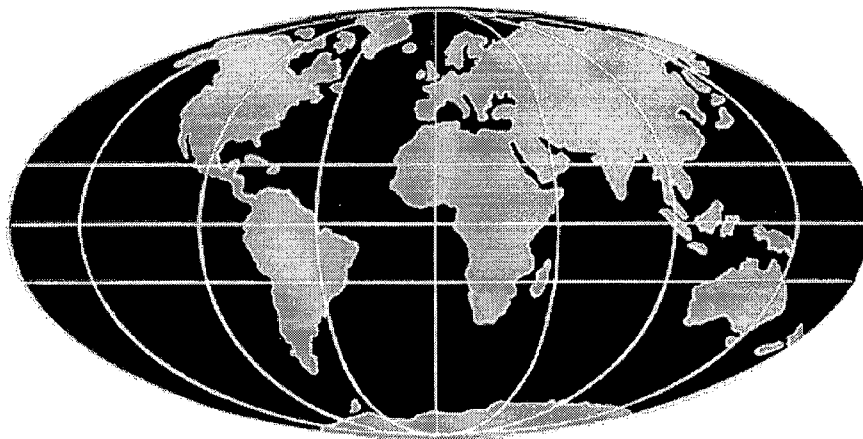


**TITLE: Transport Versus Service
Provision: A Sustainable
Livelihoods Profile of Cameroon**

by: A S C Davis



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TRANSPORT VERSUS SERVICE PROVISION: A SUSTAINABLE LIVELIHOODS PROFILE OF CAMEROON

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Objectives of the case study

This report draws on the empirical findings of the last in a series of cross-sectional studies of the rural poor, set in Sub-Saharan Africa. The case study of rural communities in the Anglophone Southwest and Francophone Adamaoua Provinces of Cameroon undertaken in October 2000, draws on the findings of livelihood analysis carried out in Zambia in March 2000 (Davis, 2000). The Cameroon case study intends to review the interactions of transport on livelihoods, and explore the way in which transport based livelihood strategies, as well as non-transport measures can reduce the incidence of vulnerability amongst the rural poor and substantially improve their livelihood outcomes and life chances.

1. INTRODUCTION

The case study of transport and sustainable rural livelihoods in Zambia revealed a host of transport constraints, which impact on the livelihood activities of the rural poor. It was found that the poor road condition combined with inadequate transport services and other modes of transport, make access to the already costly rural health centres, as well as local markets extremely prohibitive. Access by foot to primary schools, water and wood resources was also shown to be difficult because of the longevity of journeys, exacerbated by spatial distribution of populations.

Conventional prioritisation procedures for investment in road infrastructure and maintenance allocate investment to areas where common development indicators are apparent. These include population density, agricultural productivity, and number of social services available in the immediate locality. However, these measures for prioritising donor monies are simply marginalising the remote poor to an even greater extent, and in the process excluding them from the means by which they can access health and education services, as well as income earning opportunities which are prerequisites for economic development.

The Cameroon field study was undertaken to investigate the transport constraints of the rural poor, and to identify any contrasts in capital assets available to the poor between two very diverse regions of the country (in relation to climate, terrain, vegetation, economy, politics and linguistics). In addition, the research explored the cost of basic service provision in Cameroon (including rural health clinics, primary schools and water sources), as a viable alternative to road construction and maintenance.

The Cameroon research was undertaken for the 'Policy Toolkit for Increased Rural Mobility' knowledge and research project on behalf of DFID (Department for International Development). The Policy Toolkit guidance manual will draw on the Zambian and Cameroon case studies to empirically support recommendations contained within the document.

2. BACKGROUND

Cameroon has a surface area of 475,000km², and is home to French and English speakers resulting from the territorial divisions of its colonial past under French and British mandate between 1916 and 1961. Cameroon is a highly urbanised country (48.2%), yet the provinces under survey are predominantly rural, Southwest Province containing 8% of the 14.4 million¹ population, and Adamaoua Province accommodating just 4.7% (Ministry of Economy and Finance, 1998).

Principle exports from Cameroon include cocoa, rubber, oil palm, tobacco and bananas, all of which can be found in Southwest Province. Due to the savannah vegetation in the North of the country, Adamaoua Province has no cash cropping activities, and depends on modern livestock farming as its principle livelihood.

Cameroon has one of the best endowed primary commodity economies in Sub-Saharan Africa with its oil reserves and favourable agricultural conditions. Since 1990, the Government has embarked on various World Bank and IMF programs in order to promote business investment, increase efficiency in agriculture and improve trade. The latest enhanced structural adjustment agreement was signed in October 1997, yet government mismanagement and corruption remain significant problems (The World Factbook, 2000).

