expenditure.

CONCLUSION AND RECOMMENDATION

In spite of the place of the health sector among the priority ones which profit from the particular investments



Figure 5. A shop of the pharmaceutical products. Ci-high, a trademan discussing the price of products in its shop. An example of the shops which one can find in each market on all the extent of the territory. Source: Stereotypes Ndoutorlengar (2012).

and thanks to the oil incomes, the question of access to human health care in Chad still remains delicate. If in the capital, efforts are agreed, this facade is often betrayed by great insufficiencies in the provinces and the disorders maintained in the rural mediums. In general, in the provinces, the hospital complexes are, not only distant to more than one hundred of kilometers round, but often badly equipped and are lacked, looking after personnel. The insufficiency of the structures and looking after personnel generated a new type of actors who benefit from the faults of the authorities. Poverty, in addition to limiting the access to health care services, entails a preference with the products at lower cost and of quality which does not respect the requirements of the life. To achieve the goals of the millenium to which Chad adhered and of which the Health sector gathers to it, for only items 4, 5 and 6, it is almost imperative to reconsider dimensions of the actions and to re-orientate them when even the cutoff date is less than two years.

Conflict of interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

REFERENCES

- ONU (2002). Premier rapport Pays sur la mise en œuvre de la déclaration des objectifs du millénaire. 4-8.
- Ministère de la Santé et des Affaires Sociales (2008). Plan national de développement sanitaire du Tchad 2009-2012. 2:7-46.
- PAM (2005). Analyse et cartographie de la vulnérabilité structurelle à l'insécurité alimentaire en milieu rural au Tchad. CSFVA (J-S 2005):17-18
- INSEED (2009). Tchad, profil de pauvreté. 2e enquêtes sur la consommation et le secteur informel au Tchad (ECOSIT 2). 4-15.
- Ndoutorlengar M (2012). Le coton face à l'arachide : enjeux et perspectives des deux filières concurrentes dans le Mandoul au Tchad. EUE. 241-256.