JOURNAL OF HUMAN DEVELOPMENT

Title: Social capital and mobility: the influence of transport on social capital networks in Kenya

Key words: social capital, vulnerability, transport

Author: Annabel Davis
TRL Limited
Old Wokingham Road
Crowthorne
RG45 6AU
UK
E-mail: adavis@trl.co.uk
Tel: +44 (0) 1344 770398
Fax: +44 (0) 1344 770354/6

Biographical Details:

Annabel Davis has worked at TRL (Transport Research Laboratory) in a social development capacity for over five years. She has worked extensively on transport and poverty research projects in developing countries and provides advisory support on the Sustainable Livelihoods Approach, as well as gender and participatory rural appraisal methodologies. She is currently undertaking a part time PhD looking at the contribution of the sustainable livelihoods approach to the effectiveness of transport planning in developing countries, at the Centre for International Development and Training, University of Wolverhampton. Her thesis will emphasise the use of transport in social trip making and the importance of accessibility and mobility for maintenance of social networks.

Annabel is a member of the Institute of Civil Engineer's Appropriate Development Panel and is an Associate Member of the Association for Project Management.

Abstract

The World Bank defines social capital as the institutions, relationships and norms that shape the quality and quantity of a society's social interactions. Social capital is a multifaceted concept that implies emotional attachments to relatives and friends as well as the structural products of interactions between people.

Frankenberger and Garrett (1998) agree that social capital is one of the most important resources to be accounted for in poverty reduction programmes. Access to social capital networks requires mobility, and transport is the agency by which social capital networks are supported. Mobility is essential to the sustainability of social networks yet, to date, existing literature disregards the means by which people *physically* access social capital, whether through associations and community groups or simply maintaining rural-urban linkages with extended family members.

Existing studies of transport and its impact on the rural poor focus largely on its role in the process of economic growth, by increasing the productive capacity and market accessibility of small-scale farmers. Few researchers have investigated the role that transport plays in providing access to and maintenance of valuable social networks.

This paper draws on empirical evidence from Kenya to review the relationship between transport mobility and social capital and its relevance for rural development. It examines the significance of transport in accounting for the extent of social interaction and the way that transport interventions enable the poor to access, and be included in, social capital networks.

SOCIAL CAPITAL AND MOBILITY: THE INFLUENCE OF TRANSPORT ON SOCIAL CAPITAL NETWORKS IN KENYA

Annabel Davis

1 INTRODUCTION

The Rural Transport Services Project for Kenya (RTS) was initiated by the Kenya Network for Draught Animal Technology (KENDAT) in 2001. The objective of the study is to 'systematically assemble data, information and experience that can provide key policy options for improved delivery of rural transport services which improve livelihood systems of poor men and women at the national and local levels'.

The Sustainable Livelihoods Approach is an important underpin to the project. Livelihood analysis is being employed at the field level (micro-level) to capture the inter-relationship between transport and the development of livelihood assets, and at the macro level, to identify how the existing policy environment and institutional system influences mobility and access issues.

Access to social networks and political processes are important in creating opportunities for learning, exchange of information on new opportunities as well as influencing development priorities. A transport system should help in addressing the dimensions of poverty that is related to social exclusion (KENDAT, 2001). Mobility is essential to the sustainability of social networks, both in enabling access to cognitive and structural social capital, and in creating opportunities for networking in the very act of making a journey. The means by which people *physically* access social capital, whether in the guise of associations and community groups or simply maintaining rural-urban linkages with extended family members, are generally disregarded.

The RTS project has provided an opportunity to investigate the role that transport plays in providing access to and maintenance of valuable social networks. The empirical research undertaken in Kenya demonstrates how accessibility constraints can be a precursor to vulnerability, and the way in which social capital can help people deflect shocks and stresses associated with vulnerability.

The interaction between transport mobility and maintenance of social capital networks was investigated in three rural areas of Kenya, namely Lari Division in Limuru District (Southern Central Kenya), Mwea Division in Kirinyaga District (Central Kenya) and Kalama Division in Machakos District (Eastern Kenya).

2 BACKGROUND

Kenya, considered to be well placed as an engine of growth in East Africa shares its borders with Ethiopia, Somalia, Sudan, Tanzania and Uganda, and has a surface area of 582,650km^2 (The World Factbook, 2003). Kenya has a population of 31.6 million[1], of which 52% are defined as absolute poor (unable to meet their basic needs, such as food and shelter), with 75% of the poor living in rural areas (GoK, 1997).

Kenya's economy has been stagnating because of poor management and uneven commitment to reform. In 1993, the government of Kenya implemented a programme of economic liberalisation and reform that included the removal of import licensing, price controls and foreign exchange controls. With the support of the World Bank and IMF, the reforms led to a brief turnaround in economic performance following a period of negative growth in the early 1990s. Kenya's real GDP grew 5% in 1995 and 4% in 1996, and inflation remained under control, but stagnated after 1997, with GDP

contracting to 0.3% in 2000 (The World Factbook, 2003). Growth fell below 1% again in 2002 because of erratic rains, low investor confidence, meagre donor support, and political infighting up to the Presidential elections. Mwai Kibaki, leader of the National Rainbow Coalition succeeded Moi as President in December 2002 to tackle the formidable economic problems and corruption facing the nation.

The Kenyan Government adopted the Interim Poverty Reduction Strategy Paper (I-PRSP) in 2000, which outlined measures aimed at revamping economic growth and poverty reduction by focusing on:

- Facilitating sustained and rapid economic growth
- Improving governance and security
- Increasing the ability of the poor to raise their income levels
- Improving the quality of life of the poor
- Improving equity and participation

The PRSP, which superseded the interim strategy paper in 2001, is an instrument for the implementation of key national development policies, such as the National Poverty Eradication Plan (NPEP), and the National Development Plan. The NPEP proposes a fifteen year time horizon to fight poverty through the adoption of the International Development Goals, whilst the development plan stipulates policies of a broader nature to be implemented over the medium term (Republic of Kenya, 2001).

The sector priorities of the PRSP ranked physical infrastructure third, after human resource development and the agriculture and rural development sector, which was

[1] The CIA World Factbook (2003) for Kenya records a total population of 31,639,091

ranked the highest national priority. The PRSP recognises that the provision of quality infrastructure is essential if the poverty reduction and economic growth targets are to be met. The focus of the PRSP is the maintenance, rehabilitation and reconstruction of existing facilities. For roads, it is estimated that 43% of classified roads are in poor condition and require rehabilitation. Rural access roads, which fall under the local authorities are unclassified and have also continued to deteriorate due to lack of funding (Republic of Kenya, 2001).

The Government intends to improve the roads sub-sector through the Kenya Roads Board (KRB) and District Roads Committees (DRC) who will oversee the maintenance, upgrading and construction of rural access roads, footpaths and bridges, for which local communities will be actively involved in the design and implementation.

The Rural Transport Services Project is less occupied with the transport infrastructure in rural Kenya than with the means of transport that the roads facilitate, and in particular the role of local transport systems such as intermediate means of transport (IMT) that are prolific in many parts of Kenya.

The interaction between transport mobility and maintenance of social capital networks was investigated in four rural areas of Kenya, namely Lari Division in Limuru District (Central Province), Mwea Division in Kirinyaga District (Central Province), Kalama Division in Machakos District (Eastern Province), and Magadi Division in Kajiado District (Rift Valley Province).

With respect to socio-economic and livelihood features, Lari Division covers a total land area of 564.7km^2, with a population of 123,391. It is characterised by high levels of agricultural output and close proximity to mass markets, in particular Nairobi. As a result, there is a high density of transport demand here, contributing to a rich diversity of means of transport, especially donkey based IMT's. There is good interface between walking, IMT's and motor vehicles, including trucks that ferry vegetables 500km to Mombasa on the East Coast. A situational analysis of Lari Division, using Geographic Information Systems (GIS) revealed that the roads here, which are generally impassable during the rainy season, have a very rugged and unreliable terrain because they are traversed by faulting and folding land masses (Kennenni, 2002). Maintenance is mainly by the local authorities who are under-resourced, leading to their neglect and demise.

Mwea Division has a mixture of low and high levels of agricultural output owing to an unfavourable infrastructure and irrigated farming respectively. Here there is varying proximity to markets, highly variable population density (average of 265 persons/km^2), a rich diversity of IMT's, including an influx of *boda boda* (bicycle taxi) services and medium levels of motorization. This area is considered to be the source of major agricultural development learning, with the recent introduction of transport-time sensitive horticultural crops, along with liberalisation of rice farming and marketing.

