

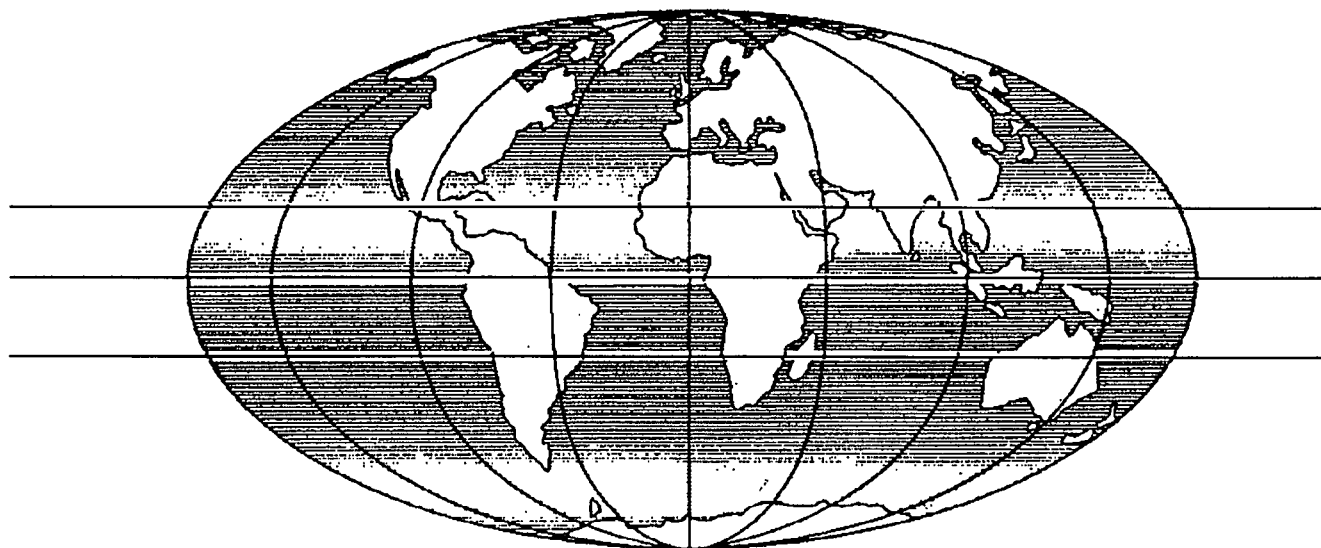


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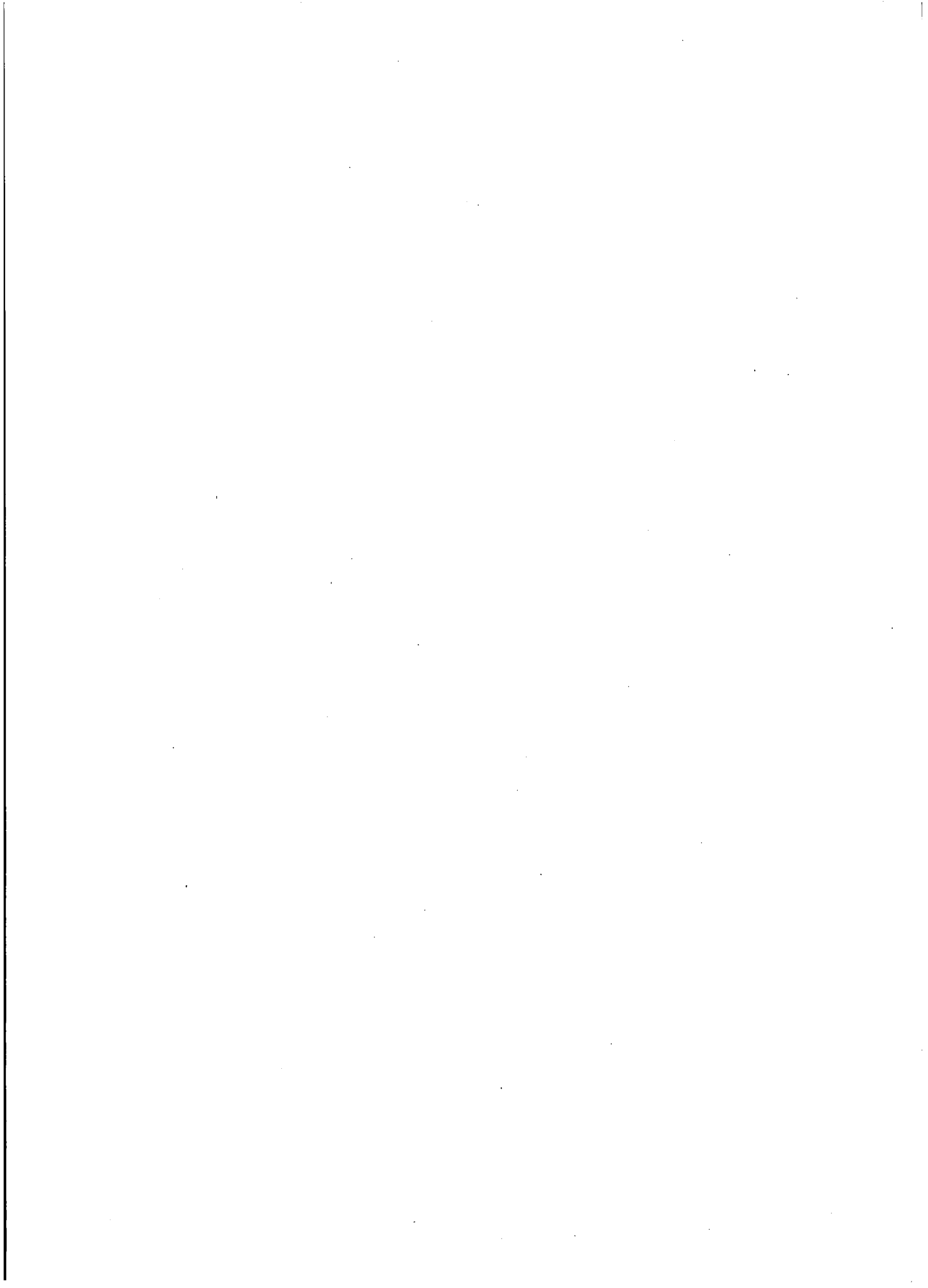
**INFORMAL PUBLIC TRANSPORT AND THE WOMAN
TRADER IN ACCRA, GHANA.**

