Enhancing understanding on safe motorcycle and three-wheeler use for rural transport

Final Country Report: Ghana

Transaid, Amend and TRL

RAF2114A

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Contents

Abstract

This Ghana Country Report presents the Ghana-specific findings of the project 'Enhancing understanding on safe motorcycle and three-wheeler use for rural transport and the implications for appropriate training and regulatory frameworks'. This project was carried out in Ghana, Kenya, Tanzania and Uganda between September 2017 and January 2019.

Based on the findings of a comprehensive literature review and a stakeholder mapping and engagement exercise, an in-depth study was designed, including a number of activities that were carried out in all four countries and a number of country-specific activities. Activities included reviews of the regulatory framework and training, a survey of the benefits and disbenefits of motorcycle and three-wheeler taxis, key informant interviews and focus group discussions. In Ghana, a review of existing data on vehicle registrations and injuries was carried out, looking in particular at data from rural areas.

The study has revealed that, despite the use of motorcycles and three-wheelers as taxis being illegal, they are very important for rural travel, and are popular among rural communities. They are especially important for health-related trips and also provide economic advantages, creating employment and supporting agriculture.

As well as the many benefits that motorcycle taxis provide, riders and passengers also suffer from crashes, crime, abuse and health issues, and they create safety risks for other road users. A very small proportion of people in rural communities does not – or cannot – use motorcycle taxis, but for the vast majority they are the most common form of day-to-day transport.

The results of the study can be used by the Ghanaian government and others to better understand the issues related to motorcycle taxis in rural areas and to develop policy and practice to maximise their benefits and minimise the disbenefits. This includes the possible uptake of two manuals that have been developed as part of this project: a motorcycle taxi instructors' manual and an operating manual for motorcycle taxi associations.

Key words

Motorcycles, Motorcycle taxis, Three-Wheelers, Rural transport, Rural access, Safety, Training, Regulatory framework, Enforcement, Ghana

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The authors would also like to acknowledge the invaluable input of the wider project team, including Sam Clark, Tendayi Kureya and his team at Development Data, John Hine and Cathy Green. We would also like to thank David Adonteng and Patrick Bekoe.

Acronyms, units and currencies

AfCAP	Africa Community Access Partnership
AsCAP	Asia Community Access Partnership
BRRI	Building and Road Research Institute (Ghana)
DFID	Department for International Development (United Kingdom)
DFR	Department of Feeder Roads (Ghana)
DVLA	Driver and Vehicle Licensing Authority (Ghana)
GBP	British pound sterling
GHS	Ghanaian Cedi (GBP 1 = GHS 6.30, at 1st July 2018)
GPS	Global positioning system
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
km	Kilometre(s)
KSI	Killed or seriously injured
LI2180	Legislative Instrument 2180 (Ghana)
MAAP	Microcomputer Accident Analysis Package
MRH	The Ministry of Roads and Highways (Ghana)
MTTD	Motor Traffic and Transport Directorate (Ghana)
NGO	Non-governmental organisation
NRSC	National Road Safety Commission (Ghana)
NVTI	National Vocational Training Institute (Ghana)
PMU	Programme Management Unit (of ReCAP)
PPE	Personal protective equipment
ReCAP	Research for Community Access Partnership
SMS	Short message system
TRL	Transport Research Laboratory
UK	United Kingdom (of Great Britain and Northern Ireland)
UKAid	United Kingdom Aid (Department for International Development, UK)
UNICEF	The United Nations Children's Fund
USD	United States dollar (GBP 1 = USD 0.75724, at 1st July 2018)
VAT	Value Added Tax
WHO	World Health Organization

Executive summary

The project 'Enhancing understanding on safe motorcycle and three-wheeler use for rural transport and the implications for appropriate training and regulatory frameworks' was carried out in Ghana, Kenya, Tanzania and Uganda between September 2017 and January 2019.

The use of motorcycles in many African countries has increased greatly in recent years. Motorcycles are often used as taxis, with riders[1] charging a fare to carry passengers or goods. In rural areas, motorcycle taxis play a crucial role in connecting people to services and farmers to markets, and in many countries motorcycles are the most commonly found vehicle on rural roads. As motorcycles often travel off the road, along paths and tracks, they have changed the nature of rural transport, effectively 'widening' the impact of roads.

Motorised three-wheelers are also used in some countries, although their numbers are far fewer, especially in rural areas.

In some African countries, including Ghana, the use of motorcycles and motorised three-wheelers to carry fare-paying passengers is banned, although these bans are not always enforced, especially in rural areas. In Uganda, the use of only motorised three-wheelers as taxis is banned.