Kalama Division in the Eastern Province has the lowest population density of the three study areas (130 persons/km^2). Marginal crop production and agro-pastoralism contributes to a low agricultural output in the division, enforced by distant markets

and an extremely poor transport infrastructure. Motorization is low, and there exists a poor diversity of IMT's for personal and subsistence use, with animal traction being used mainly for tillage rather than transport. Consequently, walking is common over long distances, and transport service operations are few.

Magadi Division in the Rift Valley has a population of 28,244 (of which 86% are rural) in a total area of 2,749km^2. It is characterised by a pastoral community whose development has been grossly influenced by a modern and expansive factory (Magadi Soda) at one end and a rich horticultural farming settlement at the other end. The area is otherwise a remote one for the communities, with some tourist centres, marginal agro-pastoralism activities, low population density and relatively long distances to goods and services.

Agriculture, the sector that Kenya depends on most in terms of food and employment (70% of the population are involved in the sector), and that contributes between 25-30% of overall GDP plays a critical role in poverty reduction. The agricultural sector relies largely on a sufficient transport sector with which to facilitate the evacuation of produce to market and cash crops for export. Indeed, the second report on 'Poverty in Kenya' (GoK, 2000) reports that the declining trend in macroeconomic indicators, was as a result of adverse weather conditions, rising input costs, high domestic interest rates, power shortages, and dilapidated physical infrastructure which combined to worsen the poverty situation in Kenya.

However, while Kenya has developed a plan that addresses the most serious aspects of poverty, these do not specifically include the rehabilitation of physical (transport)

infrastructure. Rather, the challenge for government is to implement poverty action programmes, with an emphasis on the following (GoK, 2000):

- Primary redistribution: enabling poor households to produce and earn more, in order for them to sustain themselves rather than being dependent on relief
- Secondary redistribution: providing basic health services, safe water, nutrition, education, and extension services to poor households to raise their present and future productive capabilities
- Tertiary redistribution: building and reinforcing safety nets of cash or kind (ie. Food) to alleviate consumption shortfall due to unpredictable shocks such as droughts, flood, war, crop failure etc.
- Enacting an organised social protection fund to protect Kenyans from cases of starvation

The extent to which Kenya's transport network, both the road infrastructure and the transport operations that service them, feature in this programme of implementation, is not abundantly clear. Nevertheless, KENDAT's RTS project aims to help carve a better understanding of the relationship between low cost, intermediate means of transport and sustainable livelihoods systems, the outcomes of which will lead to a reduction in absolute poverty.

3 SOCIAL CAPITAL: KENYAN DEFINITIONS

In referring to social capital in this paper, I acknowledge its definition as the social resources upon which people draw in pursuit of livelihoods, divided into two 'types'. 'Cognitive' social capital includes relationships of trust and confidence, along with perceptions of family and rural home. 'Structural' social capital includes networks,

membership of groups, access to wider institutions of society, rural-urban linkages and extended family contacts.

Of the literature available on the subject, Gugerty and Kremer (1999) provide one of the few papers reviewing social capital formation in Kenya. The paper addresses whether and how development funding affects social capital by examining the impact of development projects on social capital formation among rural women's groups and primary schools in Western Kenya. In brief, the paper finds that outside funding has relatively weak effects on the type of indicators usually thought of as social capital. It reports that, in women's groups, funding strengthens the group's ties to the community, but has ambiguous effects on the internal solidarity of the groups. Groups that receive funding also report a much larger number of visits from outside groups and have more contact with community members. In primary schools, funding appears to strengthen internal solidarity and motivation but has a negligible impact on external linkages to government, NGO's or the education administration.

Clearly, the focus of Gugerty and Kremer's empirical example is of the 'horizontal' and 'vertical' networks formed, in one instance by the women's groups and in the other by primary schools, and of the social capital within each, reinforced by development projects and external funding.

In his insight into the PRSP process, Sisule (2001) explicitly alludes to the need to develop social capital amongst communities, in order to influence resource allocation in Kenya. In establishing an institutional framework and building the capacity of institutions and organisations to participate in the implementation and monitoring of

poverty reduction strategies, Sisule asserts that deliberate efforts should be made to organise and empower people to have a say in decisions on resources allocation and use. This should be achieved at the micro level (community), meso level (district) and macro level (national).

Sisule continues by reporting that government policies have in some cases failed due to the lack of an effective institutional framework that allows wider participation of stakeholders. The strategies designed in such processes are consequently rejected by key stakeholders and disowned by development agents. A case in point is the District Focus for Rural Development (DFRD) strategy, in which the District Development Committees (DDC) failed because, although active, do not have wide representation and government officials wield disproportionate power at the cost of inclusive decision making.

4 CHARACTERISTICS OF SOCIAL NETWORKS

In exploring access to social capital networks in this study, both ‘cognitive’ and ‘structural’ types of social capital were identified, with a particular emphasis on the latter. Structural types of social capital in Kenya take the form of revolving funds, commonly known as a ‘merry-go-round’, harambee’s (a social group that raises funds for particular events such as school fares, weddings and to support families during illness), and jua-kali. A jua-kali describes an informal association or business that promotes appropriate technology, ranging from training in cake baking and weaving, to repair garages for intermediate means of transport.

Social capital networks feature prominently in the survey sites, and are characteristic of rural areas in which the majority of people partake in agricultural (pastoral and arable) production to some degree. The cognitive networks identified during the field surveys are those that do not stem from any financial incentive or mechanism that will result in capital gains. On the contrary, they are the product of social relations that people invest in with time and money, often with no returns, and are sometimes referred to as coping mechanisms. The maintenance of links between friends, relatives and neighbours is undertaken as a form of risk management. Whilst there may be no immediate, or even long-term gains, the formation of cognitive networks ensures the availability of a sustainable 'safety net' that can be deployed during periods of adversity (illustrated in Box 1).

Box 1: Jephitha Gichoya

Jephitha Gichoya, a teacher living in Ngurubani, Mwea owns a bicycle, wheelbarrow and ox-cart, but currently has no oxen due to lack of funds. Jephitha can borrow oxen from friends to use when transporting manure and water, and has an arrangement with a neighbouring farmer who owns oxen but no cart. Whilst Jephitha no longer belongs to any farmers groups, this reciprocal arrangement has strengthened his relations with neighbouring farmers who inform each other of the current market price for vegetables, and lend each other produce when capital is need quickly. Jephitha recently lent a farmer 10kg of French beans with which he could sell to pay for his children's school fees. Whilst the farmers group has disbanded, the farmers remain on good terms, which further strengthens the support network.

The type of social capital described in Box 1 is defined as 'reactive' by Frankenberger and Garrett (1999) who explain that members in a community solidarity group will try to help each other prevent the occurrence of a food or income shortfall by sharing key

factors of production. In this instance the shared factors are means of transport (oxen and cart) and agricultural production (French beans).

Structural networks, in which members invest time and money for capital gains by contributing to a revolving fund can range in size and influence, from farmers groups aiming to increase their productivity through acquisition of a plough, to entrepreneurial self help groups that generate an income through contributing a community service. In his explanation of social capital in the creation of human capital, Coleman (1997) discusses the value of trustworthiness that is implicit in these rotating credit associations, and without which the institutions could not exist. “For a person who receives a payout early in the sequence of meetings could abscond and leave the others with a loss.” He indicates that revolving funds are more likely to operate successfully in rural areas that typically constitute a more homogeneous society, than amongst their urban counterparts, who are characterised by a high degree of social disorganisation.

In a paper discussing grass-roots group developmental activities and associated concepts of social capital in Ghana, Porter and Lyon (2003) emphasise the strengths in group formation for transport acquisition, particularly for women’s groups where loan repayments are typically guaranteed. Their evidence supports the benefits of structural networks: *'women's groups can guarantee credit… already existing women's groups can easily be contacted for the use of IMTs… women's groups can guarantee for credit facilities'* (NGO regional project officer), *'women's groups can influence others to use IMTs'* (government officer).

Structural networks are also considered to be 'reactive', according to Frankenberger and Garrett, in that merry-go-rounds, formed to generate revolving funds for their members, are also used to produce expenditure for unpredictable medical and funeral costs of its members. The case given in Box 2 demonstrates the way in which networks compensate members experiencing income shortfalls.