Following the economic crisis in 1994 which saw the devaluation of the CFA franc, increased level of prices and changed terms of trade between urban and rural areas, the Structural Adjustment Program was implemented in 1995, and included the privatisation of public enterprises and administrative streamlining. As with many programs of Structural Adjustment in Sub-Saharan Africa, such measures of economic reform had a devastating affect on people living in absolute poverty (of which there were 6.5 million in Cameroon in 1996). In a bid to reform the macroeconomic process in 1998, the Government resolved to tackle poverty with a strategic analytical framework (Amin et al, 1999). The framework considered three economic dimensions of poverty:

- Income poverty: which expresses a standard of living through the measurement of income
- Standard of living: which relates to the provision of basic needs including access to social services
- Capabilities: which expresses the capital assets of people and helps them to build a decent standard of living.

The livelihoods approach encompasses all three dimensions and identifies capital assets of a given population incorporating income, access to basic services and non-material wealth, categorised under the five capital assets (natural, physical, human, social and financial).

The following sections provide an overview of livelihood constraints, strategies and assets affecting the rural population of Cameroon, and specifically review particular assets available to the Southwest and Adamaoua populace. A comparison of capital assets between these two provinces can be found in Section 5.

¹ The 1998 Annual Statistics Report of Cameroon records a total population of 14,439,000.

3. LIVELIHOOD CONSTRAINTS

Livelihood constraints incorporate factors that prevent rural communities from optimising their livelihood potential both in terms of income generation and quality of life. Livelihood constraints can sometimes be measured as insecurity or vulnerability, brought about by seasonality, trends and shocks that adversely impact on people's livelihoods.

The application of causal impact analysis revealed that the principle constraint to livelihoods cited amongst respondents in Southwest Province is the provision of water, followed by the road condition and transport provision. In Adamaoua Province, four out of five villages sampled cited the road as the key problem faced by their community, followed by access to basic education and health care. The following sections summarise specific examples where access constraints impinge on livelihoods of the rural poor, and demonstrate that virtually all activities undertaken by individuals, hinge on their mobility and accessibility.

3.1. Domestic Activities and Associated Transport Tasks

Transport, and in particular the movement of people and goods is integral to the generation of a positive livelihood outcome, yet is often the biggest obstacle to poverty reduction. In Adamaoua Province, the movement of cattle to pasture and market causes irreparable damage to the earth road surface, which is accentuated in the absence of government intervention. Indeed, the Divisional Delegate of Public Works for Adamaoua explained that the feeder road from Mbe to Sassa Mbersi, passing through Vourgne Mamboum and Nyadou, is part of the network of priority roads whose maintenance is ensured and financed on an annual basis. However, respondents in both villages confirmed that no maintenance had been undertaken since 1985.

Likewise, the rocky terrain in the Southwest can be damaging to vehicles and therefore discourages private transport operators from serving remote villages such as Bavenga where villagers walk 3-4km to hire a vehicle from Ikata, and pay 1,000 FCFA for a return journey (without goods) to travel 5km to Muyuka.

By far the most consumed communal resource in rural communities is water which is sometimes considered a deteriorating resource, as in Bavenga village where poor access to water has been responsible for the out-migration of villagers from Bavenga to Ikata where water is readily available from village wells. During the dry season, Bavenga villagers (usually women) headload 20-25kg of water from streams 4km away, more than three times a day. The general consensus of villagers is that 'with water, development will come', and at the very least people would migrate back to Bavenga where soil fertility and agricultural productivity is very high.

3.2. Income Generation

In Southwest Province, the principle income generating activity is arable farming, with coffee and cocoa cash crops being the most profitable. In an attempt to avoid crop spoilage, villagers in Bavenga invest in chemical pesticides and dispensers (the former costing 650 FCFA for one sachet which lasts up to three weeks, and the latter

costing 50,000 FCFA new), which accounts for approximately 15% of their total expenditure. Traders will only travel as far as Ikata to purchase produce, and pay less than the competitive market rate (for example cocoa yams are bought for 2,000 FCFA and sold at 50% profit), hence profit margins are substantially depleted.

In Adamaoua, cattle herders have a number of options to maximise their livelihood potential. If they sell their cattle to traders in the village they receive 25% less than the 200,000 FCFA they would receive per cow at the market in Yaounde. However, in order to transport their herd to the capital, they must first travel 50km to Ngaoundere on foot and then pay for the train (7,500 FCFA per person and 11,000 FCFA per cow) to Yaounde. Alternatively they can spend forty days walking the entire distance to Yaounde and reap the optimum returns for their cattle.

3.3. Access to Health Care

As with many rural communities throughout Sub-Saharan Africa, formal health care is often sought only in emergencies, when the cost of service provision and transport to the nearest hospital can be justified. The same is true of rural Cameroon where the most common frequency of travel to health clinics is by pregnant women and those in labour. In Southwest Province, patients are transported in pushtrucks or on the back of a relative some 5-20km to the nearest RHC (rural health centre). If fortunate, they can catch a lift with a transporter, but often settle for giving birth at home in the absence of passing vehicles.

There are outreach programmes and community health workers which operate between one and six times a year providing child vaccinations and primary treatments. A particular complaint of participants was that after travelling up to 20km to the nearest RHC and paying between 200-600 FCFA for a consultation, they receive prescriptions only, therefore requiring them to travel to the nearest town to obtain drugs. Sassa Mbersi in Adamaoua is a case in point, the RHC is 50km from the nearest town at Mbe and only has facilities to treat malaria and typhoid.

