

Institution: Swansea University		
Unit of Assessment: 19		
Title of case study: Motorcycle taxi accessible tracks: Achieving changes in donor and government rural transport policies in Liberia to benefit rural communities and individuals		
Period when the underpinning research was undertaken: 2001 - 2015		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Krijn Peters	Associate Professor	Swansea University 2006-2020
Period when the claimed impact occurred: 2016 - 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Dr Peters' research into the booming rural motorcycle taxi sector in post-war Sierra Leone and Liberia led him to critique the policy of the Liberian government and international donors to build expensive conventional rural (feeder) roads to support rural development. His research led to him arguing instead for the upgrading of rural footpaths to motorcycle taxi accessible tracks to reflect the actual needs of local village economies. This research and advocacy changed the approach of the German Government's Department for International Development (GIZ), leading it to fund a pilot project on 'upgrading rural footpaths to motorcycle taxi accessible tracks'. Peters' research then assessed the socio-economic impact of this project, and found that these tracks reduced rural poverty by improving access to markets, health, and educational services and by creating additional jobs for rural youth. This evidenced the benefit of the motorcycle taxi accessible tracks policy to the opportunities for communities and individuals. The findings provided policy makers and donors with justification for a cheap and evidence-based alternative to conventional road construction. This has resulted in 'footpath to track upgrading' now being part of the strategic 2018-2027 Liberia Multimodal Transport Master Plan, as well as further donor funded projects to construct motorcycle accessible tracks within the country.</p>		
2. Underpinning research		
<p>This case study has its origins in extensive fieldwork undertaken by the author during (1996/97 and 2000) and immediately after (2002/03) major armed conflicts in Sierra Leone and Liberia. The research focused on the causes of the wars, and the disarmament, demobilization and reintegration (DDR) process for ex-combatants and rural post-war reconstruction [R1]. Unfortunately, the DDR's vocational skills training did little to enable the demobilized combatants to secure jobs, and the research found that many of the newly unemployed started to take up motorcycle taxi riding. This sector spontaneously emerged after the end of the wars, providing tens of thousands of new jobs for a cohort who could have otherwise threatened the fragile peace process [R2]. Peters first presented these findings to a key international donor, the German Government Department for International Development - GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) - in 2009 [R3] and other audiences.</p> <p>Peters and James Clarke, a rural road rehabilitation engineer working in Liberia for USAID, then developed an idea that would better support the market-driven spread of motorcycle taxis in rural areas than the existing Liberian government and international donors' policy of building expensive conventional rural (feeder) roads to support rural development. Clarke recalls that 'based on my experience with rural access and feeder road rehabilitation and Dr Peters' understanding of motorcycle taxis in unlocking and enhancing rural development, we concluded that upgrading rural footpaths to motorcycle accessible tracks would be a cost-effective strategy to achieve socio-economic development in a highly resource-constrained environment' [C6]. Peters concluded that such an intervention [R4] – if combined with rigorous</p>		

data collection on its impact - would fill a policy and knowledge gap in Liberia's (or for that matter, the region's) rural road infrastructure development strategy, created by the recent proliferation of motorcycle taxis.

Peters subsequently secured a GBP135,000 Economic and Social Research Council (ESRC)/ Department for International Development grant (2015-2018) to evaluate the socio-economic impact of a motorcycle accessible tracks project, which was funded by GIZ and implemented by the American NGO Global Communities. Peters was assisted by two local NGOs - AKA Research, Sierra Leone and LIDA, Liberia. He collected base-line data (over 200 detailed household surveys) in two track construction village clusters and in a control village cluster in April/May 2016 over a 5-week period. Following track construction from late 2016 to early 2017 Peters then conducted end-line surveys in April/May 2018 [R6]. He conducted a parallel ReCAP/DfID funded study – with an approximate value of GBP50k - on gender mainstreaming in the rural motorcycle taxi sector in Liberia (and Sierra Leone). Again, with the support of AKA and LIDA, Peters gathered further evidence in the track area in 2017, through a mixed-method approach, implementing and conducting traffic counts, individual interviews, male and female focus-group discussions (10x), and rider (70x) and passenger (80x) surveys [R6].

