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Qualitative methods for investigating transport and mobility issues among commonly socially excluded populations: a case study of co-investigation with older people in rural Tanzania

Gina Porter^{a,*}, Amleset Tewodros^b, Flavian Bifandimu^b, Amanda Heslop^c, Mark Gorman^c

^a*Department of Anthropology, Durham University, UK*

^b*HelpAge International, Tanzania*

^c*HelpAge International, UK*

Abstract

Qualitative research on transport and mobilities in development contexts is relatively sparse. Following a preliminary discussion of qualitative approaches developed by the first author when researching transport-related issues with commonly excluded populations (women, children, people resident away from the paved road, older people) in rural sub-Saharan Africa, a detailed case study is presented of the methodology employed in an investigation into the transport and mobility problems experienced by older people. This study, which focuses on older people's physical access to health and other services in rural Tanzania, was conducted in collaboration with older people from the Kibaha District of Pwani region. The study is one of the first to explore older people's mobility and associated access to services in Africa and the first to use a co-investigation approach in this context.

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* Corresponding author. Corresponding author. *E-mail address:* r.e.porter@durham.ac.uk

1. Introduction

Although interest in the potential of qualitative research to aid investigation of transport and mobilities issues in development contexts is growing, in sub-Saharan Africa the application of qualitative research methodologies is still relatively sparse. This paper commences with a brief discussion of some qualitative approaches developed by the first author when researching transport-related issues with commonly excluded populations in rural sub-Saharan Africa: action research, mobile interviews and co-investigation involving in-depth research with community members trained as peer researchers. Each of these approaches has some relevance for the ensuing discussion.

A detailed case study is then presented of a mixed-methods investigation into the transport and mobility problems experienced by older people in accessing health and other services in 10 villages in rural Tanzania, conducted in collaboration with older people from the region. This study – one of the first to explore older people's mobility and access to services in Africa - was designed to incorporate three strands, in which co-investigation occupies the first phase, establishing the key issues for further investigation and analysis in two subsequent study components. The second and third components, led by an academic researcher, involved qualitative studies (mostly check-list interviews[†]) with older people and a wider group of key informants, and then a survey questionnaire directed solely to older people. Detailed findings on transport issues from the three research strands are reported in Porter, et al. (2013) and are thus not presented in this paper.

The focus of the paper is on the research process in the most innovative of the three components in this study, the older people peer research. We describe how 12 older people from one rural community in Kibaha district, Tanzania, were trained in some basic participatory research methods, tried out a number of these methods, and gathered initial information about the transport and mobility issues faced by older residents, and how we were able to use this information to build key research questions for the main (qualitative and survey) research phases. Details of the recruitment and training process are presented. We also show how the older people's feedback on methods and questions during the training week fed into the design of the subsequent research in the ten study settlements. The concluding section of the paper reflects briefly on the potential of community co-investigation (in conjunction with an array of other research methods) to contribute to building understanding of (and sounder responses to) transport- and mobility-related social exclusion.

2. Background: transport, social exclusion and participatory research in sub-Saharan Africa

Qualitative research on transport and mobilities in development contexts is still relatively sparse, especially in rural sub-Saharan Africa. Although some groups (notably women, children and the elderly) have long experienced particularly severe mobility constraints, with significant implications for their access to health, education, livelihood, there has been a tendency to view them as welfare objects rather than decision makers whose views should count in consultations about the location of new roads or the provision of transport services. A much stronger voice is needed for these groups (Porter, 2008; 2010; Turner et al., 2014).

The first author of this paper has led a number of methodological experiments aimed at improving knowledge of mobility constraints among commonly excluded populations in sub-Saharan Africa. Three methods - action research, mobile ethnographies and co-investigation - are discussed below, with a brief outline to show the context in which they were applied. The methods are introduced here because they illustrate the potential of qualitative

[†] Check-list interviews are in-depth loosely structured interviews conducted with the aid of a short pre-prepared guide list of key topics. The list is utilised flexibly by the interviewer to aid free-flowing discussion and enable pursuit of any potentially promising new themes, while ensuring coverage of key pre-defined areas of interest. Thus, question order may be altered, depending on the flow of discussion, and additional queries inserted, depending on emerging information. A final review of the check-list towards the end of the interview will ensure the pre-defined key areas of interest have been covered.

approaches in achieving a deeper level of bottom-up participation by marginalised groups than has hitherto commonly obtained in the transport field. The third method, co-investigation, is then developed as a full case study, with specific reference to improving understanding of older people's mobility and transport constraints and needs.

