



Living in a Walking World: Rural Mobility and Social Equity Issues in Sub-Saharan Africa

GINA PORTER *

University of Durham, Durham, UK

Summary. — Accessibility and mobility are embedded in the development nexus in far-reaching ways. Field studies of mobility among women and men in rural settlements with poor road access illustrate the frustrations and costs of living off-road. They are frequently marginalized and invisible, even to local administrations. State decentralization appears to have had little positive impact in reducing “tarmac bias” and improving rural service delivery. A range of potential interventions, from Intermediate Means of Transport to electronic communications is reviewed, and opportunities for building social capital in off-road areas through nurturing improvements in state-civil society relations are considered. © 2002 Elsevier Science Ltd. All rights reserved.

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I. INTRODUCTION

The title of this paper originates in the foreword to a World Bank publication, “Transport and the village” (Barwell, 1996), where Kevin Cleaver reiterates a fact which, on the one hand is glaringly obvious to development practitioners, yet at the same time is so often side-stepped in development research and planning: “the African farmer largely inhabits a walking world.” My particular focus is on women and men for whom this observation is probably most apt, because walking is often the *only* mode of travel available: those who live in “off-road” rural settlements.

“Off-road” has developed new connotations in Western material culture and in Western cultural criticism, where vocabularies of travel currently proliferate (for example, Wolff, 1995). In this context, the term evokes a peculiarly masculine fantasy construction of wilderness experience, particularly when linked to use of the four-wheel drive vehicle (Bishop, 1996). “Off-road” has much starker, decidedly “unplayful,” connotations in a sub-Saharan African context, where the advantages which inaccessibility may confer are rarely appreciated. It is defined in this paper as areas—and, more specifically, settlements—away from a good gravelled or paved road which, for at least part of each year, are inaccessible or accessible only with difficulty by motorized transport. Problems associated with poor access may be

experienced not only in very remote settlements but even in villages only three or four kilometers from a good road and close to urban areas. Although the inhabitants of such settlements are often markedly poorer than those resident in comparable roadside locations in the same region, and the settlements are almost inevitably disadvantaged in the allocation of public services, they have received remarkably limited *specific* attention in the development literature.¹

In a recent review of transportation studies in the Western world, Law (1999) urges researchers to consider the practices and (gendered) meanings of mobility, while maintaining concern for injustices in access. In a similar vein, in this paper I want to extend discussion beyond the immediate mechanics of moving

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people and goods, which has been the focus of most transport research conducted in low income countries, to a rather broader consideration of the lived experiences of women and men in off-road villages. These I consider not only in immediate practical terms of obtaining (or trying to obtain) medical attention, market outlets and credit, but also in terms of the power relationships between roadside and off-road settlements, with specific reference to access to the political process in the context of decentralization policies. This focus is essential, since we cannot explain people's travel experiences in off-road areas without reference to the configurations of power which mediate relationships between individuals and institutions. I conclude with a review of the prospects for improving off-road conditions, including the potential role of telecommunications, and of other interventions aimed at encouraging group activity and building social capital. The discussion is based principally on recently completed qualitative research in coastal Ghana, which included detailed studies in five off-road settlements (conducted over a full year in order to assess seasonal change), but builds on my earlier work on rural transport and trade in Nigeria and on a broad spectrum of related development literature.

2. BACKGROUND: RURAL TRANSPORT CONDITIONS

Rural transport conditions in sub-Saharan Africa are remarkably poor by comparison with Asia and Latin America. There is a substantial literature which highlights the low quality of the rural road network in Africa, the fact that rural roads (paved and unpaved) are defective not just due to poor design and construction but, above all, due to lack of proper maintenance and that this greatly increases vehicle operating costs (Platteau, 1996). Rural transport charges are higher than in any other region in the world. Ellis and Hine (1998) compare villages in Zimbabwe, for instance, which have an average of one motorized vehicle per 300 people, with Sri Lanka, where the level is five times as great. They report transport charges for journeys of up to 30 km as up to two and a half times more expensive in Africa than Asia.

Investment in transport infrastructure in Africa tended to come late, generally in the colonial period, when most countries experi-

enced their first major phase of rail and road construction. This produced a dendritic system, firmly directed to the evacuation of primary produce to coastal ports for onward shipment to Europe (Taffe, Morrill, & Gould, 1963). In favored export production zones, such as Ghana's cocoa areas, motorized transport expanded rapidly from the mid-1920s, eventually producing nodes of high accessibility in some areas by the late 1950s, which assisted movement of goods from rural areas to major bulking points (Gould, 1960, p. 110). Across rural sub-Saharan Africa, however, head loading—mostly by women—has continued as the dominant mode of transporting goods from and to rural households (Barwell, Edmonds, Howe, & De Veen, 1985; Dawson & Barwell, 1993; Doran, 1990; McCall, 1985; Moore, 1979).

Economic decline and subsequent imposition of structural adjustment programs tended to exacerbate strains on existing inadequate road transport systems in the 1980s and early 1990s. There was a deterioration in road construction standards and road maintenance, in purchasing levels of new vehicles and in vehicle maintenance (Levy & Malone, 1988; Riverson *et al.*, 1991; Riverson & Carapetis, 1991). In Nigeria, where there had been an enormous expansion in road construction and vehicle ownership in the 1970s, fuelled by the oil boom, the impact of recession and the imposition of a structural adjustment program on road transport conditions was particularly devastating (Filani, 1993; Porter, 1997). Guyer (1997, pp. 86–91) provides a fascinating, closely observed view of boom and decline and their transport implications in the Ibadan area, where the Datsun pickup became a "social institution" in the halcyon years of the oil boom. The impact of adjustment policies in Nigeria was generally to reinforce further the transport focus on roads still in good condition as a result of investment in the preceding oil boom and to reduce services elsewhere.