Box 2: Duncan Njenga

Duncan Njenga is a farmer and hotel manager in Sokomjinga, Lari Division. Duncan belongs to a self-help group called HATO, formed to take responsibility for donkeys, and to register them as transporters with the government. Each member contributes 100 kshs[2] as an administration fee to the group. Duncan is currently receiving artisanal training from KENDAT so that he can impart information to other HATO members. KENDAT have taught HATO members how to harness and treat the donkeys. There are 21 members in the group. They meet every 2 weeks at different locations to discuss how to improve donkey welfare. Duncan cycles to the meetings.

Duncan also belongs to a merry-go-round group. Each person contributes 300 kshs every fortnight. There are 20 members in the group. Money is balloted twice monthly and shared among group members in turn. There is a lot of self trust involved. They know each other personally and have mixed occupations. Strangers who join the group go to the end of the ballot queue to show their commitment. People who fail to pay twice in a row will leave the group and their contribution refunded. The group began as 10 members. Every 10 months each member is rewarded with 6,000 kshs. If at any point one of the members is in financial difficulty or facing an emergency, such as family illness, funeral or retrenchment, additional money is 'banked' by the treasurer of the group to be paid to the member in dire straits.

Duncan's wife belongs to 6 social groups – Duncan pays 2,000 kshs per fortnight for her merry-go-round groups. Whilst the merry-go-rounds are not always disaggregated by gender, they are often grouped by women or men only, as women generally contribute less money than men, but are more punctual with repayments: "a man can be arrogant and misuse group funds – women fear where money will come from without the group".

Of course, social capital does not just insinuate networks and groups, indeed there is a direct relationship between social capital bonds and rural-urban linkages and migration trends. While this aspect of social capital maintenance was not directly explored in this case study, it is interesting to note the extent to which people are prepared to spend on travel to sustain such linkages, as demonstrated in the example of a driver in Box 3.

Box 3: Driver case study

10 October is President Mehru Day. Many people travel to their rural homes to visit relatives on holiday. A driver at the University travelled home to Ngurubani in Mwea District, which is 100km from Nairobi. The journey costs 100 kshs each way by matatu. The driver travels every weekend back home because he would rather be there than in Nairobi. This is indicative of the strong social linkages that exist between rural based families and urban migrants who seek work in the capital.

In most instances, the social groups organise events such as weddings, and increasingly, funerals, but few are organised to promote accessibility, either through provision of means of transport, or through voluntary labour to improve community access routes. There are however, some exceptions, notably in Mwea and Kalama.

[2] The nominal exchange rate, current at the time of research, is 73.6 Kenya Shillings to 1 US Dollar.

The Nguka Taxis are one such group that operates boda boda bicycle taxis in Ngurubani, Mwea Division (see Box 4).

Box 4: Nguka Taxis Self Help Group

There are 24 members in the Nguka boda boda taxi self help group. There is a charge of 2,500kshs to join the association as a licensed boda boda operator, and the group contributes 500kshs to the council a year. Members contribute money each week to a kitty, and then hold a ballot where one member receives the kitty, with which to purchase a bicycle (at a cost of 2,800kshs). The self help group will continue until every member has paid for a bicycle out of the group's kitty. The self help group acts as a boda boda station where they have constructed a shelter and they operate a queuing system whereby each boda boda operator receives a fare and then goes to the end of the queue to ensure there is anequitable distribution of fares.

The boda boda generally only service areas where cars cannot access and hence have captured a niche in the market. There are 28 bicycles in the self help group, with some members owning two bicycles. Most members own their own bicycle, but some rent them from the owner to which they must pay 60kshs per day, whether they have generated 60kshs in fares or not. Often whole days can be spent without receiving a fare, particularly when the bicycle is under repair.

Due to the rough terrain they travel on, the boda boda incur high maintenance costs, with typical repairs costing more than a day's income:

- Bicycle tyre: 250kshs
- Bicycle tube: 100kshs
- Bicycle chain: 100kshs

Average earnings of Nguka taxi operators are 500-1000kshs per week, and there are seven other boda boda groups in Ngurubani that service different routes.

The Machakos District of Kalama is characterised by steep terrain and terraced farms (instigated by the Ministry of Agriculture in 1972 to prevent soil erosion). Here, under the administration of the local Chief, the community once adopted maintenance of the large network of feeder roads. Since 1992, with the introduction of a multi-party state, this practice was aborted, since the Chief no longer had the authority to mobilise the community. According to a focus group respondent, the roads are only mended every ten years, and the effects of erosion and gullying, exacerbated by tree cutting for firewood, leading to surface run-off, and the use of ox-sledges that cause rutting in the road, have caused tremendous degradation of access routes. There are now only small village groups that make repairs to stretches of road that lead to their own property, under their own volition (See Box 5).

Box 5: Ruth Masyula

Ruth works as a nurse at Kyangala dispensary. She lives with her husband and two children on a very steep hill 3km distance from Kyangala. She owns a wheelbarrow as bicycles are inappropriate for the terrain. The nearest person who owns a vehicle lives 3km from Ruth, and hence when Ruth's mother was ill, she had to travel to Kyangala in a wheelbarrow.

Ruth belongs to a women's church group that meet once a month, 3km up the hill on which she lives, along with a primary health group and three other women's merry-go-round groups. She spends 2000 kshs[3] a month visiting friends and relatives in Nairobi and elsewhere.

[3] The nominal exchange rate, current at the time of research, is 123.8 Kenya Shillings to 1 US Dollar.

In Kalama there is a District Officer who used to mobilise labour on the road by providing food-for-work. Since the DO left, this system no longer exists, but people in the community want it to be revived “people need to be mobilised to repair the road if there is food or not”. The earth road on which Ruth lives was constructed in the 1970s by a community committee, who provided labour or money to mobilise road repairs. Unfortunately, the programme was unsustainable, and currently repairs are only made to the road if there is a death in the community and the body has to pass along the road. Similarly, if Ruth has a specific function that requires access, such as a wedding, she will mobilise friends to make repairs to the road, rather than the whole community who do not have a vested interest in the road.

5 SOCIAL TRIP-MAKING

The first hand accounts of structural networks described in Boxes 1-5 show that strong structural and cognitive social capital exists in rural communities of Kenya, and that homogeneity serves to support such networks. Individuals with a common interest such as farmers that produce French beans, self-help groups that collectively seek credit, small business operators such as boda boda taxi riders and whole village communities who share a common interest in the condition of the local feeder road, draw on and support the maintenance of social capital networks in a subconscious effort to stave off vulnerability.

The analysis of data from the household questionnaire and travel diaries that follows, identifies the link between the proactive maintenance of social capital networks, and trip-making patterns that demonstrate to what extent people are prepared to travel and how much they are willing to spend on transport, in order to undertake social activities.

Of the sample surveyed in Mwea, Lari and Magadi Divisions, the number of journeys made for social trip purposes per year varied substantially. The three social activities that stand out as being the most regularly pursued are leisure activities (average of 141 trips per year), attending a place of worship (average of 114 trips per year), and visiting friends (average of 106 trips per year). Figure 1 illustrates the variation in social trip-making between divisions, which cannot easily be interpreted by the disposition of social groups in any given area. Indeed, leisure activities feature highly amongst those sampled from Lari (270 trips per year, equivalent to five times a week), while in Magadi journeys to a place of worship (of any religious denomination) account for an average of 214 trips per year, equivalent to four times a week.

Of course, the graph does not account for trip distance, and hence the frequency of trip-making may well be biased by the distance travelled, for example the number of journeys made to visit friends, are likely to be higher where friends live in close proximity to the origin of the trip. In addition, these figures do not encompass value judgements involved in making decisions about journey purpose, and frequency of that journey, dependent on a range of factors including the intensity of relationships with friends and relatives, and the opportunities available to undertake leisure and sports activities (subject to such activities taking place in the vicinity). Indeed, virtually all of the social purposes listed in Figure 1 will have values attached to them that vary widely between respondents that will undoubtedly bias the frequency of journeys made in each division. Nevertheless, the propensity for making journeys that will strengthen social capital stocks is clear, with trips to burial societies, village

committees, women's groups and religious meetings accounting for weekly trips (52 trips per year) in some divisions, most notably Magadi and Mwea[4].

