

Water transport and development in a rural context:
the case of the Grand-Lahou region in Ivory Coast



By

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Foreword

This study on water transport was initiated by the Waterways and Livelihoods programme of the International Forum for Rural Transport and Development (IFRTD) and financed by the United Kingdom Department for International Development (DFID). Its aim is to improve the mobility of rural communities, particularly in very isolated areas.

Readers are requested not to pay too much attention to the spelling of place names, which in the absence of a written tradition, may be written according to the pronunciation particular to different socio-cultural groups. For example, Kpanda is sometimes spelt Panda just as Tadjò, Mackey and Tchoco may be spelt respectively as Tadio, Maké and Tioko

The value in francs is expressed in CFA francs:

- 1 \$US equals 500 CFA Francs but this can fluctuate according to the period. The American dollar generally ranges between 480 et 700 FAFC ;
- 1Euro is equal to 655,957 FAFC ;
- 1£ is equivalent to 1000 FAFC. As with the American dollar, there can be fluctuations. Thus the value of the pound sterling (£) as against the CFA franc ranges between 900 and 1100 FAFC.

The prices given for crossings are those which were current when the survey was carried out. Changes can occur over time, often related to increases in fuel prices.

Settlements are groups of temporary shelters, situated on plantations or on the edge of fishing grounds. They may become permanent dwellings.

The terms Pinnacle and pétrolette both refer to the same type of craft. Some people say pétrolette instead of pinnacle. They are river boats, made locally, with an engine added.

Summary

This study forms part of the Waterways and Livelihoods research project that was implemented in 10 countries across Asia, Latin America and Africa. In the Ivory Coast the study area is the Grand-Lahou region, situated in a rural environment with waterways used both for fishing and navigation. Agriculture is an important activity in this region and one in which the majority of the population are employed. Water transport plays a vital role due to the isolated nature of the region and the importance of its relationship with Abidjan, the main consumer centre.

The study highlights the advantages and limitations of the area studied. It also demonstrates how water transport functions, the imbalance in supply and demand for transport that gives rise to a need for additional and more suitable means of transport, and the strategies for the development of water transport that have been adopted by different actors. Water transport is a tradition in the Grand-Lahou region that should be preserved in a way that takes into account the region's evolving socio-economic realities.

Introduction

Inland water transport is used in many countries. In Ivory Coast this mode of transport was very important during the colonial period due to the poorly developed road system. Logs, pineapple, manganese and other heavy products were transported by barge over expanses of water, particularly rivers, lagoons and lakes.

Since independence, the development of a road network, which increased from 25,000 km in 1960 to 82,000 km in 2001, has slightly reduced the scope of waterways for transport. Nevertheless, there are still regions which have serious mobility problems. This is true of the Grand Lahou region, situated in the South West of the country, 140 kms from Abidjan, where many people live in remote places. Water transport is the only means by which these people can travel around.

This study aims to identify the positive aspects and limitations of this coastal region and to propose solutions for improving water transport for its inhabitants. The work has been carried out using secondary data collected from institutions interested in water transport and primary data collected in the field using group surveys and individual questionnaires. In this study we present factors in the development and functionality of water transport, an analysis of supply and demand for water transport and the strategies that have been adopted by different stakeholders to improve water transport.

1/- Factors in the development of water transport

1-1/- Main natural and economic characteristics of the Grand-Lahou region.

In 1985, Grand-Lahou was established as a Département (a territorial division) by law No. 85-1086 of 17 October 1985, with a sub-prefecture of the same name. The Département covers 2,565 km² with 85,965 inhabitants according to the General Population and Housing Census of 1998.

Originally situated on the coast where Lahou Kpanda, also called Lahou Plage (beach) is today, the new city of Grand-Lahou was created in the 1970's. It is 18km from the old colonial town. The transfer of administrative services to the new site took effect on 28 July 1975. The reason for the move to this new site was erosion of the coastline by the sea – the strip between the Atlantic Ocean and the lagoons of Noumouzo and Lahou is growing narrower each year. Grand-Lahou is part of the (administrative) region of the lagoons (cf. figure 1).

DANS LA REGION DES LAGUNES



THE DEPARTEMENT OF GRAND-LAHOU IN THE LAKE DISTRICT

Autoroute: route a chaussée séparée	Motorway : road with separate carriageways
Route principale revêtue	Main road – surfaced
Route principale non revêtue	Main road – non-surfaced
Route secondaire non revêtue	Secondary road – non-surfaced
Limite de région	Regional border
Limite de Département	Departmental border
Limite de Sous-Préfecture	Sub-Prefecture boundary
Chef-lieu de Département	Main town of Département
Chef-lieu de Sous Préfecture	Main town of Sub-Prefecture
Village	Village
Le Département de Grand-Lahou	The Département of Grand-Lahou

The region is dominated by dense forests, and the landscape characterised by large extents of low-lying land and marshland. The sub-equatorial climate is hot and humid, with temperatures ranging from 20°C to 30°C. There are two main seasons (dry and rainy) and two similar shorter seasons. The average annual rainfall is 2000mm.

