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## **The Kenyan Transport System**

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### **Abstract**

Dieser Beitrag soll Missverständnisse über Afrikas Transportsystem klären, die durch postkoloniale Einflüsse entstanden sind. Durch die unpräzise Literatur und mangelhafte Arbeit, die seit dem Imperialismus über dieses Thema durchgeführt wurde, wurde die Erneuerung und Aktualisierung der wichtigen Information in Bezug auf die Infrastruktur vernachlässigt. Die vorhandene Literatur lässt den Leser demnach glauben, dass es in diesem Bereich keinen Fortschritt gegeben hat. Die Kenianische Bevölkerung hat jedoch viele verschiedene Strategien umgesetzt, um das Problem des Transportes zu lösen. Allerdings wird die Kooperation unter Organisationen der Entwicklungszusammenarbeit, örtlichem Handel mit Nahrungsmitteln und anderen Erste-Hilfe-Produkten, sowie die generelle Mobilität durch Mängel im heutigen Netzwerk und dem Zustand des Transportsystems in den meisten afrikanischen Ländern stark behindert. Dieses Problem soll anhand eines aktuellen Beispiels illustriert werden.

### **1. Introduction**

Previous research of mine on the Transport System in Ghana made me curious to find out what the situation was like in another African country. At that time I was confronted with a broad range of literature mainly from the colonial period. Whilst on the spot in Kenya, I was able to convince myself, that much of the existing literature also requires updating, as most of it was written during the time of colonial rule.

The following paragraphs are structured into the main components of the development of traffic in Kenya, the infrastructure on the periphery, road construction projects and, finally,



the example Garissa, exemplifying all areas on the periphery of the Kenyan infrastructure. Some topics will be dealt with in detail, such as the density of the network and the differences between the north and the south of the country. Furthermore, the quality and the safety of the existing system will be contemplated.

The strongest emphasis will be on the network and condition of the roads mainly used for national transport. I see a problem posed by the inadequacy of that specific network, which helps to connect the hinterland with traffic junctions and, furthermore, with international centres. All the points made will support the thesis that famine in the northern and north-eastern parts of the country can, at least to some extent, be avoided in the future, if the finances are invested in the right way.

Many comparisons with the German network will be made. This is due to a mainly German audience at the congress.

## **2. Development of Traffic in Kenya**

### **2.1. Density of the Network**

With an area of 582,646 km<sup>2</sup> and 34 million inhabitants in Kenya compared to an area of 357,050 km<sup>2</sup> and 82 million inhabitants in Germany in 2005, Kenya has the problem of linking less than half of the population of Germany over nearly double the amount of space. In 1962 the total length of Kenya's rails was 2,069 km. By 1988 this had been extended to an entire length of 2,733 km. All the Kenyan railways are one-meter-gauge single tracks. Compared to these numbers Germany's entire length of rails was already 46,756 km in 1996. Kenya's roads covered a distance of about 42,000 km in 1963, 11% of which were surfaced and 63,663 km in 1997, 14% out of which were paved, compared to Germany where the entire length of roads was 231,280 km in 1997 (Mehne 2002:80).



Figure 1: Kenyan road network.

Cartography: Monika Feinen

The road and railway network in Kenya is mostly concentrated in the south-west of the country. The main routes of the railway – network are between Mombasa, Nairobi, Nakuru, Kisumu and Eldoret. This unequal distribution is due to the colonial setting, when the British



first started building railway tracks in 1896 in order to support their economic as well as political and strategical interests (Mehne 2002:73). Later, in 1977, roads were built as "feeder"- roads, such as to bring economic products to the railways. These appeared to be cheaper and easier to build than railways so that after just a few years they were competing seriously with the railway system. Due particularly to the increase in production, bigger roads became necessary for motorized freight transport to link the country to the international market. "The vast and sparsely populated areas east and north of the highlands, however, were generally served only by scattered roads and a few dirt runway airstrips" (Nelson 1983:165).

## 2.2. Differences North vs. South

In figure 2, the satellite photograph clearly shows evidence for the climatic difference between the northern and eastern parts of the country as opposed to the south-west. The climate in the north is very arid, that is, extremely dry; further south it is semi-arid, which means it rains more regularly (cf. Westermann 1992:220).

