

## **ROAD IMPACTS AND THE RURAL POOR IN WEST AFRICA: EVIDENCE FROM GHANA AND NIGERIA**

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### **Introduction: roads, poverty and gender**

This paper is concerned with assessing the impact of roads on the rural poor in West Africa, with specific reference to two countries, Ghana and Nigeria. These countries provide very useful case studies because of their often contrasting economic histories over the last three decades. In looking to assess the impact of roads on the rural poor, I intend to focus particularly on women since, in West Africa, women generally experience much higher levels of poverty than men, as numerous studies attest. Despite the attention now paid to gender issues in development, gender has still not been fully mainstreamed into either the infrastructure debate or the debate on rural transport services (Fernando and Porter, in press). I also consider differences between roadside and off-road impact of road construction and maintenance projects. My approach is thus to focus on two gaps in the roads literature on Africa: the shortage of gender-disaggregated research on road impact and the tendency for impact studies to concentrate on the immediate roadside only.

This paper first presents a broad review of road construction in West Africa over the last century, with specific reference to impact on the rural poor. A historical perspective is important in reaching an understanding of current patterns of provision. Archival studies in Ghana, focusing on Central Region, are used to provide detailed illustration of trends in road construction and transport development in the colonial and early post-independence periods. Contrasts are then drawn with Nigeria's road construction and transport history, with particular reference to the oil boom period of the 70s and early 80s and the subsequent structural adjustment programme, drawing on work I have previously published on this theme and, in Ghana, on secondary sources. In each case attention is drawn to the impact of road policy and transport/access realities on rural women. This is followed by a summary of current transport conditions, based on recent field work in Nigeria and on-going research in Ghana (1). The study concludes with a brief discussion of policy shifts towards greater emphasis on (labour-based) road maintenance and the promotion of Intermediate Means of Transport and the implications of such developments for rural women.

Particular attention is given throughout the paper to impacts on rural women in their role as traders, since small-scale trade of farm and other produce is a major occupation and source of livelihood for rural women across most of the sub-region. Within this group I focus particularly on petty traders i.e. the majority of women who do not belong to well-resourced elite groups. The underlying themes through much of my discussion are:

- a) that roads in West Africa are not necessarily 'a good thing' for women who live by them, because they are usually not in a position to take advantage of the benefits that the road confers.
- b) that for women (and other sectors of the rural poor) who live away from good roads, regional road construction programmes can actually make life even harder.

## **Road construction in West Africa over the last century and its impact on the rural poor**

A historical review of road construction over the twentieth century is important in understanding contemporary provision across the sub-region. The broad imprint of road policies developed in the colonial period is still evident in current patterns of provision, despite subsequent developments. Certain legacies of the colonial period, notably forced labour on roads, also may have some bearing on current attitudes to road ownership and maintenance.

Three major phases of road provision in West Africa can be identified:

1. A colonial phase, where the emphasis was on accessing major export producing areas.
2. A post-Independence phase (1960s to 1980s) when newly independent governments began to shape their own road and transport policies. Following the 1973 hike in oil prices these policies were strongly influenced by the divergence in economic fortunes which occurred, depending on whether the country was an oil importer and thus faced serious recession (Ghana - and most of West Africa) or experienced boom as an oil exporter (Nigeria). Subsequently, recession spread to Nigeria, too, as world oil prices collapsed in the early 1980s.
3. A structural adjustment phase from the mid 1980s when external interventions once again came to bring increasing influence to bear on local policy and conditions.

### ***Colonial developments***

In the colonial period, across West Africa basic transport infrastructure investment - in railways and subsequently trunk roads - focused on opening up the region for political and economic purposes, particularly mineral exploitation. This development pattern had tremendous implications not only for movements of goods and services, but also for the levels of development in the various rural regions through which major lines of communication passed, or ignored. In most West African countries (excluding those which are land-locked), there was essentially a coastal and southern export zone and a northerly zone which was substantially less developed unless favoured by the presence of exploitable resources. Northern areas tended to become labour reserves and regions of neglect. But even in coastal areas where communications were developed, the impact of improved access on rural people varied substantially according to their precise location and economic status.

This is well illustrated by reference to southern Ghana which saw much activity in road construction in the first two decades of the twentieth century, with cocoa the catalyst for expansion. By 1916 major roads from the ports to the interior had been made suitable for light motor traffic in Central Province (Dickson 1969: 96-117, 214-238). By 1921, 464 miles of road had been constructed in the province and were plied, reportedly, by 625 motor vehicles (NAOA ADM 5/2/5: Census Report, 1921). A decade later the province had 130 miles of 'tarmetted' road (a relatively cheap surface of 4" of metal bound with sand and gravel and tar sprayed: the process was being applied to principal stretches of more

important main road) and a further 286 miles had been gravelled (PRO CO/96/678,96/7062). The development of this new surface had a massive impact on vehicle numbers (Gould 1960:67-68). The increase in 'native-owned' motor vehicles in the Gold Coast was considered remarkable. According to the 1926-1927 annual report the country had 4,690 miles of road; 832 cars and 3,455 lorries were licensed in the year (PRO CO/96/678; Annual General Reports, 1926-7, 1927-8). The organisation of road transport was soon overwhelmingly in the hands of small operators owning one or two vehicles, despite competition in the early years from Swanzys (UAC): it thus became a largely indigenously owned and run industry (CCRA ADM/23/1/534).