3. References to the research

R1 is an academic peer reviewed monograph. R2 is an online open-access journal. R3 is a reviewed chapter in an edited collection. R4 and R6 are peer reviewed articles in a journal with an impact factor of 1.1. R5 is a peer reviewed article in a journal with an impact factor of 1.6

R1- PETERS, K. 2011. War and the Crisis of Youth in Sierra Leone. International African Institute Library Series, Cambridge University Press. pp. 274

<https://www.cambridge.org/core/books/war-and-the-crisis-of-youth-in-sierra-leone/B022BC412BD991E3B86B572113F98FD5>

R2 - PETERS, K. 2007. "From Weapons to Wheels: Young Sierra Leonean ex-combatants become motorbike taxi-riders." Journal of Peace, Conflict and Development No 10, March 2007, pp. 1 – 23 <https://core.ac.uk/download/pdf/29263188.pdf>

R3 - BURGE, M. & PETERS, K. 2010. Soziales Kapital als Potenzial kollektiver Demobilisierung. In Jugendliche in gewaltsamen Lebenswelten [Social capital and collective demobilisation packages for ex-combatants: The case of Sierra Leone's bike riders. In *Youth in violent life circumstances. Ways out of the 'vicious circles of violence.'* (eds. KURTENBACH, S., BLUMOR, R. & HUHN, S.) Nomos/GTZ, Baden-Baden https://kops.uni-konstanz.de/bitstream/handle/123456789/35120/Buerge_0-352514.pdf?sequence=3&isAllowed=y

R4 - JENKINS, J. & PETERS, K. 2016. "Improving Rural Connectivity in Africa with Motorcycle Tracks" in Transport, Special Issue: Transport and Global Poverty. Vol. 169 (6) pp. 378–386 <https://doi.org/10.1680/jtran.15.00080>

R5 - JENKINS, J., PETERS, K. & RICHARDS, P. 2020. At the End of the Feeder Road: assessing the Socio-economic Impact of Upgrading Rural Footpaths to Motorcycle Taxi-Accessible Tracks in Liberia. NJAS – Wageningen Journal of Life Sciences. Vol. 92, <https://doi.org/10.1016/j.njas.2020.100333>

R6 - JENKINS, J., MOKUWA, E., PETERS, K. & RICHARDS, P. 2019. 'Changing women's lives and livelihoods: motorcycle taxis in rural Liberia and Sierra Leone'. In ICE Transport, Special Issue: Gender Mainstreaming in Transport Vol. 173 Issue 2 pp.132-143 <https://doi.org/10.1680/jtran.18.00162>

Research has been funded by the following schemes:				
Who grant was awarded to	The grant title	Sponsor	Period of the grant (dates)	Value of the grant
Krijn Peters	At the end of the Feeder Road	UK Research Councils: ESRC/DfID	June 2015 – May 2018	GBP135,000
Krijn Peters	Assessing Opportunities and Obstacles for Gender Mainstreaming in the Motorcycle Taxi Sector in Rural Sierra Leone and Liberia	CARDNO Emerging Markets	September 2016 – July 2018	GBP45,502.80
Krijn Peters	Global Challenges Research Fund (GCRF) – Institutional Strategies	UK central Government: Higher Education Funding Council for Wales	August 2018 – July 2019	GBP21,535.91
Krijn Peters	Finding Traction: using an 'upgrading footpaths to motorcycle taxi accessible tracks' construction and maintenance manual to increase impact and reach	UK Research Councils: ESRC/DfID	April 2020 – March 2021	GBP98,000

4. Details of the impact

In Africa motorcycle taxis provide access to markets, education, and health facilities for hundreds of millions of rural dwellers. But they can only do so effectively where there are roads. In Liberia more than 1,000,000 people (20% of the country's population) are living in villages connected to the national road network by no more than a footpath. Peters' research led him to advocate upgrading these footpaths to motorcycle accessible tracks, which can be easily constructed and up to 10 times cheaper than feeder road rehabilitation, let alone construction. His research subsequently achieved substantial impact, in terms of both reach and significance, in making the motorcycle accessible tracks concept a reality. This occurred in two principal phases, focused first on a pilot project, and secondly on establishing it more broadly in government and donor policies.