In the Grand-Lahou region there are many expanses of navigable water. A string of lagoons (Tagba, Mackey, Tadjo, Noumouzou and Lahou) are situated in the South of the area. These are linked to the lagoon Ebrié by the Azagny canal, which is 17km long and was built by the colonial Administration (Semi-Bi Zan, 1974). 86km of the Bandaman River also flows through the Grand-Lahou region.

The native population of Grand-Lahou belongs to the Avikam ethno-cultural group. It has a tradition of fishing and navigation. Today, as a result of migration, there is a mixed population of non-native peoples (Baoulé, Agni, etc.) and foreigners (from Ghana, Togo, Mali and Burkina Faso) who have settled in Grand-Lahou looking for fertile lands and fishing.

Modern forms of employment are centred round the town of Grand-Lahou, the decision making centre for the whole region. Work related to agriculture and fishing, in which the majority of the population is engaged, is scattered and often carried out in areas where the road network is either non-existent or in poor condition. The main crops grown for export are coffee, cocoa, oil palms, rubber trees and coconut palms. Subsistence crops include cassava, banana, maize, yam, taro and rice. Fishing is well developed thanks to the region's coastal location and the existence of a string of lagoons and the River Bandaman. In 2001, the number of agricultural workers listed by the National Agency for Rural Development (ANADER) was 5,669; 3,749 were men over 45; 694 were women aged between 18 and 60 and 1,226 were young men aged between 18 and 45. For the same year the Fishery Service listed 1,398 fishermen of whom 750 were from the Ivory Coast and 648 were foreign. The bulk of agricultural and fishery products from the Grand-Lahou area are exported to Abidjan, the main consumer centre, hence the long standing waterway link with that town.

Animals for cattle and small ruminant farming come from Abidjan, Dabou and Divo. There are, however some poultry farms outside of the urban area. Grand-Lahou, like the other forest regions of the Ivory Coast, produces very little cattle.

The private service sector is largely based on commercial activities that take place in the town centre, centred on the market place where there is only minimal management. Certain products such as spare parts and beauty products are not sold there. Consumers prefer to buy these directly from Abidjan (DCGTx - Office for the Control of Major Works - 1983)

The region is naturally rich but many villages and settlements are hard to reach in any season. This isolation is detrimental to the people living there, who derive very little benefit from State development projects.

1-2/- The isolated nature of the region – one more reason for developing water transport

Many villages and settlements in the Grand-Lahou region are cut off because they lack roads or because of the advanced state of disrepair of existing tracks. The tarmacked road known as *La Côtière*, (the coast road), the Dabou-San Pedro section of which was opened in 1993, is the best road in the area. In 2002, the Grand-Lahou region's road network consisted of 765 km. However, a large part of this network is in poor condition. This inaccessibility means that almost a quarter of the 785 settlements live in isolation, looking inward. They are often large villages, described as areas deprived of education and health care (National Institute of Statistics, 1998). Table 1 shows the population of some villages and settlements situated near expanses of water. The people who live in these villages use water transport on a daily basis to travel around.

As table 1 shows, in 1998 the population of these villages, including men and women, totalled 13,448. For these people, living in isolated areas cut off from the rest of the country, water transport plays a vital role. By comparison with the rest of the Ivory Coast's coastal region, transport is a very serious problem in these isolated regions.

Table 1: Some villages situated near waterways in the Grand-Lahou region.

Villages	Men	Women	Total
Betesso	281	232	513
Loukouhiri	35	28	63
Adjadon	54	55	109
Ahouanou	3.791	3.239	7.030
Akeledon	89	114	203
Badadon	223	238	461
Begredon	69	84	153
Dibou	56	85	141
Djateket	144	143	287
Ebonou	580	626	1.206
Essounam	58	65	123
Greguiberi	37	61	98
Groguida	261	259	520
Kokou	411	363	774
Likpilassié	156	189	345
Mackey	449	453	902
Noumouzou	164	166	330
Zagbalebé	85	105	190
Total	6.943	6.505	13.448

Source: Extract from General Census of the Population, 1998

Generally speaking, basic infrastructural facilities, such as schools, health centres, drinking water, mains electricity etc. are non-existent in isolated villages and settlements. Where they do exist, they are out of date. Because of the glaring lack of infrastructure, the population is often obliged to find its own solutions to problems. However, these solutions sometimes prove expensive due to their low purchasing power (NIS 1999). For example, where there is no school or dispensary, school children and the sick go to neighbouring villages where the facility does exist. They go on foot or by canoe, as there are no public transport services. When the sick cannot be cared for in neighbouring villages they head for the main town in the Département where there is a general hospital. Some die because they do not receive the appropriate care in time. For example, a woman in labour and in need of a caesarean due to her condition is very likely to die, because the hospital is in a town that is too far away and there is no provision for emergency evacuation. Cases of premature death are legion, we might say.