Road maintenance and improvement in the Gold Coast was in the hands of the District Commissioners and overseen by Political Officers who leaned heavily on - or directly ordered - local communities to provide free communal labour (e.g. CCRA ADM 23/1/405 1925 Quarterly Report Bereku-Koshua road). Notices were sent out to the relevant Chiefs who were supposed to keep the roads in order (e.g. CCRA ADM 23/1/362, 611). In Central Region, much of the road construction documentation indicates the central importance of cocoa production in decisions to construct or improve roads: stores were opened for cocoa as new motorable roads were constructed. This continued to be the case until after the Second World War, when provision of food supplies to the expanding urban centres along the coast began to influence road construction, particularly feeder roads (Addo 1974).

Road construction initiatives were not solely the prerogative of colonial administrators, however. Local people already saw the benefits offered by good roads and occasionally began taking the initiative in road construction at their own expense: a four mile motor road from Buabinsu to Dunkwa, for example, was under construction by villagers in 1935, to feed the railway at Dunkwa. The District Commissioner was keen to assist, since 'it will open up a cocoa growing area'. The District Commissioner also describes how the Aperade people had worked to convert a hammock road to a motor road at their own expense, not merely contributing labour but also paying c.£300 to employ two 'native contractors': unfortunately, when the DC inspected the road, he concluded they had taken a line with gradients impossible for lorries. There may have been other motives behind this view: 'in view of the probable competition between the railway and the motor lorry.... it would be most inadvisable for Government to help, in any way, to improve the road, as there will always be the possibility of Aprade produce getting to Saltpond' (District Commissioner to Commissioner, Central Province, 24/4/1926). Polly Hill (1970: 28) notes similar cases of Akwapim migrant cocoa-farmers, prior to 1914, hiring contractors to build bridges over the river Densu (on which they subsequently charged tolls) and their subsequent investment of at least £50,000 in building motor access roads to Akwapim. Despite the Carriage of Goods by Road Ordinance, 1936, which prohibited the carriage of specified goods - including cocoa - over particular scheduled roads to the ports, the majority of cocoa continued to be carried by road (Dickson 1969:233-4).

By 1939 Central Province as a whole was relatively well served with roads, compared to most other areas of Ghana. It had 525 miles of road maintained by the Public Works Department of which 178 had a tarred surface and the remainder were graded. There were a further 158 miles of Political Administration roads and an unrecorded mileage of Chiefs'

Roads: 'mostly just tracks cut through the bush and are without gutters and culverts' (CCRA ADM 23/1/1040, Annual Report 1939-40: Central Province). Reviewing road conditions in Ghana shortly after independence (1957), White (1962) observed the remarkable impact of roads on surrounding populations: 'the cutting of a new road will have an immediate effect on the pattern of land use and settlement....[and] attracts villages to the roadside, while the land within easy reach of the road becomes more extensively cultivated. Thus the land use pattern tends to take on a ribbon-like appearance, the zones of cultivation aligned along the roads'. In the case of a road in Western Region, the movement of populations was so large that 'in areas remote from the road cultivation has almost ceased'..

This brief historical review for southern Ghana suggests a number of trends with significance for access conditions at the time. These include the following: the influence of export crop production on the development of Central Region's road network, the fact that initiatives on road construction were taken by local communities where economic incentives were apparent, the degree of control exercised by government over roads (including use of forced labour from villages) with potential negative effects in terms of concepts of local ownership and responsibility for roads, and the influence of road construction on population distribution and cultivation. Very similar patterns - with similar impacts - were probably in evidence across West Africa.

#### *Road construction and the rural poor in the colonial period*

The evidence from coastal Ghana suggests that the rural poor contributed substantially to road construction and improvement through forced labour and exercised no control in the selection of routes. In those settlements which contributed labour along the new routes, some local elites and resourceful farmers benefited from passing trade and the opportunity to become involved in the cocoa export trade, others in the new opportunities offered by the transport industry. But it can be fairly confidently assumed that those who contributed forced labour mostly constituted a rather different population from those with sufficient resources to benefit from investment in export agriculture. Landowners clearly benefited most from the cocoa boom, as they were able to enter into highly advantageous sharecropping agreements with land-hungry migrant farmers, a practice which spread widely from the 1920s (Amanor 1994: 45-6).

Gender patterns do not figure substantially in colonial reports on road developments in southern Ghana, where reference is mostly commonly made to (genderless) 'natives': there is no specific evidence to suggest whether various groups of women in coastal Ghana benefited from road construction or not. As the principal headloaders here, as in most regions of West Africa, women resident in roadside settlements may have benefited from the expansion of motorised transport (since portage is usually an unremunerated duty of wives and daughters), but the focus of roads development in areas with potential for export production presumably increased demands on them for transporting produce to the roadside and other labour tasks as the momentum in export production grew. Some women probably did benefit from the new opportunities offered as roads penetrated the interior: for instance, Nigeria's Ibo women vegetable oil producers who grew wealthy in the 1920s, but a more common pattern seems to have been for women to suffer as the commodification which accompanied road penetration increased. In eastern coastal Ghana, for instance, Greene

(1996;180) concludes that women lost their economic independence, due to declining access to land, which reduced their ability to participate as independent farmers in commercial agriculture. In such conditions little benefit could have accrued to most women from the road developments with which commercial production was intimately bound.

### *The early post-Independence period*

The early post-Independence period of the 1960s and 70s saw some divergence in patterns of transport development in West Africa, according to the potential of individual local economies. This is well illustrated by a comparison of countries like Ghana - where an economic downturn soon set in - and Nigeria where revenues from oil eventually led to a period of remarkable - if ephemeral - economic boom.