Comparing the two maps (figure 2), the reason for such an agglomeration or concentration of the population in the south-west becomes evident. Due to the hot and dry climate, few people started dwelling in those areas which were not suitable for agriculture or mass production. People who are resident there these days live mainly at subsistence level. This climatic situation was not much different during the colonial period (cf. Schultze 1966:24). In the areas which the colonial rulers did not consider profitable for economic exploitation, no investments were made in the construction of a transport system. Starting therefore with the construction of the railways, it becomes evident that they are limited to the south, passing only through some important cities and towns such as Mombasa, Nairobi, Nakuru, Kisumu and Eldoret. The railways and later also the roads, were connecting links within Kenya as well as with countries abroad and the global market, so that many people were attracted to the areas close to the transport system and settled there. This caused an agglomeration, and it was worth investing in the development of the network in that area (cf. Mehne 2002:82).



Figure 2: Differences North vs. South.

Source: <http://visibleearth.nasa.gov> access April 25<sup>th</sup>, 2006.

Cartography: Monika Feinen

### 3. Infrastructure on the Periphery

In the following paragraphs the infrastructure on the periphery will be examined. It is hereby essential to note, that the term ‘periphery’ is used to refer to all places beyond the centre of agglomeration.

### 3.1. Quality

Kenyan roads can be differentiated into two main types: the classified and the unclassified roads. Within the classified road system, three main types of roads are to be considered. Firstly, the international trunk roads, which are main roads, run to the neighbouring countries such as Ethiopia, Somalia, Tanzania, Uganda and Sudan. In 1981 their entire length was 3,600 km, two-thirds of which were paved. Secondly, there are the national trunk roads, which in 1981 had an entire length of 2,785 km, two-thirds of which were paved. Finally, the primary road system, with an entire length of 7,750 km in 1981, a quarter of which were paved, links important provincial centres. The Roads Department of the Ministry of Public Works is responsible for their maintenance (Kenyaweb 2006).

The unclassified road system, also known as the secondary or minor road system, falls under the responsibility of country councils, the Ministry of Environment and Natural Resources, the Ministry of Tourism and other organizations. The surface of these roads is mainly gravel or earth standard and the entire length reaches almost 32,000 km, out of which less than 3% are paved. These roads serve mostly local needs and provide general access to the rural areas by linking them together.

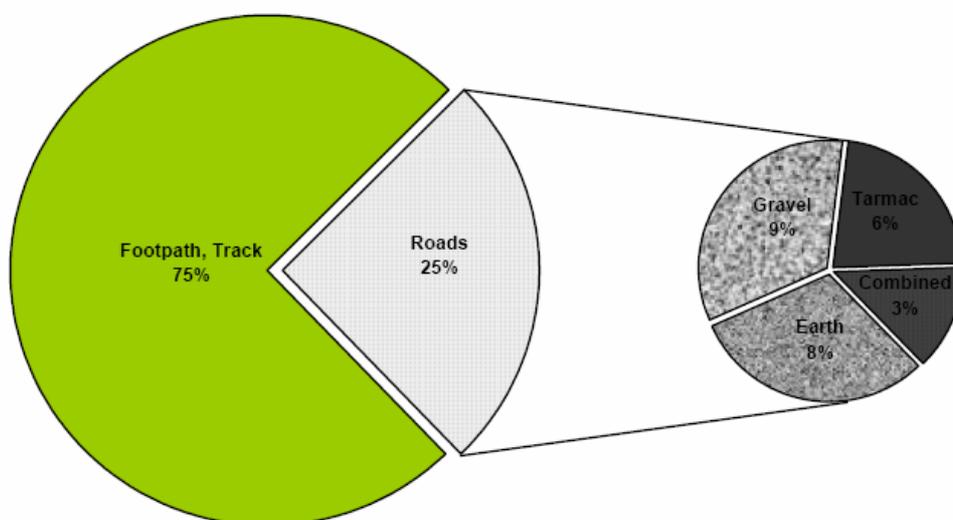


Figure 3: Road distribution according to the different types of roads in the Kakamega District in Western Kenya. Source: Nieboer (2001:54).