In Ghana, where there had been severe recession for some years prior to the imposition of structural adjustment policies in the early 1980s, road conditions were very poor by comparison with Nigeria. Clark (1994, p. 66), suggests that in the Kumasi region "many villages fell off the transport map entirely": a vivid metaphor for the loss of access which occurred. In 1988 only 28% of Ghana's paved roads were in good condition, compared to 67% in Nigeria, where the impact of the oil-financed road construction program was still evident (World

Bank, 1994). In some other countries such as Uganda and Mozambique conditions were substantially worse again, with only 10% and 12%, respectively, of paved roads in good condition.

Subsequently, there has been more emphasis on road maintenance in sub-Saharan Africa (encouraged by the World Bank SSATP Road Maintenance Initiative). Labor-based road construction and maintenance programs are now strongly favored by donors (Plumbe, Bascou, Etounga-Manguelle, & Maiga, 1995; Stock & de Veen, 1996). While some improvement on major routes has thus occurred, funding has tended to remain inadequate to attend to the majority of the network. Off the paved road, access is usually even more difficult. Bryceson (1999) concludes that, while market liberalization eventually led to major donor-financed road rehabilitation programs in sub-Saharan Africa, "liberalisation has tended to increase the transport service gap between on-road and off-road villages."

Some of the most detailed research conducted on transport issues in Africa has taken place in Ghana (see Bryceson & Howe, 1993; Doran, 1990; Grieco, Apt, & Turner, 1996; Hine, 1993). Despite the considerable effort that has gone into road rehabilitation programs in Ghana in recent years, road condition studies indicate that there has been limited overall improvement, with only 29% of Ghana's paved roads and 10% of gravel roads in good condition in 1997 (Wilbur Smith Associates, 1998). So far as feeder roads are concerned, government policy in Ghana now emphasizes maintenance of the so-called maintainable network: some of the "nonmaintainable roads"—which require reconstruction—are consequently falling into disuse. Feeder roads are maintained by contractors using labor-based techniques which reduces foreign exchange costs (Ashong, 1996).

In off-road settlements in areas such as Ghana's Central Region, the roads and paths within and close to the village are generally maintained by residents: women carry sand, gravel and stones to the potholes, men fill and level them, using their own shovels and pick axes. When the road needs attention—which may be as often as once per week during heavy rains—the gong-gong is beaten and every able-bodied inhabitant, including the Chief and older children, is expected to participate. Fines are often imposed on those who do not assist. The more important roads between settlements are usually the responsibility of the Ministry of

Roads and Highways' Feeder Roads Department: a common complaint is that "they just weed along the roadside—not much else." Many of these roads are shown on maps in use in government offices in Accra as "gravel;" ostensibly a class of road quality below tarmac but higher than earth roads. This is entirely misleading since many of the so-called gravel roads are indistinguishable from dirt tracks. In the rolling topography of Central Region, for example, the 4–6 in. gravel surface is rapidly lost during the rains and gulleys appear. After four years the surface may have totally disappeared. Graders are used to improve conditions on these roads occasionally but, in 1999, of the five graders operated by Feeder Roads Department in Central Region, four were broken. The administrative decentralization program currently in progress in Ghana (discussed below) includes the Department of Feeder Roads, which has been piloting decentralization of road maintenance responsibilities to local governments (Malmberg-Calvo, 1998). But shortages of staff including skilled engineers and surveyors make for logistical difficulties.

Ghana, like most sub-Saharan countries, imports large numbers of second-hand vehicles from Europe. These are often old models for which it is difficult to find spare parts (which are taxed): the popular slogan "no condition is permanent," gaudily displayed on so many West African vehicles, has very ironic connotations for travellers whose journeys are regularly disrupted by vehicle delays and breakdowns. The particularly rickety yellow taxis commonly used to ply off-road routes are jokingly referred to as "tetanus cars." Even obtaining parts for new models can take considerable time, since agents cannot afford to keep large numbers of spare parts in stock. The vast majority of motorized vehicles in rural areas are based in settlements along the paved roads and there is widespread reluctance among vehicle owners to take their vehicles on unpaved roads unless the rewards are high. Relatively low densities of demand for transport off-road—in part arguably the result of poverty induced by poor access—tend to militate against this.

Transport charges are high in Ghana, as elsewhere in sub-Saharan Africa, but off-road charges are particularly exorbitant. Interviews with transporters in Ghana's Central Region suggest it is common to charge approximately double for journeys over bad roads, since in these conditions vehicles deteriorate more

rapidly. In 1998–99 the standard charge by trotto (minibus) was around 100 cedis per passenger per unpaved road mile, compared to around 50 cedis per paved road mile, over a distance of about 10 miles. (Ellis & Hine, 1998, present figures for paved roads & poor quality earth roads in Zambia which suggest differences of even greater magnitude). Not surprisingly, Anyinam (1994) reported that agricultural prices in some remote rural areas of Ghana have dropped because of increased transport costs associated with road deterioration. According to Beenhacker (1987) tyre life is reduced 25–50% of normal life under poor road conditions: when six new truck tyres cost around £300 (Ghana, May 1998) such considerations are important. Finding spare parts is a difficult and time-consuming business, too. They are generally available, but only in the major urban centers, in Ghana. Many are counterfeit copies and soon break.

3. LIVING OFF-ROAD

Getting to market to sell produce, getting to school, obtaining medical attention, finding employment, buying spare parts, farm inputs and consumer items not available locally, trying to arrange a loan at the bank—these can be difficult tasks for the rural poor in general, but for the residents of off-road settlements the hurdles to be crossed are additionally complex. Recounting a study of 36 communities across Nigeria, Francis *et al.* (1996, p. 8) note that rural populations describe poverty in terms of access to physical infrastructure (notably roads and health centres) rather than services *per se*, and similar perceptions were encountered in Ghana, but the implication of infrastructure is perceived to be service provision. Across Africa, banks, clinics, hospitals, secondary schools, extension agents, produce markets and the like all tend to be located in larger rural service centres, usually situated on paved roads. For women, the financial and time constraints—and, in some cases, the cultural constraints—on mobility (and thus on access to these facilities), can be particularly restrictive. A review of three aspects of access: to medical care, markets and credit facilities, illustrates the difficulties, frustrations and costs of off-road residence. All have far-reaching developmental implications, not least for agricultural productivity (Porter, 1997): all contribute to a vicious

circle which impacts most severely on off-road inhabitants.