### *The impact of stagnation and recession in the 1960s and 70s in Ghana*

In Ghana, after 1957 (when Ghana obtained independence) there was relative stagnation. In Central Region this was associated particularly with the decommissioning of all its surf ports following the completion of Tema harbour in 1962. Local urban populations along the coast lost income and the cost of transport to ports for local produce increased. Population increase between 1970 and 1984 was lower in Central Region overall than in any other region of the country with the exception of Volta Region (Census 1984). As the economy deteriorated, here and elsewhere in Ghana, in the 1970s - arguably partly the result of over-regulation of markets, evidenced in efforts at price control in foodstuffs and taxation of export crops - roads deteriorated substantially, as did the number and condition of vehicles. Travel problems were compounded by petrol shortages.

According to Clark (1994:66), farmers and rural-based traders in the Kumasi region at this time had difficulty persuading drivers to take their vehicles on poor roads to collect produce and 'many villages fell off the transport map entirely'. Clark suggests that major centres benefited to an extent, in that traders in smaller centres had to spend much time searching for vehicles. Farmers and small town traders came more strongly under the influence of big town traders because of the greater access of the latter to larger transport pools (ibid: 70, 207). Eventually, in the 1970s, even major trunk roads were deteriorating and the road from Cape Coast to Kumasi was impassable by 1979-80 (ibid: 67), so restricting some of the activities of the major urban-based traders. This probably has some bearing on the reported retreat of coastal women who then concentrated on trading within their own cities rather than trading extensively in the major marketing centres of Kumasi and Accra (ibid: 321).

This era appears to have seen no fundamental change in transport patterns in Ghana, since transport investment decisions were now made by a ruling elite who generally looked to invest in ways which reinforced the status quo. Indeed, Mc Call (1985) identified feeder road impact in sub-Saharan Africa broadly in terms of power, authority and control in rural areas, a route to increasing capitalist penetration and growing dependency.

### *Nigeria's oil-boom*

Nigeria saw a spectacular - if short-lived - development in transport infrastructure and services following the hike in oil prices in 1973. This extended up to about 1983. 1975 was

a year of particular significance for Nigeria, in terms of accessibility, because massive back-dated pay awards in both public and private sectors - a direct result of the boom- brought motorbike and vehicle purchases, for the first time, within the reach of many ordinary working Nigerians. And many more could afford transport fares for the first time. The benefits of vehicle ownership were experienced not only among the growing indigenous elite who purchased private cars for family use, but also among a rapidly growing entrepreneurial group of owner-drivers who started taxi and mammy-wagon services, thus providing an expanded transport service to (accessible) rural populations.

In Nigeria, as in Ghana, colonial road construction programmes had focussed on the south - in this case Lagos and the Western Region - and were closely associated with the expansion of export crops (Ekundare 1973: 267). In the mid-1950s, just prior to independence, estimates suggest 60% of the country's paved roads were located here (Hawkins 1958:12). As Guyer vividly describes, the oil-boom impact was both rapid and dramatic in this region: 'even relatively poor farmers at the end of the capillaries of distribution found that they could afford a motorcycle... ' This was the era when the Datsun pick-up arrived, aptly named, in Yoruba, the *jalukere* ('let's go into the potholes'). By 1977 annual imports of this kind of vehicle reached nearly 31,000. (Guyer 1997: 86).

Elsewhere in Nigeria, where large areas remained remote from paved roads, a massive all-season road building programme commenced, focussed on inter-urban connections. By 1988 Nigeria had nearly 32,000 kms of paved road: 21,000 kms of paved road were constructed or rehabilitated between 1975 and 1980. In tandem, there was an estimated doubling of vehicle numbers between 1976 and 1982 (Barrett 1988). The two mutually reinforcing elements of road construction and rapidly increasing vehicle ownership contributed both to major urban expansion and to rural reorganisation, with massive repercussions for people across the country.

As Guyer observed in Ibarapa near Ibadan, in relatively accessible rural areas, 'trickle down' from the urban-biased development of the oil boom undoubtedly did take place. But even in the remote far north-eastern corner of Nigeria, the impact of improved access on rural areas was notable: within days of a road construction team setting up camp in a new area, flimsy shade covers would be erected and women from nearby settlements would begin to set up food stalls. This was often followed by the construction of first temporary, then permanent, dwellings: settlements subsequently rapidly established themselves along the new all-season paved roads. The small collection of food stalls, following the opening of the road, could rapidly transform into a thriving new market, which would link in to the city markets down the road. It is not surprising that road construction - viewed from the tar - is often seen as the harbinger of positive change in regional economies.

One of the most interesting components road construction impact, however, is what happens away from the paved road. Only a few kilometres from the road, a substantially different picture of change could emerge: a picture not merely of stagnation, but even decline. A series of detailed studies in Borno, in 1978 through to 1984, enabled me to build up a picture of rural change across four districts (Porter 1988). Here the impact of the road construction and up-grading programme and the associated massive increase in transport ownership was

to encourage a remarkably rapid redistribution of population to the roadside. In this remote semi-arid region, movement to the road was made particularly easy because of the poverty of the rural populations who moved. In some remote areas there was so little infrastructure to abandon at the parent villages that whole settlements decamped. Movement to the road was also encouraged by local soil conditions: deep sands which could make off-road travel difficult in the dry season, water-logged clays which sometimes made movement impossible in the wet season. What happened here recalls White's (1960) observations above of earlier road impact in off-road areas in western Ghana.