As shown in Figure 2, trips made for income earning and subsistence purposes are based on necessity and not value judgements, in as much as they denote activities for which journeys need to be made on a regular basis in order to maintain and strengthen human and financial capital assets. The majority of activities listed, especially those related to health, education, employment, subsistence (grinding mill), and farming activities (marketing, harvesting, farming) are requisite to the livelihoods of rural inhabitants, and hence it is expected that the responses would reflect the importance of these activities by the frequency of journeys made to undertake them. However, with the exception of visits to hospital and health clinics by respondents in Magadi and Mwea respectively, and for secondary education and formal employment, no single other activity displays an average trip frequency of once a week or more. This is somewhat surprising, given that these activities would have more weight in reducing poverty, than would the social activities described above.

Arguably, income earning activities would typically take place in the immediate neighbourhood, as residential location is most often dictated by the potential for generating an income. Hence, journeys made to destinations adjacent to the trip origin may not have been registered by respondents if the activity was not considered to require a physical journey.

[4] It is worth noting that respondents were asked to provide trip-making information for journeys made in the *last year*, which enabled information to be ascertained on journeys to friends, relatives, funerals and weddings that usually take place sporadically, and not routinely like meetings of community associations and parent-teacher associations etc.

As expected, the frequency of trips declines with increasing distance with all journeys made for social *and* income earning activities (see Figure 3). This trend is most pronounced for social trip-making activities, where the frequency of social trips drops to below 20 journeys per year, after 40-50km distance, with the exception of visiting friends and relatives that continue, albeit infrequently (on average between 1 to 15 trips a year), for up to 250 km from the trip origin.

For income earning activities, more journeys are made at increased distance from the origin, especially for visits to town[5], and also to collect farm inputs. At short distances, many more journeys are made per year (up to twice daily for transporting harvests and visiting farms), and this is likely to be because these trips are considered a necessity, and not perceived to be luxury, as with some social trips (notably leisure and sports activities). The sample survey demonstrates that many social trips might be perceived as nonessential, and are hence undertaken more regularly at close proximity to the trip origin where the cost of accessing the social activity is cheaper and less time consuming. Yet, there are a small proportion of trips (7%) made beyond 50km from the trip origin, compared with 10% of the total number of average income earning journeys made beyond 50km. Visits to friends and relatives account for most of these social trips (86%), indicating that physical access to these strong stocks of social capital are perceived to be of significant importance to rural people, given the frequency and distance of destinations involved. The charts do not however account for the cost or mode of such trips, and these shall be explored here.

[5] 'Town' denotes the nearest major town or city to the survey site, and can include the Capital city

Figure 4 compares the average trip cost[6] for social and income earning purposes in Mwea, Lari and Magadi Divisions. The general impression from the data is that a higher proportion of respondents sampled pay for income earning journeys, using public transport, such as bus or matatu[7]. The prevalence of fee paying trips is highest for travelling to secondary school (average of 300 Shillings in Magadi), which is not surprising given their large catchment areas and provision for boarding pupils. Yet, for most divisions, particularly Lari and Magadi, income earning trips cost money, with the exception of trips to farms, to collect farm inputs and to transport harvest, all of which cost less than 25 shillings. There are apparently few social destinations that respondents will pay to travel to, either because they are within walking or cycling distance or because they are not prepared to pay to travel for these social activities.

In some divisions (most notably Magadi) however, the cost of making nonessential social journeys is disproportionately high, especially for attending weddings, funerals, visiting friends, and visiting relatives for which the average cost in Magadi is 217 Shillings, and taking part in leisure activities. The assumption here is that people are prepared to invest money in accessing these particular social activities, more than they would for some income earning activities, regardless of the distance travelled. Evidently, quality of life that can be derived from nonessential activities such as these is sufficiently high for the investment made in physically accessing them. The sample data shows that large transport cost and time investments are made in visiting relatives, perhaps because they are a source of continuous social capital and the link is

[6] Trip cost applies to journeys made on public transport (for example boda boda, bus, matatu etc). Journeys made using a mode that does not require payment (for example walking, bicycle etc) are not included in this dataset.

7 'Matatu' is a public transport minibus used in Kenya and other countries of East Africa, often privately operated.

strongest when recipients are related, or because there is a greater probability of making returns on this investment in the future when relations are called upon for assistance during financial crisis or other period of adversity (illness, crop failure, famine, unemployment etc).

The aggregate household expenditure data from Mwea, Lari and Magadi is very revealing (see Figure 5), in that it shows that 12% of total expenditure is spent on transport (the World Bank estimates that no more than 10% of a households income should be spent on transport), and hence is proportionally more important than rent or medical expenditure. Expenditure on social activities is also relatively high, matching the monthly spend on medical healthcare. This is somewhat surprising given that healthcare is such an important factor in maintaining a sustainable livelihood, with poor health being 'a quick way to fall into poverty' (GoK, 2001). However, there may be any number of reasons why the proportion of household expenditure is so small for 'medical', including the cost of the service (surgery fees and medicine), and the infrequency of attending a health clinic or hospital (this has been explored in Figure 2).

Due to the distance and costs involved in accessing health care, it is likely that medical activities are considered a lower priority to poorer households, because healthcare is more often accessed during emergencies, and so their frequency of service use is reduced. Certainly, in their proximate determinants of poverty, the Kenyan Poverty Reduction Strategy Paper (PRSP) describes 'the time taken to reach a health facility as an important indicator of access to health facilities… access to health services by the poor – availability, affordability and physical accessibility of drugs

and consultations – has been limited due to factors ranging from cost sharing and long distances to health facilities' (GoK, 2001).

As can be seen in Figure 6, the proportion of monthly spend on social and transport activities compared with, for example education or health, is even greater when the data is disaggregated by division. In Magadi, 16% of household expenditure is spent on transport, more than is spent on education (14%), and 8% spent on both transport *and* social activities in Lari, compared with 6% on health. The figures differ widely between divisions, and this is most likely due to their disparate geographic and demographic characteristics. In Magadi for instance, the vast distances from rural settlements to social services and markets is markedly greater than in Lari or Mwea, which might account for the above average transport expenditure and conversely, below average spend on social activities (1%).

As regards modal choice for social trips, the household survey of Mwea, Lari and Magadi reveals that a massive 81% of social journeys are made on foot (compared with 70% for income earning journeys). The results displayed in Figure 7 are not altogether surprising given that expenditure on social trip making is relatively low, and hence the assumption is that relatively few people pay for public transport (only 4% of the sample surveyed travelled by bus or matatu for social activities in the last year).

The data in Figure 8 corroborates the trend of the frequency of journeys by distance, displayed in Figure 3 that shows trips made to visit friends and relatives as being of high importance and that of all the social activities undertaken, respondents are prepared to pay for trips to friends and relatives (Figure 4). Similarly, in the chart below the 4% of social trips that are made by bus and matatu accounts for a large proportion of the distance travelled to visit friends and relatives, which demonstrates a) the propensity for people to travel long distances outside the immediate locality for maintaining networks with friends and family, and b) the investment in time and money in the physical act of making these journeys.

These graphs demonstrate the travel patterns associated with social trip-making that provide some indication of the strong relationship between physical trip-making and the maintenance of social capital. As social capital itself is very difficult to measure, the trip-making characteristics of the rural poor have been used here as a proxy for acquisition of social capital assets. The next section will explore the direct link between social capital and mobility.

6 SOCIAL CAPITAL AND MOBILITY

The preceding section provides an overview of trip-making in Kenya that is strongly correlated to maintaining both cognitive and structural social capital. The direct linkages between *mobility*, defined as a measure of the agency with which people choose to move themselves and their goods around; *accessibility*, defined as physical proximity, or ability of reaching destinations or places offering opportunities for a desired activity; and *social capital*, are summarised in the Kenyan context by the following:

1. Cost and time investment in the generation and maintenance of social capital
2. Income generation derived from social trip-making
3. Temporary and permanent migration and maintenance of rural-urban linkages
4. Substitution of financial capital assets (transport costs) for social capital assets (increased social networks)
5. Social capital used in the management of risk – removing the cause and effects of isolation
6. Social capital benefits used as justification for road investment in remote rural areas

1. Cost and time investment in the generation and maintenance of social capital

The logbook travel diaries administered in Mwea, Lari, and Kalama recorded the average trip duration for a combination of essential (income earning or subsistence) and nonessential (social) trips (see Figure 9).