3.4. Access to Education

The provision of primary education was actually revealed to be one of the least important problems of villages surveyed in Southwest Province, with children walking to schools in neighbouring villages no more than 4km distance. School fees in Cameroon were also withdrawn in 2000, hence financial access to education in rural areas is no longer deemed problematic (with the exception of uniforms and exercise books).

Education in Adamaoua is subject to a gender split with many girls being excluded from schools teaching the national curriculum, but rather being encouraged to attend Islamic school to learn Arabic and teachings of the Koran. In general, the tendency is for more affluent cattle owners to send their children to school, whereas cattle rearers who lead a nomadic existence tend not to educate their children. Increasingly, girl children are being allowed to attend government or community run schools where they are taught French, but are often married off between the ages of 12-15.

4. LIVELIHOOD STRATEGIES

Livelihood strategies indicate measures employed by rural households to increase their livelihood options by reacting to constraints and vulnerabilities with appropriate alternatives. Strategies adopted by groups encountered in the Cameroon surveys extended beyond that of income generation, in fact many strategies have direct links to transport and value of time.

In Bavenga village for example, water collection from streams is a lengthy and arduous task, and hence villagers collect rainwater from their roofs into containers. A more common approach to monitoring the use of this common resource is for villagers to pay a fee to collect water from the communal well which ensures there is sufficient water for everyone, and secures maintenance of the well and generator. Villagers in Ikata pay 200 FCFA per person per month for water and outsiders pay per litre. Similarly, in Vourgne Mamboum in Adamaoua, each household pays 1,000 FCFA per year to obtain water from a communal well.

In Adamaoua Province, concerns over the local road condition caused by a combination of lack of maintenance, heavy rain and exacerbated by the movement of cattle herds on the earth roads, have resulted in the successful execution of spot improvement initiatives. Communities are regularly mobilised to carry out emergency interventions by filling in potholes and creating diversions with new tracks to prevent the further dilapidation of existing roads. Some communities undertake occasional maintenance of their own volition, to ensure that rural transport operators continue to service their villages for the transit of produce to market. In fact, questionnaire surveys conducted for the study revealed that 98% of households surveyed would provide voluntary labour to improve the road to their village, with the help of an engineer.

The Mbe-Sassa Mbersi road in Adamaoua, stretching approximately 45km, receives a twice weekly transport service, serving over five villages adjacent to the road. Villagers located between Mbe and Sassa Mbersi complain that the service is consistently full by the time it reaches them and the only alternative is to walk to Mbe. Further, the road is not a thoroughfare and so does not receive any passing traffic. However, a number of villages have organised themselves into groups which hire a tractor owned by the Divisional Service for Community Development at a cost of 50,000 FCFA for a period of two days, to till the farms and transport yams to Mbe and Ngaoundere.

Bartering is not widely practised in Cameroon where cash transactions have replaced the exchange of material goods as income and expenditure. However, participatory discussions revealed that people in Ekondo Beach near the villages of Njima and Ekondo Nene in N'dian Division practise bartering, particularly with Nigerians. Due to the border location of these villages and their multi-ethnic composition, it is not surprising that such trading has survived.

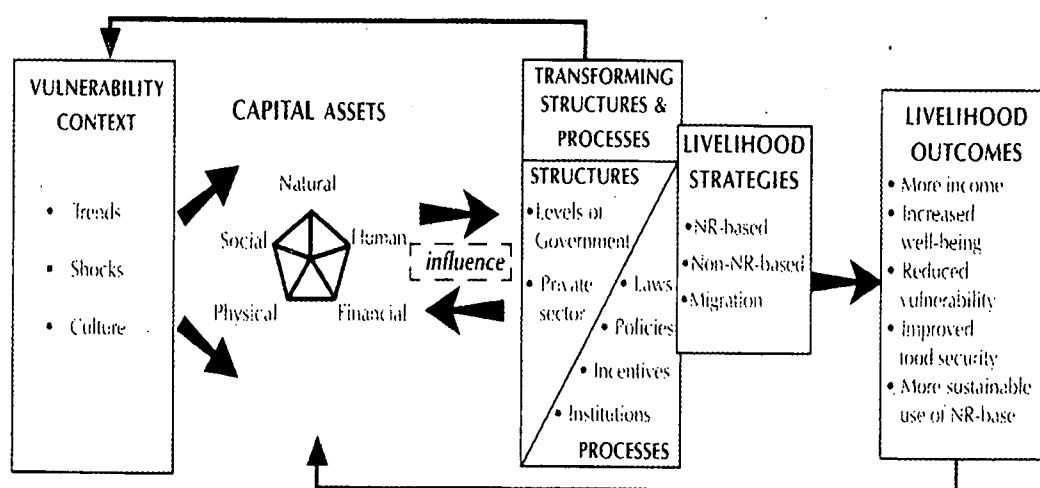
In terms of livelihood generation, the Sawa people are adept at using natural resources at their disposal and maximising their income potential with initiatives that significantly increase their value. Bavenga is a case in point where 70% of the villages income is derived from cocoa, yet is sold at a higher price when the cocoa

beans have been dried out. Although a natural drying process is preferred, the wet climate requires the beans to be dried by means of firewood in clay ovens. This is a lengthy but necessary process, and ensures that the final processed product fetches 400 FCFA per kg at the market. Similarly, some women in these western most villages, earn a decent living from selling palm gin and kerosene at a profit. These women are considered wealthy and typically make 25% profit.