2.1 Participatory action research is characterised by intervention experiments which involve a team with researchers and research subjects as co-participants. Although rarely adopted in transport studies, it can offer a valuable route to understanding the complexities of making transport interventions in Africa. Action research in Ghana into Intermediate Means of Transport (IMT) supports this case. Despite the seeming relevance of IMTs such as hand- and bicycle-carts, in contexts where motorised vehicles are beyond the financial capacity of the majority (especially women), and their consequent promotion as a low cost and 'appropriate' solution by various agencies, failed projects are numerous (Salifu, 1994; Starkey, 2001). Baseline research, followed by a transport intervention involving introduction of different kinds of IMT equipment and detailed monitoring of impacts over 18 months, proved highly effective in improving understanding of patterns of adoption and non-adoption of transport technologies among poor rural women in five coastal Ghana villages. It revealed many important issues around differences between stated preferences and actual gendered patterns of adoption and non-adoption in this context which may have wider application (Porter et al., 2012).

The adoption of an action research approach in recent work to understand the potential of bus subsidies in Malawi similarly indicates the value of such an approach to unravel complex transport problems (Raballand et al., 2011). If funding is found for interventions associated with our older people case study presented below, an action research approach to explore their subsequent impact over a period of at least one year would be valuable.

2.2 Mobile ethnographies offer another valuable methodology for mobilities research among commonly excluded groups, especially in contexts where the majority of journeys take place on foot (Porter, 2002). The walking conversation, whether part of a purposive journey along a defined route, or merely a perambulation, is especially valuable where establishing rapport with interviewees is complicated by strongly skewed power relations. In a study of child mobility in Ghana, Malawi and South Africa, walking with young people brought significant insights into the mobility constraints they face and the impact these have on their lives and life chances (Porter et al., 2010). We found the approach highly effective, both in terms of eliciting information and in terms of improved interactions. Even very shy young girls were able to open up after some minutes. They no longer needed to make (or avoid) eye contact with the interviewer because they were walking side-by-side, and neither they nor the interviewer had to worry about uncomfortable silences because the nature of the terrain and/or the exertion of walking made silence a natural component of the interchange. We observed that a formal question and answer format was usually easily abandoned by both interviewer and by interviewee in favour of informal conversation and unsolicited observation from the interviewee.

Walking produces a shared rhythm of movement (Lee and Ingold, 2006) which encourages conversation, companionship and the sharing of understandings; mobility represents a key element in the interaction between people and place. As Ingold and Vergunst (2008) observe, "social relations are not enacted *in situ* but are paced out along the ground". In particular, we found that gender and, to a lesser extent, age substantially influence the ways in which children experienced and responded to their journeys to school (Porter et al., 2008). Mobile ethnography also has potential beyond the walking interview: careful observation and recording during journeys with travellers in motorised vehicles, for instance, could open up a much more grounded understanding of rent-seeking by police and other forms of petty corruption in the African transport sector. As we note below, however, with reference to our older people researchers and respondents, it will not necessarily work well in all contexts.

2.3 Community peer research can extend participation even further. Interest in the potential of this approach, whereby socially excluded groups are brought into the research process, not simply as respondents but as researchers with unique community access and novel insights, appears to be growing. This can be illustrated with reference to work with children as co-investigators. The transport needs of children and young people in sub-Saharan Africa have received remarkably little direct attention in African transport policy until recently, apart from

limited work on road safety. In order to help redress this problem, following preliminary pilot work, a study in three African countries was conducted in collaboration with 70 young researchers aged 11-19 years.