The impact of this movement on off-road rural economies - reflected in marketing patterns - was arguably particularly important in Borno, because it had a specific impact on women. Between 1978 and 1984 seven remote rural periodic markets in my study area totally collapsed and others went into serious decline: this happened because of a refocussing of marketing on roadside markets, further encouraged by enforcement of government policy regarding closure of small markets. (Small markets were thought to divert trade from major markets, where market tolls - a source of local government revenue - are more easily collected from traders.) In Borno, among the majority Moslem Kanuri population, seclusion is only practised by wealthy urban families. Many rural women interviewed in the late 70s had earned their living from childhood by engaging in petty trade in rural markets. However, women below the age of menopause were not expected to travel more than a few kilometres, to trade in their local market. Most women, in any case, could not afford transport - even if it were available - to travel further. They engaged in a very localised petty trade, mostly selling goods they had produced or gathered themselves. Men, by contrast, travelled further and more frequently to trade and sold higher value produce. The disappearance of off-road markets meant that opportunities to visit market were severely curtailed for the women living nearby who patronised them: travel to more distant places took much longer and could, in any case, affect their reputation, because of the association between long-distance travel and immorality. Market loss had not merely economic but also social implications, again particularly significant in a remote region with low population density: Borno markets are important centres of social interaction, for enjoying entertainment (horse racing, acrobatic displays, wrestling), even for contracting marriages. The decline and disappearance of off-road markets in this region was a direct consequence of road construction. For women and other less mobile groups such as the elderly, who remained resident in remote off-road settlements, the impact of market loss was enormous.

*Road construction and the rural poor in the early post-independence period: a summary*

This period saw substantial contrast between Nigeria and Ghana as the two economies began to diverge dramatically. In Ghana economic stagnation resulted in an unrelieved story of road and transport deterioration on a scale which ultimately led to a localisation of regional economies. This appears to have impacted substantially on all sectors of society.

In Nigeria, by contrast, an early post-Independence phase of limited road investment was followed by a period of dramatic boom - albeit one which only lasted about 8 years at most. The frenetic road construction programme and accompanying transport expansion - further encouraged by highly subsidised petrol - appears to have had massive, often positive, impact on the lives of those well resourced people who lived in relatively accessible locations and

were in a position to take advantage of the new opportunities. However, I suggest, it had a specific negative impact on women and other less mobile groups living off-road, due to the major impact of road construction on rural marketing patterns. This particularly affected women in Moslem north-eastern Nigeria who were restricted in their mobility both by social mores and by transportation difficulties encountered when traversing the black cotton soils characteristic of this region. Given the crucial significance of trade as a source of diversified income in this region of limited agricultural potential, the impact was severe.

### ***Road transport and rural access in the era of Structural Adjustment: the 1980s and 90s***

By the early 1980s, much of West Africa was clearly suffering severe recession. IMF /Bank packages were -albeit reluctantly - gradually accepted by most countries. Ghana came first in 1983, but Nigeria followed perhaps surprisingly rapidly, in 1986, with a 'domestic' SAP, as a consequence of the collapse in oil prices. Considerably later other countries like Burkina Faso and Sierra Leone followed suit.

The early phase of structural adjustment - which saw implementation of currency devaluations, elimination of subsidies and reduction of state intervention in the economy - brought immediate problems in the road transport sector in West Africa (as elsewhere). Roads deteriorated rapidly because of the shortage of funds for maintenance, vehicle purchases declined as a result of the escalating costs of imported vehicles, spare part supplies declined for the same reason, and much pressure was placed by the Bank to force cuts in fuel subsidies. However, the degree to which SAP impacted on local economies and people's lives varied to some degree between countries and sectors.

In terms of country variation, interesting comparison can be drawn between Nigeria and Ghana. Essentially, Nigerians felt the impact of SAP dramatically - and the middle classes, in particular, complained loudly and vehemently about the pain of being 'S/zAPped' - because the severe recession of the early 80s, caused by the collapse in oil prices, had been preceded by that period of incredible boom described in the previous section. By contrast, Ghana had been in severe recession for many years: in 1988 only 28% of its roads were reportedly in good condition, compared to 67% in Nigeria. Both its road stock and its vehicle stock (mostly composed of second-hand imports) were in much poorer condition than Nigeria's. Nonetheless, comments in the early 1990s by Edmonds and de Veen (1992), that in parts of Africa the road network seemed to be deteriorating faster than it was being constructed, could be applied both to Ghana and Nigeria. Funds for maintenance in both countries were still being regularly spent on expensive improvement and emergency works rather than on routine maintenance.

### ***Ghana's SAP***

Ghana, as one of the World Bank's 'model reformers', has undergone a substantial road rehabilitation programme over the last 15 years. Early road rehabilitation - which commenced in the mid-1980s in Ghana as part of the Economic Recovery Programme - focused on trunk roads in exporting regions. Elsewhere, the programme of rehabilitation and maintenance fell behind schedule, but other changes - notably deregulation of fares, fuel and parts imports - eventually brought some improvement in rural transport services, even



on many minor roads. The establishment of the Road Fund in 1985, based mainly on revenue from a levy on fuels, was seen as an important move towards user-funded maintenance. (By 1997 it provided about 50% of the maintenance budget according to Ministry of Roads and Transport statistics).

Subsequently, following calls for governments in sub-Saharan Africa to recognise the limits to paved road construction and concentrate on lower-cost feeder roads (e.g. Beenhakker 1987), there was some change in emphasis in roads policy in Ghana. The 90s thus saw a stronger focus on feeder roads development in Ghana, supported by the World Bank, but given the enormity of the problem, the condition of rural roads generally remains a constraint on agricultural expansion. It was estimated in 1997 that only c.44% of Ghana's total Feeder Roads network would be maintainable: non-maintainable roads generally require reconstruction and 'a large percentage of these poor roads can be found in the deprived areas of Ghana where there are no significant economic activities' (Ministry of Roads and Transport 1997: 67).