5. SUSTAINABLE LIVELIHOOD ANALYSIS

The following section attempts to analyse the livelihood data acquired from participatory and quantitative surveys in the field, drawing on the DFID Sustainable Livelihoods Framework (see Figure 1) to examine the primary factors that affect the livelihoods of the rural poor in Southwest and Adamaoua Provinces of Cameroon.

Figure 1: The Sustainable Livelihoods Framework



5.1. Southwest and Adamaoua Provinces Compared

The Sustainable Livelihood analysis that follows will provide some interpretation of the Cameroon data, which has been disaggregated into the five key components of the SL framework. It investigates the relationship between the capital stocks, vulnerabilities, strategies and outcomes of the rural poor under survey, and their interactions with the policies, institutions and processes that govern the operation of support networks, extension and social services available to the rural poor in Cameroon.

5.1.1. Capital Assets

The 'capital asset pentagon' (see Figure 1) which represents the endowments available to a given population, is limited in its application because it is a conceptual tool used to identify existing assets by plotting qualitative information. As it stands, the capital asset pentagon is not sufficient for prioritising investment, or as a decision making tool, because of its subjectivity.

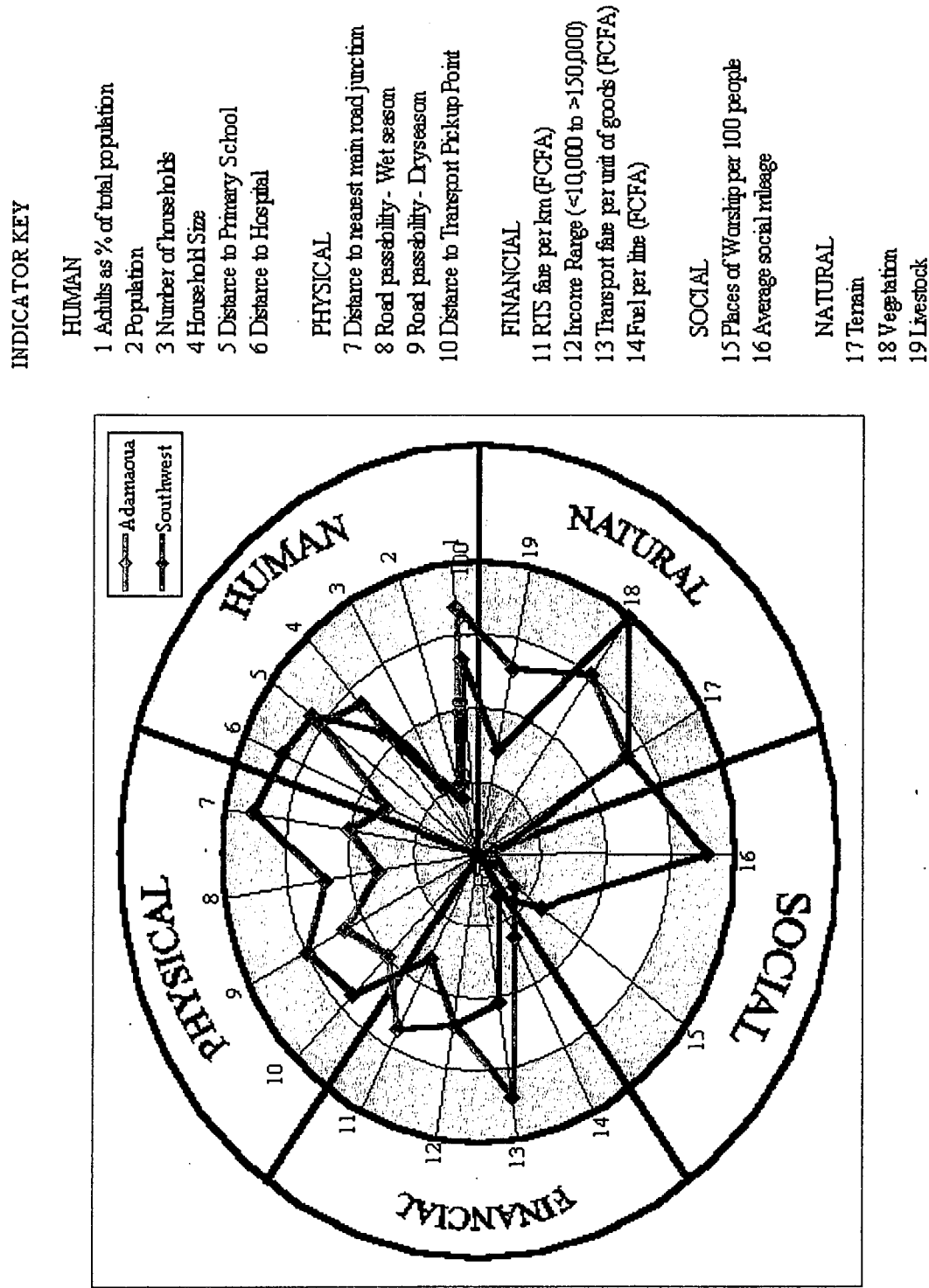
In an attempt to advance the concept of the 'capital asset pentagon' contained within the SL Framework, this study investigated the potential for quantifying sustainable livelihood indicators using a scoring system and presenting the data in a Sustainable Livelihoods Indicator Model (SLIM) pictured in Figure 2. Quantitative data from the field surveys has been applied to the model, which disaggregates livelihood indicators for natural, human, financial, physical and social assets of the poor, in order to attain a comprehensive impression of the livelihood assets and outcomes of the population in Adamaoua and Southwest Provinces. In plotting a score for individual indicators, the model will more accurately classify the asset endowments of a given location or populace for a given development sector, or indeed from a holistic perspective. It can be used as a comparative tool or simply as a cross sectional tool for identifying resources available to a sample of people.

