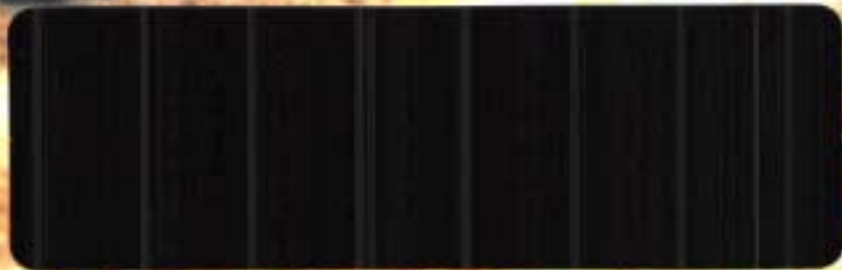


Access to market opportunities in Ghana's off-road communities



DFID Crop Post-Harvest Programme

Reports submitted under project R7149

Access to market opportunities in Ghana's off-road communities

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Literature and Archival Review

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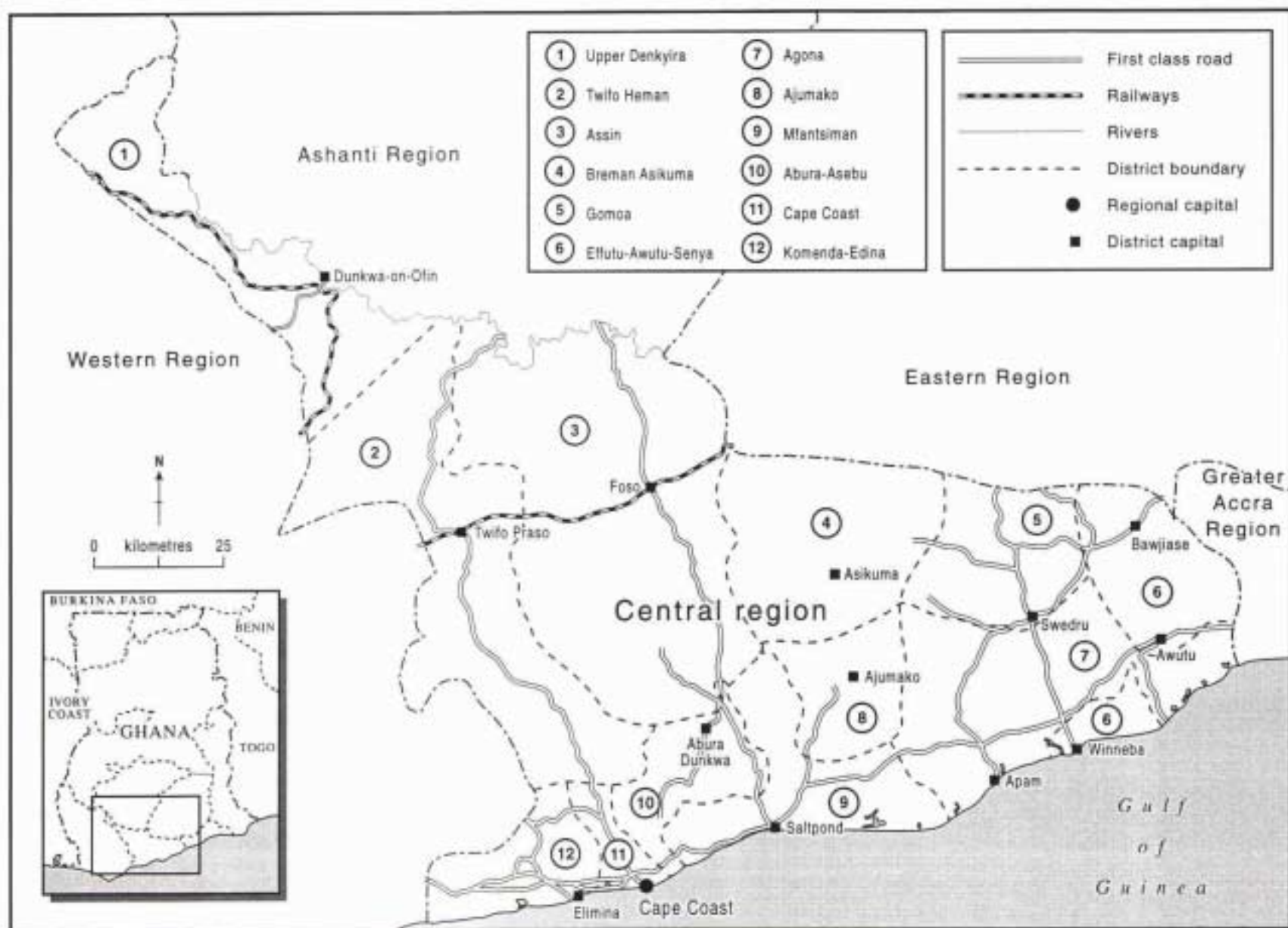
**A LITERATURE AND ARCHIVAL REVIEW OF CROP
MARKETING AND MARKET ACCESSIBILITY ISSUES WITH
PARTICULAR REFERENCE TO CENTRAL REGION, GHANA**

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**Report submitted under project R7149: Access to market opportunities in Ghana's off-
road communities.**

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INTRODUCTION

This literature review is an output of DFID Crop Post Harvest project R7149. It focuses on agricultural marketing and associated transport issues in Central Region, Ghana, but draws on a wider literature which can provide insights into conditions in, and potential policy initiatives for, Central Region. Broader reviews on access to marketing opportunities are provided by linked projects in the Crop Post Harvest Programme also dealing with access (Goodland and Kleih 1998, Risopoulos et al. 1998). The aim here is to avoid, as far as possible, replicating those reviews, while providing appropriate background to the Central Region study and its particular focus on areas away from the paved road (henceforth referred to as off-road areas).

R7149 takes as its starting point (and justification) the argument that off-road populations in low income countries are characteristically markedly poorer than those in comparable roadside locations in the same region, and that restricted access to markets is often a serious underlying constraint to livelihood improvement in those areas, sometimes exacerbated by decline of off-road markets (Porter 1988, 1995, 1997; see also Platteau 1996). The importance of accessibility is considered not only with respect to access from farm and village to market, but also with reference to the impact of poor access from market to village and farm on availability of inputs, credit and information, since this has linkages to both production levels and marketing potential.

Particular areas of research interest include the impact of poor accessibility to markets on women (who are the principal produce traders in Central Region) and the potential for a range of possible interventions. These include improved provision of market information, improved access to credit, intermediate means of transport (IMTs) for crop evacuation, community road maintenance and improvement and other market infrastructure improvements, cooperative purchase and use of transport and machinery, and village based crop-processing as a means of improving value added. Some emphasis is given to maize in the review, since this is a crop widely grown and marketed in the district initially selected for detailed research (Gomoa) and for which there appears to be potential for expansion in production in the district's off-road areas.

The complexity of linkages between production, trade and transport is emphasised throughout this review, though for convenience topics are grouped under separate production/marketing and transport headings. Particular reference is made to the two districts in Central Region which are the focus of field research, Gomoa (the second largest district in the region) on the coast plain and Assin (the largest district in the region) located inland in the rainforest belt.

The first section of the report consists of a historical review of agriculture, marketing and transport in Ghana, with a particular focus on Central Region, since this provides important background to an understanding of contemporary conditions and attitudes. It draws on both published and archival material. This is followed by a review of published and grey literature on agriculture, marketing and transport conditions and related issues relevant to the project from c. 1980 to the present (i.e. just prior to the inception of the Structural Adjustment Programme in 1983). In each of these two major sections, the focus is firstly on agriculture and agricultural marketing, secondly on transport and related issues, though much material

cross-cuts the sections. A brief preliminary outline of general conditions in Ghana and relevant state policy is provided at the start of each section, drawing on a limited selection of the extensive relevant literature. Subsequent sub-sections review the (generally limited) material on Central Region, and refer to literature on other regions which has relevance to the current study. The final section of the review considers, in more detail, some of the issues which currently appear to present problems for producer-traders, focussing particularly on off-road residents, and the potential for a range of possible interventions, in the context of recent experience elsewhere.

I CENTRAL REGION IN THE COLONIAL AND POST-INDEPENDENCE PERIOD 1900-1980

Introduction

A historical perspective is important when considering agricultural marketing and market accessibility issues. Markets and market access are dynamic elements, but past patterns and practices may influence or have some bearing on current conditions and future trends. As Clark writes, in a Ghanaian context, 'current diversity of trading subsystems at the local and regional level reflects all the historical complexity of ... generating processes' (Clark 1994:71). Consequently a review of colonial and post-independence conditions has been included in this literature survey.

Pre-colonial conditions have been omitted from the review due to limits on the time available for preparation of this review, but it is important to note the significant role Ghana's Central Region has played in the development of trade both within West Africa and between West Africa and Europe and the impact of this external trade on development within the region. Cape Coast, Mankessim and Winneba were all located at the southern end of major trade routes linking the coast with northern Ghana; Axim, Dixcove, Elmina, Cape Coast, Mouri, Anomabu, Komantin, Tantom and Winneba, plus Apam and Mumford in present Gomoa district, were among the principal coastal ports by the early eighteenth century (Dickson 1969: 41-53, 110, 116; Daaku 1971). Although Britain took direct control of its forts on the Gold Coast in 1843, British influence was fairly limited until the annexation of Ashanti territory in 1890; colonial archives provide more substantial material on agriculture and trading initiatives in Ghana from the early twentieth century (British and indigenous).

This section of the review relies substantially on archival material, principally from the Regional Archive Office, Cape Coast. However, archival sources are somewhat disappointing for Central Region. The District Record Books which were supposed (according to instructions of 22/2/1908: CCRA ADM 23/1/746) to record information on roads, trade, lists of all public markets and their importance and sources of major potential export crops are, according to archivists at Cape Coast regional archives office, not available (it was thought they could still be in the districts). The District Quarterly Reports also required data collection on Roads (Section II) and General Condition of the People (Section III) (according to instructions of 8/12/1920: CCRA ADM 23/1/405), but many of the reports are disappointingly brief (by comparison with similar documents for Nigeria, for instance). The Winneba and Cape Coast District records available were inspected (the former included current Gomoa district within its boundaries and the latter included the current Assin district). The Annual Reports provide a useful overview, particularly with reference to agricultural conditions, but some of those appearing in the Cape Coast archives lists appear to be missing.