The young researchers, after initial training, conducted their own independent studies with their peers at sites convenient to them, but with sustained support from local collaborators and research assistants (Masters' students, male and female, from the relevant country collaborating institution). Working independently, or in pairs, over a period of three weeks to two months, their research contributed significantly to the larger project. Children interviewing their peers were able to uncover issues which children did not raise directly with adult academic researchers, either because of embarrassment or because they thought adults would perceive the problems they raised as insignificant and unimportant. These findings, which ranged from children's widespread fear of dogs and snakes on pedestrian journeys to severe teacher punishments for late arrival at school (whatever the journey length or hazards faced), and the sanctions imposed by parents and elders when children travel to places which have been designated out-of-bounds or arrive home late at night, fed into and helped shape questions in the wider adult academic research programme (qualitative and quantitative studies across 24 sites) (Porter and Abane, 2008; Porter et al., 2009; 2010; 2012).

In both North and South, it is still relatively rare for children to take the role of researchers, as opposed to the "researched" - and there are important ethical issues to address (Porter et al., 2010). However, interest in collaborative work with children is growing, including in transport contexts, because of concerns to redress the power imbalance between adults and children in the research process, to protect them from exploitative research, and to give adequate recognition to their rights. It would be unrealistic to expect such work to bring an immediate sea-change in attitudes to mobility problems, but the booklet subsequently written by the young researchers in the Africa child mobility study (available at www.dur.ac.uk/child.mobility/) does appear to have potential as an advocacy tool. Although Barker's (2008) experience of trying to involve children as partners in research for UK School Travel Plan committees is not encouraging, it is probably only through continuing, persistent efforts that change will be achieved in the long-term.

Working with vulnerable groups as research collaborators (whatever their age), clearly requires not just careful planning, intensive support and persistent attention to ethical issues, but also honest and realistic management of expectations about the potential short-term impact of the work. Inevitably, this makes the approach time-consuming, with significant cost implications. Nonetheless, this positive experience with peer research encouraged the initiative described below to develop a study with another commonly excluded group of people, but in this case located towards the opposite end of the age spectrum.

3. Background to the Tanzania case study

A brief explanation for our focus on the mobility and transport constraints of older people in Africa is useful as an introduction to this case study. Increasing attention is being paid to many facets of older people's lives in Africa, as a result of the relatively rapid population ageing being experienced in many African countries, and also the prevalence of HIV and AIDS which has left many grandparents supporting and caring for grandchildren. In Tanzania there is an official HIV infection rate of 5.1% and approximately 2 million orphaned and vulnerable children (Tanzania HIV/AIDS and Malaria Indicator Survey 2011-12); around 50% of orphaned children now live in households headed by older people, predominantly grandmothers and other older female family members. The access of older people to key services and to livelihoods is an issue of growing importance to communities and government: understanding and addressing older people's transport and mobility constraints clearly has widespread developmental significance (Apt, 1997; van der Geest, 1998; Heslop, 2002; Barrientos et al., 2003; Aboderin, 2004).

The co-investigation approach employed in this case study draws on both the experience of peer research with children recounted above, but also on a HelpAge study where co-investigation (though not concerning travel or transport) involved the recruitment of older people (Ibralieva and Mikkonen-Jeanneret, 2009). In both cases the approach was found remarkably effective in improving outsider-generated research. The first author contacted staff at HelpAge International about the potential for a collaborative study because of linkages between children and older people emphasised by the child mobility study and the wider potential implications for community mobility patterns. Our shared interest in co-investigation strongly encouraged this approach in our subsequent research into older people's mobility and access to health and livelihoods.

We selected Tanzania as an appropriate location for the field investigation because HelpAge already had strong experience of working with older people's groups here, and the in-country office had identified mobility and transport issues as of significant concern to older people, especially in rural areas. Kibaha district, located approximately 50 km from Dar es Salaam, offered an appropriate study area, since HelpAge were working in the district and had identified problems associated with the high cost, unsuitability, scarcity, irregularity and unreliability of means of public transport on routes where transport was available (but not affordable or unsuitable for older persons). A local NGO, the Good Samaritan Social Services Trust (GSSST), with which they worked, was also recruited to the project because it had established older people's groups in Kibaha town.