1.Changing the Donor Policy of GIZ and benefiting rural communities and individuals

In 2015 GIZ, which was active in Liberia, was already aware from earlier meetings with Peters of the development contributions brought by motorcycle taxis (see section two). With the ESRC/DFID grant funding in place for 2015-2018, Peters and Clarke convinced GIZ of their 'footpaths to tracks' concept and contributed to the writing of a request for funding (worth €240k (06-2015) by an implementing partner, the American NGO Global Communities. According to GIZ's Ebola Fund Project Manager: ***GIZ's decision to fund the American NGO Global Communities in the construction of approximately 25 km of tracks in Nimba County, Liberia, was to a significant extent influenced by the guarantee that the socio-economic impact of the project on rural communities would be rigorously assessed via the ESRC/DFID funded study "at the end of the Feeder road" (Principal Investigator, K Peters).***

GIZ is looking forward to the findings of the research and if positive, will look for ways to mainstream these into their regular, bilateral programmes. [C7]

Peters' research then assessed the socio-economic impact of this project. Following the end-line study in 2018, it was found that the track project directly benefitted approximately 2,500 people in 23 villages by:

- helping subsistence farmers to start producing for (local) markets, by halving travel times and increasing up to 8 times the amounts that could be transported: ***'We increased the size of our farms because the produce can now be carried by the motorbikes.'*** [C1 & C2]
- providing employment opportunities for vulnerable youth as motorcycle taxi riders with the annual number (extrapolated) of motorcycle taxi journeys along the two new track locations increasing from 0 to 9,600 and from 0 to 5,300. [C1 & C2]
- helping women and children, by reducing head-loading by up to 80% and by enabling micro trading in the villages due to improved access to urban markets: ***The riders have helped us greatly because [we women] can just send them to town to buy all the goods we need in town.'*** [C1 & C2]
- providing faster and more convenient access to (maternal) health facilities: ***'Because of the tracks, we don't die of health problems because [motorcycle taxis] can come and take [sick people to healthcare].'*** [C1 & C2]
- improving school attendance rates now that pupils did not have to carry loads to the roadside/market anymore: ***'Before the track was made, there were hardly any children in school on a Monday because they were all busy helping their parents to get the produce from the farms ... We have full classrooms on Mondays now.'*** [C1 & C2]

Taken together, Peters' socio-economic impact study of the GIZ-Global Communities project that he had helped to initiate showed that the tracks reduced rural poverty by improving access to markets, health, and educational services and by creating additional jobs for rural youth. This evidenced the benefit of the motorcycle taxi accessible tracks policy to the opportunities for communities and individuals.

2.Changing Long-term Government and Donor Transport Policy in Liberia

The broader significance of the research findings from this pilot project became clear even before the final findings were documented. During a visit in November 2016 to the pilot site, Peters was accompanied by a World Bank Technical Advisor, who was in the country to help in formulating the country's next strategic 2018-2027 Liberia Multimodal Transport Master Plan. The Technical Advisor was quickly convinced by the merits of the pilot project and by the robustness of the data gathered, stating that: ***'this initiative, and quantification of its impact through rigorous, academically sound research, is extremely important,' continuing that: 'The base-line, mid-term and impact data gathered by the research team led by Swansea University will likely further strengthen the commitment of these governments and donors to adopt this transformational new approach to rural mobility.'*** [C8].