The national context

Through to 1957, Ghana was a British colony. Policies of indirect rule and the early development of cash crops in the Gold Coast combined to produce a relatively well-developed, peasant/small town society, particularly in the southern parts of the country. The colonial government's agriculture department was strongly focussed on export agriculture, particularly cocoa, which became the principal export crop from early in the century and subsequently had considerable influence on the siting of roads. Road transport in Ghana expanded dramatically after the first World War with the introduction of the Ford truck which could travel over poor roads and was simple to repair. It was used principally for export crop evacuation, however, being too expensive for local food crop haulage. The expansion of the paved road system after the First World War reduced haulage costs greatly and encouraged the increase in vehicles. As transport improved the rural economy of the south became highly marketised, and was dominated by smallholder production of export and food crops. The majority of agricultural production was from small peasant farmers, rather than plantations.

Following independence in 1957 Ghana experienced considerable political instability and economic decay. From the mid-1960s the government favoured state-owned mechanised farms for food production, but these were not successful. The period of deepest crisis occurred during the economic recession of the late 1970s and early 80s, when transport systems deteriorated due to lack of funds for road maintenance and public services disintegrated (Crook and Manor 1998:202).

AGRICULTURAL PRODUCTION AND MARKETING 1900-1980

Conditions in Central Region

A brief preliminary review of Central Region's climatic and topographic conditions is necessary. The region is located across two broad vegetation zones: the coastal plain and the rainforest belt to its north-west. The coastal plain has rainfall of c. 30-40 inches p.a. (but with considerable variability from year to year) and is consequently most suited to cereals and vegetable crops; the rainforest area, by contrast, has much higher rainfall of perhaps 50-55 inches p.a. and can support a variety of tree crops. Rainfall in both areas is bi-modal in distribution.

The calm sheltered bays along the coast of Central Region were conducive to the development of ports. Associated European trading posts were numerous in the region and stimulated local food crop production. Following the move from the export slave trade to export of agricultural produce, in the later 19th century the region's accessible hinterland encouraged expansion of agricultural production in the surrounding areas (Akyeampong 1996: 70). Until 1877 Cape Coast, the principal urban centre in the region, was the capital of the Gold Coast Colony.

It is important to note that Central Region, as an administrative entity, did not exist until after independence in 1957. The boundaries of Gold Coast's Central Province, while not wholly coincident with that region, are sufficiently similar to allow use of this unit interchangeably

in discussing colonial patterns of trade and transport.

The significance of export agriculture

Colonial records provide substantial evidence about export agriculture in Ghana.

Cocoa dominated the northern (Closed Forest zone) portion of Central Province from early in the twentieth century, strongly encouraged by the colonial government. It spread rapidly in the 'fertile districts north of Winneba and Saltpond' (NAOA ADM 5/1/80: Departmental Reports 1903). Dispersal of cocoa was aided by private owned plantations, including that of the Glasgow firm of Messrs Millers Brothers and Co. at Jukwa in Central Province (Dickson 1969: 166), but the majority of cocoa was produced by peasant farmers (predominantly male). By the late 1920s the Gold Coast produced half of world supplies of cocoa (PRO CO96/678 Annual General Report 1927-8). Rainfall was too low for cocoa in most of what is now Gomaa district, but Gomaa farmers rented cocoa farms in Agona State to the north (PRO CO96/7062, Central Province Report, 1931-2). Fante men from early in the century began to trade in cocoa (and rubber), often with cash or goods advanced by European trading firms.

Northern areas of Central Province also became important kola producers for a period from the late nineteenth century through to the 1930s. Early in the century, Gomaa district was one of the principal trading centres for palm oil and kernels (NAOA ADM 11/1144 Oil palm trees, report 1908) and the oil palm belt extended from Apam through to Agona Swedru and beyond (CO 96/678/61928). The Winneba and Saltpond districts had been important palm oil areas for nearly a century (following the abolition of the export slave trade in 1807), producing oil for export to Britain (Dickson, 1969:122). Both districts apparently owed their agricultural importance to some extent to the fact that they were mostly relatively peaceful areas (Dickson, 1969: 144). The lime industry was important around Cape Coast, where two lime juice factories were in operation by the late 1940s (CCRA ADM 23/1/1287: Lime Roads). [This area had been producing limes for lime juice extraction as early as 1700 when the Dutch established a lime plantation and factory at Mouri (Dickson 1969:76).]

In the 1920s and 30s various efforts were made by the colonial agriculture department in the Province to develop new export crops such as coconut and castor oil, but mostly with little success (CCRA ADM 23/1/796: Handing over reports, Winneba District). A coconut plantation established just north of Cape Coast in 1920 at a cost of over £10,000, for example, was by the mid 1940s written off as 'a complete waste of money' (CCRA ADM 23/1/470: Firewood reserves)

In the late 1930s there was some debate about the potential for 'restricted' establishment of plantations by approved 'Europeans and non-Africans' for export crops such as coffee, copra, sugar cane, citrus fruits, groundnuts, maize and bananas (the assistant District Commissioner, Dunkwa, writing to the District Commissioner Cape Coast, May 1939 etc. CCRA ADM 23/1/442: Agriculture) but peasant cultivation continued to dominate production. There are references to an expansion in pineapple cultivation, colonial initiatives to expand coconut and tobacco production (nurseries established) and to develop coffee production (owners being paid a bonus to establish plots) and a cassava industry for adhesive purposes in the mid-1940s (CCRA ADM 23/1/442). By this time, cocoa in the area south of Agona Swedro (i.e. current Gomaa district) was in rapid decline, since conditions were relatively unsuitable, compared

to the higher rainfall areas further north (Dickson 1969: 304-5).

Marketing of export produce

European general trading firms and some specialist manufacturing companies initially dominated marketing so far as export produce was concerned. Cadbury Brothers Ltd., later in association with J.S. Fry and Sons Ltd., for example, became major players in cocoa purchasing. However, a growing number of African brokers became involved in direct purchase from producers. Attempts were also made to encourage cooperatives in Ghana from the 1920s but agricultural cooperatives were not particularly successful in the early years. Cocoa cooperative societies were introduced in 1929 and in the early 1930s there was much optimism about their potential. Twenty-seven new cooperatives were formed in 1931-2, by which time a total of 37 existed in Central Province and farmers were reportedly beginning to see they could have uses other than for cocoa sales (PRO CO 96/7062). By 1939 Cape Coast District alone had 11 such societies, but 8 were to be closed due to the large balance of loans outstanding. It was noted that many of the members were also indebted to brokers and money lenders outside the societies, and consequently sold large amounts of their cocoa outside the societies to evade repayment of loans due to their society and to appease their creditors (CCRA ADM 23/1/1040: Annual Report 1939-40, Central Province; Cape Coast District Annual Cooperatives Progress Report).

In 1947 a new cocoa marketing scheme was started through the Gold Coast Cocoa Marketing Board. This fixed producer prices for each season and issued licences to buying agents who were to purchase, store and finance the buying operations. Expatriate firms continued to be involved in cocoa purchasing, however, until independence. The Cocoa Marketing Board continued until liberalisation measures brought its demise in 1992. Details of the changing organisation of cocoa marketing from 1885-1992 are provided in Amoah (1998) but this lacks detailed reference to Central Region, apart from statistics of production for 1947/8-1995/6.

Food crop production

There is less information in the colonial records on food crop production, which received far less attention than export production from the colonial agricultural service. However, the area along the coast from Winneba down to Elmina was known as one of the major food crop areas in the coastal zone serving local markets (PRO CO 96/678/6: Agricultural policy and organisation, 1928). The region had been a significant producer of grains for many centuries: 'Fantiland was probably the greatest producer of corn on the whole coast' (Dickson 1969: 79), a fact which Dickson attributes to its relatively large farming population and to a market among its northern neighbours, rather than to particularly favourable soil or climatic conditions. The Agriculture Department Annual Report for 1939-40 includes details of a survey conducted in Winneba district. Bush fallowing was widespread, but the Swedro area was noted for its large maize and cassava farms and identified as a potential food supply area for the cocoa zones and mining areas (CCRA ADM 23/1/1040: Department Annual Reports, 1939-40).

Local markets

There is little information on specific markets in the colonial archives for Central Region, apart from an occasional comment such as the need for a better market site at Swedro (1930 (CCRA ADM23/1/796: Handing over notes, Winneba District) and the construction of new markets at Nsaba and Duakwa (NAOA 11/1/1049 District Quarterly Reports, Central Province, 31/3/1930). Amonoo's (1974) work on Cape Coast as a marketing centre for Central Region in the early 1970s provides basic information on conditions at that time and provides particularly interesting information on (the reportedly very limited) trader price regulation and the critical role of women market leaders in resolving trader disputes and enforcing bargaining and credit rules between traders in that centre. Okosa- Amaa (1975) provided an examination of government intervention in the rice marketing process in Ghana in the early 1970s and included interviews in Cape Coast and Agona Swedru, but there are no specific references in the text to Central Region beyond preliminary identification of interview sites in the text.

The economic crisis 1970-83

The 1970s and early 1980s was a period of severe recession in Ghana and within Central Region. Lack of attention to small-scale farmers characterised this period, with probably particular impact on women who were (and are) strongly represented in the small farm sector. In 1970-84 a number of towns actually declined in population including Cape Coast, Mumford, Saltpond, Winneba and Anomabo. Agricultural production was affected by prolonged drought in the mid-1970s: food crop cultivation expanded in the context of rapidly increasing food prices. Maize and cassava now came to further dominate the coastal plain: the lime industry collapsed and the lime juice extraction plant at Asebu near Cape Coast was closed, the sugar cane plantation centred round a sugar factory at Komenda in the far west similarly ceased operation (Akyeampong 1996:82). In the late 70s and early 80s, when strict price control on local foodstuffs was in operation, farmers held back crops, severely disrupting urban food supplies. Export crops were also affected by the recession, in this case being undermined by implicit taxes and low earnings: many cocoa producers sent cocoa illegally across the borders to Cote d'Ivoire and Togo (Pearce 1992).

ROAD ACCESS AND TRANSPORT: 1900-1980

Conditions in Central Region

Early development of routes and transport

Gould (1960) provides a substantial historical review of the development of the transportation pattern in Ghana and some references to Central Province. Pre-colonial trade routes in southern Ghana consisted essentially of pathways along which all produce was head-loaded, though the British made sporadic efforts to build roads to link some of their forts, including a carriage way from Cape Coast eastwards to Anomabu in the early 1820s. Prior to 1890 there was also a military 'road' from Cape Coast to Prasu and a coastal 'road' from Elmina to Cape Coast. In 1901 the first government vehicle in Ghana was purchased and in 1908 the

Winneba to Swedro road was made for use by motor lorries, because of the growing importance of cocoa production in Winneba district.