The overall aim of this project is to improve knowledge and understanding concerning effective ways of enabling rural people to benefit from the safe use of motorcycles and three-wheelers, with an emphasis on rural motorcycle taxis, rider training, appropriate regulatory frameworks and realistic enforcement methods.

This Ghana Country Report provides a brief introduction to the project and then describes the findings of the Ghana research activities. It presents brief conclusions and a set of recommendations specific to the Ghanaian situation. For more detailed discussion and more comprehensive recommendations, the project's Final Report will be of interest to readers.

[1]Throughout this report, the term 'rider' is used to mean the driver or operator of a motorcycle or three-wheeler. The term rider does not include passengers.

1 Introduction

The research project 'Enhancing understanding on safe motorcycle and three-wheeler use for rural transport and the implications for appropriate training and regulatory frameworks' was carried out by a consortium led by Transaid and including Amend and TRL (the UK's Transport Research Laboratory).

1.1 Research Objectives

The overall aim of the project was to improve knowledge and understanding concerning effective ways of enabling rural people to benefit from the safe use of motorcycles and three-wheelers, with an emphasis on rural motorcycle taxis, rider training, appropriate regulatory frameworks and realistic enforcement methods.

1.2 Research Countries

The research project covers four countries: Ghana, Kenya, Tanzania and Uganda, shown in Figure 1.

Figure 1 The four project countries

According to the latest data available from the World Health Organization (WHO, 2015) at the time that this project was developed, motorcycles and motorised three-wheelers made up 23% of the total registered vehicle fleet in Ghana, 37% in Kenya and 34% in Tanzania. Comparable data was not available for Uganda at the time this project was developed, but more recent WHO data published during the course of this project put the figure for Uganda at 59% (WHO, 2018).

1.3 Research Methodology

Three main activities were conducted across all four project countries. These activities were:

- A review of motorcycle and three-wheeler taxi-related regulatory framework and enforcement methods
- A review of motorcycle and three-wheeler taxi rider training
- A survey of benefits and disbenefits of motorcycle and motorised three-wheeler taxis among riders and other users in rural areas

An investigation into the potential of technology to enhance safe motorcycle and three-wheeler use for rural transport was also carried out in three of the project countries – Kenya, Tanzania and Uganda – and also in Rwanda, which is known throughout Africa as a centre for mobile phone technology. Ghana was not included in this investigation.

In addition, country-specific activities were undertaken, addressing specific research gaps identified during the Inception Phase. These activities were:

- In Ghana, reanalysis of existing motorcycle and three-wheeler related data with a rural focus
- In Kenya, a study to understand the health-related benefits and impacts of motorcycle and three-wheeler use
- In Tanzania, the development of two manuals: one to improve the operations of motorcycle taxi associations, and one for rider training
- In Uganda, investigations to understand the barriers to motorcycle and three-wheeler taxi use faced by some members of the study communities

Following completion of the research activities, a draft country discussion paper was produced for each of the four countries, based on an initial analysis of the data.

These draft discussion papers were presented at a series of workshops – firstly a 4-day workshop that brought two key government stakeholders from each of the four countries together with the project team, and secondly four 1-day workshops (one in each country) of around 30 stakeholders each.

These workshops allowed the project team to present the initial findings of the different research activities, including comparisons between the four countries, and provided opportunity for questions to be asked and ideas to be shared.

1.4 Background to Motorcycles and Three-Wheelers in Ghana

In Ghana, motorcycles were originally used for private purposes but later became commonly used as taxis. Motorcycle taxis are known as 'okada', a term that has spread across Anglophone West Africa from Nigeria.

The number of motorcycles in Ghana grew rapidly from the early 2000s until 2012. Latest data from the WHO show that in 2016, there were over 515,000 registered motorcycles and three-wheelers in Ghana (WHO, 2018). This was an increase of over 47% from around 350,000 in 2012, despite the fact that in 2012, Legislative Instrument 2180 (LI 2180) banned the use of motorcycles for commercial activities.

However, enforcement of the ban has proved challenging due to the limited resources available to enforcement agencies.

Okada are found in both urban areas and in most rural areas, especially in the southern part of the country. Outside the large cities, okada are found mostly at junctions and villages along the main roads, providing feeder services to the hinterlands. In the northern part of the country, motorcycles are mostly privately owned, with their use as taxis being far less prevalent than in the south. Three-wheelers are also commonly found in rural areas, used to transport agricultural produce as well as passengers.