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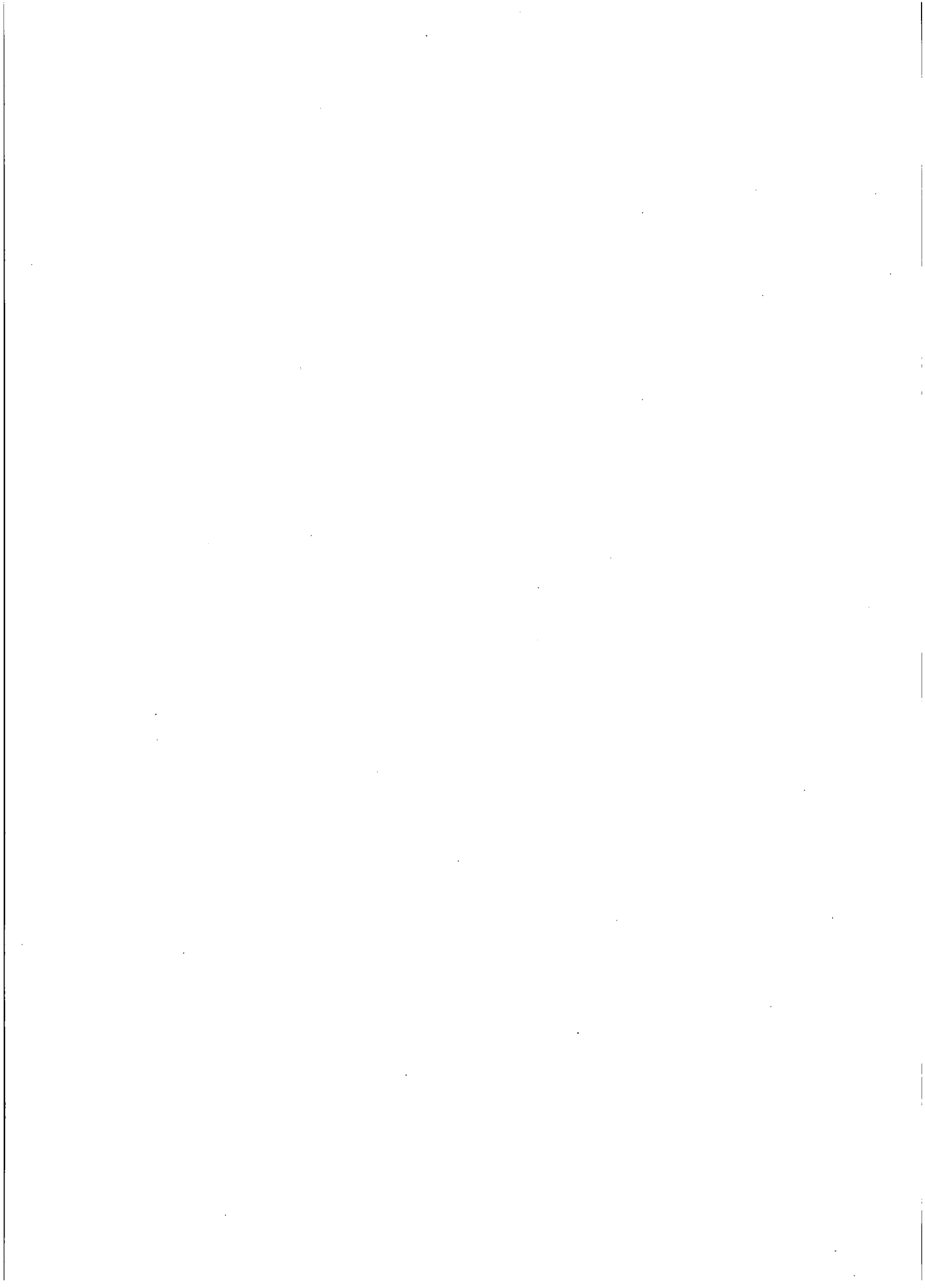
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Abstract:

This paper reports on a study into the use of the informal public transport system by women traders in Accra, Ghana. Market trading in the urban centres of Ghana is a predominantly female economic activity and is a fundamental element in the survival strategies of many low income households. Petty trading is the predominant form of commercial activity and as such, given the financial constraints inherent in this form of trading, necessitates frequent travel between wholesale market and selling place on the part of these female traders. In addition, the lack of secure market storage areas requires the many female market traders to transport their wares across the urban areas on a daily basis. Female traders make use of the informal public transport system, in combination with supplementary services such as portering, to meet their very frequent travel needs. Public transport policy, however, often concentrates on the inefficiencies of the informal nature of public transport and the need to carry passengers. This paper highlights the load carrying needs of a section of the fare paying public, the solutions they shape through the use of the informal transport system to meet their needs and the ways in which these women traders and their households organise to allow the transport system to be used in this form thus permitting trading to continue and contributing to their household's survival. It, then, considers the policy consequences of these findings in the context of the travel needs of the urban poor.



1. INTRODUCTION.

Market trading in the urban centres of Ghana is a predominantly female economic activity and is a fundamental element in the survival strategies of many low-income households. Petty trading is the predominant form of commercial activity and as such, given the financial constraints inherent in this form of trading, necessitates regular travel between wholesale markets and selling places on the part of female traders. Female traders make use of the public transport system, in combination with supplementary services such as portering, to meet their travel needs. This paper highlights the load carrying needs of market traders; the solutions they shape, through the use of the transport system, to meet their needs and the ways in which these female traders and their households organise to use the existing transport system. The paper also explores the relationship between the traders' demand and its influence in creating a differentiated transport supply within Accra. It, then, considers the policy consequences of these findings in the context of the travel needs of the urban poor.

The research on which this paper is based was conducted over two years (1993-1995) in Accra, Ghana. It was conducted by the Overseas Centre, Transport Research Laboratory, U.K., in conjunction with the Ministry of Transport and Communications, Ghana and the Social Administration Unit, University of Ghana as part of an ODA-funded research programme. The research was concerned to explore the characteristics of low income urban travel in the developing context and was organised into three sub-studies. These were undertaken in order to understand travel behaviour and activity patterns of low-income households, exploring attitudes behind the use of non-motorised transport and exploring the use of transport by women engaged in income generation.

The economic organisation of Ghana has specific gender-related features which affect the demand for travel and the organisation of the transport supply. Women form the majority of the Ghanaian trading sector (Apt and Katila, 1994). Purchasing, transporting and selling goods is primarily a female responsibility. Women are thus disproportionately involved in the making of commercial journeys. Such commercial and travel responsibilities are coupled with substantial domestic responsibilities. This combination of economic and social roles, and the constraints associated with these roles, means that in a context where there is considerable variability in travel times, female traders generate a set of travel and transport strategies. This paper will identify these various travel and transport strategies and how they relate to the urban transport supply. The paper is divided into four sections including this introduction. Section 2 describes the relationship between gender, petty trading and associated travel requirements and the ways in which this creates the demand for transport. Section 3 describes various forms of transport supply in Accra. It also explores the relationship between the social and economic organisation of petty traders and their choice of travel mode. Section 4 discusses the policy implications of existing informal public transport arrangements and concludes the paper.

2. GENDER, PETTY TRADING AND TRAVEL PATTERNS.

This section focuses on the demand for 'informal' public transport (as defined by Fouracre and Maunder, 1979; Silcock, 1981 and Rimmer, 1986) as described by traders and petty traders in urban Accra. In a study (Grieco et al., 1994) explicitly focused upon the travel patterns of traders and petty traders, four types of interviews were conducted:

- * 50 interviews were conducted with traders in different local neighbourhoods who buy their wares wholesale from the central markets. These interviews focused on the overall pattern of commercial transport arrangements of the traders. The sample was drawn both by interviewing people both in the central Accra motorised transport terminals who were going back to the different local areas of Accra and in their local areas, even their homes. The aim here was to capture a range of areas with different socio-economic composition.
- * 10 interviews were conducted with traders who trade in different products in the Accra central market area itself
- * 102 supplementary interviews were conducted explicitly on the transport costs of traders.
- * 5 group interviews with market traders were also conducted as the group interview frequently brings to the forefront issues which remain buried in individual discussions.

In appreciating the importance of the informal public transport structure in the conduct of traders economic activity, it is important to appreciate that access to private transport in this context is highly restricted. Amongst all the traders interviewed, only three respondents had any access to a private motor vehicle, of which two had restricted use. Traders in the Accra appear to be dependent upon public transport in conducting their trading activities.