Southern Ghana saw much activity in road construction in the first two decades of the twentieth century, with cocoa the catalyst for expansion (Addo 1974). 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. By the following year this had risen to 5,343 miles of road, with 1,100 cars and 4,250 lorries 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.

Road improvement

The colonial records at Cape Coast include a number dealing with road improvement in Central Province. A set of documents concerning 'Pioneer Roads' (CCRA ADM 23/1/611) refers to the urgent need for work on many roads in Cape Coast district in the 1920s and 1930s and the use of Italian contractors in road construction. The condition of many pioneer roads at that time was unsatisfactory and, in the case of Winneba District, notices were sent out to the relevant Chiefs who were supposed to keep them in order. The coastal roads in this district were in particularly poor condition, being low-lying and susceptible to flooding (CCRA ADM 23/1/362: Quarterly Reports 1927-8, Winneba District.) There is a clear focus on serving export crop production areas, especially cocoa areas, and a recognition of the importance of roads for expanding trade. However, there was some concern to avoid road construction which would compete with the Central Province Railway. Given the focus on railways, there were also such anomalies as the '47 miles of good road in Twifu District to which it is impossible to get other than by railway'. Local people were already 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, which would feed the railway at Dunkwa. The District Commissioner was keen to assist, since 'it will open up a cocoa growing area'. Hill (1970:28) records similar local efforts in the cocoa area of Akwapim to the east.

'Feeder Roads, Central Province' (CCRA ADM 23/1/534) is a set of documents dealing with roads feeding the railway in the 1920s and 30s. These records again show a preoccupation with road-rail competition. A road between Aperade station and Amanfupon, for example, was not favoured: 'At the existing rates the most probable results would be to divert imports into Aperade away from the Sekondi-Aperade Railway to the motor road from Saltpond and also to enable lorries to compete with the Railway for Aperade cocoa' (General Manager, Gold

Coast Railways, Sekondi, to the Colonial Secretary, Accra, 1/4/1926). The Aperade road continued to attract discussion: the District Commissioner describes how the Aperade people had worked to convert it from 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, but there may be other motives than the purely technical 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).

A Colonial Office subcommittee report in 1930 on road and rail competition observed that 'road and rail transport should be so organised as to be complementary to and not competitive with one another'. In new areas being developed the road system should be designed to act as a network of feeders to the rail system, 'so that the whole area can be brought within reach of the markets'.

Much of the road construction documentation which follows indicates the central importance of cocoa production in decisions to construct or improve roads. Many of the roads at that time were constructed by communal labour, under the supervision of the Political Officers. Swedro grew substantially after 1939 when a new road from Accra to Cape Coast was constructed through the town and it thus became a major cocoa buying centre (Akyampong 1996:87). Addo (1974) argues that cocoa production was the prime determinant of trunk and secondary roads in the region 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. A set of documents in the Cape Coast archives entitled 'Lime Roads' (CCRA ADM 23/1/1287) documents the concern among colonial officials to provide roads connecting Rose's factory to actual and potential lime fruit production areas in Central Region in the late 1940s and early 1950s and refers to the bad state of roads in the region at that time. (Information is provided in this document on road maintenance budgets).

Quarterly Reports available for Cape Coast district (which includes the current district of Assin Foso) (CCRA ADM 23/1/405) are sometimes useful for indicating when roads were built and show that, in 1920, the district had under its jurisdiction only 55 miles of road (PWD roads). There were a further 138 1/4 miles of so-called Chiefs' roads, but barely any of the latter was capable of bearing lorry traffic. Road construction appears to have been constrained in some areas by labour shortages, though local people were ordered to join in the road work (e.g. 1925 Quarterly Report Bereku-Koshua road). Average prices for cocoa achieved by firms at Praso increased from 5 shillings per load in 1922 to 14 shillings 3d in 1925, as a result of the improved transport. Stores were opened for cocoa as new motorable roads were constructed. Even with the light traffic of the period, however, the rains made many roads impassable and produce movements consequently ceased for weeks (e.g. June 1925 Quarterly Report notes roads impassable and many wooden bridges washed away).

By 1939 Central Province as a whole 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. They are kept clean by voluntary labour from the villages situated along the road. Travellers should regard them as dry weather roads only'. There were also 84 miles of railway. (CCRA ADM 23/1/1040, Annual Report 1939-40: Central Province).

The start of the Second World War brought cuts in the grant for road maintenance by 25%, such that surfaces were reported to have suffered with consequent potential difficulties in the rains (CCRA ADM 23/1/1040: Annual Reports 1940: Winneba District, Cape Coast District). Nonetheless, by comparison with many other regions of Ghana, Central Region was comparatively well served with roads.

Road transport

Road transport receives less attention than road networks in the colonial archives, probably partly because it rapidly became a largely indigenously owned and run industry. In the early years, moreover, there was concern to limit road competition and support the railways. One proposal considered by colonial administrators in Ghana was whether, when granting a licence to carry out fresh road transport goods or passenger services, the applicant should show that no existing road or rail transport organisations performed the services which it was proposed to undertake, and that the number of vehicles that plied for hire on a particular road should be restricted. The Commissioner for Cape Coast Province, asked to comment on this question by the Acting Colonial Secretary (13/2/1931), was highly sceptical of the ability of road transport to compete with the Central Province Railway and provides useful information on the organisation of road transport in the region at that time: 'I think it unlikely that Messrs Swanzys (UAC), the principal road transport firm, and also the West African Transport Company will renew the fleet of lorries working in bush haulage. With these fleets scrapped, we will be better able to gauge what effect road competition will haveas I consider it very unlikely any African firm could undertake the transport of the considerable tonnage of produce to the coast.To restrict African owned lorries from any particular road will be, I submit, a hardship, since their routes vary according to the opportunities of obtaining fares and I cannot see that it is practicable at present to institute licences for carrying out fresh road-transport goods or passenger services and thereby restrict the number of vehicles that may ply for hire on a particular road' (CCRA ADM/23/1/534). (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].)

Impact of roads on population distribution and cultivation

Reviewing road conditions in Ghana at the time of independence, 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'.

While there is no information for Central Region, it can be assumed that the impact would have been not too dissimilar.

The impact of stagnation and recession in the 1960s and 70s

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. In Twifo Praso in northern Central Region, however, some road construction occurred in the 1950s and encouraged a large influx of migrant farmers (Akyeampong 1996). Population increase between 1970 and 1984 was lower in Central Region overall, however, than in any other region of the country with the exception of Volta Region (Census 1984).

As the economy deteriorated, particularly in the 1970s, 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 had difficulty persuading drivers to take their vehicles on poor roads to collect produce and 'many villages fell off the transport map entirely'. She suggests that major centres benefitted 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 their greater access to larger transport pools (ibid: 70, 207). Eventually, however, 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 fact may have some bearing on the reported retreat of coastal women (Ga and Fante) to concentrate on trading within their own cities rather than trading extensively in the major marketing centres of Kumasi and Accra (ibid: 321).

Conclusion: the impact of change 1900-1980 on current access conditions

This brief historical review suggests a number of trends with significance for contemporary access conditions. These include the following: (1) the influence of export crop production on the development of Central Region's road network, (2) the fact that initiatives on road construction were taken by local communities where economic incentives were apparent, (3) 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, (4) the influence of road construction on population distribution and cultivation, (5) the well developed system of rural trading in foodstuffs by women in local markets, (6) the dangers of over regulation of markets, as indicated by the efforts at price control in foodstuffs and taxation of export crops in the late 1970s, and (7) the ultimate failure of government efforts to encourage cooperative marketing.

II CENTRAL REGION FROM THE 1980s

AGRICULTURAL PRODUCTION AND MARKETING IN THE 1980s and 1990s

National trends

There is an extensive literature on agricultural production and marketing in Ghana in the 1980s and 90s. Given the need to focus on material relevant to Central Region in this review, there is space here for only a brief outline of trends, drawing on a small selection of available published and unpublished reports.

1983 saw the inception of Ghana's structural adjustment programme. IMF pressure brought a substantial reverse to previous state policies which had vilified traders and aimed to destroy the power of the market place. Agricultural reforms, however, did not get under way until the late 80s and have included privatisation of most government processing and storage capacity, the privatisation of input supply, the removal of input subsidies, the freeing of international trade in palm oil, coffee and shea nuts and the introduction of the private sector into the domestic cocoa market. This has created new tensions in the sector. Exchange rate liberalisation and the removal of input subsidies, in particular, have created problems for farmers. Asenso-Okyere (1994) emphasises the effects on larger farmers who had used artificial fertilisers in large quantities, through associated increases in production prices, while Anyinam (1994) points to particular problems for small-scale food producers, arguing that infrastructural investment has favoured export-producing areas.

Government's role in agricultural marketing after liberalisation was required to be minimal, with the emphasis on providing infrastructure and facilitating the activities of private traders and producers through the improvement of market standards, common facilities and trade regulations, (though the value of a supportive role in the development of nontraditional agricultural exports was accepted). Thus, the World Bank (1993) report 'Ghana 2000 and beyond' only emphasised the potential role for local government in improving physical infrastructure of markets and in complementing them with improved telecommunications and storage space.

Government retained an involvement in a limited number of areas, notably cocoa. In the case of maize, the Ghana Food Distribution Corporation continued to market a very small proportion of total production (Asenso-Okyere 1994). A useful review of maize marketing structures in Ghana is provided by Coulter and Asante (1993). A report prepared by Asante et al. for the Ministry of Food and Agriculture in 1997 reviews recent conditions in agricultural marketing for a range of crops (tomatoes, maize, yam, plantain plus smoked herring). This report puts improvement in the road network at the beginning of its list of recommendations for improvement in the agricultural marketing system, followed by agro-processing and storage improvements and financing of marketing (Asante et al. 1997: 78). They consider a range of issues including non-standardisation of weights and measures, credit,

and targeted improvement of marketing in a range of crops. These themes and the issue of decentralisation of MOFA are further pursued in a recent AGSSIP report (1999) and are considered in more detail below, with reference to Central Region.

Production and marketing in Central Region

By comparison with major food-producing areas of Ghana like Brong Ahafo, material on agricultural production and marketing in Central Region is limited. Sources of information reviewed below include district plans for the two study districts, unpublished reports and dissertations.