To start with, the description of trip purposes, as described by the travel diary respondents, are in themselves a good indicator of social capital and associated mobility, for example *visit* friends/relatives, *visit* a patient, *escort* friend/relative. The duration of specifically social trips range from 10 minutes for escorting a friend or relative in Kalama, to 40 minutes for visiting a patient in Mwea. Trips to a place of worship were found to be fairly consistent across divisions, with an average of 18 minutes in Kalama and Mwea, rising to 33 minutes in Lari (of which there was an average trip time of 27 minutes for walking and 50 minutes for cycling to a place of worship).

For visiting friends and relatives, the distribution of average trip duration between Kalama, Lari, and Mwea Divisions is similar to that for attending a place of worship (18 minutes, 29 minutes, and 18 minutes respectively). Although the distribution between mode is somewhat different, especially in Lari where the average journey to visit friends and relatives by walking takes 23 minutes, compared with 60 minutes by matatu.

The duration of trips to men's and women's groups also varied widely. Figure 8.9 shows an average distribution of trip duration as 13, 21 and 38 minutes in Kalama, Lari and Mwea. Similarly, while the average trip duration for leisure activities is only 28 minutes for Kalama, and 20 minutes for Lari, the modal distribution reveals journey times of 10 minutes by walking, 90 minutes cycling, and 21 minutes by matatu in Kalama.

The reasons for such widely disparate responses to trip durations between social purpose cannot easily be substantiated. Certainly, the distance travelled for essential trips do not widely differ from social trips, except that travelling to work in Lari takes on average 55 minutes, and not forgetting that travel to the Capital Nairobi takes 2 hours from Mwea. The logbooks reveal that a significant amount of time is expended in making these journeys, particularly for those that are undertaken more regularly, especially leisure activities, attending a place of worship and visiting friends and relatives (refer to Figure 1 for the average number of journeys made in a year).

Data from the household surveys supports that of the travel diaries, by indicating what the average duration of stay is at the destination. While this data does not directly link

social capital and mobility per se, it does however give an indication of the significance of the trip, given the assumption that the longer the duration of stay, the more important the purpose of the visit.

On this basis, and given the data displayed in Figure 10, there are few activities which can be considered 'important' if length of stay is an indicator. Of the divisions sampled, Magadi spends the longest time at the destination, this is particularly true for visiting relatives, for which the average stay is nearly three days (65 hours). Nevertheless, visiting relatives in Lari and Mwea is also deemed to be more important in terms of time investment, than any other social trip purpose. Indeed, in Lari the average length of stay is 27 hours, and in Mwea 14 hours. In Magadi, however the length of stay is also high for visiting friends (18 hours), and for leisure activities (22 hours).

The findings in Figure 10 are closely correlated to those displayed in Figure 11, which shows trip distance by social trip purpose. For Magadi, the distance travelled to leisure activities (60km), relatives (95km) and friends (55km) is comparable to the length of stay at the destination, and similarly for visits to relatives in Lari (55km) and Mwea (49km). Hence, the length of stay at social destinations is, at least in part, dictated by the distance travelled to reach the destination.

Conversely, and as expected, the data reveals that the average duration of stay at destinations for income earning and subsistence purposes is much shorter than for social purposes, particularly for farm, harvesting and marketing activities (ranging from 2 to 8 hours stay) that are undertaken regularly and are of closer proximity to the trip origin.

2. Income generation derived from social trip-making

Regarding income generation derived from social trip-making, data from the travel diaries revealed that only 17% of household members sampled, generated an income from making the trip (taken from an aggregate of social, income earning and subsistence journey purposes), implying that respondents invest time and money in over four fifths of all journeys made without benefiting from any financial or material returns on their investment.

3. Migration and the maintenance of rural-urban linkages

The dynamics of temporary and permanent migration that supports rural-urban linkages are also important to the maintenance of social networks. Migration characteristics were not captured in the Kenya case study, however additional research carried out in Zimbabwe and Uganda in 2001 reviewed the Sustainable Livelihoods, access and mobility needs, and rural-urban linkages in a transport corridor of 80km between the respective capital and secondary city in each country (Bryceson et al, 2003).

The study was divided into three phases, in which focus group discussions, household and transport surveys and transport activity logbooks were completed at four sites along the transport corridors, comprising primate city, peri-urban locality, rural village and secondary city. The following rural-urban mobility trends were noted:

- Long distance journeys beyond the transport corridor are often forgone during periods of economic hardship in both countries
- For short distance trip-making, the highest and lowest income groups were found to regularly travel the longest distances in Zimbabwe.

- In Uganda middle income groups were found to travel longer distances – due to the prevalence of boda boda bicycle/motorcycle taxis

Sustainable Livelihoods analysis revealed the importance of access and mobility to the generation of economic and non-economic activities, and highlighted the significance of social capital. This was born out in the participatory focus groups and travel diaries, which revealed that historically embedded cultural preferences in Zimbabwe are an essential component of mobility patterns. This is evidenced by Zimbabweans' rural-urban migration patterns, complex notions of 'home' and rural home as a frequent travel destination.

The study strongly indicates the value that the urban and rural 'poor' place on maintaining links with extended family networks, and the significance of rural-urban mobility in facilitating social trip-making that contributes towards the preservation of social capital (8% of trips recorded in the week long travel diary were for journeys outside the locality, defined as an area outside the village where respondents live, that is not walkable, generally requiring some form of motorised or cycle transport).

4. Substitution of financial capital assets for social capital assets

As Frankenberger and Garrett (1998) explained, communities have their own mechanisms for addressing vulnerability that include risk minimising strategies, loss management strategies and asset substitution strategies. Certainly, social capital can be invaluable in reinforcing these livelihood strategies. In fact, as the Kenya case study demonstrates, the rural poor actively substitute financial capital (in the form of

transport service charges) and human capital (in the form of time required in making journeys to and from the source of social capital) for increased social capital assets. The schematic diagram in Figure 12 illustrates this pattern of asset substitution.

5. Social capital used in the management of risk

The use of social capital in the management of risk by the rural poor is well documented (refer to the Review of Literature in Chapter 2). Certainly, the Kenya case study supports the concept that relationships between friends, relatives, community associations and even revolving credit funds provide a strong support network for mitigating shocks and stresses associated with the vulnerability context in Sustainable Livelihood approaches. The question is how social capital and associated networks can be adopted by key policy and decision makers as the main justification for road investment in remote rural areas.

6. Social capital benefits as justification for road investment in rural areas

The road sector consumes a considerable part of the overall infrastructure investments made by developing countries and, with an increased focus on poverty reduction, there is an increasing emphasis on those for low volume roads. However, traditional appraisal frameworks do not cater well for the economic justification of these roads and poverty reduction and other social benefit issues tend to be ignored. The inclusion of social benefits within appraisal techniques has the potential to focus investments on the poor and hence the majority of the population.

Over the last twenty years, road investments in developing countries have been planned and prioritised on the basis of economic appraisal models and prioritisation

indices/ranking procedures. The latter procedures are more often used to plan rural access or feeder roads. These are less economic in orientation and often include a social benefit component, yet there is no commonly accepted method of defining or incorporating social benefits into road appraisal criteria. Nevertheless, the adoption of social benefits (that includes social capital stocks) are likely to be highly significant in areas where there is no existing access at all, or where existing roads are impassable throughout much of the year, and where existing traffic volumes, population density and agricultural productivity are very low.

Social benefits tend to be far more intangible than economic benefits as they so often entail subjective interpersonal relations of variable and incalculable value to individuals. Previously, such nebulous issues would have been ignored, but current development theory has given pride of place to social capital considerations. It is appreciated that interpersonal relations are important not only psychologically but materially. Furthermore, the financially poor are often seen to have important social capital assets upon which self reliant development efforts can be supported.

7 CONCLUSIONS AND RECOMMENDATIONS

Outcomes of stakeholder consultations for development of the PRSP in 2001 demonstrated that failure in Kenya's development process has in many cases arisen, not from lack of good policy recommendations, but from a 'hopeless absence of political will and the institutional framework to implement policy, monitor progress and take corrective action' (Sisule, 2001).

The growing problem of poverty in Kenya emanates from two major underlying causes:

1. Policy formulation has not been adequately consultative and implementation has in many cases been haphazard with policy reversals sometimes occurring
2. Due to civic inertia people and their representatives have failed to influence decisions and allocation of resources leaving central government administrators as the sole decision makers

Sisule emphasises the need to develop social capital in Kenya where people are unable to influence resource allocation for the reasons given above. He states that deliberate efforts should be made to organise and empower people to have a say in decisions on resources allocation and use at the community level, and through effective linkages and representation, at district and national levels. The social context of poverty reduction strategies based on a participatory approach is a more credible way of achieving ownership of policy and increasing the chances of the successful alleviation of poverty.