The model assigns a score, from 0 to 100 for each of the various indicators of the five assets, and plots them on a circular plot divided into five, equally spaced segments. At one extreme, a score of 0 for a given indicator shows its total inadequacy, while a score of 100 indicates maximum strength. The plot is divided into four concentric zones:

- Red for scores of 0 to 25
- Orange for scores of 25 to 50
- Yellow for scores of 50 to 75, and
- Green for scores of 75 to 100

Qualitative data collection using Participatory Rural Appraisal techniques have facilitated triangulation of data and complemented the SLIM model by supporting its assertions, as well as identifying the vulnerabilities communities are exposed to, and livelihood strategies employed to alleviate vulnerability and overcome adversity.

Figure 2: Southwest and Adamaoua Provinces Compared



Natural Assets:

- Southwest benefits from high rainfall and many households under survey are located in the watershed of Mount Cameroon. Distant water sources (ie. Streams) are restrictive, therefore infrastructure is required to guarantee regular water supply.
- Official statistics (MINEFI, 1996) show that in 1996, only 10% of households in Adamaoua had access to safe water, compared with 52% of households in Southwest Province.
- Land is in abundance in Adamaoua, allowing nomadic pastoralists to migrate during the dry season. Even for arable farmers, land is not restricted, yet field size remains small because of the prohibitive cost of agricultural inputs and transport required to market the produce. In Southwest Province, farmers have limited access to land with villages defined by demarcation boundaries. In Njima, land is owned through direct purchase, and landholdings cannot be extended beyond the village unless bought from neighbouring villages. However, the average farm size is substantial ranging from 4ha in Bavenga to 8ha in Njima.

Physical Assets:

- The most striking contrast with regard to asset endowments between provinces represented in Figure 2, are physical indicators. Southwest Province has better access to the main road junction (average of 6km compared with 25km in Adamaoua), transport pickup point (average of 3km compared with 5km in Adamaoua), and better road passability in both wet and dry seasons.
- Adamaoua Province displays similar characteristics to Northern Province in Zambia, whereby the sheer dimensions and remoteness of the Province render rural communities isolated from the road network. This situation is exacerbated by the priority network classification of the Ministry of Public Works, which inadvertently marginalises areas of low agricultural productivity and low population density.
- Intermediate Means of Transport (IMT) are active in both provinces but modal choice varies as a result of terrain and physical endowment. The ox-cart is deemed a necessity in Adamaoua where cattle are commonplace, but unpopular in Southwest because of rocky terrain and need for veterinary advice. The push truck is most pervasive and is supplied by maintenance and parts shops scattered throughout the Southwest especially. Although more cumbersome, it has a large carrying capacity and more financially viable (65,000 FCFA) than the bicycle which costs 150,000 FCFA brand new.

Human Assets:

- Human capital available to the poor varies considerably between Southwest and Adamaoua Provinces. SLIM demonstrates that distance to hospital is problematic for households in all divisions surveyed, yet the problem is apparently worse in Adamaoua where the average distance to hospital was found to be 52km.
- The Ministry of the Economy and Finance revealed that in 1997, the population to bed ratio for hospitals were 1:401 in Southwest Province and 1:727 in Adamaoua, making Adamaoua the second worst province in the country for hospital bed facilities. Participatory discussions indeed demonstrated that hospital facilities are unsatisfactory and cause people to travel further for medical care or seek alternative treatment.

- SLIM shows the average distance to primary school amongst the sample is 2-3km which was not deemed a major constraint to livelihood outcomes in either province, especially as some communities introduce their own community schools. Yet, statistics show savannah regions of the North to be highly illiterate (75%) compared with the forest regions of the South and West (45%), indicating a sharp decline in education standards.