Although registration of motorcycles in the country does not distinguish private use from commercial use, it has been observed that, in spite of the ban, there is growth in the use of motorcycles as taxis. Okada provide several benefits, including filling a much-needed transport gap and providing employment and income generation, especially for young men.

The authorities in rural areas often turn a blind-eye to the use of motorcycles and three-wheelers as taxis, primarily as they lack manpower and other resources to enforce the ban, but also as they recognise the benefits that these forms of transport provide to rural communities. The result of this is that there is also very limited enforcement of other regulations, such as on helmet use, vehicle overloading, insurance and rider under-age limit, particularly on low volume roads.

There is currently a movement to review the legislative instrument that bans the use of motorcycles as taxis to reflect the current transport needs, especially in rural areas.

2 Research Findings in Ghana

2.1 Stakeholder Mapping and Engagement

During the Inception Phase, on 17th October 2017, a workshop was hosted in Accra to introduce the project to government stakeholders. This was attended by representatives of the following institutions:

- Ministry of Transportation
- Ministry of Roads and Highways (the AfCAP partner institution)
- Ministry of Food and Agriculture
- Department of Feeder Roads
- Department of Urban Roads
- Driver Vehicle and Licensing Authority (DVLA)
- National Road Safety Commission (NRSC)
- Ghana Police Service/Motor Transport and Traffic Directorate (MTTD)

Initial meetings were also held with a rural District Assembly and a rural motorcycle taxi association.

The stakeholder mapping exercise in Ghana identified a total of 19 stakeholders who have some responsibility or interest related to motorcycle and three-wheeler taxis in rural areas, representing government, private sector, and civil society. A full list of these stakeholders can be found in the project Inception Report.[2]

2.2 Review of Regulatory Frameworks and Enforcement Methods

LI 2180 of the Road Traffic Regulations, 2012, prohibits the use of motorcycles and three-wheelers for commercial purposes, except for courier and delivery services. In this way, Ghana is different from the other three countries in this study, where such use is legal.

Specific offences include:

- The registration of a motorcycle or three-wheeler, by the licensing authority, to carry a fare-paying passenger
- The giving of permission by a person who exercises control of a motorcycle or three-wheeler for that motorcycle or three-wheeler to be used to carry a fare-paying passenger
- The use of a motorcycle or three-wheeler to carry a fare-paying passenger
- The riding of a motorcycle or three-wheeler as a fare-paying passenger

Motorcycles and three-wheelers are permitted for personal use. For personal use, legislation exists covering the age of a rider (minimum 18 years), the requirement for the rider to have a licence and for the vehicle to be insured, and the use of helmets by riders and passengers.

All road transport-related legislation is enforced by the MTTD of the Ghana Police Service. The DVLA is responsible for registering all public and private transport. There is currently no authority that regulates public transport services, although such an authority is being considered for the future.

In general, the implementation and enforcement of motorcycle and three-wheeler taxi-related legislation, including the prohibition of their use for commercial purposes, has been challenging. Soon after the introduction of LI 2180, enforcement efforts were strong, but with time they weakened. This has especially been the case in rural areas, where motorcycle and three-wheeler taxis are widespread.

In some areas, there are efforts by local government to regulate motorcycle and three-wheeler taxis, with Local Assemblies requiring riders to register and pay an annual fee of GHS 10 (c.GBP 1.59), for which they

[2] http://www.research4cap.org/Library/BishopBarber-AmendTransaid-2017-EnhancingUnderstandingSafeMotorcycleThreeWheelerUse-Inception-AfCAP-RAF2114A-180130.pdf

receive a registration sticker which should be displayed on the motorcycle. Local Assemblies see this as a means of regulating the industry and improving safety, as well as generating income.

In some areas, police attempt to enforce laws related to helmet use, numbers of passengers, and possession of driving licences and insurance, treating the motorcycle and three-wheeler taxi riders as if the vehicles are for personal use, and ignoring the fact that they are being used as taxis. In such cases, riders may be arrested and their vehicle impounded until a fine is paid. In these areas, riders have formed themselves into informal associations, through which they help each other to pay fines, as well as to provide support in the case of injury, illness and other problems.

In other areas, police are reluctant to enforce some laws against motorcycle and three-wheeler taxis, as to do so would be to recognise that their use as taxis is illegal.

Some of the officers interviewed as part of this study recognise the benefits of motorcycle and three-wheeler taxis, especially in rural areas. However, with limited resources to manage them, they admit that they are struggling to cope with the increasing number of crashes. As well as limited resources, another challenge noted by police officers at both headquarters and at the local level is political interference, for example whereby politicians own motorcycles and three-wheelers, renting them out for use as taxis as a source of income, and using their positions of power to protect their riders from fines.