We identified ten settlements for the research with varying access conditions: one village located on the paved road, and nine along poor unsurfaced roads (five with a clinic, four with no clinic). This selection was made to enable us to review access conditions for older people in a variety of rural locations likely to be reasonably typical for the wider region. Many roads in the district are barely passable after heavy rains and roads traversing black cotton soils, found in a few of our research settlements, are particularly intractable during the rainy season. Motorcycle taxis are now the main transport mode in all except one settlement located on the paved road.

The project – one of the first to explore older people's transport, mobility and access to services in Africa - was designed to incorporate three key strands, in which co-investigation occupied the first phase, establishing the key issues for further investigation and analysis in two subsequent study components. The remaining two components, conducted by academic researchers, involved qualitative studies (N=194, mostly check-list interviews) with older people and key informants (including motorcycle taxi operators, health staff, settlement leaders), and then a survey questionnaire to a minimum of 30 older people per settlement (except where fewer than 30 were present in the settlement; N=339). Findings on transport issues, based on triangulation between these three research strands, are reported in Porter et al. (2013) In this paper we focus on the research process in the most innovative of the study's three components, the older people peer research.

3.1 Recruitment and training of peer researchers: This involved training 12 older people from one rural community in our study district in some basic participatory research methods over a one week period. In our selection of older researchers, we aimed to include women and men of a range of ages 60 years and over, along the spectrum of able-bodied to severely disabled. Literacy was also important, since older researchers would then be able to record their own field research. Finding literate older women was a greater challenge than finding literate older men, but we eventually recruited four women, who together with eight men comprised our research team. Most of the team were farmers and all were in the age range 59 to 69 years. We were unable to obtain people beyond this age who were willing and able to participate. Disabilities mostly related to poor eyesight, or stiff joints; we were unable to recruit any very severely disabled older people.

The workshop, conducted in Swahili (with English-Swahili translation as necessary), was planned to help our Older People (henceforth OP) research team to develop a set of age-adjusted research methods and then conduct qualitative research in their home settlement with their peers. Five young research assistants were recruited to work with, support and learn from the older researchers throughout the training and fieldwork, in preparation for their subsequent role as data gatherers in the academic-led qualitative and survey research. A code of conduct was discussed and agreed between all participants on the first day. Various methods were then introduced by the

HelpAge trainer/facilitator (AH) and trialled by our OP researchers over ensuing days. These were methods which had been selected as potentially suitable for the planned investigation by the research team prior to the workshop, and incorporated a variety of approaches including some which had worked in the child mobility study introduced above.

Training in the classroom generally took the form of introduction to one of a number of possible techniques by the facilitator, discussion about its likely relevance among the whole group, and a preliminary trial of the method by our OP participants. If this worked well in the classroom, it was followed by a pilot by the OP Researchers among their peers in their home village. For each of the village-based field exercises, teams of four researchers were formed and team roles agreed (lead and second interviewers, observer and recorder). One young RA was assigned to each team to provide any necessary support and for observation purposes. Initially we decided to have one team formed solely of women [and thus the remainder as all-male teams] in order to capture gender dimensions that might be overlooked by a mixed gender team. However, we subsequently moved entirely to mixed gender teams because both male and female OP researchers reported initial cases where they considered a mixed team would have been more effective. This happened particularly with the women's team where they started an interview in a household with a sole woman respondent, but then a male older person— often the husband- arrived and either appeared suspicious or took over the interview. When we tried mixed teams, they seemed to work better, since the group could split where the gender dynamics suggested that two separate interviews in the same household would better capture the information needed.