In order to understand the character and scale of the demand for informal public transport, it is necessary to understand the specific gender features of economic involvement in Ghana. Recent evidence indicates that around 60% of Ghanaian urban households depend solely upon the income of women in meeting their household survival needs (Ardayfio-Schandorf, 1994). One argument that has been put forward to explain these dramatic figures on female-headed households is the widespread existence of polygamy in the Ghanaian context (Ardayfio-Schandorf, 1994). Generally, polygamy is taken as evidence of the economic weakness and low status of women, however, in the Ghanaian context, it is easily seen that whilst the heavy economic responsibilities of women add to their labour and toil, their roles as earners and heads of household expand and extend their decision-making and decision-taking powers beyond those enjoyed generally by women.

As a consequence of these economic responsibilities, women are highly economically active in Ghana. Their opportunities for economic activity is, however, primarily concentrated in the informal sector and within this sector they are primarily to be found as traders (Little, 1973). Indeed, the majority of traders are women. Over 25,000 traders turn up daily at the various markets in Accra,

85% of whom are women (Cutrufelli, 1983). In addition, women are extensively involved in petty trading at the local level. Petty trading activity varies from very small doorstep trading activities to more conventional commercial arrangements based in kiosks or converted cargo containers.

Women's involvement in the economic activity of trading appears to result in regular urban travel. Petty trading in particular, with its restricted capital base and small turnover, appears to be generative of a larger number of journeys than occur where the availability of sufficient capital permits bulk buying. Petty trading not only takes place in a context where the capital base of the majority of traders is highly restricted but also in a context where the organised delivery and distribution of goods to small retail outlets is not commonplace. The majority of traders have to replenish their stock through regular small load journeys to central markets (Table 1). Although each trader is moving small loads at any point, the number of traders involved in the activity and the prominence of petty trading in the Ghanaian economy means that the volume of travel generated in this way appears to be significant. However, the small load characteristics of these journeys serve to disguise the extent to which they are commercial.

Viewed from an activity approach (Jones, 1989; Grieco, 1995), the making of these regular restocking journeys, in an environment where journey times can be unreliable, appears to require considerable co-ordination at the household level. Most particularly, co-ordination between school age girls and adult female traders of the same household. The use of family labour is important in providing traders with flexibility in making travel arrangements and organizing transport.

Female trader in vegetable oil at Abeka:

She leaves the stall in the hands of her daughter who is a school girl. When daughter goes to school she does not make any special arrangements - so in that case all that I do is I leave the house early enough so that by 8.00 a.m. I am at the station and then the cars leave immediately they get there.

Furthermore, such flexibility is of great importance in a context where the stocking or re-stocking of businesses involves the trader him or herself in making the journey to the wholesalers and other points of purchase, several times a week, or in the case of 5.6% of those interviewed, everyday (Table 1). The research shows a strong pattern of using girl child labour in operating petty trading outlets whilst their elders engage in the purchasing of the goods for sale, a finding which fits with other materials collected on the early occupational socialisation of girls (Grieco, Apt and Turner, 1994). In this previous work, it was found that large households also appear to travel less per household member as their greater numbers give them a better ability to organise the provisioning of the household using fewer trips. One facet of this appears to be that there was a system of 'domestic anchors' where a junior adult female of the household stayed around the home and maybe sold things from the front of the house. This allowed other household members, particularly women, to travel greater distances and more frequently for work and trading as a result of the greater flexibility allowed. Although there is evidence of male support the predominant pattern appears to be that of female support.

| Frequency of restocking journeys | No. of traders | Percentage |
|----------------------------------|----------------|------------|
| More than 3 times a week | 11 | 5.6% |
| 3 times a week | 23 | 11.7% |
| 2-3 times a week | 4 | 2.0% |
| 2 times a week | 50 | 25.5% |
| 1-2 times a week | 12 | 6.1% |
| once a week | 45 | 23% |
| once in two weeks | 25 | 12.8% |
| once a month | 11 | 5.6% |
| not known | 15 | 7.7% |
| TOTAL | 196 | 100% |

Table 1. Frequency of restocking journeys to/from Central markets.

Women traders not only make use of the famous tro-tros¹ (Fouracre et al., 1994) or urvans in undertaking these petty commercial journeys but also make extensive use of taxis and of non-motorised transport i.e. hand pulled trucks or trolleys. The results suggest that there is considerable differentiation in the urban transport market. The traders, themselves, identify a hierarchy of vehicle types and services, with the same traders frequently making use of more than one level of this hierarchy in the regular transportation of their goods (see Table 2). For taxis alone, three different operating practices were identified all of which appear to be used at some time by respondent traders. They are: *Chartersing*, where the passenger arranges with the taxi driver to wait while s/he undertakes activities at different locations and then delivers her/him to a particular destination.; *Dropping*, where the passenger is taken from point of pick-up to a particular destination, under this arrangement the driver has no right to pick-up other passenger in the course of the journey; *Joining*, where passengers pay set fares for a point-to-point journey and other fares will be picked up en route.