(a) Access to health care

I commence this review of access problems with health care because this is usually the first issue to which both men and women draw attention when asked about their access problems and priorities in off-road settlements. During the course of my research in Ghana, I heard many sad stories of villagers, particularly children, who failed to reach hospital alive, despite the best efforts of the community to get them there. Like most travellers driving in remoter areas of rural Africa, I am particularly aware of this problem, since I have often been waived down by strangers needing to take sick people to hospital.

Villagers emphasize the need for access to health care in emergencies, but health facilities of any kind are rare in off-road locations. Meagher (1999), for example, describes a substantial settlement of over 12,000 people in Moslem northern Nigeria, about five kilometers from a main road, where there is a clinic with no medicines and not even one trained female health worker. In Morocco, places with better rural roads reportedly have twice the use of health care facilities (World Bank, 2000, p. 78). Ironically, however, off-road inhabitants are often the most in need of medical assistance, since water supplies are frequently poor and poverty levels above regional averages. My research in Ghana and a recent Uganda Participatory Poverty Assessment (cited in Booth, Hanmer, & Lovell, 2000) both indicate that vaccination programs tend to miss off-road settlements, exposing these populations to further risk. To compound these problems, ill-health is often at its peak in rural populations during the wet season (related to high work loads and low food availability) at precisely the time when travel conditions, even for pedestrians, are at their worst.

At Sampa, in coastal Ghana, most water is drawn from the River Odi, half a kilometer distant: there is a (padlocked) standpipe but, at 50 cedis per bucket of water, most people continue to depend on river water. Sampa experiences sporadic outbreaks of guinea worm, but the only health personnel in the settlement are two traditional birth attendants. Drug sellers occasionally visit the village by bicycle with a very limited range of medicines. The nearest clinic is seven miles away. If anyone is

seriously ill the usual procedure is to walk to the village at the road junction five miles away and hire a taxi to return to the village to collect the patient. It will cost 20,000 cedis to take the taxi to hospital and, if the taxi is kept for the return journey, 30,000 cedis (over £10), this being the cost of daily hire of a taxi.

Such arrangements are the norm across coastal Ghana and elsewhere in Africa, though in less densely populated areas the distances to hospital are often much greater and it may be impossible to make the journey at all. Research suggests that visits to clinics for more routine reasons fall off rapidly after four to five miles (Howe & Richards, 1984, p. 15). As Airey (1992) concludes from a study of hospital utilization in Meru district, Kenya, high costs of medical treatment—exacerbated by the introduction of hospital user fees in many countries as part of structural adjustment—are likely to be an even greater barrier to treatment than distance. But where high medical costs are compounded by high travel costs the barriers to treatment must inevitably be even more pronounced.

(b) *Access to traders and markets*

Produce traders are often unwilling to move into rural areas with poor access, to purchase goods, unless supplies from accessible areas are insufficient (Porter, 1995, 1997). Moreover, when urban-based traders visit areas where access is difficult, the competition from other traders is likely to be limited and prices achieved by local farmers will thus be poor, especially for perishable produce. The bargaining power of visiting traders will also be strengthened if, as appears to be the case in some regions, off-road farmers have less knowledge of supply and price conditions in major bulking markets (Lyon, 2000).

Not surprisingly, many off-road farmers prefer to send produce for sale in major markets usually located on paved roads. This has particular impact on women in sub-Saharan Africa since, in much of the continent, they are the principal marketers and porters of agricultural produce. When it is necessary to take produce to market, women who live off-road frequently face arduous treks. This is a problem which has certainly grown in recent years in Ghana (and probably elsewhere in Africa, though I have only anecdotal evidence), as a result of the decline of off-road rural periodic markets. My research in northern Nigeria,

central Nigeria and coastal Ghana, and incidental information in other studies (for example, Filani & Richards, 1976), suggests that there has been a major reorganization and rationalization of rural market systems associated with the expansion of motorized transport since independence. This has led to the decline and closure of many small markets with poor access (Porter, 1988, 1995). Indeed, market decline and closure in off-road locations appears frequently to be one of the unforeseen effects of road construction programmes. In some parts of sub-Saharan Africa, such as Moslem Borno (northeast Nigeria), where there are cultural constraints which restrict women's movements, in addition to physical and economic constraints, off-road market closures following road construction have had a particularly severe impact on women living off-road.

Off-road journeys to market by motor vehicle—when vehicles are available—tend to be more expensive, because of the increased costs of maintenance. In coastal Ghana journeys off the paved road are roughly double those along paved routes. Women are less likely than men to be able to afford transport, even if vehicles pass near their village. Thus, while it is possible, for example, to get from Sampa to its nearest market center by vehicle in under one hour, many women trek for three hours with maize, cassava and tomatoes and then return home carrying fish and groceries to sell in the village. Men are supposed to give their wives transport money but do not necessarily do so and, if they do not, the wives must spend their own money, or walk. About four or five trotros and taxis come to Sampa to pick people up on market days in the main agricultural season (there is no transport based in the village), but sometimes only one or two vehicles turn up. In the minor season there was no transport from Sampa to the main road in 1999. Although Sampa is a relatively wealthy off-road settlement (by comparison with some of the other survey villages) only two inhabitants—both men—own bicycles.

At another study village, Adabra, women in the first few months of the research similarly talked about the difficulties of getting produce to the main market at Kasoa, 15 miles away. Adabra had once had its own market, but the market collapsed about 25 years ago, reportedly due to deterioration in local road conditions. No transport was based in the village and frequently no vehicle whatsoever arrived in the settlement on market day. Sometimes, after

heavy rains, the road was completely washed away and it was too dangerous for anyone to travel. If vehicles arrived, they were often already full. The women interviewed here emphasized that men are richer and "can afford more transport." In the dry season women generally cannot afford the fare to Kasa and have to walk. (In this settlement, later in the season, the accessibility problem diminished remarkably, albeit temporarily, as a result of the grading of the main road and a consequent increase in passing traffic.)