Isolation is also to blame for a large number of post-harvest losses. In reality the fishermen catch a large number of fish and farmers produce a large quantity of food. All these products are highly perishable and need to be conserved or transported quickly. For fish products there are smokehouses, where the fish can be dried, but losses of post-harvest

agricultural products are vast because on top of the scarcity of transport, there is a lack of suitable warehouses for storing them.

For exchanges with other regions, manufactured products are taken to the large towns by water. However, the arrival of fresh supplies is often irregular affecting traders in particular. For example, many shops are poorly stocked and people cannot always find what they need nearby.

During vaccination campaigns some Ministry of Health officials refuse to make crossings by water because of the poor state of the boats. They are afraid of capsizing and so instead they ask people from isolated areas to make the journey to receive the treatments. This reduces the number of people from villages who are vaccinated.

All in all, the isolation of villages and settlements poses all manner of problems for the riverain people and prevents them from flourishing. Building roads and bridges is extremely onerous. In addition the economic crisis and the war that Ivory Coast is experiencing are very real obstacles to carrying out any building work. Until the necessary financial resources can be found, water transport remains the best alternative. It is cheaper than road transport and has many advantages. It makes exchanges with other coastal areas possible, at a lower cost. This ease of exchange may encourage farmers and fishermen to produce more and even to diversify. It is a means of reducing poverty, enabling riverain people sell their products, and enhance their purchasing power. As the Ivory Coast state has run out of steam following political and economic crises, its people need the capacity to take care of themselves. If this goal is achieved, they will without a doubt be able to play an active role in the development of their region.

2/- How water transport functions

Water transport in the Grand-Lahou region is operated partly by the Ivory Coast State by means of a ferry and partly by private operators with canoes and traditional pinnaces manufactured in the Ivory Coast or Ghana. They are made from wood or polyester

The canoes are 8 to 12 metres long, 1 or 2 metres wide, and are uncovered. Some are equipped with outboard motors. The *pétrolettes*, which are between 10 and 20 metres long and 3 and 4 metres wide have a roof, which rests on poles and a tarpaulin and can be opened out to protect the inside of the vessel. This makes navigation possible whatever the weather, even during the heavy downpours of the long rainy season. Seats are arranged around the motor, which is placed in the centre of the hull. Baggage is more often than not piled up on the roof (cf photograph 1). The capacity of the canoes ranges from 12 to 20 places (cf. photo 2). Average capacity of the pinnaces is 70 places.



Photografj 1 : The Pinnace Jocelyne setting out for Ebonou



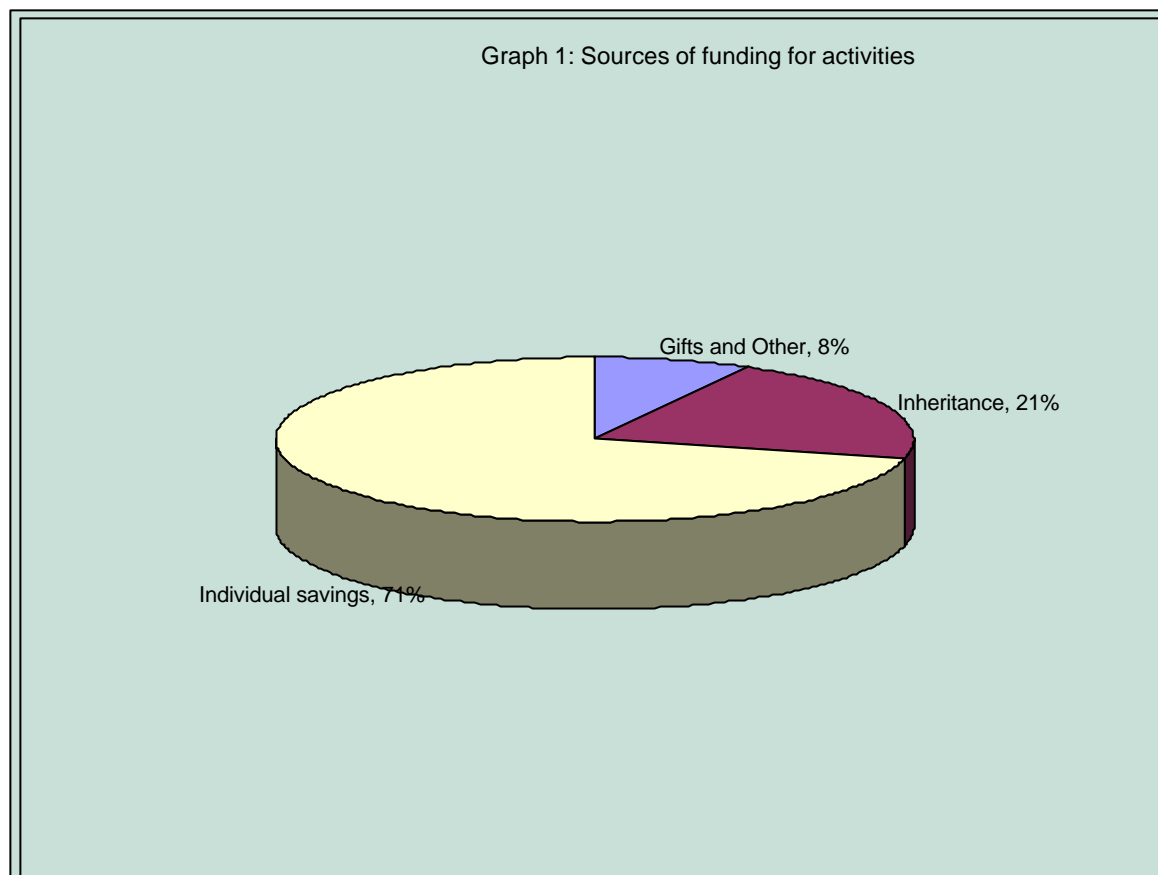
Photograph 2: Crossing the lagoon by canoe