This paper demonstrates that weak social capital and dissolution of bonds of trust between individual and social groups and a weak civil society are detrimental to economic growth. Prosperity for a majority of people can only be attained if investment in social capital is made (World Bank/International Bank for Reconstruction and Development, 2000). Indeed, it is not possible for central government to effectively plan for poverty alleviation while excluding the people from the process (Tegemeo Institute, 2000). This study of different sites in Kenya asserts that involving the poor people themselves results in improved setting of

priorities, and that poverty reduction strategies should empower people to take part in planning and implementation strategies.

This empirical research undertaken in Kenya will contribute to the continuing discourse from the perspective of the transport sector, and will provide further evidence for establishing firm linkages between social mobility and transport sector policy in ways that would be likely to influence investment decisions.

8 REFERENCES

Bryceson, D. et al (2003). Sustainable livelihoods, mobility and access needs. TRL Report 544. Crowthorne: TRL Limited

Coleman, J. S. (1997). Social capital in the creation of human capital. In Halsey, A. H. et al. (eds.). Education: culture, economy and society. New York: Oxford University Press

GoK (2001). Poverty reduction strategy paper for the period 2001-2004. Government of Kenya: Ministry of Finance and Planning

GoK (2000). Second report on poverty in Kenya: volume 1 incidence and depth of poverty. Government of Kenya: Ministry of Finance and Planning

GoK (1997). Welfare Monitoring Survey III. Government of Kenya: Ministry of Finance and Planning

Gugerty, M. K. and Kremer, M. et al. (1999). The impacts of development funding on social capital: the Kenya local community action project. Washington D. C.: World Bank.

KENDAT (2001). Guidance notes on the application of sustainable livelihood concepts. Produced by the Socio-economic Team for the RTS Project. Nairobi: KENDAT

Porter, G. and Lyon, F. (2003). Groups as a means or an end? Building social capital for targeted development in Ghana. Proceedings of the Association of American Geographers annual meeting, New Orleans, 5-8 March 2003

Republic of Kenya (2001). Poverty reduction strategy paper: for the period 2001-2004. Republic of Kenya: Ministry of Finance and Planning

Sisule, T.(2001). Poverty in the eyes of poor Kenyans: an insight into the PRSP process. Egerton University: Tegemeo Institute

Tegemeo Institute (2000). Linking poor households to national policy agenda. PAPPA Conference Paper No. 2. Egerton University: Tegemeo Institute

World Bank/International Bank for Reconstruction and Development (2000). The road to stability and prosperity in South Eastern Europe. A Regional Strategy Paper. Washington D. C.: World Bank

The World Factbook (2003). Kenya. Central Intelligence Agency World Factbook. www.cia.gov/cia/publications/factbook

ANNEX

Figure 1: Average annual journeys for social trip purpose

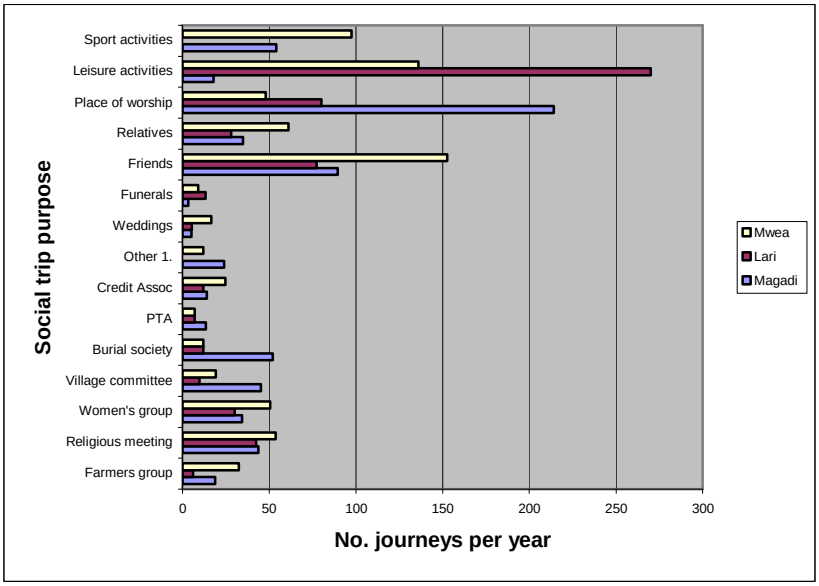


Figure 2: Average annual journeys for income earning trip purpose

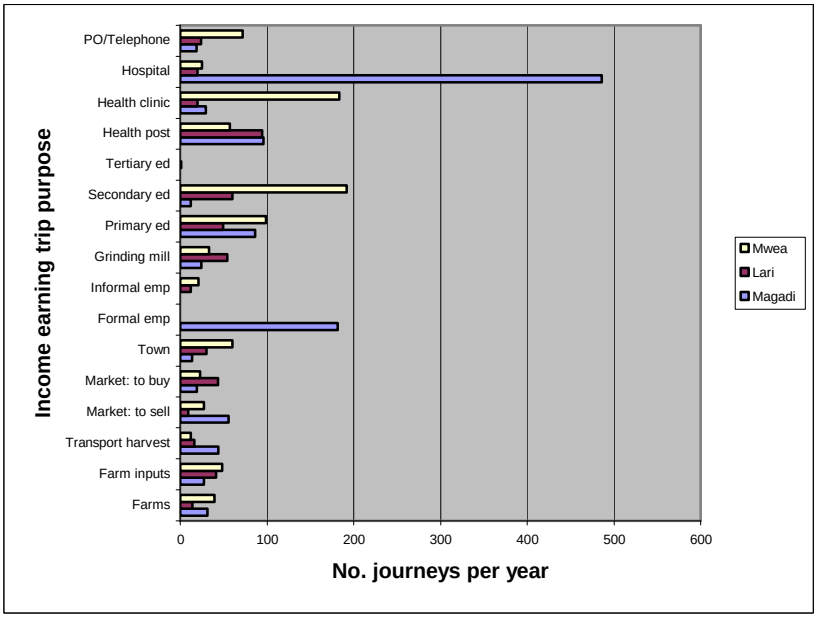
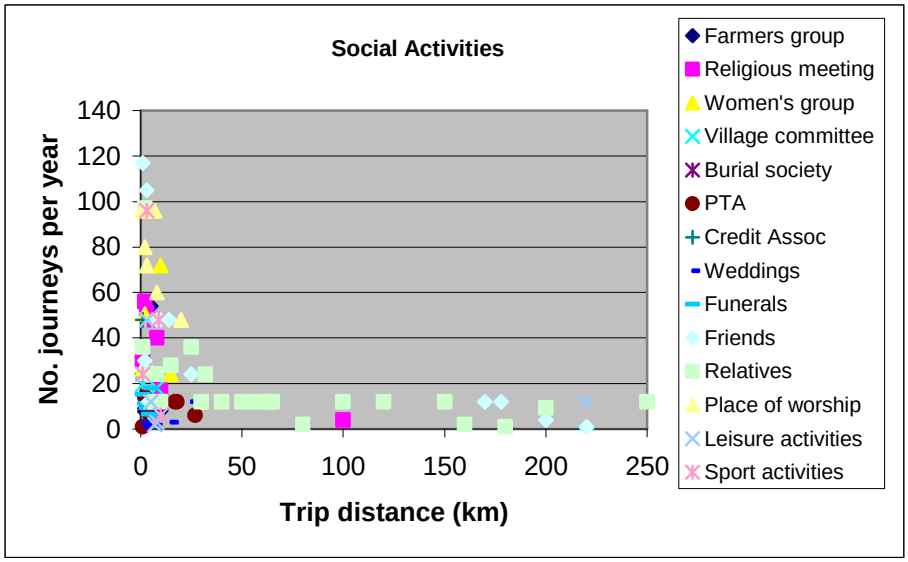