Contrasting patterns of production: focus on Gomoa and Assin districts

These survey districts were the focus of detailed field research; a brief review of their farming patterns is provided here to illustrate the nature of agricultural production in Central Region in the 1980s and 90s. Gomoa and Assin districts, though located in differing agro-ecological zones (Gomoa mostly in the coastal savanna, Assin in the high forest zone) are both characterised by low input farming systems, with hardly any mechanisation of activities, little fertiliser usage, and a widespread pattern of bush fallowing. Such farming patterns are common across Central Region. Maize yields are thus, perhaps unsurprisingly, reportedly lower than the national average in both districts (Young 1998). Overall, Central Region is estimated to have contributed c.12% of maize, 7% of cassava and 29% of tomatoes to national production in 1991 (Ministry of Agriculture Monitoring Division, Cape Coast, 1991, cited in Akyeampong 1996) though such agricultural statistics are unlikely to be particularly reliable.

In the rainforest areas of north and western Central Region cocoa, oil palm, coconut, citrus, plantain and cocoyam are still important crops, although cocoa production has declined in terms of contribution to national production: it contributed 9.5% of national production in 1988/9, compared to 19% in 1935 (Akyeampong 1996:81). Cocoa is often dominated by absentee landholders who rent land out under sharecropping arrangements to land-hungry people (usually male) from other areas of Ghana such as Eweland (Amanor 1994: 36). In Assin there continues to be a greater emphasis on export crop production, particularly cocoa, than in Gomoa, following the pattern of earlier decades. Since the late 1980s the export diversification programme (part of the SAP) has had an impact in Central Region, with the adoption of new non-traditional crops, including pineapple, black pepper and cashew nuts. These have been cultivated mainly in private mechanised farms (Akyeampong 1996:82).

In coastal Gomoa district, the District Development Plan (Gomoa District Assembly 1996) notes that agriculture is still mainly at subsistence level. The main crops are identified as maize, cassava, pepper and tomatoes, though it is noted that pepper and pineapple have potential for large scale production for export. An estimated 16% of the district's active labour force migrate regularly to the forest zone of Ghana to cultivate cash crops. A shortage of agricultural extension workers and resources to support them is noted in the report: only about 25% of farmers have access to extension services and the maximum number of contacts per farmer is five times per year. Farmers main constraints are reportedly insufficient and unreliable rains, lack of credit, fluctuations in the price of agricultural produce and high input

costs.

In Assin district palm oil, cocoa and citrus are the dominant cash crops; pineapples and pepper are both non-traditional export crops. Although cocoa production declined in Central Region in the 1980s (Pearce 1992), Assin Foso has subsequently reportedly become Ghana's leading cocoa-producing district (Akyeampong 1996: 89). Cocoa growers are predominantly male; women own some cocoa farms, but these are generally small by comparison with male holdings. Cocoa marketing has now been opened up somewhat to private operators in Assin as elsewhere, but cocoa producers reportedly still received less than half the value of their production in Ghana in 1994 which much lower than in competitor countries (Armstrong 1996: 84). Food crops in Assin district include maize, rice, cowpea, groundnuts, cassava, yam, cocoyam and plantain. There are also forest products including timber and many non-timber products such as medicines, cane and raffia which are gathered for sale (Assin District Assembly 1996).

Specific markets in Central Region

Information on specific markets in the region is limited to district development plans and a few dissertations. Gomoa district development plan (Gomoa District Assembly 1996) provides a basic list of daily and weekly markets and notes the deficiencies of physical infrastructure: weak structures, inadequate parking and access roads. The assembly is collaborating with ASIP to build a new market at Ankamu. Decentralisation policy (instituted in 1988) which gives greater autonomy to the District Assemblies appears to be encouraging interest in such developments (there is a rapidly growing literature on decentralisation in Ghana which is omitted from this review). The fact that much produce is traded at markets outside the district boundary (at Swedru, Mankessim, Kasoa, Accra and Kumasi) is seen as disadvantageous in terms of loss of revenue from market rates. ASIP has selected market physical infrastructure as an area for investment focus on the grounds that lack of basic facilities hampers marketing and increases product spoilage (ASIP Staff Appraisal Report 1993).

Assin district plan has similar information to that available for Gomoa: there are 12 major weekly markets and a number of smaller ones. Provision of storage and market facilities is again seen as important for economic improvement (Assin District Assembly 1996). Clark's study of Kumasi (1994:159) indicates the way storage problems restrict traders making bulk purchases at lower prices and even keeping small short-term buffer stocks in perishable produce which would ease supply interruptions or gluts. Traders inevitably tie up capital in covering erratic supply fluctuations and spoilage which raises risk and running costs, so that less is available for actual trading and accumulation (Clark 1994:159).

Dissertations provide information on two markets neighbouring Gomoa, Mankessim and Swedro. These give insights into specific aspects of market trade in the area. Eshun's (1993) study of Mankessim's itinerant hawkers (in the context of risk behaviour with respect to AIDS), provides detailed information on the problems faced by petty traders. In this, the largest market in Central Region, there are large numbers of young girls of 18-25 years, many of whom sell for their mothers or other relatives. The majority of the 60 hawkers interviewed had received virtually no education whatsoever. Most specialised in cooked food sales or fresh fruits. Cooked food is a popular trade item in Mankessim, as across much of West Africa,

since hawkers can obtain food on credit from stallholders at the beginning of the day and pay for the food at the end of the day's trading. Hawkers here, as elsewhere, earn so little profit that the opportunities for trade expansion are minimal. Some had ambitions to own their own stall, but many would prefer other occupations such as dressmaking. Eshun notes the way hawkers talk about profit without consideration of transport costs, labour costs etc. This is a familiar pattern among petty traders in West Africa, particularly women, who generally lack even the most basic of book-keeping skills. The problems of physical fatigue were widespread among hawkers, who go to market at 6 a.m. and do not return home until 6 p.m.

Opong (1992) provides another local market study, in this case a broader review of food crop marketing in Agona-Swedro, with reference to maize, plantain, cassava and yam. This gives a useful review of the organisation of food crop supplies to Swedro in the early 1990s and associated transport issues.

Maize at that time came principally from Agona and Assin Praso, Assin Odumase and Bawjiase (as indeed it still does). Producers sold to wholesalers and to the Ghana Food Distribution Corporation, which sold to retailers, chop bars, kenkey sellers, schools and consumers. (A detailed history of the GFDC established in 1971 is provided: it originally bought from middlemen, but subsequently purchased directly from farmers due to a decision that middlemen's profit mark-ups were too high. Its activities were restricted by lack of vehicles and the low wages paid to workers). Farmers also sold direct to consumers in the producing areas. Some maize was supplied from Techiman through private traders and the GFDC. Gomoa Lome (one of the off-road survey villages in project R7149) was the largest supply area, providing 48% of the total supply of maize to Swedro in March 1992. Lome supplies apparently dominated because the area had had good rains that year and transport costs were obviously lower than from the second largest producing area, Techiman. However, by April 1992 Techiman was the principal supplier of maize, followed by Assin Odumase.

Plantain was still a major crop at Swedro in the early 1990s (its importance has since declined). Plantain producers sold to private middlemen, wholesalers and the GFDC. Private middlemen sold on to retailers and institutions, food sellers and consumers. GFDC did not deal in plantain much, due to its perishability and lack of storage available for it. Wholesalers were found to travel as far as Bawjiase, Assin Odumase, Assin Praso etc. (all in Central Region) and to Eastern and Ashanti Region for plantain. Private middlemen went to the villages and some even to the farms because they could thus obtain lower prices. Traders were reported to follow farmers to the farm with carriers who helped farmers cart their bunches from the farm to the villages and towns in Twifo Praso and Oda districts. Plantain was not available in the Swedro area, because here the best land was reserved for the staple maize.

Swedro dealers obtained cassava supplies from a number of source regions, including Dewuramong in Gomoa district, but with Agona district predominating as the principal source of cassava. Local supplies were preferred because of the perishability of the product and the high transport costs associated with cassava were noted (and its high on-loading and off-loading costs). Reference is made to cassava traders going to help farmers harvest their cassava before the produce is bargained for and purchased: this is still common practice when labour is in short supply on farms. (Clark 1994:160-1 similarly observes the way traders

travel to farms to harvest cassava quickly to ensure spoilage does not occur before onward sale. As she points out, farmers typically plant cassava on relatively remote farms since it does not require much attention. However, fieldwork on the current project in Gomoa Lome indicated that farms cannot be at an excessive distance from accessible routes, since headloading costs will otherwise be too high.)

Yam was sold by farmers to visiting wholesalers, GFDC and urban retailers. The main source for Swedro wholesalers was the Afram plains, Tamale and Techiman. Private middlemen or wholesalers travel to the north and spend a month collecting enough yams to bring down to Swedro. However, in the November/December period, Bawjiase (Awutu-Effutu-Senya district) became the main supply area (though northern yam was preferred for taste/quality).

Transport was identified as a major problem by almost all farmers interviewed at Swedro: the majority were 2 ½ to 10 miles from a road and had to headload their produce to the road and transport costs accounted for almost half the cost of the produce they sold. (A report by Comptran Engineering (1991) which makes a socio-economic evaluation of selected feeder roads in four areas, including Cape Coast, emphasises the continued significance of headloading for agricultural produce in all areas where traffic volumes are low.)

Theft was identified as a problem among maize farmers (and is still an issue for Lome farmers, for example) and was a reason why cassava farmers were sometimes unable to leave their produce in the field.

Trader problems within Swedro market at the time of Oppong's study included lack of shelter, toilets and pipe-borne water. There is reference to market queens in the market dictating prices and putting restrictions on new entrants: a situation which may still prevail (see the Gazetteer of Markets serving Gomoa District prepared for R7149).

Marketing studies in other regions

Specific discussions on contemporary produce marketing in Central Region are mostly in the form of unpublished reports, but there are useful broader studies of marketing in Ghana in the 1980s and 90s which discuss issues of relevance to the recent development of marketing in Central Region. Gracia Clark's study of Kumasi market is selected for discussion here, because it provides an excellent review of contemporary marketing behaviour in Ashanti region, to the north, and makes reference to a range of external linkages (including links to Central Region, though her work has a very strong urban focus).

Kumasi traders patronise Mankessim in Central Region to some extent for bulk supplies of kenkey and smoked fish from the coast (Clark 1994:45,48). Clark notes that Kumasi traders do not obtain vegetables there, because the closer, larger demand of Accra dominates that trade. She observes the way weekly regional markets such as Mankessim offer wholesale services similar to those offered in Kumasi Central Market, but instead of serving primarily local consumers, they mainly serve distant cities and rural districts. Their market 'day' tends to expand to fill the preceding and following days in order to accommodate more visiting traders but 'the full transition to an urban daily market seems arrested because of the lack of the stabilising force of substantial local consumer demand'. She notes that their size and

prosperity is strongly dependent on long-distance traders and on inter-regional linkages and they are consequently much more vulnerable to transport or production changes that may encourage traders to bypass them or transfer to other routes (Clark 1994: 48).