### *SAP in Nigeria*

Nigeria's relations with donors have been more strained than Ghana's over the last 15 years and donor investments in road rehabilitation programmes under SAP consequently less sustained. With the commencement of serious recession in 1983, and subsequent introduction of a domestic SAP in 1986, the road building programme slowed, vehicle assembly plants established in the boom years closed, new vehicle imports and supplies of spare parts dried up and national fuel consumption fell substantially. A Directorate of Food, Roads and Rural Infrastructure, established in 1986 to rehabilitate rural feeder roads accomplished little because it was dogged by corruption, escalating construction costs and inadequate supervision (Filani 1993). In the transport sector people scavenged for parts while those still with funds sufficient to travel overseas returned with tyres and other parts in their personal luggage. As Guyer (1997: 88) wryly remarks, 'Nigerian mechanics gave new meaning to the concept of bricolage.'

In 1991 I undertook a marketing/access study in three former tin-mining districts on the Jos Plateau. This suggested that the impact of SAP on rural marketing patterns at that stage had been to reinforce the significance of roadside locations, especially recently constructed roads which remained in good condition (Porter 1994, 1995). Transport owners and traders had become increasingly reluctant to take their vehicles beyond good quality paved road because of the difficulties of obtaining spare parts and the soaring cost of second-hand vehicles. So long as sufficient business could be found on a motorable paved road, no transporter would risk his vehicle operating off-road routes. Not surprisingly then, all except two of the nine periodic markets still expanding at that time were located on paved roads and all the large markets were roadside markets. (The two expanding off-road markets were favoured by particular conditions, in one case the settlement was still the site of a tin mining company, in the other irrigated cropping had developed round a former minepond.) The seven markets which had declined in the five years since the inception of SAP in 1986 were all off-road markets. Two off-road markets had become totally defunct between 1986 and 1991.

### *Roads and the rural poor in the early period of Structural Adjustment*

In Ghana, SAP measures such as deregulation of fares, fuel and parts imports, by the early 90s had reportedly brought some improvement in rural transport services, even on many minor roads. Clark (1994: 67-8, 212, 397) suggests this had substantial implications for rural trade, since (urban-based) traders could more easily purchase from farms, rather than having to buy at (roadside) periodic markets, and farmers could themselves more easily bring their produce direct to a major market (also see Doran 1990:48). This would presumably have had some beneficial impact on women traders and possibly also on off-road populations as a whole. Nonetheless, poor rural road conditions and associated high transport costs were identified as the single most important factor affecting the ability of subsistence farmers to enter the market economy in the World Bank's 'Ghana 2000 and beyond' review (1993). Rural Ghana was described in that review as largely a 'footpath economy' in which human portage [mostly accomplished by women] prevailed but brought serious (little researched) health risks and was a massive constraint on rural labour supply, also adding substantially to both production and marketing costs.

In Nigeria, by contrast, the early impact of SAP was to focus traders even more firmly on those paved routes still in reasonable condition due to infrastructure investments in the oil boom. The consequent impact in off-road areas of the Jos Plateau was severe, but unlike the case of the Borno Kanuri, the indigenous Birom in this region imposed no restraints on women's mobility. The decline of off-road markets and transport services on the Plateau (which had commenced in the oil boom) thus simply meant that an increasing number of women had to headload village produce further, to the roadside. Since traditional Plateau *kunnu* (social drinking) markets remained in operation in off-road areas, the social loss wrought by the decline of rural periodic markets was also less than in the Borno case. Even so, the impact of off-road transport decline clearly disadvantaged off-road populations, particularly off-road women who are expected to undertake portage tasks for their husbands and male family members.

### ***Recent change and its impact***

Recent change in Ghana and Nigeria continues to show interesting variation. Donor policies have been, to an extent, refined and - following outcries about the deleterious impact of adjustment on the poor - more attention has been paid to mitigating the impact on poor populations in recent years. But specific local factors have also played a role in influencing transport developments.

Exactly a decade after my first markets study on the Jos Plateau, I returned to repeat the survey. Conditions by early 2001 had - in some respects - changed markedly. Transport availability in the rural market settlements was observed to be vastly superior to that available in 1991 in both on-road and most off-road villages, even where roads are (as most remain) bad. In off-road villages there are now many privately-owned pick-ups and station wagons, in particular, which are kept at the village. These are generally available for hire.

The improvement in village transport in the Jos Plateau survey area is in many cases directly attributed to the expansion of irrigation farming and the money this has brought into the villages in recent years. This has been made possible by the declining price of small petrol

pumps which are used to irrigate vegetables using water from the Plateau's defunct mineponds. But according to sources in Jos, there has been a remarkable increase in vehicle numbers over the Plateau as a whole, particularly over the last year, due to decreasing import duties on second hand cars known as Belgians or Tukungo (now down to 5%). The most remarkable change, in transport terms, is the massive expansion in motorbike ownership due to the increased availability of cheap imported 'Chinese' motorbikes, and the emergence of motorbike taxi services (*achaba* - meaning 'going') in both roadside and many off-road villages. *Achaba* was absent in 1991, even in Jos town. The concept of *achaba* (known in southern Nigeria as '*okada*' and now common across the country) apparently originated in the Calabar area of south-eastern Nigeria but had spread rapidly in Western Nigeria in the oil boom (Guyer 1997: 89). Many owners in Plateau off-road villages use their motorbikes principally for their own purposes, such as taking inputs to the farm, but operate *achaba* on an occasional basis according to demand and their own movements out of the village. Where roads are particularly bad, *achaba* has reportedly provided a lifeline for villagers, being used in emergencies, or when people have missed the morning bus or when there is no market bus. Currently - and ironically, given Nigeria's continued status as a major oil producer - petrol shortage is the main transport problem facing all motorised transport owners and operators.