In total, three half days of fieldwork practice took place in the core study village during the training week. During this time the OP researchers tested various methods for generating qualitative information on a range of health and livelihoods-related themes including daily livelihood and health journeys made by older persons, reflections on the various modes of transport utilised for intra- and inter-settlement travel, impacts of seasonal changes on older people's transport and mobility needs and constraints, and local intra-village transport of household produce, water and fuel. By the final day of the workshop, the OP researchers were all so fully engaged with the study that they decided that they wanted to not only continue with the study in their own village, but also extend their involvement to research across our other nine study villages. They then planned further information gathering activities which extended for an additional few weeks, taking the initiative to organise travelling with the academic –led research team to the various study settlements. Their work in this phase complemented the main phase team's qualitative and survey research (OP peer research qualitative interviews, N=74).

Feedback on methods was reviewed throughout the training week, while at the same time much initial information was gathered about the transport and mobility issues faced by older residents through these trials. Consequently, as well as practicing and testing out the methods, the whole team engaged in regular synthesis and discussion of information gathered. Key questions established through this process were then incorporated into the design of the qualitative check sheets and survey questionnaires applied in phases 2 and 3 of the project.

3.2 *Methods tested and developed in the training workshop*

Our OP researchers experimented with a range of methods initially demonstrated by the trainer, during the workshop. *Techniques of interviewing* were introduced and practiced: the advantage of starting interviews with open questions and avoiding leading questions, the need to avoid closed questions, the value of using 'helper' questions. Associated *visual mobility mapping techniques* were introduced at the same time to explore both journeys made on regular basis and journeys made when necessary for specific purposes (especially health and livelihoods). Thus, simple flow maps were constructed, for instance, to show distance to nearest water source, fuel source, clinic, market etc, and these maps then used to generate discussion about such issues as frequency, purpose, distance and mode of travel, journey cost and time etc. Discussions in the classroom, and subsequent field trial of these techniques in the home village, emphasised the importance of researching, in some depth, issues such as the essential daily water carrying from water sources to homesteads [which sources, and whether assistance from children is available to help with this], constraints on local travel on foot to farms, water and firewood sources [snakes, fallen trees, mud], inter-settlement travel by motorcycle on the local roads [often impeded by potholes and

mud in the wet season, sand in the dry season], the cost of transport in affecting OP's ability to access health services, and especially health emergencies [including the extent to which health services, supposedly free to OP, are covered by household insurance]. Disposable cameras, provided to the OP teams, were used to capture transport issues they thought relevant to the research.



Fig. 1. One of our Older People researchers presents some of her group's findings.

To explore load-carrying practices further, one of the interviews was adapted to focus on how older people in so-called 'vulnerable' households [where older people lived alone or lived with grandchildren without younger adults] obtained their water, firewood and food from the farm to the home: this also became a key focus of qualitative interviews in the main research phase[‡]. These techniques were all relatively easily adopted by the whole OP team.

Example 1: OP research group interview with a woman, 90years, off-road village

The old lady lives alone although she has grand children who live with their parents. She is about 90 years old and she had 4 children 2 of them passed away and the remaining 2 are living in [her village] too. She does not get any help from any of her children nor grandchildren.

She goes to fetch water from wells when the tap water is not available, also carries firewood from the nearby cashew nut trees. Her piece of land is 2 acres but she is capable of cultivating ½ an acre only where she grows cassava, beans and pigeon beans. Her shamba is 5 kilometers away and she goes there every day on feet. Nowadays, no money no treatment, everything is cash, if you don't pay you don't receive the treatment.

Her shamba does not produce enough for using whole year long; therefore she has to work as a waged laborer for supplement. She has children and grandchildren but nobody cares for her. One day she walked from [her village] to Kongowe on her way to Tumbi Hospital. This is because she cannot afford hiring a bodaboda from [her village] to Kongowe at Tsh 1000/- She goes to sleep at 8pm daily.

[‡] The significance of pedestrian load-carrying for older people's health and livelihoods is, as yet, inadequately understood.