Clark provides a useful discussion of trading practices, covering issues such as trader characteristics, trader accounting, bargaining, customer relations, weights and measures, though Kumasi Central Market conditions appear to vary in some respects from those found in Central Region. Her comment that 'openly acknowledged village standards that favour town traders indicate substantial urban/rural power hierarchies' is as true for Central Region as for the Kumasi area as are her observations about how assessment of transport and harvesting costs favours urban-based traders more sharply in remote villages (Clark 1994: 136, 138). Bartering, however, found very rarely in Kumasi (the one example is of young girls giving iced water in exchange for a small sample of whatever a trader sells) is certainly rather more common in the very poor off-road villages of Gomaa district. Her points about the critical importance of knowledge of supply and demand conditions apply somewhat less to small scale farmer-traders in the off-road areas where this project focussed than it does in the context of major market centres like Kumasi with their large-scale full-time traders (ibid: 170).

One aspect of trading brought out in Clark's work and in most studies of West African trade, but which still needs emphasis, is the pervasiveness of personalised market exchange, so critical in reducing transaction costs in conditions of imperfect information and reducing risk in transactions when credit is limited and legal enforcement of contracts unlikely. Clark describes the complexities of credit arrangements in Kumasi Central Market (1994:174); her comments on this theme, as for example, about the importance of knowledge of the creditor's residence and the problems of chasing defaulters, are highly relevant to trader practices in Central Region.

ROAD ACCESS AND TRANSPORT ISSUES IN THE 1980s AND 1990s

National conditions and policy

There is a substantial literature which highlights the low quality of the rural road network in sub-Saharan 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 (e.g. Platteau 1996). Some of the most detailed work conducted on transport issues in Africa (reported in this and the final section of the paper) has taken place in the middle belt of Ghana (IT Transport surveys).

Limited (mostly paved) road rehabilitation commenced in the mid-1980s in Ghana as part of the Economic Recovery Programme (following a period of national economic stagnation in the 1960s and 70s when transport infrastructure deteriorated). 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 and by 1997 provided about 50% of the maintenance budget (Ministry of Roads and Transport 1997).

According to World Bank statistics, Ghana's paved roads increased from 4,620 kms in 1970 to 8,050 by 1980 and just 8,250 by 1990 (World Bank 1994). 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 prevails but brings serious (little researched) health risks and is a massive constraint on rural labour supply, also adding substantially to both production and marketing costs. The most highly rated priority of villagers in Ghana is often rural roads [followed by educational needs, health and water supplies] (Crook and Manor 1998:257-).

Road improvements in the 80s in Ghana focused on trunk roads in exporting regions: elsewhere, the programme of rehabilitation and maintenance fell behind schedule. Other changes, however - notably deregulation of fares, fuel and parts imports - brought some improvement in rural transport services, even on many minor roads. This had substantial implications for rural trade since traders could more easily purchase from farms rather than having to buy at periodic markets, and farmers could themselves more easily bring their produce direct to a major market, though this was unlikely to occur unless they lived very close to the market because of time constraints (Clark 1994:67-8, 212, 397; also see Doran 1990:48).

Some recent literature on transport in sub-Saharan Africa has emphasised the need to recognise the limits to paved road construction and concentrate on lower-cost feeder roads (e.g. Beenhakker 1987) and this change in emphasis has been reflected in recent roads policy in Africa. The 90s has seen greater focus on feeder roads development in Ghana (the Department of Feeder Roads was established in 1981), with a national feeder road programme for 1992-99, but given the enormity of the problem, the condition of rural roads generally remains a constraint on agricultural expansion. Decentralisation may bring further complications since the Department of Feeder Roads is committed to the creation of a feeder roads office in each of the 110 districts of Ghana. This may place impossible strains on the department, given its staffing situation (World Bank/ASIP 1993).

Recent years have also seen a growing emphasis on sub-contracting of road works (both construction and maintenance) to the private sector, an emphasis on maintenance and rehabilitation rather than network expansion, on labour-intensive road rehabilitation and some promotion of non-motorised transport (Ministry of Roads and Transport 1997). A major objective is to clear the maintenance backlog by 2005 and stabilise the road network condition to a mix of 70% good, 20% fair and at most 10% poor. However, it was estimated in 1997 that only c.44% of the 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' (ibid: 67). Such areas have been earmarked for assistance under poverty reduction projects.

The latest major initiative to improve access is the World Bank's Village Infrastructure Project, the pilot phase of which commenced in March 1997. This is targeted at poor rural farmers and households and focuses on rural water infrastructure, rural transport infrastructure, rural post-harvest infrastructure and institutional strengthening. The rural

transport component includes selective improvement of feeder roads, but also involves consideration of footpath and track access improvements and IMTs (World Bank 1997). [Information from field research on IMTs etc. from R7149 is being passed to the MOFA project coordinators].

So far as road transport is concerned, private operators continue to dominate. In 1991 the private sector carried an estimated 85-90% of goods and passenger traffic. Private road transport operators are typically small, with a predominance of one vehicle owner-operators, generally male. Most use taxis and minibuses, though a few own large lorries and buses (Republic of Ghana 1991).

Conditions in Central Region

Central region has a total identifiable road network of c. 2,300 km of which c. 786 km are in the maintainable network category, according to Feeder Roads: Central Region Medium Term Plan, 1998. Major routes developed in Central Region in the 1980s included the Biriwa-Takoradi highway, the Nyamoransa-Anwhiankwanta highway, the Ankamu-Apam road and the Cape Coast-Jukwa-Twifo-Praso highway (Akyeampong 1996: 78). Despite improvements to some major roads, rural roads across the region are generally in poor condition. A review of road conditions in Ghana (Wilbur Smith Associates 1998) for the Department of Feeder Roads supports this contention. It categorises the GHA road network as good, fair or poor and indicates that of Central Region's 154 kms of asphaltic concrete roads, none are in good condition, but 95% are in fair condition. However, of 871 kms of surface treated roads, 73% are in poor condition (a situation worse than that found in any other region). Only 195 kms are gravelled but, again, of these 87% are in poor condition (also the highest figure among the regions). Earth roads are not considered.

In Gomaa rural roads are described as in a 'deplorable state', while even the main trunk road from Cape Coast to Accra and the other paved roads are noted to be in need of rehabilitation (Gomaa District Assembly 1996). In Assin district - 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). The other district roads are feeder roads, and some are unmotorable, especially in the rainy season. Even gravel surfaced roads often do not survive long in such areas: steep slopes on gravel-surfaced roads in the heavy rainfall belt do not survive even one season and vegetation is a constant threat to unpaved roads (Ministry of Roads and Transport 1997, Wilbur Smith Associates 1998). The district plan refers, as in Gomaa, to the deplorable state of roads, and includes plans to reshape 80% of existing feeder roads and to build new roads to 'reach food growing areas that are in need' (Assin District Assembly 1996:28). The district plan also draws attention to the rail communications in the district: the Central Railway line (Accra-Takoradi) passes through the district and there are 4 stops along the line where export timber is loaded. Such stops used to be used by general produce traders but the practice was brought to a halt by delays and rising rates (Clark 1994:151). Akyeampong (1996) argues that feeder roads linking Assin Foso (the district headquarters) to Twifu-Praso and Oda have deteriorated, hindering Foso's performance as a service centre. Central Region is currently receiving some assistance in steel bridge construction on feeder roads (12 bridges) through a DFID-funded project which focuses

on cocoa-growing areas (Ministry of Roads and Transport 1997).

Road access and transport studies conducted in other regions

Although there is little detailed information on road access and transport in Central Region, some relevant literature exists for other parts of Ghana. Among recent published studies in southern/central Ghana, research by Clark (1994) and Grieco et al. (1996) is particularly useful because of the linkages made between market trade and transport. Clark's work on Kumasi traders describes the way local transport operates in that area (Clark 1991, Clark 1994:148-152) and considers the broader regional context. There are many similarities in the situation she describes with conditions in Central Region. Research by Grieco et al. on Accra traders and transport (1996) provides valuable background on women and transport in an urban context and provide some relevant general observations on transport organisation and choice.

Transport shortages and unreliability

Shortages of transport and unreliability of available transport have long been features of the Ghanaian transport scene. Transport supply in Ghana mostly depends on the import of second hand vehicles which are often unreliable: new and old vehicles consequently have different charging capabilities in urban Accra, related to their reliability and roadworthiness (Grieco et al. 1996:13). Such differentials are less likely to operate in less accessible rural areas where any transport is difficult to find, but the general point about unreliability is an important one, particularly in locations where there is unlikely to be another vehicle for many hours.

Unreliability of vehicles has further influences on trading practices. In most circumstances in Ghana, traders generally have to escort their goods from place to place and supervise loading and unloading, in the context of vehicle unreliability and also in order to avoid theft and excessive transport charges and reduce spoilage, and must arrange and finance transport (though Clark [1994:211] finds a few cases of small-scale traders sending goods to associates in Kumasi with friendly drivers).

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), also working in the Kumasi region, suggests that 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 in Ghana.

Transport and Market Prices

The relationship between transport charges and the final market price of crops is often difficult to ascertain. According to Clark (1994) transport costs represent a major portion of trading costs in the Kumasi area, so that an ability to bargain down on transport is critical for trader income. Hine (1993) also working in Ashanti region suggested that transport tariffs represented only a small component of final market prices, however, in villages surveyed in 1978-1982. The average wholesale transport charge for maize to Kumasi Central Market, as a proportion of market price, was only 5.3% (over a mean distance of 120 km) and for plantain was 3.5%, not too dissimilar from Gore's figures of c.7-8% for Koforidua. Hine

noted, however, a very wide spread of prices in district markets which appears unrelated to transport cost and affects producer prices, and cites the case of the price of cassava in one month at one market being six times the price at another. Price variation, he suggests, can be related to factors such as poor price information, commodity perishability and a monopolistic marketing system, rather than transport charges: better price information, more marketing space and better facilities for non-association traders and farmers (selling their own produce) would, he suggests, help to break down marketing cartels.

More recent evidence relating to markets in the post-adjustment period may indicate that change has occurred. So far as maize marketing is concerned, Coulter and Asante (1993) write that the Ghanaian market is well integrated and competitive, 'no evidence could be found in support of the often-voiced criticism of market intermediaries'. Similarly, maize markets are 'quite integrated....a movement in price at one market is transmitted to other markets in a short time. Dissemination of information is carried out by itinerant traders...' (Asenso-Okyere 1994 citing the grain marketing study by Asante et al. 1989 prepared for the Ministry of Agriculture). In the late 90s, a CEPA report (1998:102) also suggests that 'food markets in Ghana are generally competitive....spatial price differentials appear to be more widely attributable to transport and handling costs than to the actions of middlemen as widely held. Nor are monopsonies and tied transactions as widespread'. Given the enormous potential weaknesses in food price data collection, it is difficult to know how much credence can be given to any of the observations on price integration provided above (Jones 1996).