Several police officers interviewed as part of this study expressed very negative attitudes towards motorcycle taxi riders. As well as crashes caused by poorly-trained riders, motorcycle taxis are blamed for causing male youths to drop out of school, hence exacerbating low levels of education.

2.3 Review of Motorcycle and Three-Wheeler Taxi Rider Training

Regulation 26 of LI 2180 states that an applicant for a driving licence must have undergone at least forty-eight hours of basic driver training prior to being issued the licence. This applies to applicants of all motorised vehicle classes, and so includes motorcycles and three-wheelers. However, there is no specific nationally-mandated course for training motorcycle and three-wheeler riders. This project's survey of benefits and disbenefits found that only 1% of motorcycle and three-wheeler taxi riders had undergone any formal training.

Discussions with the manager of one driver training school – which was registered with the DVLA and the National Vocational Training Institute (NVTI) – revealed that it had no formal training programme for motorcycle or three-wheeler riders. Indeed, the manager appeared surprised to think that any motorcycle or three-wheeler rider would need to seek formal training, as most learn from their fellow riders. He said that if the school were to provide training to motorcycle or three-wheeler riders, the cost would be GHS 560 (c.GBP 89), which is the same as the price for training to drive a private car.

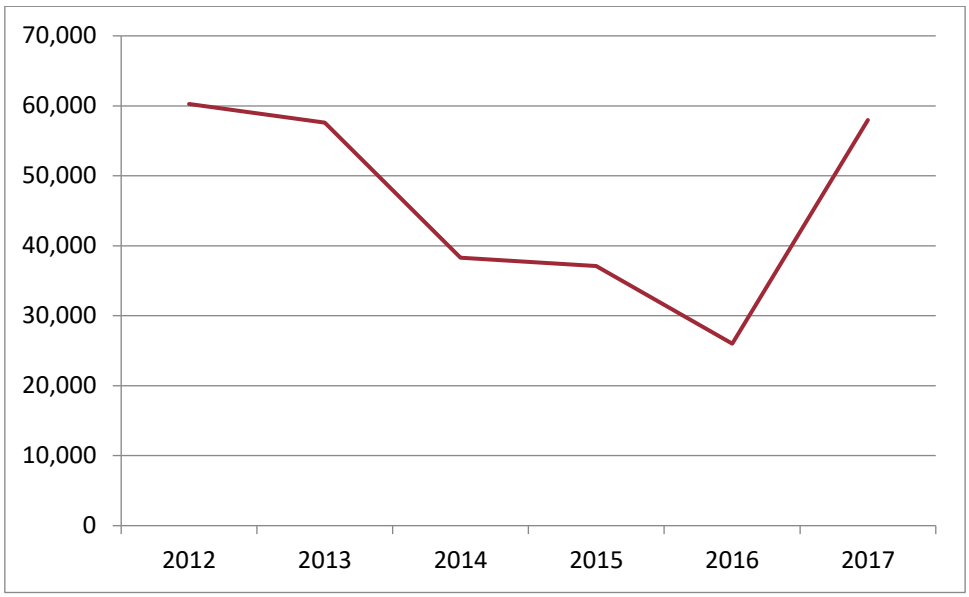
In some areas, in the absence of formal training for motorcycle riders in Ghana, police conduct occasional outreach programmes to educate riders on key basic points, such as road signs, use of helmets and number of passengers. In Adansi South, police believe that their training has been effective in reducing motorcycle crashes, although to date no study has been undertaken to prove a correlation.

The police outreach programmes are sometimes undertaken in collaboration with DVLA, local informal riders' associations and local road safety ambassadors.

2.4 Analysis of Existing Data with a Rural Focus

2.4.1 Vehicle registration data

Looking at the vehicle registration data, the number of motorcycles and three-wheelers registered annually reduced in the years following the ban on their use as taxis in 2012. However, in 2017 there was a dramatic reversal in this trend, with the number of registrations increased. This is shown in Figure 2.