*Example 2: OP research group interview with a man, 70 years, off-road village.
[The interview data in this case was recorded by a woman former agricultural extension worker, who chose to tabulate relevant information]*

Questions		Answers
1	What are your daily routine journeys?	Going to Kongowe Going to the Mosque [in the village] Dar es Salaam Going home (Kilwa) once per year
2	How far is your farm?	Not more than 10 minutes, a 1 kilometer distance
3	What kind of transport are you using when going to the farm?	I use bicycle or I do walk
4	How many times do you go to the farm?	Everyday in the morning.
5	Expenses associated with going to the farm?	Bicycle repair, Tshs 500/-
6	What challenges are you facing in farming?	During rainy seasons we are troubled with snakes, and fevers. Drought is also a problem
7	Going to Kongowe takes how long?	I leave at 7:00 am and return at 9:00 am
8	What transport do you use when going to Kongowe?	I hire a motorbike, I travel alone or sometimes with my family
9	How much does it cost to hire a motorbike up to Kongowe?	2000/- Tshs go and return, walking is 1 hour

10	Reasons of going to Kongowe?	Buying home needs
11	Do you carry goods with you? Are there any associated costs?	Yes, when returning home I carry some goods/items bought for home use, and if the luggage is not bigger it is free, we pay 500-1000/ Tshs for bigger luggage
12	What other journeys you do?	I go to the dispensary when am sick
13	How far is the dispensary? And how do you go to the dispensary?	It is 2 kilometer. I go to the dispensary by walking, by bicycle and sometime by a motorbike.
14	What are the costs for transport?	It is Tshs 1,000 by motorbike to the dispensary.
15	If one is very ill how do you go on motorbike?	We don't have car taxi here. We usually have to go to Kongowe, hire a taxi there at Tshs 40,000, during the rain season it is difficulty to use motorbike because of water pot holes on the road,

Mobile interviews (along the same lines as the mobile ethnographies described in section 2.2), were planned to gather more detailed information about daily journeys, including those made for livelihood and health care reasons. However, these were less successful, in part because of the practical difficulties of arranging walks at the same time as the community visits. but their failure was probably mostly a factor of the age (and, in some cases, disabilities) of both researchers and respondents: stiff joints did not predispose either interviewers or respondents to undertake journeys, especially in the middle of the day, without very strong reason. Community visits generally did not get underway after mid-morning, when the whole research team was assembled and, by that time, most of the older people respondents had already completed their (usually early) morning walks to collect water and visit their farm, and were not planning to make further journeys until the temperature reduced, in the early evening (by which time our OP researchers were tired and needed to return home to pursue their own evening tasks). Instead, the OP researchers decided to keep a journal for two weeks of their own journeys, but these lacked the thickness of description that a mobile ethnography with its careful recording (of conversation, silences and broader observations) might provide. Perhaps with more training on ethnographic diary writing, these journals would have been more effective (and is a point for consideration in future work of this kind).

Seasonal calendars and timelines were more successful. The seasonal calendars were incorporated to aid understanding of changes in accessibility and associated livelihood and health journeys over the year. This is particularly important context in a region where heavy rains during the wet season can make roads impassable for hours, even days, and the health status of all inhabitants may decline as a result of increased malaria incidence and reduced availability of food and funds in this period. The construction of timelines, to find out about typical journeys made by older people during one day and also over a week, proved particularly useful for exploring daily carrying activities (information on the types of crops and other loads carried [e.g. fertilizer, firewood, water], who carried them, what method they used [pedestrians load carrying, IMT such as handcarts or wheelbarrows, motorised transport], and how often various loads were carried during the day or a week). Respondents were encouraged to

draw a line and divide it according to appropriate segments of day (morning, afternoon, evening) or week (days of the week). Instructions were thus given as follows by the trainer: Daily journeys: Ask about journeys that respondents typically make every day or almost every day. Invite them to indicate the time of day on the line. Encourage discussion of the journey/s using the issues listed above as a starting point. Make notes of key issues highlighted. Weekly journeys: Ask about journeys that respondent typically makes each week. Invite respondent to indicate the days that journeys are made and encourage discussion. Make notes.

4. Conclusion

The participation of older people as researchers in the initial stages of the mobilities and transport study discussed above was central to the project design of the older people study. Given the development objective of our research, we deemed it vital that older peoples' perspectives help shape our questions from an early stage.