Interviews with women traders in Ghana emphasized the costs of late arrival at market. Delays in getting to market occasioned by transport unreliability can have serious implications for off-road women, since dealers in the markets may have already purchased sufficient produce from better located local women who arrived earlier. Delays resulting in failure to find a buyer at market, or total failure to get to market, can also result in major losses through spoilage. It is not only fruit and vegetables which are affected. Fresh cassava, for example, changes color around four days after harvesting and, if it has not been possible to take sell it immediately at market, it then has to be dried and sold at a lower price. Hine (1984), reporting work conducted in the Ashanti region of Ghana, observes that "little evidence was found to suggest that produce was lost because of impassable roads," and this may be the case in the Central Region study villages (though some local farmers indicate otherwise), but it is important to also consider the reduction in market prices received due to deterioration in produce quality and to late arrival at market.² There are other benefits from market visits too, for it is usually possible to purchase items unavailable in the village and transport them home for resale. In settlements such as Adabra, which once had a market, the difficulties of market access seem to be most keenly felt. Old men and women here reminisce about the days when they had a big market and "everyone came... from Accra, Mankessim, Fettah..." The costs of head loading heavy baskets of maize and other produce to market are born by women not just in terms of time unavailable for other tasks or leisure, but also in terms of physical injury (see Doran, 1990, p. 58; Steele, 1993).

(c) Credit and rural banks

Access to capital and credit is a vexed problem for rural communities across Africa. The

significance of credit availability and costs of informal credit for farmers and others is a theme taken up in much recent literature. In Ghana, Sarris and Shams (1991, p. 131), and Grieco *et al.* (1996, p. 120) citing Steel and Aryeetey, suggest interest rates for informal credit as high as 100% over 9-12 months. Difficulties for women in obtaining formal credit are particularly great, partly because of their low social status, partly because they lack collateral. Grieco *et al.* (1996, p. 33), make the important point that lack of access to capital among women traders has consequences for the size of load generally transported and the frequency of trips made.

In remote and off-road areas, however, the problems associated with obtaining credit seem often even more unsurmountable than in more accessible locations. This has implications for production, marketing and, of course, ability to purchase vehicles. Some studies have observed that farmers in remote areas of Ghana have particular difficulties in obtaining formal bank credit for setting up storage and processing activities (Creightney, 1993; Hine & Riverson, 1982). As Richards (1985, p. 127) pointed out in the context of rural Sierra Leone, this is hardly surprising since loan recovery is more difficult from distant creditors and the costs in transport and staff time may exceed the cost of the loan. This is a particularly pertinent point with reference to creditors in off-road villages.

In Ghana, the rural banks established (in the mid-1970s) in response to the need and demand to make institutional credit and banking services accessible to small farmers and other small-scale rural entrepreneurs, might seem a potential source of credit for off-road dwellers. They are community institutions, locally-owned, controlled and managed by the people of the locality, mobilizing resources from the catchment area (c.20 miles radius) and on-lending to customers in the same area. The banks have been required to give a minimum of 50% of their loans and advances to agriculture and 30% to cottage industries. But, since the decision in 1990 to pay salaried workers through the banking system, the banks' advances go mainly to workers whose salaries pass through the bank, because agreed fixed monthly deductions can be made from their salaries (Nikoi, 1996).

Few permanent off-road residents have jobs in the formal sector and thus have very little opportunity to access credit from the banks. For the majority of rural dwellers in the informal

sector, loans and gifts from friends and relatives are a crucial means of surviving hard times. In off-road villages in Ghana's Central Region, such sources tend to be few, and the sums available small, since fellow residents are often equally impoverished, particularly as income sources tend to be very similar in off road areas. There are often fewer opportunities for participation in off-farm activities in such locations (Madulu, 1998) and consequently most villagers are likely to be dependent on (the same kind of) agricultural produce. Meagher (1999), writing about an off-road village in northern Nigeria, suggests that while rising transport costs under structural adjustment have reduced contact with urban relatives, demands for assistance are now concentrated on rural relatives, often little better off than those seeking financial help. For the most part, in the five villages I studied in coastal Ghana, the credit granted and received amounted to minuscule sums. Elderly cooked-food sellers talked of having to wait a whole month to receive payment from other village women for tiny quantities of food. They themselves purchased corn on credit and even rented bowls to make food, because they had insufficient funds to purchase their own.

Even better-off off-road residents can encounter difficulties in their business transactions due to their location. In Assin Aworabo, the richest of the five villages I studied, and home to a few relatively large cocoa farmers, the two cocoa buying agents in the village pay farmers by check. The farmers must take their checks to the bank at the district headquarters (on the paved road) 25 km away to cash them. Sometimes, having found and paid for transport, farmers say they arrive to discover that the bank is without cash, or the cashiers may tell them that the cash they are holding is "for [formal sector] workers, not cocoa farmers." In that case, the farmers have to rely on credit in the village—usually no one has ready cash—until the bank has replenished its reserves.

(d) *Gendered patterns of mobility among off-road villagers*

The foregoing discussion has suggested, at various points, the particular disadvantages faced by women resident in off-road settlements. There is growing evidence of the enormity of women's transport burdens in sub-Saharan Africa (Bryceson & Howe, 1993; Doran, 1990; Malmberg-Calvo, 1994a; Urusa, 1990). The need to learn more about gender issues recently

prompted the commissioning of a series of 31 case studies by the International Forum for Rural Transport and Development across Asia and Africa (Fernando & Porter, forthcoming).