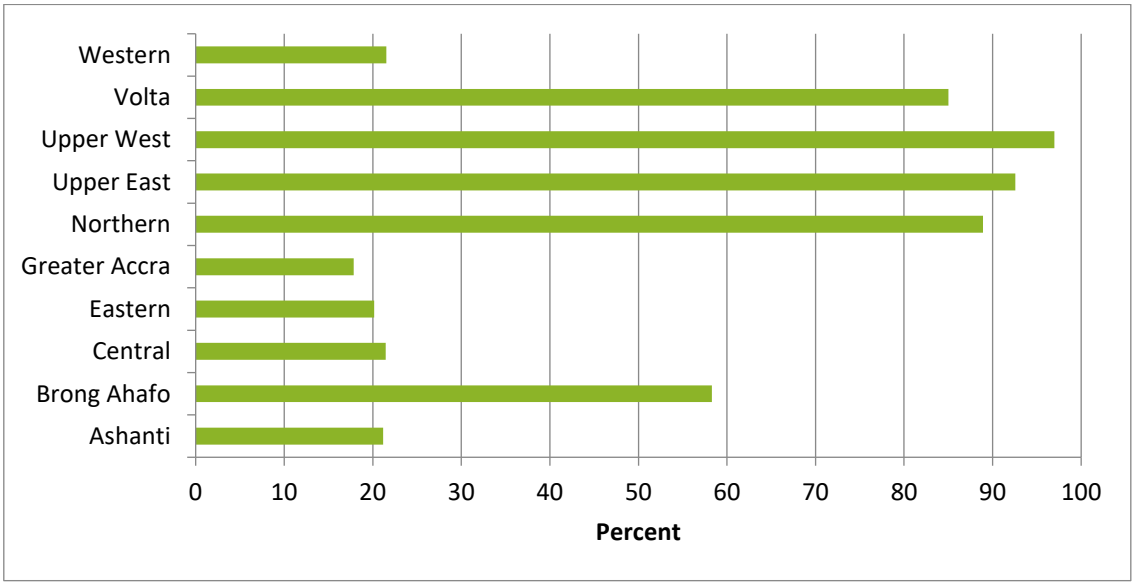
Source: DVLA, 2018

Figure 2 Numbers of motorcycles (inc. three-wheelers) registered in Ghana per year, 2012 to 2017 (inclusive)

The chart shows that in 2012, just over 60,000 motorcycles (including three-wheelers) were registered in Ghana. This number then fell year-on-year from 2012 to 2016, to a low of around just 26,000. In 2017, however, the number of motorcycles registered returned to nearly 58,000, almost reaching the levels seen in 2012.

There are numerous potential explanations for this. One possibility is that following the ban, when enforcement against the use of motorcycles and three-wheelers was strong, people were reluctant to import and buy new vehicles as the opportunity for using them commercially reduced. However, as the strength of enforcement declined, and as – in some areas – local government began recognising and regulating motorcycle and three-wheeler taxis, it is possible that people began seeing this as a viable business, and so imported new motorcycles and three-wheelers.

Figure 3 shows the percentage of the total number of registered vehicles that is comprised of motorcycles (including three-wheelers) in each of Ghana's ten regions.



Source: DVLA, 2018

Figure 3 Motorcycles (including three-wheelers) as a percentage of total registered vehicles by region, 2012 to 2017 (inclusive)

The chart shows that motorcycles (including three-wheelers) made up the vast majority of total vehicle registrations in Northern, Upper East, Upper West and Volta regions. Looking at census data, these are the four regions with the highest percentages of people living in rural areas. This provides an indication of the importance of motorcycles and three-wheelers for rural transport.

From June 2017, DVLA began distinguishing between motorcycles and motorised three-wheelers. For the period June to December 2017, the data show that the numbers of motorcycles registered far outweighs the number of three-wheelers. However, in two regions – Ashanti and Brong Ahafo – registrations of three-wheelers outnumbered registrations of motorcycles. Farming is the major occupation in these two regions, and three-wheelers are the preferred option for farmers to transport agricultural produce, as they are better suited than motorcycles (or traditional head-loading) to carry heavy and bulky loads.