¹Trotro is used to describe the many mini-vans and mini-buses which form the backbone of the public transport system.

| Transport form | Quantity | Quality | Formal service | Informal services |
|------------------------------|---|--|--|---|
| Taxis | Plentiful as compared with three years ago Large number of secondhand taxi vehicles came on the market three years ago | Great variation in the condition of vehicles. Variations in road-worthiness of taxis produce variations in charging capabilities. Variations in charging capabilities result in considerable negotiation over price. | Taxis can be hired under several different regimes: 'Chartering', 'Dropping', and 'Joining'. Three years ago dropping and chartering services were difficult to obtain Charge for goods not set; at taxi drivers discretion | Help in loading. Dropping at a joining fare. Old taxis more prepared to carry bulky, unwieldy goods. |
| Urvans | Number of urvans in operation has increased through influx of second-hand vehicles from Europe. | Considerable variation in road-worthiness | Urvans operate under a number of different regimes: Charter or hire of an Urvan for sole use by customer Fixed person fares with fixed charges for carriage of goods on fixed routes. Fixed person fares with discretionary charges for goods on fixed routes | Dropping: where Urvan drops at personal destination after other passengers have got off at fare stage Preferring of traders for seats in busy periods especially end of day services Bookmen: brokering seats to traders on earliest departing tro-tros |
| Cargo trucks/ Benz trucks | Substantial imports of second hand vehicles | Considerable variations in roadworthiness Ability to carry larger loads than taxis and urvans | Chartered independently: purchaser accompanying goods Chartered at the warehouse to deliver goods without purchaser having to accompany vehicle | Collective chartering of vehicles |
| Mammy wagons | | Varying conditions of roadworthiness Ability to carry larger loads than taxis and urvans | Charter Fare-paying passenger and goods services | Collective charter Assistance in loading goods |
| Hand pushed trucks | Increased provision of service | Ability to carry greater loads than head porters | Not regulated | Carriage of goods within markets Carriage of goods between markets and lorry stations or to pick-up points Carriage of goods across the city as a cheap but slow alternative to motorised transport |
| Porters | Increased provision of service | Can provide a head loading service where other vehicles can not pass Provide service for petty traders who require smaller loads to be carried short distances | Not regulated | Head load carrying between markets and lorry stations Escort goods in taxis for traders as part of regular arrangement between kayayo and customer. |

Table 2: The Accra Urban Transport Market as described by Accra market traders.

It can be argued that it is the predominance of petty trading in the Ghanaian trading structure which gives rise to the existence of such a differentiated market. Within the petty trading structure, traders experience considerable variations in capital, trade and stock and this results in considerable variation in the transport requirements of individual traders. Traders who at one point in their trading cycle are carrying loads which are so small that no transport charge is made for them, at another point in their trading cycle are required to charter a vehicle because the load is so large. Transport supply in Accra provides regular facilities for traders to transport each and every sized load. The petty trading structure with its abundance of small load journeys and variability in load size provides important business for the varied supply of transport vehicles.

Differentiation is partly the consequence of the variations in traders' load carrying requirement. However, an equally important factor is the dependence of transport supply on the importation of second hand vehicles. There is often great variation in the reliability and roadworthiness of these imported vehicles. These variations generate the circumstances necessary for the existence of different charges and fares for the same journey length. New and old vehicle operators have different charging capabilities and consequently serve different market sectors.

The variations in charging capabilities together with the variations in load size result in substantial negotiation around fares between traders and transport operators. This is the case even where fares appear to be fixed as regularly occurs, there is substantial discretion on part of drivers/ conductors as to what charges should be made for goods. Such discretion is largely the outcome of the difficulties involved in determining and enforcing standardised charges combined with prevalent cultural practices of 'dashing' the service provider for any 'favours' given.

Cultural norms around the respect payments due to those who enable any activity or provide any form of patronage together with the recent history of shortage have combined to produce a situation where travellers and traders are paying out side payments in order to go about their business. For example, traders wishing to gain timely access to departing public transport vehicles pay unofficial fees to the locally termed 'bookmen' i.e. transport brokers, in order to obtain a seat and place for goods above on departing vehicles. Similarly, urban drivers and conductors are reported as preferring traders to other passengers and permitting them to jump the queues for urban places in the evening peak hour. The extent of the informal services provided and the frequency of the contacts reported between specific traders and specific transport providers raises the issue of whether transport supply in such a context should be understood as a market or a network form.

Female trader in oil, onions, paste, ginger, spice at Madina:

There are no special arrangements I take whichever car is available. When the cars are hard to come by I make arrangements with the bookmen; I dash them about 200 cedis for the arrangement. The bookmen arrange with the driver to reserve space for me and my goods.