Overall, then, there has been a substantial recent improvement in transport conditions on the Plateau, despite the poor quality of most unpaved roads. Indeed, one of the most important points which this emphasises is that, if sufficiently strong economic incentive and imperative exists (high-value perishable produce in this case), transport will generally be found, however difficult the road conditions. But this will not necessarily benefit women. Despite the improvements in transport ownership and use of both motorised and intermediate transport on the Plateau, most women in off-road areas still walk to market: the impact of improved transport has principally benefited men, who own the vast majority of vehicles. This is to be expected, given that the incomes from increased dry season agriculture are generally going to men rather than to women: few women have the resources to invest in irrigation pumps.

Motor vehicle ownership in 2001 is far higher in off-road villages on the Jos Plateau than it is in the off-road villages in Ghana's Central Region, where I am also conducting research on market access for women traders. Despite donor investment in Ghana, it does not have the stock of infrastructure (nor, perhaps, the expectations) that Nigeria built up in the oil boom. In Central Region, commonly the few off-road people who own motor vehicles - mostly men - will station their vehicle at the roadside in order to earn money through provision of taxi services (Porter 1999). Roads are still bad and agricultural production (cocoa, maize, cassava, and some rain-fed vegetables) is insufficiently buoyant to encourage regular off-road services. The policy of improving paved roads in the early SAP years has had some beneficial impact: in Assin district, for example - the largest district in Central Region - a 'first class' road now dissects the district from north to south. This is the Cape Coast- Kumasi highway, which was paved in the 1980s and has reportedly had enormous impact on commercial activities in the district (Akyeampong 1996): it has certainly encouraged the growth of a number of roadside markets. But the other district roads are

feeder roads; many of these remain in poor condition and some are unmotorable, especially in the rainy season. Even gravel surfaced roads often do not survive long in this heavy rainfall area and vegetation is a constant threat to unpaved roads (Ministry of Roads and Transport 1997, Wilbur Smith Associates 1998.)

Shortages of transport and unreliability of available (mostly imported, second-hand) transport continue to be defining features of the Ghanaian transport scene. This has shaped trading practices. In most circumstances in Ghana, traders generally have to escort their goods from place to place and supervise loading and unloading, because of vehicle unreliability and also in order to avoid theft and excessive transport charges and reduce spoilage. They must arrange and finance transport, but arranging transport in conditions of transport shortage can require a high labour investment in searching for vehicles and negotiating their use. Delaquis (1993, cited in Sieber 1997), suggests that, in the Kumasi region, low vehicle utilisation (due to long waits between loads plus long periods out of service due to repairs) and high overloading are major determinants of the present transport cost structure. Clark found some villages fairly near Kumasi but on very bad roads 'practically unable to sell fresh produce': there were also more intermediaries involved in produce sales in such locations than would be expected in settlements near a major market centre. The same situation obtains in Central Region: it is not only in 'remote' places far from a major town that accessibility is a serious issue for farmers. Accessibility to markets is probably as great a problem for most of Central Region's farmers and traders now as it was at the start of the 1980s.

Obviously this has implications for women in their role as traders. As Clark notes, current supply of transport has a critical role to play in deciding the balance of power in driver/trader interactions (ibid: 209,211). On routes where transport is restricted, the potential for overcharging farmers and traders is great. Commercial drivers tend to be male and women traders rarely have sufficient funds to buy a truck. Transport negotiation is a widespread problem for women traders, 'the interaction between Ghana's female petty trader and the informal public transport system is, like much of Ghanaian life, one of bargaining, negotiation, preferencing and patronage: brokerage is at the heart of the Ghanaian public transport system' (Grieco et al 1996;13). For women who reside in off-road locations, bargaining power is usually particularly low. Children often play a critical in transporting goods or substituting at home for women faced with unreliable travel for trade, while elderly women in trade may also scale down their operations in order to replace their trading daughters as the 'domestic anchor' in the household (as Grieco et al. 1996: 138-41 observe in an urban context).

### **Prospects for improving access for the rural poor in West Africa**

In recent years, with growing recognition of the inequalities in access to transport, some efforts have been made by donors to ameliorate the transport situation for poor groups - particularly women - in West Africa. This is being done through policies such as targeted IMT schemes and the expansion of labour-based (as opposed to machine-based) road work. However, targeting is difficult to effect in practice, as the following example of labour-based road construction illustrates.

### *Labour-based road construction*

Labour-based construction is now widely encouraged in West Africa by donors, on the basis that it is a cost effective means of improving rural infrastructure which also generates rural employment, uses local resources thus saving on foreign exchange, injects cash in to local economies, transfers technical knowledge of road construction to the local community (which can be utilised in subsequent maintenance) and reduces environmental damage (Stock and de Veen 1996:v).

Ghana was the first country in sub-Saharan Africa to introduce a country programme of labour-based methods for the local road contracting industry (ibid.1996:35). The programme, supported by the World Bank and UNDP, with technical support from the ILO, aimed to benefit rural casual labourers living near to the road works. A training course was provided for local contractors, while a hire purchase arrangement enabled the contractors to purchase appropriate simple equipment. In the period 1986-94 this was estimated to have created c. 2.6 million worker-days employment, paid out \$1.4 million in wages, and rehabilitated 1,190 kms of gravel road. This programme has been judged sufficiently successful to merit visits from policy makers and managers from other African countries (ibid: 14). Some aspects of the labour-based construction approach in sub-Saharan Africa have been perceived to need refining over time - notably improved financial management and decentralisation - but the value of the programmes to rural populations appears to be unquestioned by the World Bank Rural Travel and Transport Programme (RTTP), one of the leading promoters of labour-based methods.