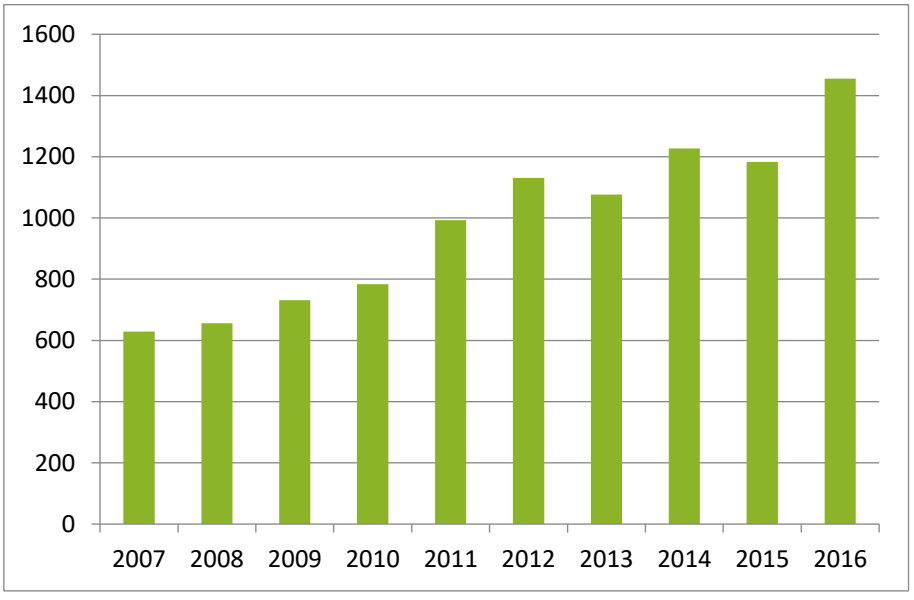
2.4.2 Road traffic injury data

The management and use of crash data in Ghana have a number of recognised limitations. These result in significant under-reporting of crashes (Afukaar *et al*, 2017), and road traffic injury (RTI) figures do not follow the normal 'injury pyramid' (WHO, 2014).

As a result of these limitations, the WHO classifies Ghana as a 'country without eligible death registration data' (WHO, 2015). The WHO uses its own model to calculate an estimate of the number of fatalities. In 2012, the official statistics published by the Building and Road Research Institute (BRRI) and the NRSC reported 2,240 fatalities, while the WHO estimated the number to be 6,789.

However, Ghana's management and use of crash data is often highlighted as an example of best practice in Africa. The collection of primary data on road traffic crashes is the responsibility of the MTTD of the Ghana Police Service. Analysis of the road traffic crash data is undertaken by BRRI using MAAP (the Microcomputer Accident Analysis Package, Windows version 5, as opposed to the more recent iMAAP). Results are reported in the form of annual accident statistics for the NRSC. For this study, data were obtained from BRRI.

Figure 4 shows the number of motorcyclists (including three-wheelers) killed or seriously injured (KSI) in Ghana as a whole, on all road types, each year from 2007 to 2016, inclusive.



Source: BRRI, 2018

Figure 4 Number of motorcyclists (including three-wheelers) killed or seriously injured in Ghana, 2007 to 2016

Figure 4 shows that the increase in the number of motorcyclists (including three-wheelers) killed or seriously injured accelerated from 2010 to 2012. In 2013, following the introduction of the ban on the use of motorcycles and three-wheelers as taxis, the number of KSI reduced slightly. It increased again in 2014,

then reduced slightly in 2015, then increased dramatically in 2016. Figures for 2017 are not available at the time of writing.

Only 13% of all motorcyclists (including three-wheelers) killed or seriously injured between 2012 and 2016 were involved in a crash on a rural feeder road. More than half of all motorcycle (including three-wheeler) KSIs during this period were on urban roads, with the remaining 36% on rural highways. However, the number of motorcyclist (including three-wheelers) deaths as a proportion of all KSIs was higher on rural feeder roads than on urban roads: almost 35% of KSIs on rural feeder roads resulted in a death, while for urban roads the figure was only 22%.

Almost 80% of collisions that resulted in the death or serious injury of a motorcyclist (or three-wheeler) on a rural feeder road involved another moving vehicle (as opposed to involving a pedestrian or animal or a stationary object). Forty-four percent of collisions that resulted in the death or serious injury of a motorcyclist (or three-wheeler) on a rural feeder road were 'head-on'.