Financial Assets:

- The surveys identified few villages who received pensions or remittances from migrants, with the notable exception of Bavenga in Southwest Province but the earnings of individual households is private and not recorded as a village asset.
- Access to credit in Cameroon is very difficult for the informal sector. Credit conditions imposed by Cameroon banks are unfavourable to the poor. Some communities have introduced their own credit facilities, for example the 'Revolutionary Development Meeting' in Ekondo Nene which loans money with 50 FCFA interest per 1,000 FCFA per month. Similarly, members of 'Njangi' houses in Bavenga can borrow money with 5% commission. These local solidarity funds are unable to mobilise large funds for productive activities, however NGO's like CHAMEG provide short term loans of 100,000 FCFA with preferential repayment obligations.
- The average rural transport service fare per km is 32 FCFA in Adamaoua and 60 FCFA in Southwest Province. Individual transport operators in Adamaoua have grouped themselves together to form transport agencies. Fierce competition between agencies has brought fares down between Ngaoundere and surrounding areas. Agencies of this type are not found in the Southwest, and where they do exist they only target passengers travelling long distances of usually more than 200km, and operate under monopolistic conditions imposing higher fares.
- Figure 2 illustrates that financial indicators in rural Adamaoua are strong, with average transport fares for people and goods transit being relatively low. Reduced user fees contribute to improved livelihood outcomes because the poor are better able to afford longer distant and perhaps more dispensable trips, allowing them to travel more frequently whilst freeing up time and energy for more productive activities.

Social Assets:

- Social assets of the survey sample were recorded in the model as number of churches per 100 people, and social mileage, in this instance meaning the distance travelled for social visits (weddings, funerals, friends and relatives), religious purposes, and to the post office or public telephone. Southwest Province was shown to have a greater number of churches available to rural households, but villages in both provinces surveyed had fewer than one church per 100 people. The model revealed a sharp contrast between provinces in terms of social mileage with the Southwest travelling an average distance of 5.5km for social purposes, and households in Adamaoua enduring an average of 47km.
- Extension services are available throughout the country, with vaccination programmes and veterinary services available to cattle producers in the North. Likewise, health outreach programmes, and in particular child vaccination extends to most rural communities but the frequency of visits varies. For example Njima village in Fako Division (Southwest) is visited twice monthly, yet Ekondo Nene in the same division receives just one visit a year.

- A marked difference in social capital available between provinces was revealed to be outreach contact via radio. The Ministry of Women's Affairs in Southwest Province initiates a weekly radio programme 'Global Voices for women' as a medium for providing advice and information on legal matters, literacy, family planning, and marketing produce to women who are unable to physically access these predominantly urban services. Unfortunately, the programme is only broadcast as far as Yaounde and does not extend to the North. Radios are also scarce in poorer villages because of their cost (typically 5-10,000 FCFA per radio and 150 FCFA per battery). However, participatory discussions found that women who own radios tend to pass on information regarding domestic issues to other women.

5.1.2. Policies, Institutions and Processes

In their poverty profile of Cameroon, Amin and Dubois (1999) observe that the program of structural adjustment has improved GDP growth and strengthened macroeconomic balances since the devaluation of the CFA franc in 1994. The Government of Cameroon issued an official declaration of strategy to fight poverty in 1998, yet the extent to which improvements brought about by this strategy have filtered down to the poorest members of society is questionable. Indeed many socio-economic indicators have become worse such as nutrition, school enrolment and HIV prevalence, undoubtedly due in part to the pressure on public expenditure during the economic crisis.

In contrast, the Government has brought about improvements to the information and communications system as a result of institutional changes, which has lifted restrictions that previously prohibited external organisations and NGO's from entering the country without prior approval from local authorities. Local NGO's are also successfully empowering the rural poor including SOWEDA in Southwest Province, and Cannal de Development in Adamaoua which has helped establish 826 farming co-operatives, and helps facilitate the provision of credit and loans through banks and credit institutions run by a public private partnership.

Nevertheless, the rural poor continue to suffer from institutional changes, especially under the National Agricultural Extension Programme which no longer provides agricultural inputs or credit facilities, but instead offers advice and knowledge whilst creating links with input suppliers to facilitate changes in farming practice with the objective of increasing productivity.

A causal impact analysis exercise revealed that arable farmers in Southwest Province are disadvantaged by the absence of agricultural inputs, even those who farm the fertile land surrounding Bavenga village. They claimed that chemical pesticides are too costly, inaccessible and that supply does not exceed demand with villagers being 'duped by sellers'. A key role of the agricultural extension programme is to organise farmers groups which can more easily obtain inputs and credit. Yet this process has obviously bypassed these farmers who seek to create a common initiative group linked to a registered supplier of chemicals, with which to arrange the collective purchase of pesticides.

Similarly in Ngaoumbam village, Adamaoua, participatory exercises involving institutional diagrams revealed that agricultural technicians visit on a regular basis to

teach improved methods of production. However, villagers are discouraged to utilise new techniques because increasing productivity is fruitless if they cannot transport and subsequently market produce without improved transport and storage facilities, and a more localised market.