In the event, older people's input as co-investigators proved vital in drawing attention to, and clarifying, some of the key mobility issues of their peers: in particular, those intra-village movements which are essential to household maintenance – collection of water, firewood and food for home consumption from distant locations and their carriage home mostly by pedestrian transport (usually head-loading). While such intra-village movements would be unlikely to appear in a conventional transport study, they were identified by older people as among the biggest mobility hurdles of their everyday lives. The peer research work also emphasised the potential of younger generations' mobility to mediate the mobility tasks of their elders: older people who had grand-children capable of carrying a few containers of water to their home, before leaving for school, were able to reduce some of their most burdensome mobility tasks.

On the basis of findings from the initial investigations, we were able to ensure full coverage of these issues in the subsequent academic qualitative and survey research. Had we limited our study to a conventional quantitative survey, it is unlikely that we would have identified the strong significance for older people (with limited strength to carry loads) of these local, intra-village transport issues. At the same time, by building their own body of evidence, the older people peer researchers felt they had moved into a position where they could speak directly to people in power about their needs. At the final project workshop in Dar es Salaam, attended by local and national government officials from the health and transport sectors, as well as diverse NGOs, they thus argued their case for stronger government support to older people with remarkable confidence. Such genuinely participatory processes which not only provide clear evidence but can also help bring the issues at stake to wider public attention, thus arguably have a substantial role to play in improving social justice in Africa's transport sector.

Co-investigation practices will inevitably be shaped, to some extent, by the nature of the peer research group and its positionality within the community where it resides. The older people's group included a few men and women who, despite their age, still had resources and some authority in their village. None of the child researchers who participated in earlier studies described above were in anything like this position: most lived in families where children were expected to be seen and not heard - they had never been consulted by adults before and it took time to build their confidence in working with the academic team. Nonetheless, overall day-to-day differences between working with the child researchers and with older people as peer researchers have been, in many respects, surprisingly small. The only significant difference in the repertoire of research tools utilised was with respect to use of mobile ethnographies (described above). Whether working with children or older people (or indeed any potentially vulnerable group), careful establishment and agreement of ethical practices at the outset is essential, as is a persistent eye to ensure that such standards are maintained throughout the programme of research.

To conclude, we propose that co-investigation is one of a number of qualitative approaches with great potential for wider application in research into transport- and mobility-related social exclusion. It worked very well with an age group rarely consulted in development research [just as it had done previously in the studies with young people] and is likely to have relevance beyond the developing country context where we employed it. However, a few final notes of caution about participatory research of this kind are appropriate: firstly, sound data collection using this

approach, with appropriate ethical procedures (to protect both the peer researcher collaborators and the respondents), is time-consuming; secondly, participatory research needs to be carried out with very careful attention to the landscapes of power, politics and vested interests in which it is located (Mohan and Stokke, 2000; Cooke and Kothari, 2001). As Mosse (2003) observes, the dangers of a rhetoric of partnership and rituals of collaboration are substantial: in African transport contexts, where the playing out of vested interests is often all too apparent, such warnings have particular resonance.