The canoes, pinnaces and the ferry operate two kinds of service, a local line and an interurban one. Canoes, with or without motors, and the ferry operate on the local line. This line is about 2.5km long and links Epossa and Lahou Kpanda. The crossing lasts some 10 minutes and runs every day. Friday, Saturday and Sunday are the busiest days for passengers. Friday is the main market day a Grand-Lahou. Many traders from the area go there on Fridays to sell their products and customers come, not only from Grand-Lahou but from Abidjan and other Ivory Coast towns. Funerals also take place on Saturdays and the people who attend them set off again on Sundays. Saturday and Sunday are also the days when tourists visit. Every canoe carries 60 to 100 passengers per day at a rate of 100 CFA francs per ticket. The ferry carries between 50 and 100 passengers per journey. Apart from passengers, there are often vehicles

and other bulky merchandise. The ferry crossing is free both for people and for their goods. The ferry is an extension of the road, according to the officers of the Department for Roads and Highways (DRV). Ivory Coast road users do not pay tolls, so this is why it is free to travel by ferry between Espossa and Lahou Kpanda.

The interurban Abidjan-Ebonou line, which is more than 150 kms long, is operated each week by two pinnaces. The first pinnacle leaves Abidjan on Tuesday and arrives at Ebonou on Wednesday. It leaves Ebonou on Friday and arrives at Abidjan on Saturday. A second pinnacle leaves Abidjan on Fridays and arrives at Ebonou on Saturday. It sets off again from Ebonou on Monday and arrives at Abidjan on Tuesday. The journey by pinnacle from Abidjan to Ebonou lasts 24 hours or more and costs 3,000 CFA francs. It takes about 15 hours to get from Abidjan to Lahou-Kpanda. En route the pinnaces stop at several villages and settlements.

Vessels used for transporting passengers are not used for fishing, apart from some small modern fishing boats belonging to the Centre for Fishing Trades, *Centre des Métiers de la Pêche*, canoes and fishing smacks (barques) are the main types of craft used in the Grand-Lahou region. They are made of wood and are differentiated by size. A fishing canoe is between 5 and 10 metres long and about 1 metre wide, while a fishing smack is 15 to 20 metres long and has an average width of 2 metres. Canoes are no more than one metre deep, while smacks can be up to 2 metres deep. Canoes are used on inland waterways (lagoons, rivers, lakes etc.), while smacks are used for fishing in open seas. Smacks are used mainly by foreign fishermen, in this case by the Awounans and Fantis from Ghana and the Aibes from Togo.



As graph 1 shows, transport activities are financed from individual savings (71% of those engaged in this field), inheritance from parents (21%) and from gifts and other sources (8%). Several things can be learned from the different sources of finance. The absence of loans means that would-be borrowers are unable to meet the conditions set for loans. This is an obstacle both to the renewal of boats and to the expansion of activities. The consequences of this situation may be manifold: deterioration of vessels, lack of security, vessels being out of action for long periods when they break down.

Ivory Coast administrative officers have the task of organising water transport. The registration of pinnaces and the launches that travel on the lagoons of the Ivory Coast is handled by the Tools Department of the Autonomous Port of Abidjan (PAA). The Ministry of Transport's Office for River, Lake and Maritime Transport, issues regulations to ensure proper functioning of vessels (Teya Y. Pascal, 1999)

- Law No 65-249 of 4 August 1965 lays down penalties for certain offences regarding the policing of river and lake navigation. This law penalises breaches of current regulations governing navigation in the inland waterway sector.
- Decree no. 68-489 MTP/PA of 3 October 1968 lays down regulations for navigation on inland waterways. This decree regulates boat building and signalling lights (beaconing) for bodies of water and lays down rules governing circulation and capacity;
- The tax annexe to the 1998 Finance law for management relating to the different taxes for which boats transporting passengers and goods on lagoons are liable.