5.1.3. Vulnerability and Livelihood Strategies

The table below summarises key indicators of vulnerability amongst communities surveyed in Adamaoua and Southwest Provinces, and the strategies they employ to manage risk and overcome adversity.

Province	Vulnerability Indicators	Livelihood Strategies
Synergies	<ul style="list-style-type: none"> * Water collection from stream is energy and time consuming. * Dilapidated feeder roads cause transporters to withdraw services. * Remote transport services are expensive, infrequent & unreliable. * Prohibitive distance to health centres causing morbidity and child mortality. * Arable farmers cannot increase productivity because poor road condition and lack of transport services prohibits evacuation of produce to market. * Ineffective extension services (agriculture, health, veterinary etc) cause ignorance and neglect. 	<ul style="list-style-type: none"> * Rain water collected and stored from roof slopes. Wells placed inside individual properties. * Community labour maintains road surfaces and create diversions to support transport operators. * A critical mass of 'push trucks' exists as an alternative mode of load carrying transport for the poor, served by spare parts manufacturers and mechanics. * Pregnant women and the sick requiring emergency health care are transported by push truck. Headloading & cycling are only alternatives. * Self medication bought from traditional healers and hawkers. * Farmers co-operatives collect money to hire tractors during harvest period. * Radio services impart information and advice on farming techniques, human and animal health and family planning etc.
Distinctions: Southwest	<ul style="list-style-type: none"> * Single women who do not own farm land must diversify their income in order to survive. * Cocoa is a principle cash crop but is less profitable without sun drying the beans before their sale. 	<ul style="list-style-type: none"> * Women sell palm gin and kerosene for a profit and make more money than farming counterparts. * In wet forest regions, local ovens hasten the drying process of cocoa beans and ensure greater economic returns.
Adamaoua	<ul style="list-style-type: none"> * Absence of schools in rural villages and lack of classrooms & teachers. Breeds poor education & illiteracy. * Absence of health centres. Those that are accessible lack medical staff and drugs. * Pests destroy crops where agricultural technicians are absent leading to reduction in productivity. * Cattle die during dry season and from tsetse fly – vets only visit once a year. 	<ul style="list-style-type: none"> * Community construct makeshift schools and voluntary teachers from the community educate children. * Community constructed health centre with materials bought collectively – no outside intervention. * Permanent surveillance of crops – time consuming * Pastoralists purchase cattle drugs and administer them to the cattle without veterinary supervision.

6. IMPLICATIONS FOR LIVELIHOOD OUTCOMES

6.1. Improved Accessibility

There have been attempts by both users (transport operators) and providers (Ministry of Public Works) of rural roads in Cameroon to execute small scale measures in an effort to maximise road passability and reduce the incidence of inaccessibility.

The Ministry of Public Works is in charge of road maintenance and the design, execution and supervision of all public works in Cameroon. In an attempt to provide protection for feeder roads, rain gates have been implemented to reduce the affects of earth road degradation during the rains. The rain gate comprises of a simple barrier which is operated by local communities and is lowered during heavy rains. Its purpose is to prevent vehicles from passing for up to six hours after the rain has stopped, to allow the road surface to recover before being subjected to heavy vehicles.

The rain gates are often neglected with local people disregarding their use by allowing people to pass through the gates during the rains (often for a small fee). Consequently, severe sanctions have been prescribed for owners of 12 seated vehicles weighing more than 3.5 tonnes who cross rain gates within 2-4 hours after it rains. Fines which may be accompanied by withdrawal of driving licences for a period of one year, stand at 250,000 FCFA.

Vehicle adaptation by transport operators is commonplace in Southwest Province where ordinary cars are modified to increase passenger and load capacities through alteration of chassis, springs and axles of the vehicle to raise the height of the car, and removing the lid of the boot for extra passenger space. Indeed, 25% of vehicles recorded in a traffic count exercise during the surveys were carrying nine passengers, and others carried as many as fifteen passengers (Lisinge, 2001).

The results of the participatory surveys, summarised in the livelihoods analysis reinforce the importance of IMT's (Intermediate Means of Transport) in providing access between farm and village, and more especially between village and the main road junction where transporters operate rural services. This circuitous transport route provides access to the varied social services that strengthen human, social and financial capital assets among the rural poor. IMT's are arguably a prerequisite for this process because in many circumstances, the transport pickup point is beyond walking distance from the household, and IMT's (most especially bicycles and push trucks) are invaluable in bridging the cavernous gap between headloading and motorised transport.

6.2. Non-Transport Interventions

The previous case study of transport and sustainable rural livelihoods in Zambia suggested that the potential for non-transport interventions, to increase accessibility by reducing the need for extraneous travel by the rural poor, be investigated as a viable alternative to high cost road infrastructure improvements.

During consultations with various Ministry representatives in Cameroon, the study obtained information regarding the cost of service provision (including health,

education and water) and current programmes of decentralisation which aim to shift decision making responsibilities to the regions.