Attention must necessarily fall upon the important role that portering plays. The nature of the economy not only generates a complex array of motorised transport services but also generates a demand for the portering function (Agarwal et al., 1994; Apt et al., 1994). The design and human traffic density of market and trading areas favour the easy passage of pedestrian load carrying as compared with motorised or even hand-pulled or pushed technologies. The extensive petty trading environment ensures the plentiful supply of smaller transport loads, loads which

are sufficiently large to be arduous in terms of human carriage but not impossible to carry. Thirdly, the trader surrendering her goods for carriage can easily accompany, escort and police the movement of her goods when on the head of the kayayoo²; head loading largely protects against the theft of goods. These three factors are likely to ensure the continued existence of an urban market in Ghana for human transport for the foreseeable future. Women are substantially involved in the supplying of portage where apart from the physical transport of goods to the various central transport termini ("lorry parks") they also perform the function of escorting goods in taxis to the traders place of business thus freeing traders' time.

As this section has shown, women in their role as traders are significant consumers of transport as well as playing a major role in shaping the demand for informal public transport services. Women traders have use for a variety of vehicles of different sizes and qualities depending on their load-carrying and time needs and are prepared to pay in money and time for the choice. As a result the public transport market in Accra appears far less homogenous than was at first thought or the literature implies (Fouracre et al., 1994). This lack of standardisation in the transport supply results in greater variability in public transport conditions than is conventionally assumed. As porters, women are also suppliers of transport. In addition, women are also involved in the ownership of both motorised and non-motorised transport. Informants indicate that women's financial role in owning urvans and taxis is significant. Research into the use of hand-pulled trucks and trolleys indicates significant levels of female ownership, with some owned by female market traders being hired out for use by male porters. However, women are greatly under represented in the operation of even the simplest transport technology. They are not active as commercial drivers nor do they operate hand-pulled trucks and trolleys.

3. MODE AVAILABILITY, MODE CHOICE AND SOCIAL ORGANISATION.

This section focuses on the supply of informal public transport and motorised modes, upon the choices made by traders between the different forms of supply and upon the ways in which such choices are influenced or determined by social and economic organisation.

According to respondents, there has been a marked improvement in the supply of urban transport in Accra over the past three to five years in line with the recovery of the Ghanaian economy. Respondents indicate that there are now many more vehicles in the system than was previously the case.

Female trader in cooked foods at Alajo:

These different forms of transportation are always around; there are so many cars in the system these days that any time you go you can get a car. Right now the transport has improved greatly than previously when one had to queue for an hour before getting a vehicle.

In addition new types of service are also offered. Previously, according to respondents, traders could only obtain transport along a restricted number of routes, now traders are able to take services between termini which are proximate both to their buying and selling locations. The

² Women and girl head load porters.

number of routes now offered by urvans has also considerably expanded. Furthermore, it is now possible for traders to arrange with transport operators to be picked up from their point of purchase and deposited at their point of sale. Taxis and urvans have been very important in providing these new services.

Male trader in rice and eggs at Bubuashie:

The transportation system in the city has improved unlike some three years back; immediately after shopping you are assured of getting a taxi or an urvan to cart your goods straight to your doorsteps

Whilst market traders perceptions are of an increase in the types and numbers of vehicles available for the transport of goods in the Accra region (Fouracre et al., 1994), their view is that this increase in numbers has not been associated with a decrease in fares, although other evidence suggests that it has been associated with an increase in trade (World Bank, 1994). There does, however, seem to have been a decrease in waiting times. In traders statements, this is associated with an increase in the range and not just the number of vehicles available.

Female trader in yam and plantain at Medina:

At this present moment unlike some years back you have all sorts of transport services ranging from taxi to trotros available for one to transport her goods from the market; this makes us cart our products easily and faster unlike previously when you have to wait for a longer time waiting for trotro.

Traders talk of the increased penetration of local areas by transport operators over the past three years and draw attention to the increased convenience they experience in transporting their goods as a consequence of this improved penetration. Similarly, whereas previously traders had to escort their goods back from the wholesalers themselves, new services have been developed whereby goods can be delivered to their destination without the trader having to accompany them.

There is general agreement, amongst respondents, that there has been an improvement in both the quantity and quality of the services as compared with the recent past. This improvement has been a consequence of an increase in the number of vehicles in the system due to the mass importation of second-hand vehicles.

As indicated above, there is considerable variability in the size of loads which traders have to transport and this results in considerable variability in the modes used by the individual trader. Variability in load size also has consequences for the cost of the journey, with many traders routinely operating both 'high cost' and 'low cost' arrangements for transporting goods (Grieco et al., 1994). The variability in load size results not only in the selection of different modes but also of different transport options within the same mode. Traders may use the same mode for both inward and outward journeys, using a 'dropping' option for the second half of the journey but a routine fixed route option for the first half of the return trip. There is a strong preference for the 'dropping' option when goods are being transported in any volume. This preference for the dropping option frequently results in taxis being the chosen mode of goods transport, as well as for passenger transport (Abane, 1993). Whereas 'dropping' by Urvan or other vehicle forms typically involves a prior arrangement or some waiting, dropping by taxi is a service which is almost immediately available.