Despite the important role played by water transport it is still operated on a small scale. It is true that it is regulated by the Ivory Coast State (Regional Academy....., 2000), but there is still a great deal of effort needed. In reality, the exact number of vessels that criss-cross the inland waterways of the Ivory Coast is not known. Statistics do exist, but they do not always reflect the real state of affairs. Certain vessels are not declared whilst others no longer operate but still appear in the statistics held by the Autonomous Port of Abidjan. Safety regulations are sometimes dubious and leave some travellers unconvinced. A real policy for the development of water transport, supported by permanent regulation of vessels, should be put in place.

3/- Analysis of Supply and Demand

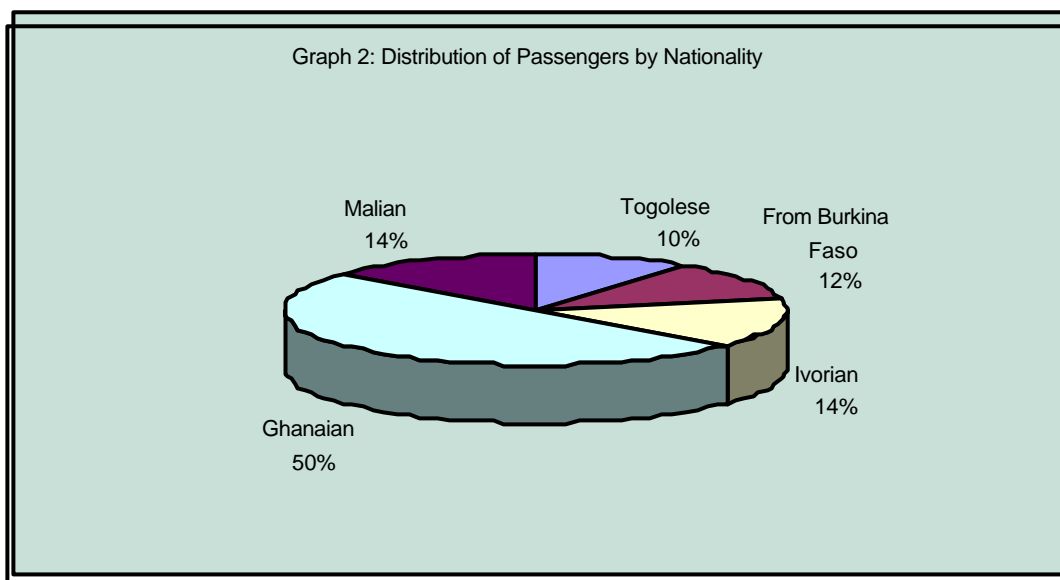
Given the distances between settlements, what is the demand for a water transport service in the Grand-Lahou region? What are those involved in providing the service offering their customers? Is there a balance between supply and demand?

Because of the scattered nature of the region and the fact that it is poorly linked to the network of land routes, users transport their goods using lagoon transport. We are not talking about men and women making an every-day trip to market, but about real journeys, more often than not to destinations outside of the region (Berron, 1979).

A brief survey was carried out in May 2002 on board the pinnace *Jocelyne*, which operates the link between Abidjan and Ebonou. The capacity of this pinnace is 70 places, but

on the day of this journey there were only 49 passengers when the boat set out from Abidjan, of whom 24 were women, 15 men and 10 children. Despite this small sample the survey is useful as an illustration and to give the reader a better idea of the profile of the service users.

As baggage transport is more profitable, crew members piled it up on the roof and inside the pinnace, taking up some of the passenger space. Apart from the 10 children under 12 who made up 20% of the passengers, the other users, men and women combined comprised; 17 people (35% of the passengers) aged between 20 and 29, and a further 20 (41%) aged between 30 and 39. Only 2 people, or 4% of the passengers, were more than 40 years old. Passengers were generally adults, the majority of them being foreigners – 42 of the 49 passengers (86%). There were only 7 Ivorians, of whom 5 were women who sold fish and 2 men who were returning with their families from Ebonou. Amongst the foreigners, there were 24 from Ghana, 7 from Mali, 5 from Togo and 6 from Burkina Faso. They were travelling to villages and settlements in the Grand-Lahou region for a variety of reasons. The Ghanaians, accompanied by their children, were returning from funerals or from holidays in their country. Of the 24, only 3 had been visiting family in Abidjan.



The Malians were traders. They were going to buy charcoal and other agricultural products in the Grand-Lahou region. Those from Togo were fishermen. They were returning from Abidjan, where some of their relatives lived. Of the passengers from Burkina Faso, 5 were agricultural workers. They had been visiting close relatives in Abidjan to get news from their country. The sixth person from Burkina Faso had a shop in the village of Mackey. He had gone to Abidjan to buy products to trade. Of the passengers in the pinnace, some had no identity or right of residence documents. They managed nevertheless to avoid the police, gendarmes, customs, and water and forest officers. Many routine checks are carried out on the roads in Ivory Coast. People whose papers are not in order suffer harassment and fines. They do not give a receipt and the victim ends up paying every time he is stopped. Thus, as well as being a good way of travelling around in isolated areas, the pinnaces also enable passengers to travel around without having to give “involuntary gifts”, as transporters call them, to the police.