The life expectancy of roads in Kenya is eight years and, according to Mehne (2002:102), far shorter than that, for example of those in Germany with a life expectancy of 40 years. This is due to various reasons, such as the lack of governmental responsibility for road maintenance, the climatic conditions, as Kenya is subject to tropical influences, and the condition of vehicles, which are often overloaded and carry unacceptable axle loads. A further point to be considered is corruption. There is evidence (Otieno 2003) that not all the money given to the government, which is responsible for the maintenance of the roads, is actually used for that purpose. A lot of time is lost through the money not arriving immediately at its intended destination, and there is also evidence that a substantial amount of it never arrives at all. " [...] the Board, however, was not able to achieve much due to various problems-lack of adequate funding, diversion of funds meant for road maintenance, corruption- resulting in poor workmanship by contractors and engineers, overloading by heavy duty commercial transporters etc" (Otieno 2003). For these reasons, the roads have to be built faster, and their surface cannot be as thick as it was originally supposed to be, because there is not enough money for the required materials. As the road surface is much thinner than it should be, it wears down faster, and new investments are required to restore it to good repair. This is a vicious circle.

### 3.2. Safety

The following table (figure 4) shows some numbers of vehicles involved in accidents from 1987 to 1994. It becomes evident that passengers in cars are especially endangered.

<b>Year</b>	<b>Cars &amp; Utilities</b>	<b>Lorries</b>	<b>Country Buses</b>	<b>Tankers</b>
1987	3,964 (41,1%)	1,069 (11,2%)	413 (4,3%)	106 (1,1%)
1989	4,259 (42,1%)	1,220 (12,1%)	555 (5,5%)	10 (0,1%)
1991	4,634 (41,7%)	1,218 (11,0%)	640 (5,8%)	22 (0,2%)
1993	4,626 (37,4%)	1,291 (10,5%)	624 (5,1%)	94 (0,8%)
1994	4,078 (34,9%)	1,207 (10,3%)	534 (4,6%)	31 (0,3%)

Figure 4: Numbers of vehicles involved in accidents from 1987 to 1994.

Source: Asingo (2004).



Further reasons for the high risk to which car passengers are exposed, are the use of easily detachable seats in cars and Matatus<sup>1</sup>, the poor vehicle maintenance, the overloading of vehicles, "partly due to lack of passenger vehicles at peak periods and also a desire by the operators to maximize profits" (Asingo 1999), the excessive and reckless driving due to the competition within the transportation sector and the poor road maintenance. It is also estimated that about 500,000 Kenyans participating actively in motorized traffic are without a driver's license (CNN 1999).

But it is not only the immediate circumstances which endanger passengers. Environmental facts also play a large role as the cause of illnesses. According to Mehne (2002:176), though, the Kenyan population is said to be ignorant of these problems such as noise and pollution, which is aggravated by the deconstruction of catalytic converters to enable the use of the cheaper, leaded fuel, mainly petroleum. There is no set law to limit the percentage of air pollution, whereas in Germany 50 mikrogramms of particles of dust and other polluting matter per cubic metre must not be exceeded on more than 35 days a year. The immense air pollution causes respiratory diseases.

Christoph Mehne (2002:176) suggests the following solutions to the pollution problem. He claims that a higher taxation of fuel, the control of fuel quality, the introduction of unleaded petrol, tax concessions for engines producing a low level of harmful substances and a programme for environmental education would reduce the problem.

#### **4. Road Construction Projects**

The Kenyan government is aware of the condition of the national traffic system. In December 2002 the Kenyan Ministry published an article concerning this topic. Besides other information it contained the following: "Kenya had the best infrastructure in Africa during the 1970s. However, the infrastructure has deteriorated markedly in recent years owing to the suspension of donor finance and, in turn, a lack of regular repair and proper maintenance" (Government of Kenya Information 2002). The World Bank also commented on the

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<sup>1</sup> A Matatu is a small bus used for public transportation and holds 14-30 passengers. "The Matatu industry is privately-owned and run by individuals." (Kenyaweb 2006).



deteriorating situation of the country's infrastructure: "Road transport accounts for over 80 percent of Kenya's total passenger and freight transportation. The road transport infrastructure has over recent years deteriorated to the extent that 47% of the classified road network is currently in a failed condition and requires reconstruction" (World Bank 2006). The recognition of the problem was followed by action, and currently different projects on the improvement of the traffic system are in process.