Figure 3: Average journey frequency by distance in all divisions



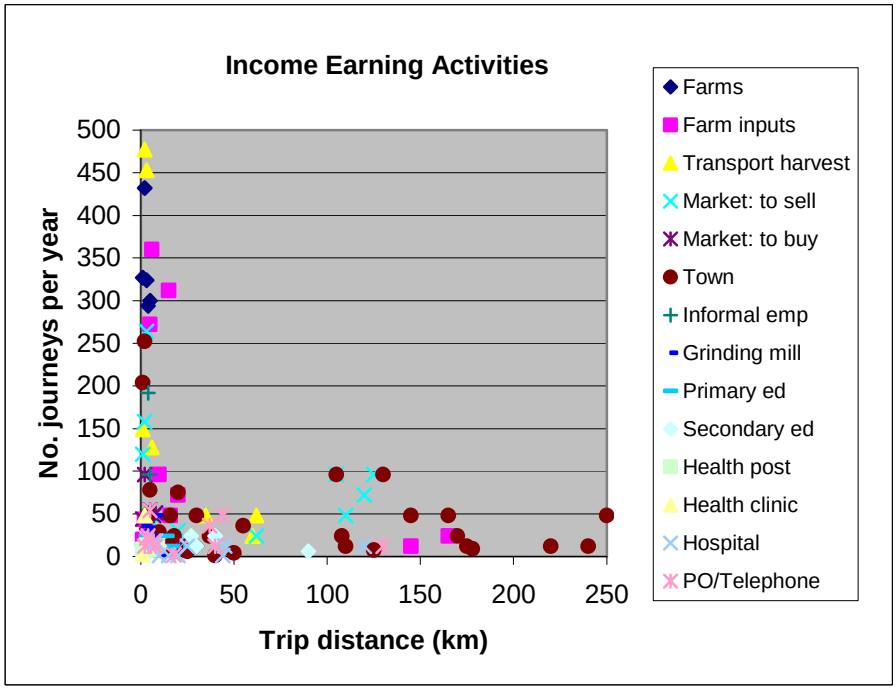
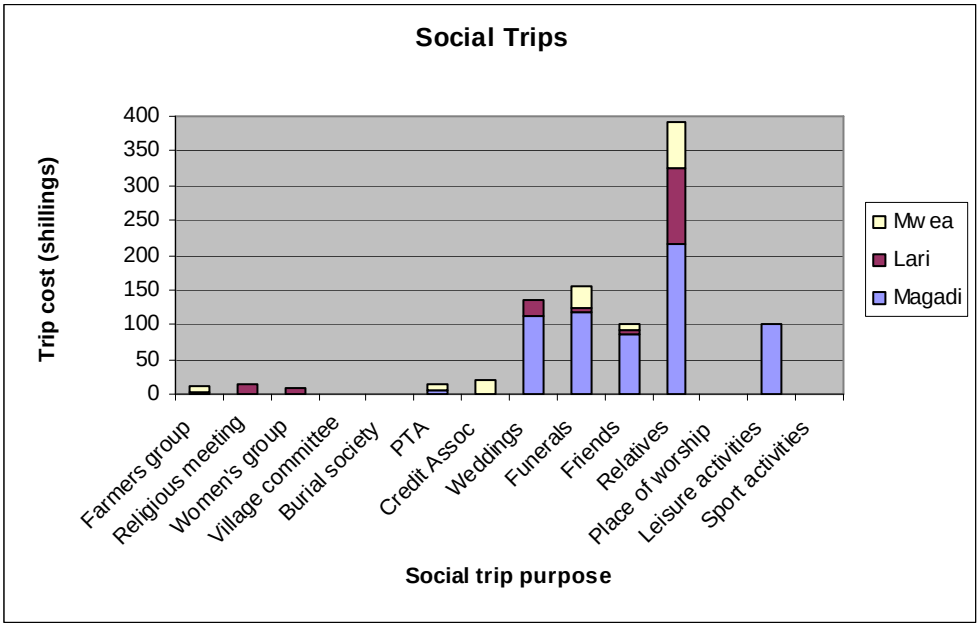
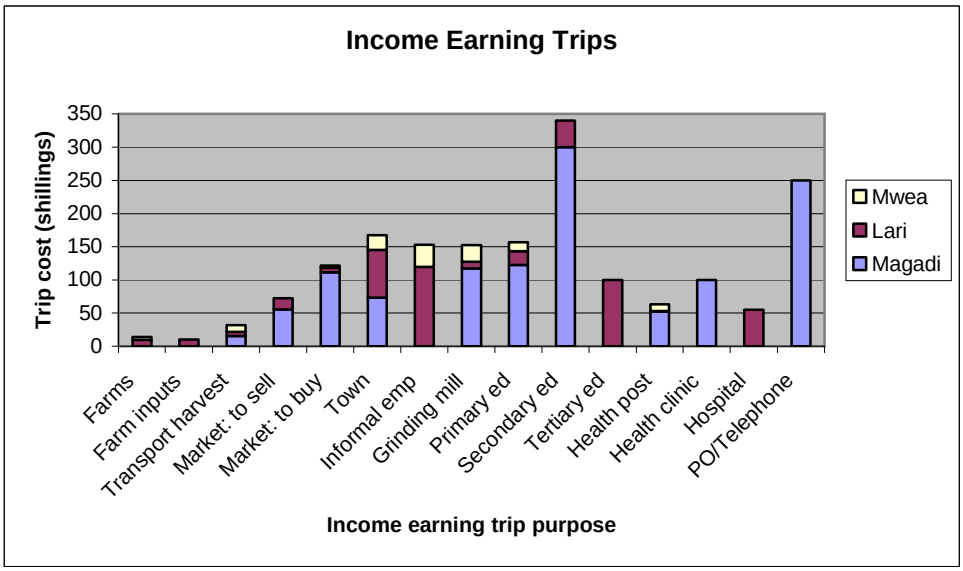


Figure 4: Average journey cost by trip purpose





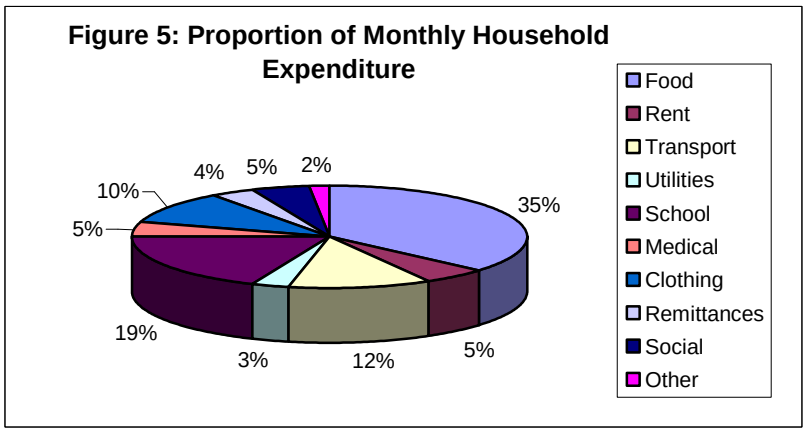
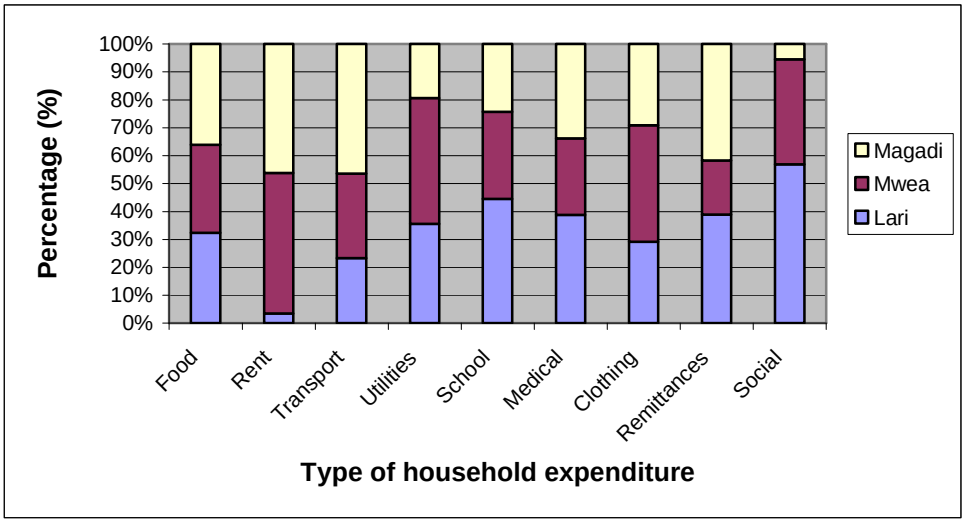