During the crossing, there are constantly people boarding and disembarking. If the pinnacle does not stop in a particular village, passengers use canoes, often late at night, to get to the middle of the lagoon and board the pinnacle. This demonstrates how useful this means of transport is. It is the only possible way for some travellers to get from one village to another.

From Abidjan manufactured products are despatched throughout the Grand-Lahou region. There are, amongst other products; building materials (cement, sheet metal, pots of paint), flour, cases of wine, beer and fruit juice, soap, rice, and isothermal containers to keep fish fresh. Some traders even endeavour to have the boat owner deliver their goods for them direct to their customers. The demand for transport both for people and goods is particularly heavy in the Grand-Lahou area, since, as well as passengers there are fish, charcoal, coconuts, palm tree seeds, cassava, pickles (pepper, aubergine, tomato) and from July to March there are also bananas and yams, which are produced in abundance.

Unlike passengers who board in Abidjan, those coming from Epossa, who travel by canoe and ferry, go backwards and forwards between Grand-Lahou and Lahou-Kpanda. Moreover, the majority of these passengers are Ivorians. The reasons for their travelling are more varied: work, going to market, health centres, leisure and various errands. Modern activities have been moved to Grand-Lahou, which results in a great deal of coming and going between the old and new cities (cf. figure 2).

Fig. 2. THE ESPOSSA – LAHOU KPANDA LINE OPERATED BY THE FERRY AND CANOES IN THE GRAND LAHOU REGION

Fig. 2 LA LIGNE EPOSSA - LAHOU KPANDA DESSERVIE PAR LE BAC ET LES PIROGUES DANS LA REGION DE GRAND LAHOU



Conception : AKA Kouadio A., réalisation : SANOGO S. I.G.T. /LATIG avril 2004

Traversée par bac – ferry crossing

Traversée par pirogue – canoe crossing

Route bitumée –	tarmacked road
Préfecture –	prefecture
Village -	village

There may be sufficient vessels operating the local crossing, that is twelve (12) canoes and one (1) ferry, the but the same is not true for the interurban line between Abidjan-Ebonou. In 1975 two pairs of *pétrolettes* operated in the western section of the lagoons, passing close to all the villages and settlements between Grand-Lahou and Ebonou, either by the Northern route towards Mackey, or by the Southern route towards Groguida. One pair of *pétrolettes* were the *Tout Passe* and *Donne `a Dieu* and the others were the *El-Padre* and *Ehua-Martine*. Two other *pétrolettes*, *Lauzoua* and *Daaga* supported the transport service in the Northern sector. All six *pétrolettes* took part in the main line traffic travelling to Abidjan as did the *Abotane* and *Irobo*. In total eight (8) *pétrolettes* provided transport for passengers and goods between Abidjan and Ebonou (AKA K.A, 1982)

Another independent pinnace, the *Drakar*, belonging to a Lebanese, supplied the village shops and transported the copra produced around the island of Avicam to Grand-Lahou. It did not carry passengers. Lastly, one pinnace operating a weekly shuttle service operated the 70km stretch of the Bandaman River between Grand-Lahou and Bacanda. This pinnace ceased operating the shuttle service in 1977 with the development of the road network around Bacanda. It is the small villages situated on the banks of the Bandaman that are most affected by the discontinuation of the river service.

The number of pinnaces operating in the Grand-Lahou region has dwindled over the years, affecting the provision of water transport. For the pinnaces from the Grand-Lahou region, like those from the Dabou region (AKA, D.A, 1988), things have been going badly. Indeed, of the ten or so in 1975, there are only two remaining today, *the Jocelyne* and the *Donne à Dieu*.

Although it is important, water transport is encountering difficulties. One explanation for this is the economic crises that are ravaging the country, the silting up of expanses of waterway, the high cost of spare parts, poor management by some pinnace owners, the lack of comfort linked to the dilapidated state of the vessels etc.

As the number of pinnaces decrease it is becoming more and more difficult for people who live in isolated places to travel around and to transport their products. When a passenger has a large number of goods, he has to ask the pinnace owner well in advance, so that arrangements can be made for it. This was the case of a Malian trader who had 300 bags of charcoal in Ebonou that he wanted carried to Abidjan. He could have chosen the land route, but the cost of transporting it this way would be high, because where the tax on a bag of charcoal by pinnace is 1,750 CFA francs, by car it is 2,5000. On top of this official cost of carriage, the trader has to pay the illegal charges encountered in transporting his goods from one place to another. This trader's customers had to wait a month, as there was no pinnace available. After several sessions of negotiation the owner of the pinnace *Jocelyne* agreed to carry the charcoal, however, he split it over several journeys, in order to avoid the surcharge. We should bear in mind that other passengers, who for the most part were loyal customers of the *Jocelyne*, also needed to embark with their baggage.