While it is true that women often cannot afford transport, even when they live in settlements with good road access, the burden faced by women resident off-road is additionally heavy because of the roles they are commonly expected to play in sub-Saharan Africa as porters and (particularly in West Africa) as produce traders. In addition to their many household duties, women are widely required to transport their husbands' produce (as well as their own goods) to the nearest good road, or directly to bulking markets (which are now mostly situated on paved roads). In coastal Ghana (and elsewhere) they may also have to travel to richer roadside settlements for other household tasks such as taking maize to the grinders for food preparation, since poorer off-road settlements often do not have their own grinding machines. Kaur (2000, cited in Booth *et al.*, 2000, p. 70), provides a rare on-road/off-road comparison of women's income which illustrates this point. Women in a village on a main road in Cameroon were found to be able to make an average income over double that earned by women in an isolated village 90 minutes travel from the road, because of the greater time they had available to produce food to sell.

In common with women resident in roadside locations, off-road women have less funds than men to pay fares when transport is available but, additionally, as discussed above, the off-road fares tend to be substantially higher than those for journeys on paved roads. Given their low purchasing power, sometimes coupled with cultural constraints, off-road women are also far less likely to own a bicycle, animal-drawn cart or hand cart than their menfolk (Bryceson & Howe, 1993), an issue discussed in greater detail below. Thus, while this paper points to off-road disadvantage in general, the gendered nature of disadvantage requires specific acknowledgement.

4. DECENTRALIZATION AND THE POLITICS OF OFF-ROAD RESIDENCE

To live off-road is to be invisible: this is the strongest message which has emerged from my recent work in Ghana and earlier work in Nigeria. As villagers in one small lagoon-side settlement put it, "we are part of Keta district

but are forgotten." Lack of a good road and other facilities is not infrequently blamed by inhabitants of off-road settlements on their powerlessness to influence decision-making by policy makers. In countries across sub-Saharan Africa, personal contact is often an essential component in the decision-making process. Off-road villagers argue that it is particularly difficult for them to maintain the intensive lobbying at government offices required to obtain facilities such as clinics and schools and, indeed, to get their road improved (Porter, 1997). There may be other factors at work too: off-road residents are sometimes viewed condescendingly as "bush people" by local professionals. This is well illustrated by the comments of a village headmaster resident in one Ghanaian off-road settlement who, only half in jest, bemoaned his position: "It's like a doctor living with the lepers. ... I've been here six years. ... I'm becoming like them."

The link between political influence and road construction is an interesting one. Political interests have had a strong influence on road alignments across much of sub-Saharan Africa, and Ghana is no exception. In 1960, shortly after Ghanaian independence, Gould asks rhetorically, "If an area is known as a stronghold of the Opposition, will it get funds for tarring its roads? And those roads that swing around the villages of Opposition chiefs, was it simply a matter of terrain and drainage?" The situation has changed little (Nugent, 2001, p. 409). Clearly, roads cannot be built everywhere, but it is important to acknowledge the political factors which influence both road construction and road maintenance programs. Prioritization of road improvement in Ghana, according to a senior roads officer, is shaped by reference to three factors: (a) areas of high agricultural production, (b) construction of "missing links," to ease regional road networks and (c) politics, "since politicians make the final decisions." In this context the implications of the current trend toward decentralization in sub-Saharan Africa need consideration.

Administrative decentralization has been promoted by the World Bank as an element of good governance in recent structural adjustment programs and, in theory, might be expected to improve the lot of less accessible areas, including off-road settlements and their inhabitants, since it brings government closer to the people. But in Ghana, where a decentralization program has been in place since 1988, the evidence is not, as yet, encouraging. The District

Assemblies themselves have lacked sufficient funds to undertake substantial development projects and, where projects eventually emerge, their location may well more strongly reflect local power relations than relative need. On the basis of a detailed study of two Ghanaian districts, Ayee (1996) suggests, "decentralisation may help to augment the dominance of those who, because of wealth or status, are already powerful at the local level." Kyei (1999), in a recent study of decentralization in two Ghanaian districts, one in Ashanti and one in Upper West, made a comparison of service provision in on-road and off-road settlements and found significant differences. District Assembly members are required to meet the people of their electoral area once a month, but as both Ayee and Kyei have observed, many are employed outside the district altogether and cannot afford transport fares to their electoral areas: it is particularly unlikely that they will venture into areas where road access is difficult.³

This conclusion is in line with experience elsewhere: Samoff (1990) observes that "many, perhaps most, decentralization efforts appear not to have improved local service delivery or the general standard of living in rural areas." Litvack, Ahmad, and Bird (1998) suggest that market solutions to service delivery need to be considered when rethinking decentralization. But given the relative poverty of most off-road areas, these are unlikely to improve conditions. The World Bank 2000/2001 World Development Report, "Attacking poverty" (2000, p. 106-108), recognizes that decentralization can "bolster the power of elites in settings with highly unequal power structures" and notes that transferring power and resources to the "sub-municipal level—such as neighbourhoods or villages—requires special effort"; but the specific case of off-road settlements is not pursued. Ironically, while "off-road" vehicles continue to proliferate in the regional capitals of sub-Saharan Africa, government officials and others are no keener now than they ever were to take their shiny landcruisers along the bush tracks which were the ostensible reason for their acquisition.

5. PROSPECTS FOR CHANGE

(a) *Improving physical access*

The funds for adequate feeder road construction and maintenance by government and

other agencies to serve all current off-road areas in regions like coastal Ghana will not be available for the foreseeable future. It is clearly necessary to explore alternative means by which the isolation and associated poverty of off-road dwellers can be reduced. The potential for improvement in roads, conventional transport services and the availability of IMTs are considered in turn.