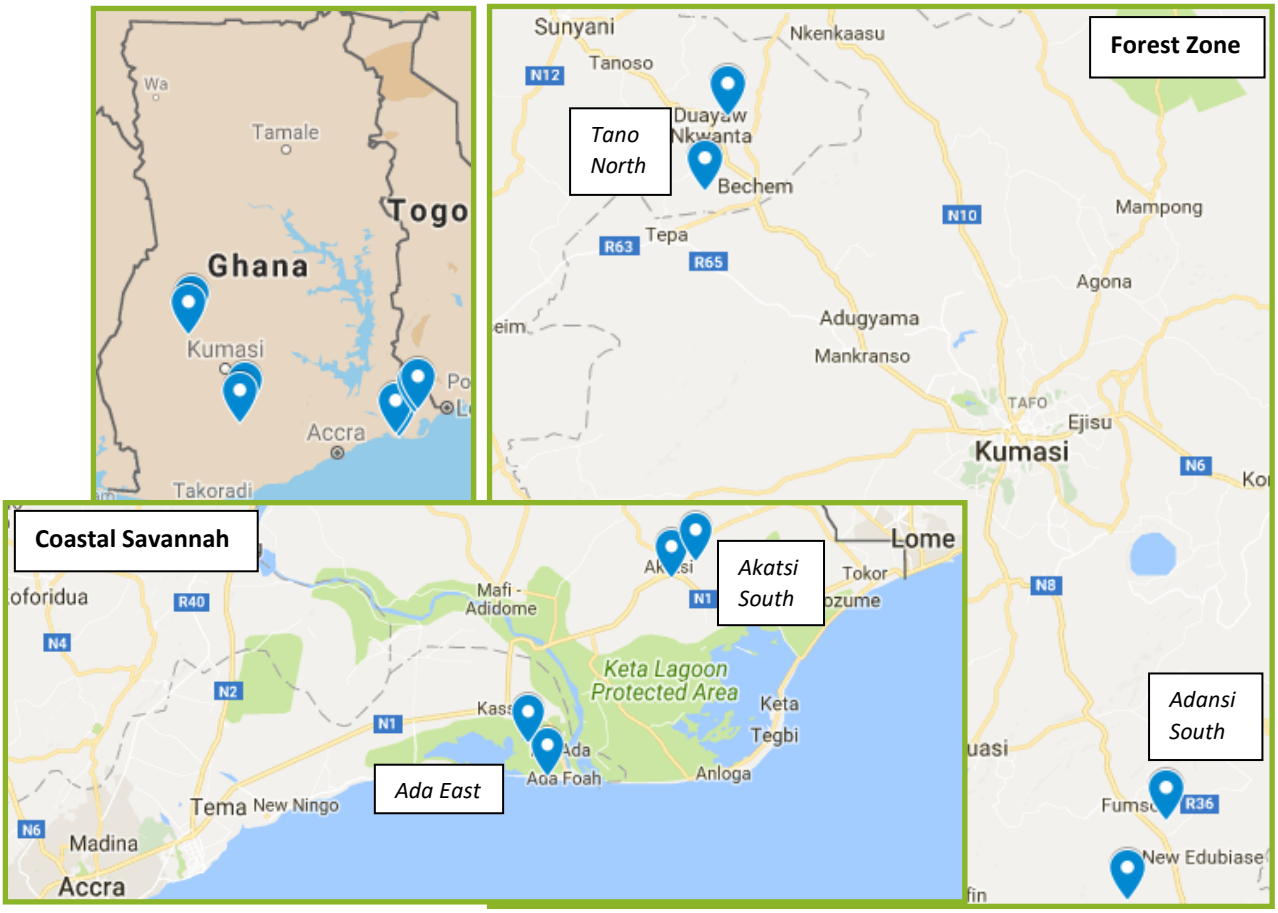
2.5 Survey of the Benefits and Disbenefits of Motorcycle and Three-Wheeler Taxis

2.5.1 Survey locations

The survey of benefits and disbenefits was carried out in eight different settlements across Ghana. Table 1 outlines the eight settlements, Figure 5 shows their locations within Ghana, and more detailed information is provided in Tables 2 to 5 and Figures 6 to 9.

Table 1 Survey Settlements, Ghana

Agro-Ecological Zone	Region	District	Settlement
Forest	Ashanti	Adansi South	Mpentemua
Forest	Ashanti	Adansi South	Obonsu
Forest	Brong-Ahafo	Tano North	Bredi
Forest	Brong-Ahafo	Tano North	Gyaakye
Coastal Savannah	Greater Accra	Ada East	Anyakpor
Coastal Savannah	Greater Accra	Ada East	Togbloku
Coastal Savannah	Volta	Akatsi South	Bata
Coastal Savannah	Volta	Akatsi South	Agbedrafor



Source: Google Maps

Figure 5 Maps of Ghana, showing survey locations

Information about the settlements was obtained through interviews with local leaders, discussions with local people and general observation by the project team. This information should be considered as a snapshot of what was found during the short visit to each settlement, rather than a comprehensive profile.