The first pilot programme in Ghana was started in one of the cocoa areas of Western Region in 1996 by the Department of Feeder Roads with a World Bank credit. A specific aim of this feeder road rehabilitation project was to utilise an 'underemployed local labour force ready and willing to improve the access to the villages' by creating employment for men and women. It would also help by 'boosting the rural economy' and 'involving communities in their own development'. The area had reputedly some of the worst feeder roads in Ghana, due to high rainfall (nearly 200 mm p.a.) and hilly topography. The pilot project was closely supervised by DFR staff and ILO technical advisers. It used (7) small, locally-based contractors and labour from local villages, both men and women (the ratio of men to women is not provided in DFR's publication on this project) and employed an average workforce of 160 per contractor on standard contract, resulting in payments of 103 million cedis (US\$ 368,000) in cash wages (DFR, n.d. 1989-90).

In 1990 the programme was extended to two more regions, Brong Ahafo and Ashanti, and subsequently was expanded so that by 1995 it encompassed all the country's administrative regions. Additionally, in 1994 labour-based contractors became responsible for DFR road maintenance under the MPBS (Maintenance Performance and Budgeting System).

Training of contractors at a Model Training Site uses men and women from local villages (DFR n.d.1996?). However, I have not found any specific statement in any of the DFR documentation as to the extent to which women have been and are employed in labour-based road works. A published paper by Ashong (1998) focuses on contractor selection and training, though it repeats the mantra about the benefits of rural employment generation.

There is now substantial evidence to show the overall success of the labour-based approach to rural road construction, rehabilitation and maintenance in West Africa: consequently the approach has been accepted by many donors and adopted by governments in both anglophone and francophone areas (Guinea, for example, has had ILO assistance since 1995 in this area). In theory, the advantages of a labour-based approach include its considerable potential to benefit the rural poor living in the vicinity of a road targeted for construction or rehabilitation in terms of direct payment of wages, circulation of this cash in the local economy, and the acquisition of technical expertise in road construction and maintenance. However, in practice, contractors may bring in labour from elsewhere. The incidence of labour importation is mentioned in Stock and de Veen's RTTP review, but only as an appendix. They specifically refer to the Ghanaian case where migrant labourers are called 'old hands' and 'represent 10 percent to 30 percent of a contractor's labour force.' Contractors, they observe, find two advantages in using these people, first they are willing to accept late payments because they have developed 'a relationship of trust' with the contractor, and secondly they transfer skills to local labourers (ibid.:66). Stock and de Veen suggest that 'employers are often not interested in hiring large numbers of migrant labourers, since their lodging is often the responsibility of the employer.'

This may well be the case in some regions, but there is substantial anecdotal evidence from villagers in Central Region that contractors often bring in the *whole* of their workforce from outside. Many local contractors are based in urban centres such as Cape Coast and it seems that they simply find it easier to use a regular (urban-based) workforce. There does not appear to be, as yet, any detailed documentation for Ghana which supports the oft quoted contention that rural communities - including women - benefit substantially from implementation of labour-based approaches. The contractor practice of importing its labour force may still benefit a relatively poor sector of the population, but it will not inject much money into local economies, nor will it assist in transfer of technical skills or provide communities with a sense of ownership of their local road which might encourage them to maintain it in the future. If labour-based programmes have, as one of their priorities, assistance to the rural poor, then contractor labour policy needs monitoring (2).

### *The potential of IMTs*

Another possible route to improved access for the poor is through Intermediate Means of Transport. By contrast with Asia, anglophone areas of Africa, in particular, have been remarkably slow to adopt low cost means of transport. (Striking differences can be observed, for example, in the level of motorcycle usage as one crosses from Ghana into neighbouring francophone countries like Togo). Yet the success of the motorcycle (and the bicycle) in areas like the Jos Plateau illustrates their potential to transform rural access, especially for men (though safety is a factor which needs serious attention). In part, the slow pace of IMT adoption in areas like coastal Ghana probably revolves around lack of critical mass (Starkey 2000) and the implications this has for repair facilities etc. But it also reflects a view still common among policy makers in Ghana that IMTs are backward technology: infinitely inferior means of transport, suitable only for the less developed northern regions of the country. This view is found elsewhere in Africa too, as Ellis and Hine (1995) report.

Women's ownership and use of IMTs is typically very low indeed in Africa, though whether this is due to lack of capital or to cultural conventions is still often unclear. In coastal Ghana very few women use any type of IMT, though some men ride bicycles. In five study villages in Central Region, women questioned on this topic said they did not utilise IMTs because of shortage of funds to buy them. An action research project in these villages is now underway which has provided a range of IMTs on credit to women and is currently monitoring their impact. However, with continuing cedi inflation, the cost of a bicycle or cart, even on credit, is beyond many women's purchasing power in these villages. On the Jos Plateau, despite very widespread ownership of bicycles (in some villages virtually every family owns at least one), similarly few women possess them: again this seems to be linked principally to Birom women's limited access to resources and consequent low incomes.

Where IMT schemes have been introduced in Africa, they seem to have mainly benefited men, probably at least in part because equipment like bicycles is often seen as having status (Doran 1990, Bryceson and Howe 1993). There is very little data on the impact of low-cost transport on women and Doran (1990) argues that it will be important to consult women before developing IMT schemes for them since there have been various failed schemes. In northern Ghana, where bicycle trailers were introduced, the scheme was unsuccessful for a number of reasons, including the fact that lack of capital among villagers made it difficult for them to afford a bicycle plus trailer, even on easy terms (Salifu 1994). Starkey (2001:23) argues from the Northern Ghana project experience that the trailers were promoted without clear understanding of the social, economic and technical issues involved; that although initial responses to IMT demonstrations can be 'euphoric', careful participatory research is needed to establish likely costs, benefits, usage patterns and constraints; and that other poverty alleviation options to assist women should have been explored. These points seem to have general relevance to the broader IMT debate. He reports that the Ghana experience is by no means unique: in India, Kenya, Tanzania and Sri Lanka similar low rates of adoption have occurred, despite the fact that the trailers 'seemed technically capable'.