The bulkiness, unwieldiness and character of goods transported is also a factor in mode choice.

Where goods are both bulky and unwieldy, they are likely to be transported on the top of an urvan or in a chartered urvan or in a well-worn taxi. Where goods are relatively compact and relatively fragile and have been purchased in wholesale quantities, they are likely to be transported in a taxi. There is evidence that traders are willing to pay higher charges when there is rain (with the possibility that goods may be spoiled if the normal arrangements are used), or when they are in a hurry. It also seems, on the evidence, that very small loads are not charged for on the urvans. Therefore, it seems likely that traders purchase smaller than optimal volumes in terms of their sales potential in order to hold their transport costs down, at least in the early days of trading.

The variability in the roadworthiness of vehicles results in substantial variations in the reliability of vehicles. Old vehicles are perceived to have a reliability problem and are, therefore, obliged to charge less for journeys compared with new vehicles and old vehicles are prepared to carry larger and more damaging loads than their newer counterparts. Reliability is an important factor in a context where traders are obliged to wait until a vehicle is full before it leaves the termini, a process which often takes over one hour and frequently two hours in the case of older vehicles. A breakdown on the route home can be very costly indeed when such lengthy periods of time are involved in gaining access to another. Traders with tight time requirements pay higher charges for reliable vehicles or wait until a sufficiently roadworthy vehicle presents itself at the lower charge.

Female trader in cloth, shoes, jewellery, hair goods at Medina:

She waits until a new vehicle comes, she will not take an old vehicle. ...Sometimes the cars will kneel down (break down) during the trips or a taxi driver may run out of petrol.

In order to understand the willingness of traders to pay higher fares when in a hurry, it is important to appreciate that there is a considerable difference between waiting times for different types of vehicles and the time taken for the journey once it has begun. Where traders are using more than one mode, there is often a substantial difference in waiting times for these respective modes. Taxis are not only more frequent than urvans but they also commence their journey immediately the passenger enters them or, shortly afterwards, even if the driver insists on obtaining a full load before setting off. In the case of Urvans departing from the termini, however, the vehicle does not depart until it is full. In the case of other older, larger vehicles, this can take up to two hours.

Female trader in provisions at Medina:

On new urvans, etc., the trader can get a space immediately upon arrival at the lorry station, however, it takes one hour for the vehicle to fill and commence upon its journey.

On old vehicles, the trader can get a space immediately upon arrival at the lorry station, however, it takes two hours for the vehicle to fill and commence upon its journey.

In the morning and in the afternoon the urvans will be there but won't fill quickly. It takes 2 hours for old vehicles to fill in during the mornings and afternoon, but they fill quickly in the evening. In the evening the cars fill quicker.

Knowing which urvan will be the first to depart and gaining a seat in it can, therefore, save valuable time. Respondents routinely negotiate with a 'bookman', who for a fee can provide this. This appears to represent a 'trade-off' of unofficial fees for time-saving

Some traders report that they have no flexibility as to which vehicle they join, for the regulations of the lorry station require vehicles to leave the lorry station in the sequence they entered it (Fouracre *et al.*, 1994). Thus the first vehicle to arrive must be filled and depart before the next vehicle in the queue can depart. Under these circumstances, some traders simply join the first vehicle due to depart, some traders change to a different mode of transport and some wait until a vehicle which meets their requirements reaches the top of the queue for departure. Under this system, the reluctance to join old vehicles with their problems of reliability slows up the stream of new vehicles departing the lorry station, depending on the position of the different categories of vehicles in the queue. Likewise the size of vehicle is not taken into account when determining the order in which vehicles should leave the lorry station, thus those with large loads may have to wait through the departure of a number of vehicles before a vehicle sufficiently large enough to accommodate their load reaches the top of the queue.

Female trader in oil, onions, paste, ginger spice at Medina:

She prefers big cars because it can carry the goods well; her goods get spoiled easily in small cars.

There is a noticeable variability in waiting times according to time of day. Afternoons are marked by the length of time vehicles stand waiting to depart for lack of customers, early evenings are marked by the time passengers stand waiting for even the superior forms of transport to become available. Spare capacity in the afternoon contrasts with a shortage of capacity in the evening. However, for the individual trader these two situations have a similar appearance as in the event of spare capacity in a vehicle, the vehicle does not leave the termini until the vehicle is full. In the words of one respondent, "vehicles operate according to the flow of market women".

A supplementary study of 50 traders (Amponsah *et al.*, 1994) using non-motorised transport i.e. hand pulled trucks and trolleys, was conducted in order to gain insight into the factors determining the choice between non-motorised and motorised modes. It was found that the majority of users of non motorised transport are also users of motorised transport. The choice of mode depends upon weather conditions, traffic conditions, accessibility conditions, load size and cost. During rainy weather, traders shift mode from non motorised to motorised transport in order to avoid spoilage of goods, particularly food stuffs.