From what we have seen, we can say that there is an imbalance between supply and demand for transport. At the rate of two journeys per week, the pinnaces *Jocelyne* and *Donne à Dieu* are far from offering a solution to the water transport problems of people living in the

Grand-Lahou region. It is necessary, indeed urgent, to find more appropriate solutions, which take into account the real needs of the population of the Grand-Lahou region with regard to water transportation. So, given the gravity of the problem, what strategies have been adopted to develop water transport?

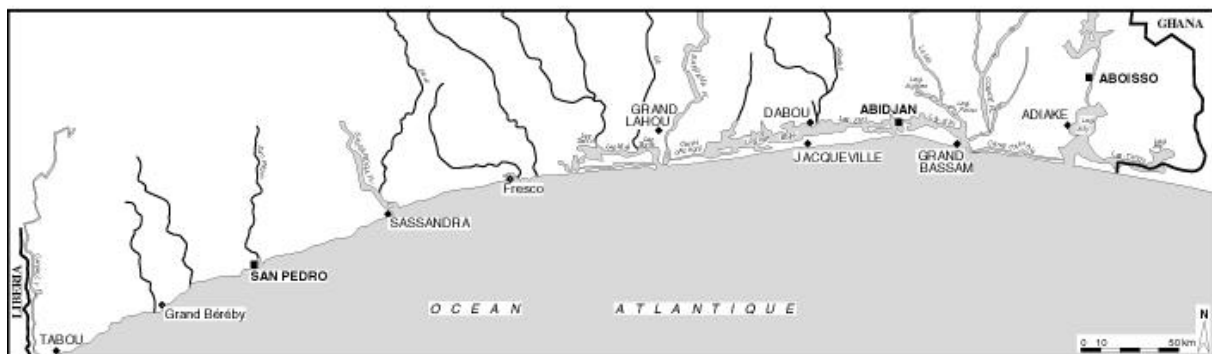
4/- Strategies to improve water transport

The Ivory Coast has concentrated on the expansion of marine transport at the expense of inland water transport despite its dense network of rivers and lagoons. Because agricultural exports are the sector that generate most foreign currency for the Ivory Coast, the country has invested in marine transport in order to reduce the costs of carriage and make Ivorian products more competitive (AKA K.A, 1997). However, in recent years more attention has been paid to river and lagoon transport, as its costs are generally lower than those for road or rail transport. So, the Ivorian government and other stakeholders are now endeavouring to revitalise the rural water transport sector.

In 1993 the government initiated a project called *Project for the Integrated Development of the Ivory Coast Inland Waterway System (Projet de développement intégré du système fluvio-lagunaire Ivoirien)* (Ministry of Transport, 1995) and (JICA, 2001). The aim of this project is to achieve a global and harmonious development of the inland waterway system, which stretches from Ivory Coast's border with Ghana to Grand-Lahou over a distance of 300 km and area of 1,200 km².

The inland waterway network for navigation is an essential part of the national transport system, a considerable asset to the country's communication system, and the advantages it affords require further exploration. The project's feasibility studies have highlighted its socio-economic and environmental cost-effectiveness for the coastal towns and villages of Ivory Coast.

Fig 3. THE IVORY COASTLINE
Fig. 3 LE LITTORAL IVOIRIEN



Conception : AKA Kouadio A., réalisation : SANOGO S.I.G.T./LATIG avril 2004

The project consists of several strands: dredging and placing beacons on inland navigation routes; building water terminals and landing stages where small boats such as pinnaces can dock; studies and plans for management of the Ivorian river network, which is made up of the Comoé, the Bandaman, the Sassandra and the Cavally; building marinas to direct pleasure boat traffic and reduce pollution in the lagoons; training of people working in lagoon transport and re-assigning inland boat pilots and their crew members; creation of a bathymetric chart showing the depths of the lagoons; and financing the modernisation of the lagoon fleet.

The objectives of the project are to develop transport for passengers and goods on a local, interurban and even regional level between Ivory Coast and Ghana, to open up the villages and tourist sites, to protect the river banks and to carry agricultural goods by water to commercial centres, and in the same way to supply coastal towns and villages with essential goods.

The benefits deriving from this project are numerous. Owing to the economic crisis, exacerbated by the war, poverty in Ivory Coast is increasing year on year. It is estimated that the number of people who will benefit from this project will be 5 million out of a total population of 16 million or 31% of the people living in the country. This project will create employment and make tourism, navigation and the trading of a variety of products all possible. It will save time on lagoon crossings by avoiding detours and will open up towns and villages situated on the lagoon. It will relieve traffic congestion on the land by attracting some car users and will create taxes to replenish the Treasury's coffers.

As this will affect the towns and villages situated on the Ivorian coastline, the Grand-Lahou region will be one of the beneficiaries of the project. The project has been designed to enable underdeveloped places to have access to some form of infrastructure. The building of the water terminal at Grand-Lahou has already begun. The quay is already complete, only the construction of the building now remains.