### **Conclusion**

Evidence from Ghana and Nigeria suggests that, throughout the twentieth century, the rural poor - particularly those resident away from the gradually expanding paved road networks - have faced enormous transport/access hurdles. Access to markets, to services like health and education, to agricultural extension services, banking facilities and credit and, indeed, to centres of power, influence and information, have all been constrained by poor roads and poor transport services (Porter 1997). In some periods and some areas, all-weather road access has improved: notably in the cocoa producing areas of Ghana during the cocoa boom, and across Nigeria during the oil boom. For those with assets, substantial benefits could accrue once a good road was available, if local and national (policy) conditions allowed the development of transport services.

But for those with little access to resources - of whom women tend to form a major portion in West Africa - even access to the road may bring little benefit, because opportunities to gain from land speculation or increased farming/commercial activities are few. It is still extremely common across West Africa to see women trekking with heavy loads along

heavily trafficked paved roads because they cannot afford to pay transport fares. Indeed, among the few opportunities which commonly expand for resource-poor women in roadside locations, apart from petty trade in cooked foods etc. sold to passing travellers, is prostitution, with all the implications this carries in an era of HIV/AIDS. But traffic accidents also increase, particularly on busy rural roads, and recent evidence from Uganda suggests the costs of accidents bear principally - and heavily - on women as the main carers (Kwamusi, in press).

The impact of regional all-weather road construction programmes on off-road areas, however, can be even more negative. Not infrequently, such road developments have actually led to a reduction of transport movements (and sometimes of economic activity) in areas away from the paved roads, as observations from Ghana just after independence (White 1962), from north-eastern Nigeria in the oil boom and from Nigeria's Jos Plateau following the imposition of SAP, suggest. When transport stocks are small or declining, as in the early years of the SAPs, the impact of all-weather road construction is to concentrate transport activity even more strongly along the best routes to conserve vehicle life. This results in a reorganisation of economic life, very evident in the decline of off-road markets. For vulnerable groups - particularly women, because they lack resources and are usually the (mostly unpaid) porters in West Africa - the impact is to expand work loads and reduce income-earning opportunities. More time is spent trekking with the produce of all family members to the roadside markets.

In looking to resolve these access issues in Ghana and Nigeria, the immediate focus of attention - of governments and communities - still tends to be on roads. The construction or improvement of roads and tracks so that they are accessible by motor vehicles all year round is usually a prime development target of villages off the paved road, in particular. This raises a number of issues, however, not least the limited budgets available for road construction and, as discussed above, how to spend those funds most effectively. Recent donor initiatives are refocusing attention towards intermediate technology solutions in both transport and road construction, on the basis that these are more likely to benefit the rural poor whose transport needs are often diverse and dominated by subsistence-related journeys. But these initiatives will also need careful monitoring to ensure they assist the populations at which they are targeted. Given the potential offered by big road construction programmes for corruption, there is often considerable resistance to these smaller-scale low technology approaches, which give less opportunity for massive misappropriation of funds.

By comparison with much of Asia, West Africa's road and transport stock is severely underdeveloped. In West Africa by the late 70s road networks had only been developed to a density of from around 0.01 (Mali) to 0.11 km (Nigeria) of road per square km of land area, compared with 0.35 in Bangladesh and 0.41km in India (Platteau 1996). Today, far smaller proportions are paved than in Asian countries and most are in much poorer condition. The number of motorised vehicles per mile of paved road is far lower in West Africa than Asia and vehicle maintenance costs are far higher (over five times as expensive in Africa as they are in Pakistan, according to Hine and Rizet 1991, cited in Platteau 1996). The range and quantity of IMTs found in West Africa is a fraction of that available in Asia: most new bicycles imported into Ghana and Nigeria are, in fact, manufactured in India and China.



The transformation of West Africa's transport system clearly represents an enormous challenge, both technically and socially. Despite recent, tentative initiatives towards intermediate technology, the development of locally appropriate, viable rural transport strategies which can benefit the rural poor appears to be a very long way from fruition.

## Notes

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(2) In Uganda, where the government has been trying to improve community participation in roads rehabilitation projects so that communities take ownership and maintain roads, a full-time local Community Roads Officer has been appointed on one major (equipment-based) trunk road project, to ensure that project benefits accrue to poorer people, including women and youths (Leyland n.d. 1999?). A number of roads are also to be rehabilitated using labour-based methods and it has been stipulated that these contracts will employ not less than 30% women as labourers (Leyland 2000). Such approaches could have potential for application in West Africa as a way of eliciting greater community participation.

Self-contracting is also increasingly common across West Africa (and elsewhere in sub-Saharan Africa [Beusch, 2000]). This type of road maintenance involves groups of schoolchildren and unemployed youths in a village area taking the initiative to mend their own local road - usually a badly potholed section of paved road, but also earth and gravel roads in areas where there is substantial cash crop production and thus plenty of vehicular traffic. The potholes are roughly filled, then the entrepreneurs usually put up a rope to stop passing vehicles and demand tips. This is one means by which local communities can improve access and tax free riders, though it is not always well received by travellers! It is a system regularly employed both in coastal Ghana and on the Jos Plateau in Nigeria.

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#### **Archival sources**

CCRA National Archives of Ghana: Cape Coast Regional Archive Office

NAOA National Archives of Ghana: National Archives Office, Accra

PRO Public Record Office, London