Transport organisation and the role of drivers

Driver-trader interactions are central to the organisation of the produce marketing system. Clark (1994) provides a useful description of the various transport arrangements made by traders. Traders who can fill a whole lorry themselves (or through chartering a lorry with a group of associates) pay much less per unit than if they have to rent space by the bag: this gives large-scale traders a major advantage when supplies are high in a concentrated area, particularly when all the crop is harvested at once as can be the case with cassava fields. Dispersed supplies in areas some distance from market encourage complex divisions of trader labour and the use of intermediate markets (ibid: 167-8, 209).

The significant role played by some drivers, described by Clark, is replicated on a smaller scale in Central Region. Town-based traders going out to buy in bulk in rural areas prefer to find a driver who knows their routes and the commodities concerned and can provide specialised services and handling. Such drivers may 'actively mediate in price and labor negotiations and count money for payments'. If they know the routes concerned they are more willing to travel in less accessible areas and can advise the trader on current road conditions, charging accordingly. 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, (though some non-trading women are taxi and urvan owners - see Grieco et al. 1996:12, 29). Apparently, those encountered by Clark who did, had difficulties supervising hired drivers (1994: 210). As Grieco et al. aptly observe (1996: 13), transport negotiation is a widespread problem for women traders in Ghana, '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'.

The GPRTU

Grieco et al. (1997) emphasise the critical role of the GPRTU (Ghana Private Road Transport Union) which organises lorry parks and tro-tro stations and provides fixed fare charging schedules (though these tend not to apply on bad rural roads as field work has illustrated). Its practices in charging commission on vehicles leaving markets and operating queueing systems at lorry parks for trucks on various routes are considered to inflate transport prices. Work on the role of the transport union in Ghana is also considered briefly by Hine (1993) and, in an urban context, by Fouracre et al. (1994). Crook and Manor (1998:231) draw attention to the political links between the ruling party in Ghana and the GPRTU which has enhanced the role of drivers in rural society.

Travel time, perishability and access issues in 'near-urban' centres

There are important linkages between perishability, travel time and unreliable transport. Clark (1994: 161-2) notes that high risks reduce apparently generous profit margins in commodities like plantain. She observes the way drivers round Kumasi, as in Central Region, charge more on poor roads for the same distance due to slower travel and vehicle deterioration. Some villages fairly near Kumasi but on very bad roads are 'practically unable to sell fresh produce': here there are also more intermediaries involved in produce sales than would be expected in settlements fairly near a major market centre. Gore's work on pricing and marketing patterns in farm villages near Koforidua (Eastern Region) similarly suggested a strong correlation between good road access and high producer prices (Gore 1978 cited in Clark 1994:211). These are important points, also clearly emphasised through our field work in Gomaa district and my earlier work in northern Nigeria (Porter 1997): it is not only in 'remote' places far from a major town that accessibility is a serious issue for farmers.

Transport for women and low income households

It is common to find distinctions in the recent literature regarding gender patterns of travel in Africa, but Grieco et al. (1996) extend these perspectives in the course of their work, demonstrating, for instance, that the transport choices of low-income households are influenced by the form of household organisation (spousal separation, separate male and female domestic economies etc.), a point which needs to be born in mind when undertaking transport research. They also observe the critical role which children play in transporting goods or substituting at home for women faced with unreliable travel for trade, and the need to undertake time and travel budgets for children (Grieco et al. 1996: 138-41). Their observations about elderly women in trade scaling down operations to the doorstep in order to replace their daughters as the domestic anchor in the household, so the daughter can travel to trade, also has relevance in a rural context (ibid: chapter 8).

Conclusion

The 1980s and 1990s has seen some withdrawal of the state from direct interventions in agricultural production and marketing in Ghana, as elsewhere in Africa, as a result of IMF/World Bank pressure. The literature suggests this is only gradually beginning to alter practices in export marketing in Ghana. Trading practices in foodstuffs have probably changed little since the colonial period, since government attempts at intervention in foodstuffs marketing in Ghana have never had a great deal of success. The majority of foodstuffs continue to be traded through long-established rural and regional markets by women utilising personalised systems of market exchange. 'Customer' relations are probably as central an element to all stages of the local food marketing system in the 1990s as they were sixty years ago.

The precise pattern of foodstuffs trading in Central Region, as elsewhere in Ghana, however, appears to be continually reshaped, not merely according to changing patterns of production, but according to prevailing (unreliable) transport conditions (poor road surfaces, vehicle availability, transport costs). The road deterioration of the 1970s has not been rectified, as yet, and most rural roads are in poor condition and frequently become impassable for periods in the rainy season. Decentralisation in the Ministry of Agriculture and Food and in the Department of Feeder Roads may cause further complications, in view of their limited budgets and the shortages of qualified staff when spread across 110 districts. Accessibility to markets is probably as great a problem for Central Region farmers in the late 1990s as it was at the start of the 1980s.

III IMPROVING MARKET ACCESS FOR SMALL-SCALE PRODUCERS AND TRADERS

This section looks in more detail at some of the policy issues and potential interventions which have implications for market access, particularly with reference to off-road areas and their populations, in the context of the foregoing discussion of production and marketing conditions, and reviews relevant literature.

Road and transport issues

In looking to resolve access issues in Ghana, as elsewhere in Africa, the immediate focus of attention - particularly among off-road villagers - 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. This raises a number of issues, however, not least the limited budgets available for road construction and, as discussed below, how to spend those funds most effectively.

Improving access versus creating new access

A principal contributor to this policy debate with reference to conditions in Ghana is Hine (1993), who examines transport and marketing in the Ashanti region, utilising material collected in the late 70s and early 80s (also reported in Hine et al 1983). He comments on the relative transport costs of different modes, observing that headloading for a 10 km journey was found to be 15 times the cost of moving goods by truck though, on short journeys with low volumes, headloading could be cheaper than using a motor vehicle. Hine presents figures to suggest that it is about '140 times more beneficial to the farmer to have vehicle access brought 5 km nearer to his village (where the alternative is headloading) than to improve 5 km of existing motorable earth tracks up to a good gravel road standard'. He thus concludes that resources should be diverted to bringing new vehicle access to previously isolated villages or opening up new areas and making small scale spot improvements (particularly of water crossings and low-lying areas) to keep vehicle access open. Current government policy in Ghana, however, emphasises the maintenance of the existing network and, within this, to focus on 'maintainable roads', in view of severe restrictions on resources. The decentralisation of the Feeder Roads Department may possibly encourage greater emphasis on spot improvements, given the limited funds spread across 110 districts to fund major works, but there seems little likelihood of much new road construction to remote villages. It will be important to monitor developments very closely as the decentralisation of the Department proceeds.

Road and path maintenance issues and the potential for increasing community participation

A related issue considered in R7149 is road and path maintenance. The question of maintenance is one which has attracted substantial attention since the mid 1980s because of observed high rates of road deterioration (related to reductions in road design life to around 10 years) as well as reductions in maintenance associated with SAPs (Levy and Malone 1988).

Hine (1993) emphasises that it is important to ensure that main and secondary roads are kept in good repair since typically c. 90% of the journey distance between farm and final urban

consumer will be on this network. 'A good surfaced road can reduce operating costs by up to half compared with a very poor alternative.' These comments have substantial relevance to the study areas in Gomaa and Assin districts, where spot improvements probably receive insufficient attention. As Hine points out, much more information is needed on measuring exactly how accessible rural communities are, to assist with identifying priorities of road construction and maintenance.

In Ghana attempts to solve the maintenance problem have included the introduction of lengthmen schemes from 1984 and increasing emphasis on labour-intensive methods for both construction and maintenance (Stock and de Veen 1996). Although no literature on this question has been discovered for Central Region, there are a number of recent relevant studies. Airey and Wattam (1998), considering the potential for community participation in secondary and feeder road maintenance in East Africa, reviewed current literature on this theme and conclude that problems include lack of a sense of ownership of public infrastructure among villagers and lack of end-user participation in the planning process. Their experience in 3 case studies was that once government or any agency improves a road, its maintenance becomes the responsibility of the agency, as far as villagers are concerned. This was particularly true because road improvements by outsiders tend to be undertaken without any consultation with villagers. Other factors influencing participation include the strength of the village council or committee organising maintenance and the time of year when maintenance is conducted. Frequently, of course, there are perceived problems of 'free-riders' who use the improved roads but do not contribute to their upkeep (Ostrom et al. 1993). Driving in Central Region, it is not uncommon to be stopped by villagers mending a road and asked to make a contribution.

The potential for use of low-tech machines for road maintenance is also beginning to attract attention and could have considerable potential in Central Region where high rainfall in much of the region rapidly destroys earth roads. Motor graders are a major capital investment and require good workshops, skilled mechanics and specialised spare parts, so the possibilities of grading implements being towed behind tractors or draught animals are worth investigation (Airey and Taylor 1993).

IMTs and other low cost transport interventions

R7149 looks in some detail at the use of, and potential for, IMTs in Central Region. No literature has been found specifically dealing with conditions in the region, but there is a growing emphasis on IMTs in transport studies elsewhere in Ghana. There is particular interest in promoting IMT use among women because of their low income and often (associated) restricted access to motorised transport, and the tendency for men to be the main beneficiaries of IMT schemes (Bryceson and Howe 1993).

Low rates of road utilisation by motor vehicles, as observed by Clark (1994) and others in Ghana and elsewhere in sub-Saharan Africa, are associated with limited capital for vehicle purchases, high vehicle costs, problems in sourcing spares and short vehicle lifespan due to rapid deterioration on poor roads. Intermediate means of transport (IMTs) are increasingly seen as part of the solution to some of these problems. These may include hand carts, wheelbarrows, bicycles, bicycle trailers, tractor trailers, ox-carts etc. However, resistance to

IMTs (seen as backward technology) in government departments is still often evident (Ellis and Hine 1995).