However, we should stress the main limitations of this project are funding. The cost of the project is 30 billion CFA francs, which is more than the Ivory Coast State, currently the sole sponsor, can afford. Moreover, this sum needs to be brought up to date as do the feasibility studies. The cost will no doubt be revised upwards owing to the soaring inflation which is ravaging the country. There are also the socio-economic problems which Ivory Coast has been facing since 1999 and which are a real obstacle to the implementation of development projects. But, whilst waiting for a suitable solution to be found so that the project for the integrated waterways system can be implemented, what are the other players in the field of water transport doing to improve things?

If water transport in the Grand-Lahou region is still run along traditional lines, it is because there have been no real innovation on the part of others involved in development, i.e. the political and administrative authorities working on local development, water transport operators, and the population in general.

The administrative and political authorities act as intermediaries between the State and the people. They operate by means of consultation with a view to combining all endeavours. It is true that the consultations are an effective way of keeping those involved in water transport and their customers informed and aware. However, for decisions made at these meetings to be implemented a follow-up team needs to be put in place. This team needs to have the means to carry out its job effectively. This is not the case in Grand-Lahou, as the financial resources allocated to local authorities are limited.

Knowing that fishing is economically a very important activity in the Grand-Lahou region, the authorities are advocating training in this sector. The training school for fishing trades takes pupils from different regions of Ivory Coast. These pupils will not necessarily stay in the Grand-Lahou region once their training has finished. For this reason the Regional Department for Fishing (Direction Régionale des Pêches) has organised training for people from the region to learn to fish in the open sea, following the example of people from abroad. There has been good take up of this training from young fishermen from the region, but due to lack of finance and equipment, it has been hard for them to practise their trade. They need to be organised into co-operatives and funding needs to be found for them.

Water transport operators are convinced of the need to be better organised and to improve the performance of their vessels but no real innovation has been observed. It is, nevertheless, necessary to set up a real co-operative to take advantage of the offers made by financial backers, to have boats in good condition, which can travel faster, to build water terminals or landing stages etc. The fall in the number of pinnaces is an indication of the lethargy within the industry.

The public has not initiated any real projects either. People simply wish to take advantage of aid offered by the State to develop water transport. Sometimes they undertake ad hoc actions, such as dredging a waterway in a traditional way, cutting up a tree trunk that is blocking the waterway or helping members of a crew to repair their vessel. Many people have canoes. They use them to go to neighbouring villages and settlements, to go fishing, to the fields etc. Each individual solves his/her own transport problem, according to his means. Women are not members of boat crews; however, there are some who travel round by canoe, either alone or with a few others.

As canoes are not practical for travelling long distances or for transporting heavy baggage, the pinnaces, which for the moment are the most suitable means of doing, so, should be improved to meet the needs of people in the towns and villages of the Grand-Lahou region.

Conclusion and recommendations

At the end of this study we can see that the Grand-Lahou is a region brimming with natural potential and that very little of it is being developed. In this region dominated by forest and expanses of water, water transport is an important part of the transport system. Where it does occur, it is as a response to a demand expressed by rural people living in isolated places that are not easy to access by land transport, in particular those living along the coast. It is a rich area and transport for its people and their goods should be provided. Transport difficulties hamper the trading of crops and fish harvested in the region and the mobility of local workers.

In order to promote water transport, a number of stakeholders have come forward, each with a particular role. The different groups of stakeholders use specific strategies for water transport. Canoe and pinnace owners who operate the lagoon lines in Grand-Lahou encounter all kinds of difficulties that prevent them from reaping any real benefit. They have seen a fall in the number of passenger-carrying vessels over the years, resulting in an imbalance in supply and demand for transport.

Aware of the importance of water transport, the Ivorian State has shown its willingness to make improvements. It is planning to promote water transport and to bring in other initiatives which would enable increased development of different regions of lower Ivory Coast. However, lack of finance has proved to be a hindrance to the implementation of these plans.

For their part the other stakeholders involved, with the administrative and political authorities at the fore, are unable to find sustainable solutions. So, in spite of its importance, the water transport sector remains archaic and poorly organised. In order to revitalise water transport in the Grand-Lahou area, what actions should we be advocating and who should implement them?

- The partners in this development ought to adopt strategies which take into account the culture of the people living in the region, who will be the prime beneficiaries of the

projects. They should be involved in defining, drawing up, implementing and monitoring the projects;

- The local administrative and political authorities must encourage stakeholders in water transport to become better organised so that there are trustworthy spokespersons who are able to pass information on to their colleagues and who can also play an active part in raising awareness amongst the latter.
- The State should implement a credit system for the development of water transport. In order to do this, a system should be found which is more user friendly for transporters, the majority of whom are illiterate.
- The State should also find external partners, who can provide financial backing to implement the *Project for the Integrated Development of the Ivory Coast Inland Waterway System*.

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