An extension of community participation in road maintenance through unpaid labor contributions of the type currently found within Ghana's coastal settlements could be one way forward, though as Ostrom and others have pointed out, this approach should be pursued with caution, since it is difficult to ensure an equitable distribution of work among community members, and "free riders" are likely to take advantage of community efforts (Ostrom, Schroeder, & Wynne, 1993, pp. 77, 85).⁴ One of the questions which needs to be explored is the equity of current village-level road maintenance between men and women and richer and poorer groups and attitudes within the villages to extending community maintenance (particularly small-scale spot improvements) to inter-village roads. In the former tin areas of the Jos Plateau, Nigeria, in the early 1990s, off-road villages were attempting fairly extensive road-works, culvert repair and even bridge construction; here the constraint on extension of such activities seemed to be merely absence of support from the Local Government for more complex tasks. The fact that many of the Plateau routes were originally developed by private tin mining companies may partially explain why roads there are not perceived as simply belonging to government. Recent research in northern Nigeria (Meagher, 1999; Porter, 2001) suggests that community road work has been crucial to maintaining access over the 1990s. In coastal Ghana, however, the common perspective seems to be that inter-village roads belong to the government (and specifically the Department of Feeder Roads) and it is likely that this inhibits community maintenance efforts. (This view is common in Ghana, according to Ministry of Agriculture Village Infrastructure Project staff.) Similar difficulties have been reported in East Africa (Airey & Wattam, 1998). Malmberg-Calvo (1998) emphasizes the need to develop an institutional framework for managing and financing the lowest level of the road/path network. She stresses stakeholder involvement and the need for a redefined public-private

partnership, whereby local governments or their agents manage the core rural roads and communities and farmers' associations choose which roads and paths they will own. Defining ownership is clearly crucial to improvements in road and path management, but the process is likely to be both difficult and time-consuming in practice.

Very few individual off-road inhabitants can afford to buy conventional motor vehicles and when they buy vehicles (generally saloon cars used as taxis), evidence from coastal Ghana suggests the vehicle is usually kept elsewhere, at the paved road, because of local road conditions. There may be potential, however, for community ownership of more robust (but expensive) lorries and smaller four-wheel drive vehicles in settlements with basic motor access. There are few cases reported in the literature and very few examples of local initiatives by off-road villages have emerged from my field studies in Ghana: just one community bus service operated by a church group for a short period, and one vehicle operated by a family group. In the former case, once the bus required major repairs it was rerouted to run from a paved road base, reportedly because this was the only way the villagers could recoup the cost of repairs. In the latter case (a village in Greater Accra Region) a satisfactory arrangement seems to operate whereby the chief runs a pickup for general use by the village. But, this is essentially a one-family village. Most villages have more complex family structures and there may be the additional complicating factor of recent/temporary immigrant populations.

For some off-road villages the capital cost even of community vehicle ownership, when compounded by very high maintenance costs along poor access routes, would be too high. Nonetheless, the potential for cooperative transport needs further research. Groups such as off-road women marketers may obtain particular benefits from cooperative arrangements. Across sub-Saharan Africa, the majority of transport services are owned and operated by men. In areas where women are major crop marketers it would seem advantageous for women to obtain greater control of transport. Support for expanded ownership of transport by such women, whether as individuals or as groups, through improved credit arrangements, could be important in providing transport services more precisely tailored to women's needs.⁵ An alternative or complementary approach could be to explore the potential for

subsidised off-road transport, with subsidies provided to transporters prepared to provide a regular service along routes to selected off-road settlements. The approach of targeting subsidies by route has been recommended by the World Bank (1996, cited by Booth *et al.*, 2000, p. 81) in an urban context.

Given the difficulties in obtaining access to conventional transport in sub-Saharan Africa, programs to introduce cheaper, more sustainable, intermediate transport technologies which can operate over suitable tracks seem to be the most obvious route to improving access in most off-road villages. Use of bicycles and other Intermediate Means of Transport (IMT) varies widely across the continent, though commonly ownership and use is much higher among men than women. In addition to a number of recent initiatives by donors (including the World Bank's Village Infrastructure Project now under way in Ghana), nongovernmental organizations (NGOs) are now playing a small but significant role, in some regions of Africa, not only through provision of IMTs, but also through initiatives such as "Riders for Health" which provides training in motorcycle maintenance and driving (Scholten, 1997). Motorcycles are often perceived as a particularly useful IMT because they combine relatively high speed with reasonably modest cost. In Nigeria, motorbike taxis have played a growing role in improving access in rural areas in recent years (Porter, 2001; Yunusa, 1999). Barwell (1996), among others, points out, however, that IMTs, though cheap by comparison with a motor vehicle, are still expensive for poor farmers. In rural Tanzania in the early 1990s the price of a new bicycle was the equivalent of almost a year's minimum wage (Bryceson & Howe, 1993). Barwell (1996, p. 62), argues that there is need "to establish rural credit systems for IMT which are more widely distributed, impose less rigorous conditions and have more appropriate administrative procedures than those which typically exist at present, and accept the IMT as security for the loan."

In coastal Ghana bicycle and other IMT ownership is not common, though it is much higher in roadside than off-road settlements. In the five off-road study villages only three men in total owned handcarts in the late 1990s. Between two and six men owned bicycles in each village, but there was only one woman bicycle owner in all the villages (and the bicycle was acquired through her job with an NGO). A five-year old second-hand bicycle could be

obtained (at a roadside center) in this region, at that time, for around 50,000 cedis (under £20). My research uncovered no cultural restrictions on women riding bicycles (by contrast with earlier fieldwork in northeast Nigeria) and most of the women interviewed—especially younger women—seemed receptive to the use of bicycle transport. Few women can afford to buy bicycles, however, and in the study villages only one husband was prepared to loan his bicycle to his wife. A similar reluctance among men to loan their bicycles to wives was noted in a Ugandan study, where the reason given was fear of damage (Bryceson & Howe, 1993; also see Malmberg-Calvo, 1994b, who reports a range of cultural, educational and economic constraints which inhibited cycle use among Ugandan women). One of the factors which may also deter bicycle use in off-road settlements in coastal Ghana is that fact that repairers and bicycle repair equipment such as puncture kits are usually only found at major roadside settlements.