Figure 6: Proportion of monthly expenditure by division



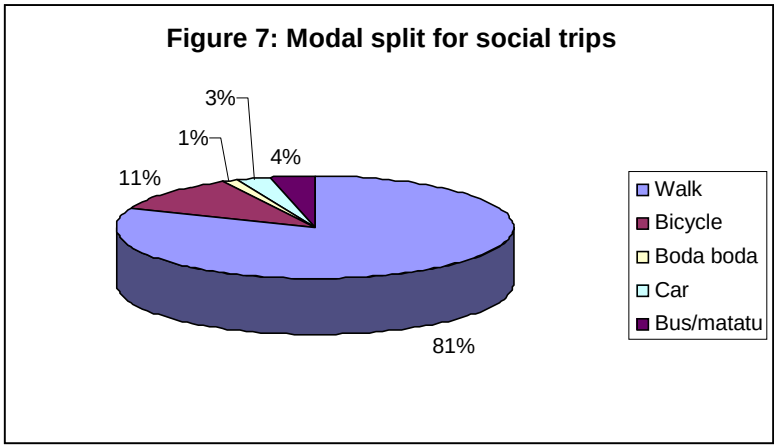


Figure 8: Trip distance by mode for social trip purpose

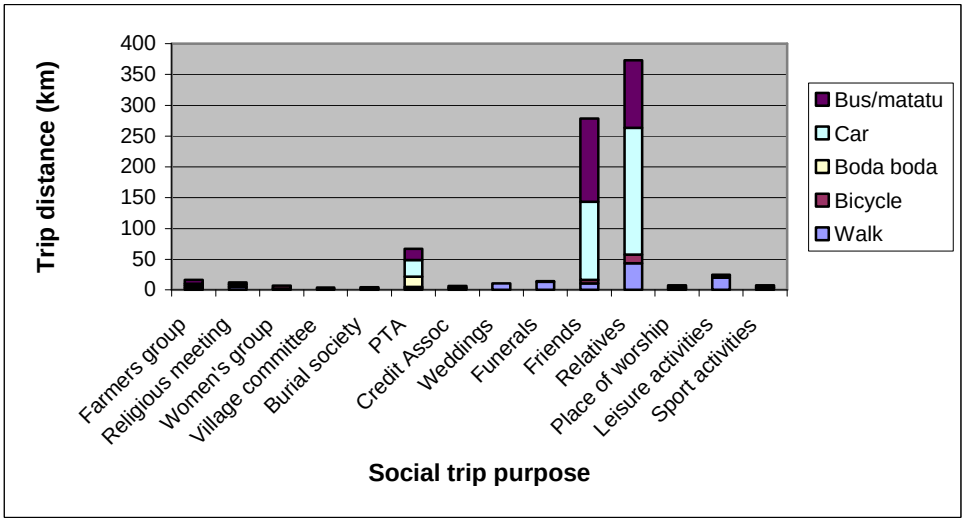


Figure 9: Average trip duration by trip purpose

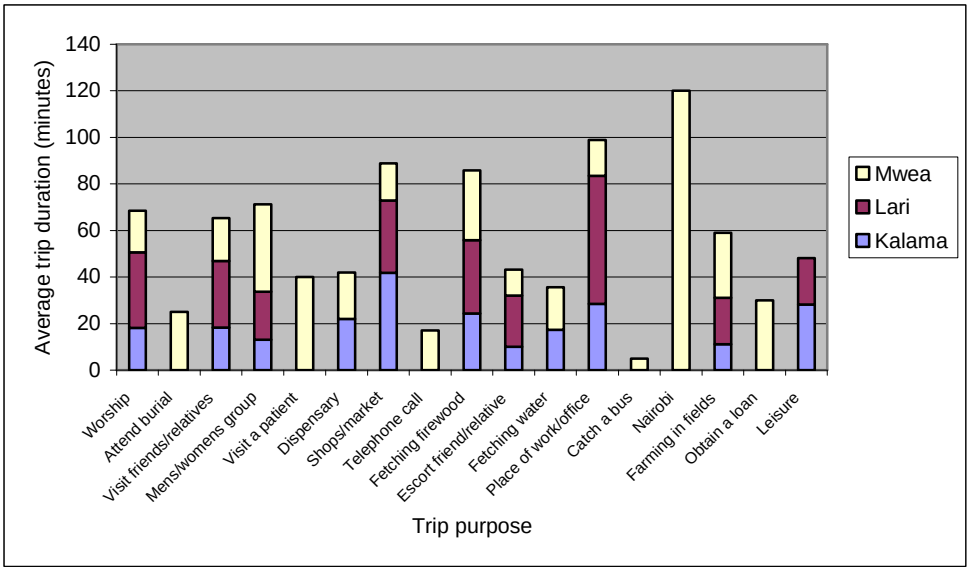


Figure 10: Average duration of stay at destination

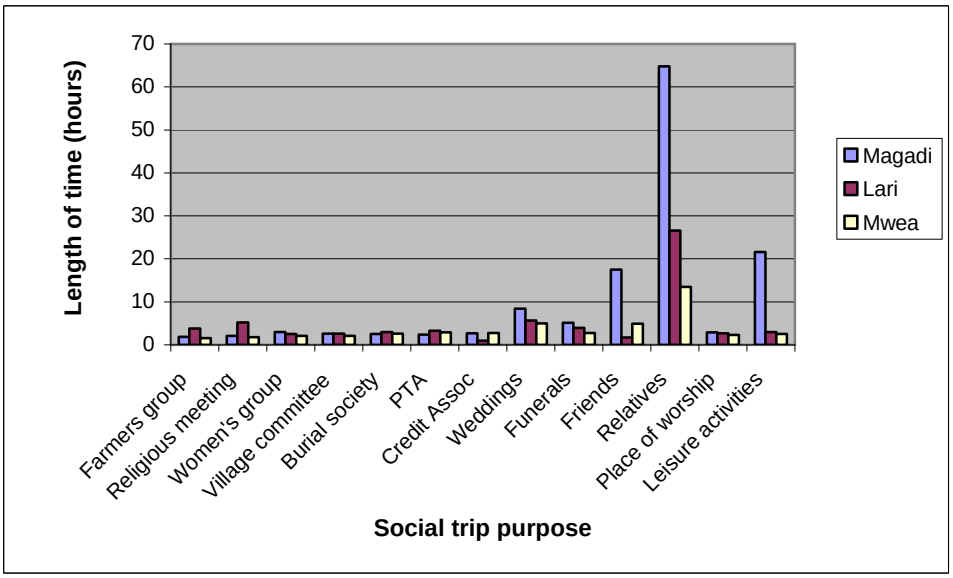


Figure 11: Average trip distance by division

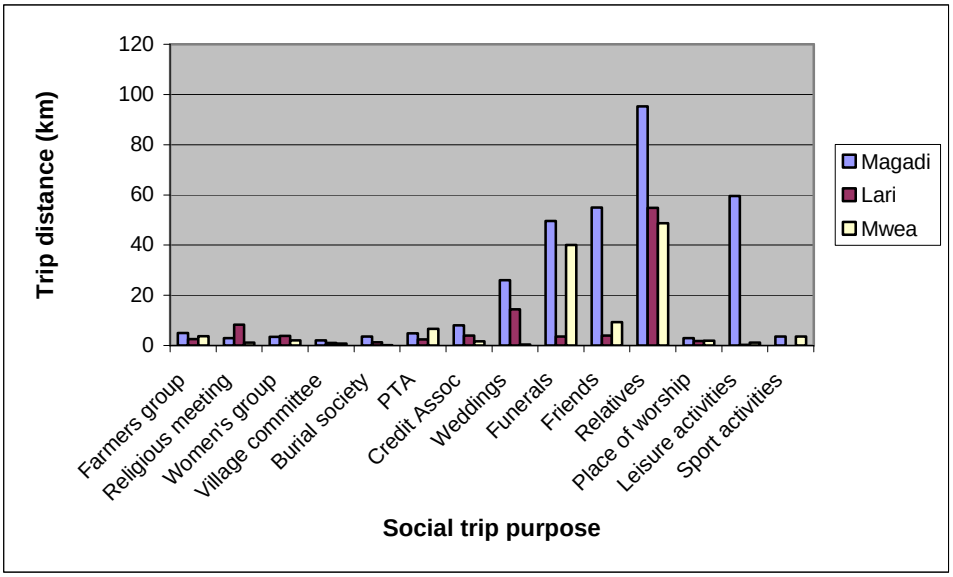


Figure 12: Asset substitution in accessing social capital