Bicycles are the most common IMTs in use in Ghana, though the figure of 28% ownership, among households in the 8 study villages (across 3 environmental zones) in the Ghana survey reported by Dawson and Barwell (1993:14), appears high. Ownership is certainly far lower among the off-road villages surveyed in Gomoa district in Project R7149. Bicycles tend to be used mostly by men (ibid:14) but Grieco et al. suggest they would have great economic value for women petty traders. However, 'cultural stereotypes and infrastructural dangers' work against the use of the bicycle by women (1996: 115). They also note that capital requirements for bicycle purchase are too high for many female traders, and suggest that redesign of bicycles and cycling facilities could assist women. They further point to the need for differing strategies for enhancing bicycle use by women among different ethnic groups: northerners on the whole value bicycles southerners, on the whole, do not. This latter observation, however, is based on research in an urban context and reflects urban perspectives: rather different views were elicited during field work in off-road areas in Gomoa and Assin in the current project. Among poorer populations the capital cost of purchase limits ownership and the maintenance costs reduce time in use. Howe reports high levels of bicycles out of service and needing repair in Zambia and Zimbabwe (Howe 1993: 12,21, cited by Platteau). The point made by Grieco et al. that bicycles are often hired out and that, since women need bicycles for limited periods when trading, they could hire rather than own, is also more relevant in an urban context. Bicycles are also hired out in rural Gomoa and Assin, but women in off-road villages would need the bicycle for longer periods in order to visit local markets.

Other literature which considers bicycle use in northern Ghana also points to the complexities of introducing IMTs such as *bicycle trailers* (e.g. Salifu 1994, Buabeng et al. 1995). The Department of Feeder Roads/United Consultancy in a 1997 report continued difficulties with bicycle trailers despite their acceptability to communities, notably because of lack of capital among villagers to buy both bicycles and trailers, even when allowed to make a down payment of 50% with the remainder spread over a time period.

Work in Accra by Grieco et al. (1996:chapter 5) on *trolleys and wheelbarrows*, locally termed 'trucks', is also relevant, though they are far more widely used in major urban centres such as Accra, than they tend to be used in rural areas of Central Region. However, in both areas they are apparently always male-operated. The reasons for this given by women and men in Accra revolve around women's lack of strength and traffic dangers, though the problem of moving a trolley while carrying a baby on the back was also mentioned. Grieco et al. suggest that it is difficult to untangle the practical difficulties women face in using the present technology from the gender stereotype linked to customary roles and division of labour. However, they find evidence of women owning trucks. They suggest the need to develop improved trucks, notably through fitting a brake pedal, possibly with motors.

Motorcycles - while not strictly IMTs - may offer another approach to provision of relatively cheap transport, given their relatively low capital and running costs. Guyer's study of the Ibadan hinterland in Nigeria (where environmental conditions are not too dissimilar from Central Region) observes the success of motor cycles among farmers in the early 1980s as

both a farm to farm transport mode and for farm to market trips (Guyer 1997:88-89). It became a complementary component of a new localised transport system in ways which would seem to have relevance for Central Region. There has been some effort to promote motorcycles in northern Ghana through the NGO Riders for Health. Training in safe riding and preventive maintenance are crucial to successful adoption of this mode of transport (Scholten 1997). However, motorcycles are likely to be seen as status symbols by men and, if used by them to transport goods to market, could remove control over market income from women (Doran 1990:34).

It is important to recognise the links between acquisition of certain goods and status. Doran's (1990:31) review of surveys by IT Transport (1990), which covers farm to village as well as village to market centre travel in Ghana, suggests women seem to have greater control over low status transport like donkeys and wheelbarrows than over bicycles. IMTs involving draught animals may introduce other cultural problems: local customs and taboos forbade women touching animals in a Ghanaian bullock plough programme (ibid: 33). While cultural conventions may change it is important to consider potential problems when introducing innovative forms of transport. There is very little data on the impact of low-cost transport on women and Doran makes the point that, in looking to improve conditions through transport and non-transport interventions, it is important to consult women themselves. Moreover, innovative forms of transport have to be demonstrated so that people can see their usefulness (Doran 1990:39): pilot projects will need to be established more widely - and credit schemes put in place - if uptake is to be rapid. This may be particularly important in off-road contexts, since populations here are arguably less regularly exposed to new experiences and practices and the conservative influence of customary authority patterns is greater (Platteau 1996).

IMT cost is another major issue which needs further consideration. Howe (1994:7 cited in Platteau 1996) notes the immediate positive impact on demand for bicycles when substantial reductions in retail prices were made possible by drastic reductions on import taxes in Ghana (and also in other sub-Saharan countries). Are further reductions feasible in Ghana?

Low cost transport and the potential for group purchase

Like many other writers in this field Doran (1990) observes the enormous difficulty women have in accessing credit and thus suggests that transport interventions must consider the possibility of subsidising low-cost transport (a theme taken up by John Hine in a recent DFID transport workshop, March 1999). This may well be a more realistic approach than group purchase of vehicles, a potential intervention also explored in the current project.

Group transport schemes have reportedly had limited success in northern Ghana because loans were very difficult to recover (Feeder Roads/United Consultancy 1997). Dawson and Barwell (1993:50) suggest that maintenance is a problem with group ownership unless arrangements and responsibilities are clearly established. An alternative approach, they suggest, is to encourage ownership by small, self-selected and sustainable groups of villagers.

The issue of group ownership is one which needs much more careful consideration in view of the popularity of group initiatives among donors. 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'. A detailed review of the literature on groups and associated issues of trust is provided as part of a separate report in Project R7149 (Lyon 1999 forthcoming).

Non-transport interventions

Although improvements in physical access are an obvious means of reducing accessibility problems for off-road populations, there are a number of other interventions in the field of marketing, credit, and crop storage and processing activities which could assist farmers and traders living in inaccessible locations.

Market information

Marketing information issues are an important consideration when looking at off-road areas, where access to information is restricted by problems of physical (and other forms of) access. The contention that marketing information could be improved through access to telecommunications is considered in project R7149. This is a topic which has not yet received much attention in the literature.

Women producer-traders in the survey areas in Central Region for the most part seem to depend wholly on their own market visits and those of other villagers for their market information. This contrasts with work conducted by Asante et al. (1997) which suggests that radio broadcasts of price information are a significant source of information for producers. In the case of tomato farmers in the Akumadan area, for example, where road access is good, GBC2's price information broadcasts were listened to regularly by 67% of producers interviewed (though the sample size is unclear). In the case of maize farmers in the Techiman area, 81% (of an unstated total number of producers interviewed) listened to radio price announcements. However, in the case of tomato farmers 90% of the producers interviewed were men, and in the case of maize almost all interviewees were male. Observation in Central Region certainly suggests that men tend to have greater access to the funds to purchase radios, and arguably more time available to listen to them.

Provision of prices by national radio and newspapers tends to be restricted to major markets. Current prices for a wider range of markets could possibly be provided by community radio and by the use of mobile phones. Recent comments on the GREAT network (Pramada Menon 2/9/98) indicate that in Bangladesh, where a Grameen Bank programme providing loans to rural women to buy mobile phones and set up phone services has been in operation for some time, the success of the innovation may have complex negative implications (insufficient detail is provided as to what these may be). However, there is much interest in the potential for ICTs in rural Africa, if the quantity of communications on the subject on the GREAT and other development networks is any guide, and a number of experiments with rural telecentres and FM community radio are in progress (see ID21 Development Research Insights no. 25, March 1998, for a broad review of ICTs in development).

It is important to emphasise that market information has to consider more than current prices (price reporting systems). Indeed, given the volatility of market prices, lack of standardisation of market measures, and the prevalence of personalised exchanges and interlinked transactions

(particularly with reference to credit) which characterise Ghana's marketplaces, current price information alone will probably offer little benefit to potential market participants, and notably not to the poor small producers, particularly women, who depend most on customer relations with traders for credit. Moreover, by the time traders resident in distant off-road locations reach a market where prices are reported to be high, the situation may well have changed. As Galtier and Egg (1998) point out, in a Malian context, farmers need information on such matters as wholesalers demand, storage techniques for grain and forecasts of price levels at bridge gap periods; unfortunately, for a wide variety of reasons, which they review, attempts to provide market information services have not been successful.

The potential for group input purchasing and marketing

Group input supply and marketing could be viewed as one means of addressing the accessibility problems of off-road villagers since there are obvious economies of scale in group ventures. However, there has been limited success in West Africa with such groups. Alternatives to individual marketing (and input supply) have been considered at various times in Ghana (see Section I above) and, despite past problems with cooperatives, farmer cooperatives seem still to be viewed by some district administrations as a way of increasing food production, particularly through input supply assistance, where their success has been greatest (Assin District Assembly 1996). Cooperation through inventory credit schemes is also a possibility and is discussed below in the section on credit.

Another possibility, of limited but growing significance in Ghana, is contract farming (although no examples of this were encountered in the survey districts). TechnoServe, for example, is considering the potential for contract growing of higher value cash crops by small farmers. Despite potential marketing advantages, there are also substantial dangers, when small farmers contract to grow crops for large commercial companies, given the great inequality in power between the two parties (see e.g. Porter and Phillips-Howard 1997). Development of contract schemes will need substantial care to ensure that small producers do not suffer. TechnoServe's interest in assisting small-scale producers to negotiate with and (abide by) contracts with large commercial buyers appears a useful approach (TechnoServe 1998).

Market weights and measures

Lack of standardisation of weights and measures is a commonly observed feature of West African markets, and one frequently perceived as a serious hindrance to 'fair' trade. Certainly, the issue of measures utilised in local and regional frequently emerges in discussion with off-road farmer-traders in Central Region. Traders who visit the villages are often observed to buy using one measure and to sell elsewhere (at the regional market centres) with a smaller measure. Many traders encountered in the survey districts do not travel to sell beyond the nearest market, reportedly because of their suspicions regarding trader cheating through the use of variable measures in markets where they are strangers.

Clark (1994: 142) makes an important point, however, that although volume measures - so common in West Africa - are susceptible to trader manipulation, they permit easy visual inspection of the unit size by the buyer, who thus does not have to depend on public regulation

of weights and measures. 'The average Ghanaian buyer... considers dents and false bottoms in old evaporated milk or mackerel cans much easier to detect and allow for than dishonest scales'. The container can also be used for storage and dispensing, unlike expensive specialist equipment such as scales, and use of standard sacks and wooden boxes can eliminate the need for measuring at each transaction. She argues that traders are unlikely to abandon their use of traditional measures, despite repeated government attempts to encourage sales by weight, in the light of these practical advantages, and the autonomy from official enforcement which they provide. However, as Clark recognises, the variety of measures in use is a serious obstacle to statistical work on marketplace trade (ibid: 144-5), though this has not prevented some interesting recent work on prices and market performance in Ghana (Alderman and Shively 1996, Fialor 1994, Shively 1996). The prevalence of unstandardised measures continues to preoccupy policy makers in Ghana. CEPA (1998: 102), for example, notes that this is a 'costly limitation' which stifles the development of the marketing systems including the effective delivery of marketing information. It would seem to be an area which requires careful further research.