A project in northern Ghana in the 1980s which included IMTs, funded by the World Bank, provides evidence of some of the difficulties IMT projects may encounter (Buabeng, Sarfo-Mensah, & Dennis, 1995; Salifu, 1994; White, Erlank, & Matthews, 2000). An arrangement was made with a local manufacturer to construct bicycle trailers, but these were too heavy and needed redesigning. Women involved in the labor-based road construction component of the project were expected to purchase the trailers. Unfortunately, the program assumed prior bicycle ownership but few people could afford to purchase both bicycle and trailer. Attempts at community trailer purchase apparently failed because of arguments concerning maintenance.

There may also be some resistance to IMTs among policy makers. In Ghana's Central Region there has been some pessimism about the value of an IMT program among government staff, based on the argument that the terrain is unconducive, the heavy loads in cash crop areas would be unsuitable for IMTs, and "the culture of the people here may not even permit it" (interview: feeder roads engineer). Government officials in Accra similarly suggested that bicycles are more appropriate for the north (i.e., deprived areas) of Ghana, "in the south people want to buy a car, bicycles are generally a northern thing." In discussions with many men in the survey villages, there was a clear view expressed that a conventional

motor vehicle would be of far more use than any sort of IMT. Further north, in Ashanti Region, bicycles are apparently looked down on as a mode of transport: according to one urban Ashanti informant, "a bicycle makes you lower class."

Because of the difficulties experienced in many IMT projects, there is an ongoing debate in transport circles about how to stimulate IMT adoption (for instance, in an e-mail discussion on rural transport services organized by the International Forum for Rural Transport and Development, October/November 2000). A strong emphasis on the concept of "critical mass" is now emerging. This stresses that transport technologies of all types need a viable supporting infrastructure, especially in terms of repair facilities, and recognizes that there are other components to critical mass, including the erosion of sociocultural inhibitions. Examples such as the spread of ox-carts in northwest Zambia (presented by Paul Starkey) appear to provide excellent illustration of the relevance of this approach in a sub-Saharan context.

(b) *Nontransport interventions: from processing technologies to cyberspace*

In addition to improving access to the paved road system there may be complementary measures which could be implemented to improve value-added to local production, such as improvements in crop storage, expansion of local processing technologies, and assistance for women in acquisition of grinding machines and similar equipment (those I encountered in off-road villages in coastal Ghana were all owned by men). The development of specialist high-value agricultural products would also be advantageous. There may be particular opportunities for the development of organically grown products for export, given the high cost of transporting inputs such as chemical fertilizer and insecticides to off-road areas.

A particularly interesting question is the potential role of electronic communications in improving rural access. Hanson (1998) contrasts conventional life "on the road" with a new kind of "off the road": the "frictionless realms of cyberspace," which can bring new kinds of interaction, increasing access and equity through the substitution of telecommunication for travel. In rural Africa, the potential of telecommunications, for instance, to provide distance learning, advice, market price information and a host of other services, is ex-

tremely exciting. In theory, there is huge potential for IT to transform access, with enormous implications for social equity. But although e-mail has reached rural Mali, Kenya and South Africa, for example, and Mandela reportedly pledged support for a telecommunications development fund that aims to extend communications "to every village in Africa," the development of even district-level telecentres is probably some far off in most countries.⁶ The South African pilot program for rural telecenters has been very slow to take off and has experienced substantial operating problems (Schreiner, 1999). The result of many such programs when (and if) they arrive, may be to produce even greater gaps between district administrative headquarters and marginalized off-road centers. Their impact will need to be carefully monitored. Telecommunications have the potential to both destabilize and reformulate, sometimes with important social consequences (Hillis, 1998). Graham (1998), reviewing information technology literature with a political economy perspective, presents the development of new telecommunications infrastructure as "an asymmetric social struggle to gain and maintain social power, the power to control space and social processes over distance," referring to their potential to extend domination over excluded groups and so support the production of divided spaces (see also Mawdsley, Townsend, Porter, & Oakley, forthcoming).

(c) *Groups and networks: building social capital in off-road areas*

Given the poverty of many off-road populations, the question of group ownership and operation has arisen both with reference to IMTs and conventional transport. Community-level action is also an essential component of many road maintenance schemes. A group/community approach is now widely favored by donors and NGOs in Africa as a means of providing services following the withdrawal of much public sector service support with structural adjustment. The World Bank in its current Village Infrastructure Project in Ghana, for example, focuses its support on farmers' groups.

We need to look very carefully, however, at the potential for group ownership/action in specific circumstances, since there is ample evidence of failure of past group/community projects across Africa. Ghana might seem an

ideal location for such schemes, since the country has a rich heritage of indigenous associations, such as the *asafa* companies, *nnohou* labor groups and *susu* groups. But a review of their activities in the study area and elsewhere in Ghana (Lyon, 2000) suggests that the successful groups are those which have been established by their own initiative, evolved slowly, and allow individual members to identify their own objectives and manage their own income. They have shared norms of trust and cooperation and are embedded in social relations which have evolved over time. Groups undertaking joint financial decision-making and operation, particularly those which have been established as a response to donor initiatives, are far harder to sustain and most disintegrate rapidly once external support is withdrawn. Aryeetey and Appiah (1995) make the point that the success of groups seems to be very dependent on "the extent to which prevailing local norms and values regarding group formation and action are taken into account."

Group formation is considered in this paper with specific reference to transport-related interventions. Given the disappointing results of many externally-initiated group projects, there is now growing emphasis on the potential for strengthening *existing* local social capital. The World Bank thus talks about building social institutions by "scaling up" (World Bank, 2000, p. 131). This could have repercussions far beyond basic transport access. Building organizations and networks can have a remarkable impact in the negotiation of relationships between localities and the market and the state, as Bebbington (1997) has illustrated in a rural Andean context. He shows how involvement in organizations and networks can strengthen the hands of individual farm families in accessing and negotiating with non-local actors, institutions and organizations, leading to an intensification of agricultural production and local capital accumulation. Bebbington (citing Evans, 1996a,b) emphasises that social capital can be constructed and that key individuals—not necessarily resident—can play a critical role.