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References

- Aboderin I. Decline in family material support for older people in urban Ghana *J of Gerontology, series B* 2004 59,3: S128-S137.
- Apt N. Aging in Ghana. *Caring* 1997; 16, 4: 32-4.
- Barker JA. Methodologies for change? A critique of applied research in children's geographies, *Children's Geographies* 2008; 6, 2: 183-194
- Barrientos A, Gorman M, Heslop A. Old age poverty in developing countries: contributions and dependence in later life. *World Development* 2003; 31,3: 555-570.
- Cooke B, Kothari U. (eds) *Participation: the new tyranny?* Zed Books, London 2001.
- Heslop A, Gorman M. *Chronic poverty and older people in the developing world*. CPRC Working Paper 10. Manchester: IDPM, University of Manchester 2002
- Ibraliyeva K, Mikkonen-Jeanneret E. Constant crisis: perceptions of vulnerability and social protection in the Kyrgyz Republic. HelpAge International, July 2009.
- Lee J, Ingold T. Fieldwork on foot: perceiving, routing, socializing. In: S. Coleman and P. Collins, eds. *Locating the field: space, place and context in Anthropology*, ASA Monograph. Oxford: Berg 2006.
- Ingold T, Vergunst JL. Introduction. In: *Ways of walking: ethnography and practice on foot*. Aldershot: Ashgate 2008.
- Mohan G, Stokke K. Participatory development and empowerment: the dangers of localism. *Third World Quarterly* 2000; 21, 2:247-268.
- Mosse D. The making and marketing of participatory development. In P. Quarles van Ufford and A. K. Giri (eds) *A moral critique of development: in search of global responsibilities*. Routledge, London 2003.
- Porter G, Abane A. Increasing children's participation in transport planning: reflections on methodology in a child-centred research project. *Children's Geographies* 2008; 6, 2: 151-167.
- Porter G, Blaufuss K, Owusu Acheampong F. Gendered patterns of IMT adoption and use: learning from Action Research. *Research in Transport Economics* 2012; 34: 11-15.

Porter G, Hampshire K, Abane A, Munthali A, Robson E, Mashiri M, Maponya G. Where dogs, ghosts and lions roam: learning from mobile ethnographies on the journey from school. *Children's Geographies* 2010; 8,2: 91-105.

Porter G, Hampshire K, Abane A, Munthali A, Robson E, Mashiri M, Tanle A. Youth Transport, Mobility, and Security in Sub-Saharan Africa: The Gendered Journey to School. *Women's Issues in Transportation: Summary of the 4th International Conference*, University of Irvine, California. October 27–30, 2009, p. 105-117.

Porter G, Hampshire K, Abane A, Munthali A, Robson E, Mashiri M, Tanle A, Maponya G, Dube S. Child portage and Africa's transport gap: evidence from Ghana, Malawi and South Africa. *World Development* 2012; 40,10: 2136-2154.

Porter G, Hampshire K, Bourdillon M, Robson E, Munthali A, Abane A, Mashiri M. Children as research collaborators: issues and reflections from a mobility study in sub-Saharan Africa. *American Journal of Community Psychology* 2010; 46,1: 215-227.

Porter G, Tewodros A, Bifandimu F, Gorman M, Heslop A, Sibale E, Awadh A, Kiswaga L. Transport and mobility constraints in an aging population: health and livelihood implications in rural Tanzania. *Journal of Transport Geography* 2013; 30: 161-169

Porter G. Transport planning in sub-Saharan Africa. Progress report 2. Putting gender into mobility and transport planning in Africa (second of three progress reports) *Progress in Development Studies* 2008; 8,3: 281-289.

Porter G. Living in a walking world: rural mobility and social equity issues in sub-Saharan Africa. *World Development* 2002; 30, 2: 285-300.

Porter G. Transport planning in sub-Saharan Africa III. The challenges of meeting children and young people's mobility and transport needs. Progress report 3. *Progress in Development Studies* 2010; 10, no 2: 169-80.

Raballand G, Thornton R, Yang D, Goldberg J, Keleher N, Müller A. Are rural road investments alone sufficient to generate transport flows? Lessons from a randomized experiment in rural Malawi and policy implications. World Bank Working Paper Series - Policy Research Working Papers January 2011 p. 1-24.

Salifu M. The cycle trailer in Ghana: a reasonable but inappropriate technology. *African Technology Forum* 1994; 7, 3:37-40.

Starkey P. Local Transport Solutions: people, paradoxes and progress. World Bank SSATP Working Paper no. 56, May 2001.

Turner J, Ntho M, Tanzarn N. Gender-Equitable Rural Transport Planning in Africa: Future Directions. Report to the Africa Community Access Programme (AFCAP), June 2014.

Van der Geest S. Reciprocity and care of the elderly. An anthropological comparison between Ghana and the Netherlands. *Tijdschr Gerontol Geriatr* 1998; 29, 5: 237-43.