The education sector is currently undertaking countrywide strategy reforms whose objectives are to provide universal basic primary education, decentralise and modernise management of the education system, and advocate good governance. Since 2000, free primary education has been introduced and the responsibility for individual school budgets has shifted from ineffective financial management committees to school boards with community members under the authority of the Divisional Delegate for Education.

Furthermore, teachers are now recruited for vacancies in specific geographical areas of their choice in an attempt to reduce teacher absenteeism, and the payment of teachers salaries is also due to be decentralised for this reason. Similarly, the co-ordination of examinations will be decentralised to facilitate distribution and collection of exam papers. The annual cost of running a school in Cameroon (excluding staff salaries) is 50,000 FCFA per child. A classroom costs 8.5 million FCFA in rural areas and 6-7 million FCFA in urban areas, with approximately 6 classrooms required for a primary school, plus a teacher's office, playground, and facilities for water and sanitation.

Unfortunately, as with most prioritisation procedures, there are certain criteria for locating schools in rural areas including the catchment area of the school (10km is the standard distance a child is expected to travel to primary or secondary school), and minimum population it serves. Consequently, remote settlements are removed from the selection process because they do not meet these criteria, despite there being children who are entitled to a basic education. A lack of co-ordination between the Ministry of Education and Public Works exacerbates this prejudiced selection process, with schools having been located where there is no existing road.

The annual budget for public health in 2000 was 80 billion FCFA which is used to pay for the health care of 14 million Cameroonians, infrastructure, staff, training, medicines, transport and telecommunications etc. There is no minimum requirement for the catchment of a 'health area' in rural districts, yet there are approximately 5,000 people per health care establishment. Evidently, the national health budget would have to expand significantly for there to be an increased number of health centres to reduce travel requirements of patients (there are currently 100 government and missionary health centres serving 1.2 million people in Southwest Province). Yet, as the PRA exercises revealed, health centre visits are most often made during emergencies, when there is no alternative available; health care is not a priority of the rural poor because of the costs and time involved in accessing it.

A predicament arises with the non-transport intervention strategy, because health centre and school suppliers and operators will always require physical (road) access even if the service users don't! Moreover, a significant rise in number of service outlets would be required in rural areas to fulfil user demand and reduce the distance to services and therefore mobility requirements of the rural poor.

The provision of community water supplies in rural settlements helps to reduce the need for travel, but as the Ministry of Mines, Water and Energy has realised is a

costly process. They have a target to provide portable water to 56% of the Cameroon population, with each source of water made available for a minimum population of 250. The government supplies three types of well and borehole ranging from 1.5 to 7.8 million FCFA (depending on the depth of the well). After construction, communities are encouraged to set up a management committee to generate capital for well maintenance (typically derived from a user fee, either at source or as a monthly fee per household). In 2000, the budget of public expenditure for water was 900,000 million FCFA, with a further contribution by external donors in excess of 6.9 million FCFA (The French Development Corporation and Islamic Bank).

Clearly, the provision of water is high on the development agenda in Cameroon and the government's programme for water conveyance is extremely effective; with communities being sensitised for payment of well maintenance, and contribution in cash or kind towards well construction. Communities must contribute 200,000 FCFA and contribute materials or labour before work commences, to ensure ownership of the asset.

The current decentralisation program has visible flaws, in particular its sectoral approach to social service provision. It is recommended that a holistic method be used to identify existing services and road networks using mapping and Geographical Information Systems (GIS), so that the development of every sector can be coordinated with a national, provincial and divisional transport plan.

The provision of social service infrastructure as a viable alternative to road infrastructure improvements, and a means of reducing trip distance and frequency, can only be justified where the population is large enough to sustain the use of the service. As with the road sector, the key prerequisite for intervention is population density, which results in the neglect of the most vulnerable and isolated rural poor. Perhaps the only means of justifying investment in remote areas is by identification of social benefits which consider the needs and constraints of the poor alone, as opposed to the economic returns on any investment made.

7. CONCLUSION

The legacy of the economic crisis between 1986 and 1995 lives on. This research demonstrates that it is physical access rather than financial access of the poor that prohibits rural development and the much sought reduction in poverty, to the extent that communities are taking it upon themselves to provide social service infrastructure and voluntary staff, as well as labour for feeder road improvements.

In his report on travel patterns in Cameroon, Lisinge (2001) notes that the average cost of maintaining a kilometre of earth road in Cameroon is 1.8 million FCFA. This paper has attempted to highlight the investment options of decision makers and ask whether such expenditure can be justified for areas of small population density. Clearly, rural roads and basic services are a catalyst for economic development and in-migration (as shown in villages of Southwest Province), and the removal of investment for one or the other would hinder poverty reduction.

The field research in Cameroon demonstrated that a significant amount of time and money is spent on travel to health clinics, schools, market, water and firewood

sources because these services supply large scattered populations. With sufficient capital investment in essential services to supplement road rehabilitation, the need to travel long distances becomes increasingly obsolete, and human capital resources can be concentrated to generate more sustainable livelihood outcomes.

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