Evidence from sub-Saharan Africa suggests that rather than intervening by initiating or supporting the development of new groups, donors and NGOs need to explore the potential for working with and helping to build organizations and networks already in existence and, in tandem, promoting policy contexts that will encourage the emergence of indigenous rural organizations and networks. The policy context

needs careful attention. The expansion of the formal bureaucratic organization of the state may be seen as crowding out informal networks (Evans, 1996a), and this seems to have happened in the case of feeder road maintenance in areas like coastal Ghana. Putnam's synergistic approach (Putnam, 1993, cited in Evans, 1996a) provides a more positive view of civic engagement, but suggests positive state-civil society links will need careful nurturing. In the context of state decentralization, financial assistance to village/area representatives, local administrators and technical staff (agricultural extension staff, health workers, etc.) specifically for off-road travel, and a policy environment which supports their interactions with off-road settlements, (perhaps, for example, through off-road transport subsidies and/or provision of bicycles or motorcycles), would seem to be an essential step in encouraging state-civil society links and thereby reducing the isolation and invisibility of off-road populations. Unfortunately, although the financial costs of such action could be remarkably modest, particularly by comparison with road construction, they are probably still too high for most local government administrations in countries like Ghana to contemplate. Similarly, while donors seem to hold out hopes that NGO/decentralized government collaboration could provide a fertile seedbed for development work, through NGOs supporting initiatives at district level, the evidence from Ghana and elsewhere in sub-Saharan Africa to date suggests frictions commonly emerge around issues of political popularity and legitimacy. Most collaboration between NGOs and local government has consequently been very limited and *ad hoc* (Clayton, 1998; Kyei, 2000). We might thus be wise to ponder Bryceson's (1999, p. 47) caution regarding the emphasis on building social capital. She suggests it may be counter productive, "representing donors' attempts at making do with declining physical resource transfers, rather than reflective of the actual needs of rural dwellers," and proposes that an emphasis on human capital is more critical.

6. CONCLUSION

The poverty and ill-health prevalent among rural populations across Africa is compounded by poor physical access. There is ample evidence to suggest that accessibility and mobility are embedded in the development nexus in

complex and far-reaching ways. Inhabitants of off-road settlements in coastal Ghana, as elsewhere in sub-Saharan Africa, are frequently marginalized and invisible, even—or perhaps especially—to members of local administrations. Although some international and local NGOs appear to be making more concerted efforts to reach the hidden rural poor, “tarmac bias” is probably as pervasive among government officials and their ilk today as Chambers (1983, pp. 13–16) observed it nearly 20 years ago. Decentralization programs now in place in many African countries bring some devolution of power down to local administrative headquarters, but between local government headquarters and men and women living in off-road settlements contact often remains minimal and opportunities for lobbying extremely rare.

Expanded community track/road maintenance, IMTs, cooperative transport arrangements and low-cost off-road crop processing may all have a role to play in alleviating access problems in specific locations, but economic and cultural constraints and the politics of implementation (including gender relations) need to be very carefully explored prior to and during the development of new initiatives. As Leinbach (2000) emphasizes in a recent review of mobility/development issues, we need a deeper understanding of personal and family

mobility needs in order to develop more appropriate transport policies. I would argue that, additionally, we need a greater appreciation of access *quality* issues, including a specific recognition of the significance (in symbolic as well as practical terms) of the tarmac road.

Finally, while we will need to look to ways of supporting the growth of social and human capital in off-road areas through nurturing improvements in state-society relations, we also need to be aware of the complexities of such an approach. Effective NGO/Local Government collaboration is probably crucial to this, but is unlikely to be successful without substantial state transfers of both human and financial resources from the centre to district level: decentralization in deed as well as in name. Local government staff will need to be more confident of their professional skills and better financed if they are to interact effectively both with international and local NGOs and with the communities they are supposed to serve. Strengthened local organizations and networks could then have a critical role to play in raising the profile of off-road areas and of integrating their populations into a more democratic, decentralized Local Government system. The gains in terms of local democracy, social equity and, not least, improved rural livelihoods would be very substantial.

NOTES

1. Moore's (1979) paper is a notable exception (cf. Moore, 1979). The World Bank's sub-Saharan Africa Transport Policy Programme—SSATP—has initiated a number of village-level travel and transport studies (including Barwell, 1996) which have begun to draw greater attention to the critical importance of accessibility. There are, obviously, exceptions to my generalization regarding the relative poverty of off-road villages. For example, Lyon (2000), in a study of Ghanaian vegetable producers, points to variations in wealth among villages which may more closely relate to productivity of the land, and capital and other benefits amassed during the cocoa boom, than to current road access.

2. Though see Chambers (1997, pp. 20–21) re overestimation of post-harvest crop losses.

3. District Assembly sub-committees such as District Environmental Management Committees face similar problems (Porter & Young, 1997).

4. There have been contributions to this debate on the GREAT network and rural-transport-development@mailbase.ac.uk (D. Seddon, M. Wattam, P. Winkelmann, N. Sieber). Winkelmann provides a case study in Flores, Indonesia, where self-help initiatives on village access roads have been successful.

5. In the Ghana study I encountered only one woman transport owner, a farmer and petty trader in one of the off-road villages.

6. Telecenters have received some attention in the AFR-FEM Internet Working Group's online discussions on ICTs (Information and Communications Technology), with debates about telephone cooperatives, use of the internet by women's groups, and HF-radio. In Accra a Centre for Women's Information Research and Support (CWIRS) has been established. One interesting community media pilot project by Eco News Africa, based in Nairobi, will put up FM community radio stations in three rural communities

in Tanzania, Uganda and Kenya using solar power and HF- radio/internet links, in areas with little or no access to electricity and telephone lines (M. Wambui, AFR-FEM, August 4, 1998). In Bangladesh, the Grameen

Bank apparently provides loans for rural women to purchase mobile phones but the impact of this programme is somewhat controversial (Pramada Menon, GREAT network, April 9, 1998).

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