#### 4.1. Finances

Most projects are financed by foreign aid or by the Kenyan government; for example 5% of Germany's financial aid are invested in the transport sector. In addition to Germany, further European governments which contribute financially, are Denmark, France, Sweden and the European Union. The World Bank is greatly involved in the financial support of current projects (World Bank 2006). The Kenya Roads Board works in cooperation with the Kenyan government and not only finances some projects but also executes them, as will be shown below.

#### 4.2. Concepts and Regulations

The Kenyan government, according to a statement in 2002 (Government of Kenya 2002), launched a US\$245 million road rehabilitation project in 2000, covering six urban centres<sup>2</sup>. Furthermore, it introduced reforms addressing the reorganization of the transport sector and created institutions as well as the necessary legal and regulatory framework for an integrated and enhanced system. Besides this, the introduction of intermediate public transport safety measures, such as speed regulations and safety belts was processed. These regulations caused a 25% decrease in traffic accidents in 2004 (Oyuke 2006; World Bank 2006). However, only two years after the introduction of the new regulations, the situation has returned to its

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<sup>2</sup> These are not further distinguished in the statement.



original state due to fewer police controls, and the steadily increasing competition. The number of accidents has therefore risen again.

Besides acting independently to make changes, the government also works in cooperation with the Kenya Roads Board (KRB). This is occupied in working together with local authorities to ensure the opening of feeder roads and the maintenance of the existing roads. It is also involved in the introduction of policy and strategy recommendations for an effective and sustainable management and financing of the roads sub-sector. Furthermore, an amendment to existing legislation has been proposed, which allows private sector participation including road concessioning and tolling.

In addition to these new regulations and projects, the Kenyan government has also made an amendment to the KRB Act to streamline the assignment of responsibilities for the road network. Finally, innovative programmes, such as the Roads 2000 Programme, which will be explained below, have been introduced.

Nevertheless, the current programmes have not yet had a correspondingly large impact on improving the condition of the road network. This is due to a lack of appropriate maintenance and the absence of a proper institutional framework. Instead of giving priority to routine and periodic maintenance of roads that are in maintainable condition, the emphasis continues to be directed to the reconstruction of roads which have become impassable. This, according to the World Bank (World Bank 2006), is not a sustainable approach. The government is still confronted with challenges such as the creation of the right institutions and mechanisms to carry out road maintenance, the establishment of a new national highway agency or authority and in general, the establishment of a new lean and commercially oriented organization.

Roads 2000 is a project organized by the Roads Ministry. The strategy this project designs is to focus on an integrated network basis rather than on prioritized areas, and to focus on routine maintenance and spot improvement works. It intends to use local resources as much as possible, and also makes an effort to employ qualified workers. Over the years, several hundred Kenyan engineers and technicians have been trained in the use and management of labour-based roadworks, in addition to over 300 engineers and technicians from 18 different countries. The partnership with the private sector means partially privatizing governmental issues (International Labour Organization 2006).



## 5. Example: Garissa, 2006

With regard to the examples and in concluding this essay, it has so far become clear that not only the question of road maintenance is an important one, but also that the construction of roads is essential, and this requires that the financial support reaches its intended destinations. The case of Garissa exemplifies all northern and eastern parts of the country, which have a poor infrastructure, if at all a useful network of roads to link the climatically less fortunate areas to the rest of the country, and to enable food transport. The concentration of a well-developed infrastructure in the parts of the country where there is agglomeration, on the other hand causes a contrasting situation. The US-army, which is currently based in Kenya, stated that "the stores in Eldoret and Kitale are bursting with excess grain while people are dying a few hundred meters away from hunger" (Waira 2006). As the statement continues "they are not dying because of war or civil strife, but because there is no transport and other logistics in place to ensure delivery of the much needed relief."

Therefore, the importance of roads does not simply lie in practical reasons for connecting places with one another; roads are an elixir of life, running through the country like veins in a body, and enable the population to have adequate access to food supplies where the local production is not successful.

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