Interestingly, it was found that in congested conditions, non-motorised transport is faster over shorter journeys. Two specific accessibility conditions are relevant to the choice of non-motorised transport here. Firstly, congestion reduces the available parking space for loading at wholesale points. Secondly, many stores are located in such a way that motorised access to the doorstep is not available. In these conditions, non motorised transport has an advantage. Non motorised transport is also significantly lower in cost compared to motorised transport. It was also discovered that 60% of the traders interviewed had experienced an accident when using non motorised transport. The majority of these accidents occurred in the interaction with motorised traffic, however, a number of accidents involved other non-motorised road users. The use of non-motorised transport, in a transport culture which views non-motorised modes negatively, also carries the risk of the traders goods (along with the 'truck') being confiscated by the Metropolitan authorities (Grieco, Turner and Kwakye, 1994).

The research suggests, therefore, that despite the ready availability of motorised transport within urban Accra, there is a significant and continuing demand for non-motorised transport services.

Given the presence of such continuing demand, explicit attention must be paid to the needs of non motorised transport in the planning of the transport infrastructure for urban Accra.

Traders routinely make use of female head porters, *kayayoos*, in their journeying between the central markets and the various transport termini (Agarwal et al., 1994; Apt et al., 1994). The social organisation of the *kayayoos*, who are often very young, migrant females from Northern Ghana, who work as porters for only short periods and who are accommodated within families of relatives in Accra, enables them to offer their services at very low costs. The widespread availability of portering labour enables traders to connect with the other informal public transport modes operating in the Accra urban system.

This section has attempted to show the variety of transport services available for intra-urban within Accra. It has also attempted to needs of female market traders and to what extent transport supply accommodates those needs. It would appear that for household economic survival in Accra, women engaged in petty trading is important. The travel needs that this economic activity generates appear accommodated, to some degree, within a differentiated transport supply and the way that supply operates.

4. CONCLUSIONS AND POLICY IMPLICATIONS.

Women in Accra are predominately engaged in petty trading. This economic activity generally lacks reserves of working capital, thus making travel to restock a regular occurrence. It also means that there are significant fluctuations in how much extra stock is needed or can be afforded depending on demand, seasons and stage of traders 'career'. This research has shown that traders thus have the need for a range of transport services with different load-carrying capabilities and charging structures. It has also revealed that this predominately female economic activity forms an important user group within the Accra intra-urban transport market. It appears women engaged in this activity have some influence over adapting supply to meet their needs.

The research revealed that traders perceive a major improvement in the Accra intra-urban transport supply over the last half decade. Despite these major improvements, traders frequently experience lengthy waiting times for access to the lower cost forms of public transport. On the evidence, a key element of the delay to journey experienced by traders is accounted for by the considerable variations in the size and condition of vehicles which form the one queue for departure at the lorry stations. One solution to the substantial delays presently experienced by traders at the termini (lorry parks) would be to classify vehicles according to their capacity and form separate queues for departure accordingly.

Long and unreliable waiting times have substantial impact on household organisation, most particularly on the scheduling and activities of school-age girls. The labour of school-age girls is used to compensate for the time lost by the trader when using the transport system, with clear and obvious negative effects on the education of girls. Promoting the introduction of larger vehicles into the transport supply of Accra (Fouracre *et al.*, 1994), whilst increasing the quality of service and number of *en-route* seats may produce longer waiting times and, therefore, careful consideration should be given to who this might impact upon.

The research found that despite the existence of regulated fares for tro-tro journeys, there was considerable evidence of negotiation and bargaining within the Accra transport market. Even where a tro-tro is used by a trader, the set fare often only represents one component of the cost. Traders talked of variability in the fares charged for the carriage of their loads by tro-tro even when load size remained the same, similarly, traders indicated that side-payments were frequently made to 'bookmen' i.e. brokers, to obtain a seat on the earliest departing vehicle. That paying such a fee in order to get access to public transport where the fares are officially 'fixed' or 'set' is both routine and necessary raises the question of what the real transport costs are and how they are determined. Informal charging practices appear to interact and dovetail with formal charging ones. As a result, traders transport costs and public transport operators profitability may be higher than suggested by the artificially low level of regulated fare. Policies of increasing fares, therefore, in an attempt to improve the quality or quantity of investment in vehicles may merely increase the cost to users and the return to small private investors, without changing the nature of supply.

Understanding the influence that women petty traders currently have on transport supply and understanding the impact that the existing form of supply has on petty traders' time and transport costs are critical activities in shaping appropriate transport and travel arrangements for urban Ghana. To shape policy by merely mirroring the arrangements of the developed world has been an all too frequent mistake in transport history of the developing world. In this paper, we have attempted to indicate that the transport culture and transport supply are complex phenomena which are likely to vary as between different geographical locations. Any attempt to implement technology or policy which fails to pay appropriate attention to such institutional barriers or resources is likely to meet with problems, particularly for women meeting their economic and transport needs. Success lies in understanding the details and harnessing them in transport policies appropriate for the area or region seeking development.

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