The World Bank Technical Advisor subsequently presented the motorcycle accessible tracks concept to a high panel including international donors (USAID, SIDA, GIZ & EU among others), as well as the Minister of Transport and his junior staff in Liberia. As a result, the Liberia Masterplan now includes track construction as an integral component of rural access [C3]. In November 2018 Dr Peters presented the ESRC/DfID research's findings to a group of around 30 government officials, donors, and civil society representatives at the Ministry of Public Works in Liberia and at the Road Safety Authority in Sierra Leone. A Policy Brief was distributed - including to the Sierra Leone Minister of Development and Economic Planning in a private meeting - and emailed to those who could not attend and posted on the ReCAP/DfID website [C1].

Because the evidence showed a clear and positive multi-sectoral impact of the motorcycle accessible tracks concept, Peters' research has also changed the policies of donors more broadly focused on rural development [C4]. Following the dissemination of the study's findings, GIZ's Capacity Development Advisor in the Transport Sector in Liberia stated: ***'Having seen the tracks and having read the research evidence, we, at GIZ, are now looking to mainstream the***

'footpath to track' upgrading concept into our regular, bilateral programmes. As such GIZ is in full support of the German NGO Welthungerhilfe, who is preparing 'footpath to track upgrading' interventions in Grand Gedeh County in Eastern Liberia to further enhance their agricultural development programmes'. [C9]

Peters oversaw the baseline study (2019) for assessing the socio-economic impact of the Grand Gedeh track that will benefit a further 3,000 villagers. This was welcomed by the County Superintendent, the highest government authority at County level: ***'It is clear to us, based on these research findings [presented in a meeting and policy brief], that this is a very beneficial intervention. We also know that 'footpath to track upgrading' is supported by the Liberian national government because it is currently in the draft MPW master plan. Based on the outcomes of the [Swansea] research we, as the County Government, are now fully in support of this type of intervention...'*** [C10].

In early 2020 Peters was awarded an ESRC/DFID Follow On grant (GBP98,000) to enable him and his team to put together a 'footpath to track' manual. This manual is based on the data collected and lessons learned from the Nimba County tracks and aimed at County engineering teams and rural communities, to further expand impact and reach [C5]. In the immediate term it is guiding the Welthungerhilfe track construction in Grand Gedeh County. SIDA (the Swedish equivalent to DfID) has committed a further USD100,000 (12-2020) worth of tracks in the centre of Liberia (Bong County), as a pilot to mainstream the methodology in its Liberia Swedish Feeder Road Project, phase IV of which is to commence in 2022.

5. Sources to corroborate the impact

C1 - Policy Brief (2018): Upgrading Footpaths to Motorcycle Taxi accessible Tracks: Accelerating Socio-economic Development in rural Sub-Saharan Africa.

C2 - Motorcycle taxis – the fast track to prosperity for Liberian villages (January 2019)
<https://webarchive.nationalarchives.gov.uk/20200930152941/https://esrc.ukri.org/news-events-and-publications/news/news-items/motorcycle-taxis-the-fast-track-to-prosperity-for-liberian-villages/>

C3 - Liberia Multimodal Transport Master Plan (2018-2027), prepared for Ministry of Transport and Ministry of Public Works, by Cardno IT Transport, January 2018.

C4 - Improving rural lives through the Liberian motorbike boom (PDF, The Impact Initiative)
https://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/13434/Liberia_Motorbike_Boom.pdf?sequence=1&isAllowed=y

C5 - Finding traction: using an 'upgrading footpaths to motorcycle taxi accessible tracks' construction and maintenance manual to increase impact and reach (April 2020)
 ES/T016000/1

C6 - Rural Road Engineer and Team Leader for USAID's Feeder Road Alternative Maintenance Project.

C7 - GIZ Project Manager of Ebola Recovery Fund.

C8 - World Bank Technical Advisor and Consultant in Integrated Transport and Transport Service.

C9 - GIZ Capacity Development Advisor in the Transport Sector in Liberia.

C10 - Superintendent Grand Gedeh County, Liberia.