Improving crop storage and processing

Another non-transport solution which needs to be examined when considering access problems is improvement in crop storage and processing. Low-cost crop storage improvements utilising local resources, for example, may assist in reducing losses associated with interruptions to physical access created by transport shortages or road closure during heavy rains, and may also improve vehicle utilisation by spreading demand for transport services. Losses of c. 12% on inaccessible road corridors, compared to 4% on accessible roads were reported by Comptran Engineering (1993) in a study of selected areas of Ashanti, Eastern and Volta Regions. There are additional advantages for farmers if storage is improved since crops can be kept until market prices are higher (Beenhakker 1987:11, 26, 188). In Ghana TechnoServe suggest the price of maize in the 'lean season' is typically 75-250% higher than at harvest time; shelling the maize, treating it with insecticide and bagging it can reduce post-harvest losses to less than 2% for a period up to six months (TechnoServe 1998). There is a substantial technical literature on improving crop storage in Ghana.

Increasing village processing is an obvious means of improving value added prior to village to market transport in off-road areas. The overwhelming role of women in crop processing is evident in Central Region and across Ghana (Ghana Living Standards Survey 1991/2: 77); the majority of this is on a very small home-based scale: almost a half of rural households across the country are engaged in processing. Central Region has Ghana's largest oil palm extraction plant on the oil palm plantation at Twifo Praso in the west of the region (Akyeampong 1996), but large scale processing is otherwise fairly limited. In Gomoa district a Kuwaiti company processes cassava into tapioca in Dominase-Fawomanye area (Gomoa District Assembly 1996) and the need for local processing is noted. Assin district plan argues that attempts by the Assembly to get women involved in crop processing activities such as gari processing and palm oil extraction has not had much impact, 'as most of the women are in the rural areas', which suggests the assembly perceive food processing as an urban activity (Assin District Assembly 1996).

Attempts are being made in Ghana to reduce the time spent by women in processing, and increase quantities processed, through the introduction of simple machinery. This would appear to be particularly valuable for off-road communities in areas like Gomoa and Assin, by improving the value-added of crops like cassava before they are transported beyond the village. However, innovation is not always straightforward, as a useful review of a gari-processing project in Volta region emphasises. Here tensions arose between men and women over the operation of the machinery in the factory and membership of the associated cooperative (Dolphyne 1991:66-70). Problems of maintenance and high charges frequently arise with maize mills, which are generally owned by men: the potential for expanding women's ownership and management of mills needs to be explored (Doran 1990:70). Doran (ibid:49) suggests that improvements in transport (including farm to village transport) could release time so that women could devote additional time to village crop-processing prior to marketing. Provision of village-based processing machinery would also reduce the time many women spend in taking crops to other centres for processing or in hand preparation - maize is a particular case in point, since maize has to be ground every few days for home consumption or the flour rapidly becomes bitter (Doran 1990:51). It could also reduce spoilage in the case of crops such as cassava which spoils rapidly once harvested (but which keeps far longer once transformed into products like gari) and could thus encourage increased production.

Further information on the study districts in Central Region and reference to the literature is provided in a separate report on crop storage and processing (Dutton 1999 forthcoming).

Improving access to credit and banking facilities

The significance of credit availability for farmers and produce traders is a theme taken up in much recent literature. Sarris and Shams (1991:131) and Grieco et al (1996:120, citing Steel and Aryeetey) suggest interest rates for informal credit as high as 100% over 9 to 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. (1996:33) 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. A World Bank/ASIP report on Ghana (1993) additionally observes that farmers in remote areas have particular difficulties in obtaining formal bank credit for setting up storage and processing activities (see also Hine and Riverson 1982). As Richards (1985:127) 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, of course, a particularly pertinent point with reference to creditors in off-road villages.

Nikoi (1996) considers the potential significance of rural banks which were established in Ghana in 1976, in response to the need and demand to make institutional credit and banking services accessible to small farmers and other small-scale rural entrepreneurs. They are community institutions, locally owned, controlled and managed by the people of the locality, mobilising 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, 30% to cottage industries, and the remaining 20% to trading, transport and other sectors. By 1994 there were 125 banks in existence: Central and Ashanti

had the largest number of banks, with 22 situated in each. Nikoi's work focuses on Akwupem in Eastern Region, but her conclusions have relevance for the current research in Central Region, notably the impact of reforms in 1988, which relaxed the sectoral allocation of loans and advances, and the decision in 1990 to pay salaried workers through the banking system: the latter, in particular, has 'opened to the bank avenues of extending virtually risk free advances to its customers. More and more of the bank's advances are going to the miscellaneous sector, the beneficiaries of whom are mainly workers whose salaries pass through the bank...agreed fixed monthly deductions are made from their salaries'. Few permanent off-road residents have jobs in the formal sector and thus have very little opportunity to access credit from these banks.

Nikoi provides an interesting case of one bank lending scheme at Akwupem which has helped women traders with transport. Under the rural bank's Women in Development programme (instituted in 1987) the bank has purchased a long-haul vehicle for the women crop farmers/traders who trade in northern markets but have to wait up to four to six weeks to obtain transport to cart their produce to Akwupem for sale. The vehicle was run on commercial lines by the WID programme. The women paid for the vehicle's use from loans extended to them and this reduced their turn-around from 4-6 weeks to about 5 days and greatly reduced spoilage. This intervention took place within the regular lending programme of the bank, assisted by a grant from a donor. The scheme obviously focussed on large-scale traders but there may be grounds for attempting pilot programmes with smaller traders in off-road locations.

Bonsu (1996) provides a specific study on alternatives to bank credit for MSEs (micro, informal and small-scale enterprise) in Central Region, with reference to CERIDEP (Central Region Integrated Development Programme), funded by UNDP. CERIDEP commenced operations in 1990 and its subcomponent Enterprise Development Programme is designed to assist micro, informal, small-scale enterprise including fish-processing and agro-based industry which have difficulty accessing credit from formal financial institutions. However, of the 223 loans made in the first phase of the programme, over 90% went to fishing and fish processing and only one to an agricultural enterprise. A number of agro-processing applications were made but required long-term financing. These were not successful because CERIDEP has had to resort to short-term lending to ensure reliable and adequate returns. Nonetheless, the programme has provided credit to MSEs which would not normally have received credit from banks, and 90% of this went to women. Bonsu notes that long-term financing, however, will be necessary to transform MSEs into SMEs.

In Gomoa district banking services are limited to a few (7) branches of the Akyempim Rural Bank. The majority of the district's people do not have access to banking services (Gomoa District Assembly 1996). In Assin district there are a number of different banks, including the Agricultural Development Bank and the Ghana Commercial Bank at Assin Foso, the Akoti Rural Bank at Foso and Akropong, Manso Rural Bank at Manso and Ahenkro Rural Bank at Nyankomasi Ahenkro (Assin District Assembly 1996) but these appear to principally serve wage earners in the formal sector and large-scale (generally male) cocoa farmers.

Innovative approaches to credit may need to be considered in such circumstances. One possibility is inventory credit using stored goods as collateral for loans (Coulter and Asante 1993). This is an approach being pursued with positive results in Brong Ahafo Region by TechnoServe, particularly for maize. This is now being adopted by the Agricultural Development Bank in Ghana and extended through participation of TechnoServe in a VIP pilot project linking agricultural production and inventory credit loans. The TechnoServe inventory credit programme works with groups of small farmers who are encouraged to undertake a phased selling approach so that they do not keep large stocks beyond the annual price peak. Farmers lose their grain to the bank if they do not honour their commitments. In Brong Ahafo there has been a 100% repayment rate. Pilot work by TechnoServe in Central Region 1989-92 with inventory credit was not successful, however, and the conclusions reached re this failure are of interest: farmers 'grew maize as their primary food for domestic consumption and had difficulty adopting a more commercial attitude towards its production and marketing'. In Brong Ahafo, by contrast, maize is the major cash crop and farmers more commercially orientated (TechnoServe 1998). It may be that the emphasis on farmer groups (not mentioned as a problem with reference to Central Region in the TechnoServe report) has been another difficulty, since field research in Central Region suggests considerable resistance to cooperative arrangements.

It is important to recognise the wide range of credit /finance used by farmers and others. A recent study of financial service provision and needs (Jones et al. 1997) provides important detail on current conditions. In the Winneba area of Central Region, for example, it indicates that people in the fishing industry utilise a variety of different sources of credit including loans from moneylenders, friends, wives, in-laws, relatives, in addition to formal banks and susu (see below). Sources of loans to an extent depended on nature of the credit required, it being observed, for example, that informal sources were utilised where rapid access to credit is needed and limited collateral available, although the cost of credit is substantially higher and the lack of discretion of lenders is considered an additional disadvantage. Loans from friends, it was noted, could be extremely expensive: as much as 50% interest over a 3-6 month period (Jones et al. 1997).

Informal savings and credit through rotating credit associations (susu) and more recently developed susu collector schemes are a common source of credit for people who cannot obtain access to formal credit across Ghana, particularly women. The value of such associations is now beginning to be recognised. Dennis and Peprah (1995), for example, note the way a wide range of organisations have started to establish credit groups similar to traditional susu in Techiman (Brong Ahafo). A new programme to strengthen the capacity of susu collectors in Ghana has been introduced under the auspices of the Micro-Finance Institutions Action Research Network and coordinated by TechnoServe. This will provide training for susu collectors (TechnoServe newsletter, February 1998). Among many farmers and traders interviewed in R7149, susu was considered an unreliable method of saving. Aryetey and Aryetey (1996) and Jones (1997) similarly note lack of faith in susu, especially in rural periodic markets. It thus seems necessary to consider ways of improving the reliability of susu organisers, and to increase the opportunities for the rural poor, particularly women, to access some of the alternative routes to credit described above.

CONCLUSION

This review of the literature has emphasised both the difficulties faced by rural populations in reaching and dealing in rural markets and the opportunities that exist to improve conditions, with particular reference to off-road populations. Of particular interest to project R7149 are the possibilities of an expanded role for IMTs and motorbikes, the importance of greater consultation of potential women users of IMTs, improved credit access for off-road women, the potential for improving storage and expanding off-road processing, and the potential for group ownership of transport and processing equipment. There appears to have been little work on these issues in Central Region and no prior efforts to consider them in the specific context of off-road populations. Indeed, as I have noted elsewhere, in the course of a study of off-road communities and their problems in Nigeria (Porter 1997), surprisingly little work focuses specifically on off-road access issues. The results of the detailed field surveys which address the topic in two study districts of Central Region, Gomoa and Assin, are presented in separate reports as further outputs to project R7149.

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