Table 2 Settlements in Adansi South District, Ashanti Region

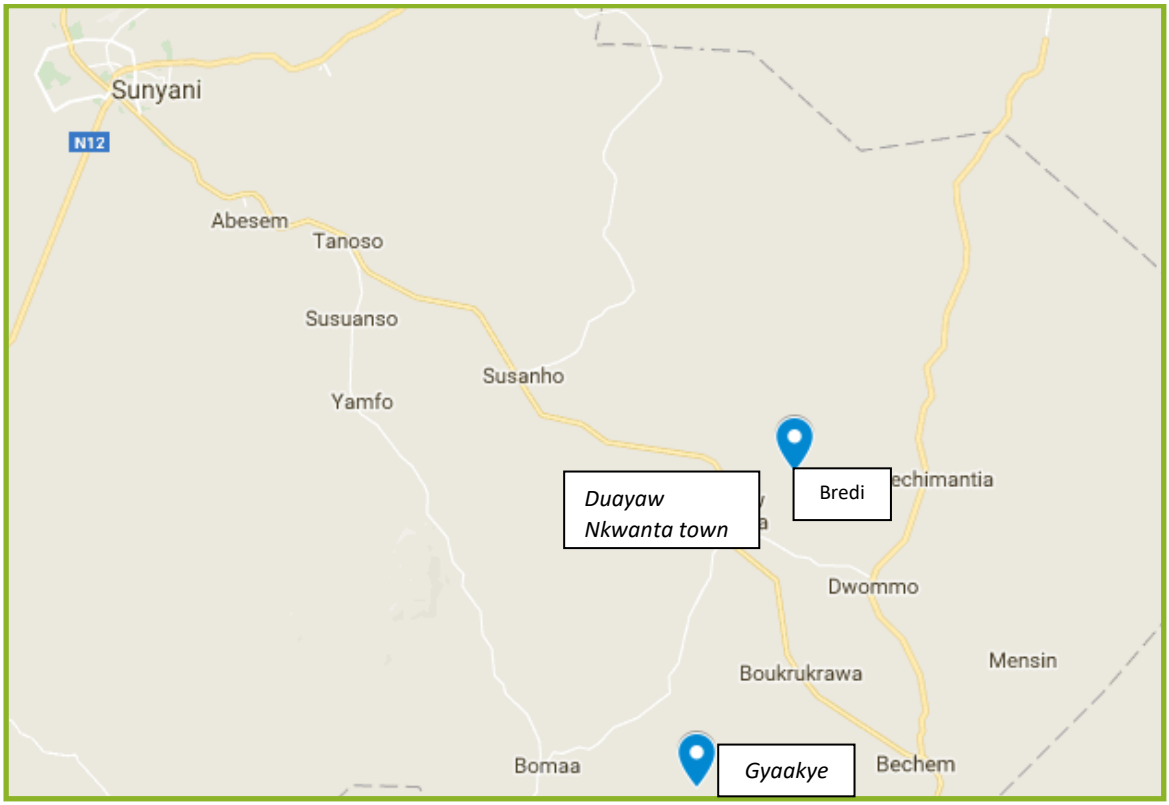
	Mpentemua Village	Obonsu Village
Location and access	• 605 12.3N 123 29.5W • 87 km from Kumasi city • 7 km from district centre (New Edubiase town) • 3 km from nearest sealed road • Less remote	• 5 57 33.6N 1 27 07.9W • 100 km from Kumasi city • 20 km from district centre (New Edubiase town) • Sealed road connects village to wider road network • More remote
Transport options	• No vehicle ownership, including motorcycles and three-wheelers, within the village • Only accessible by motorcycles and three-wheelers during rainy season • Poor condition of access road blamed for many of the village's problems	• Motorcycle and three-wheeler taxis available all day. Daily bus to and from Accra • Accessible year round due to good sealed road
Population	• 150 people approx. • Majority are adults and older people. Few youth. More females than males • Senya Breku is dominant ethnic group. Also some Asante, Fante and Ga	• 170 people approx. • Majority are adults and older people. Few youth. More females than males • Akuapem, Asante and Fante ethnic groups
Economy	• Agriculture dependent: Cocoa, cassava, cocoyam, plantain, maize, rice	• Farming dependent: Cocoa, maize, cassava, cocoyam, pepper, oranges, rice • Livestock: Goats, pigs, poultry
Recent development	• Population is declining as youth leave due to lack of local amenities and opportunities	• Electricity connected in 2017 • Access road sealed in 2016 – has brought many benefits
Local issues	• No electricity • No school • High levels of poverty	• Shortage of safe drinking water. Cholera is a problem • Falling price of cocoa is harming agriculture

Source: Google Maps

Figure 6 Map of Mpentemua and Obonsu

Table 3 Settlements in Tano North Municipality, Brong Ahafo Region

	Bredi Village	Gyaakye Village
Location and access	• 7 11 35.7N 2 04 33.2W • 38 km from Sunyani city • 4 km from district centre (Duayaw Nkwanta town) • 2.5 km from nearest sealed road • Less remote	• 7 04 38.3N 2 06 44.3W • 48 km from Sunyani city • 13 km from district centre (Duayaw Nkwanta town) • 11 km from nearest sealed road • More remote
Transport options	• Three-wheelers are predominant mode of transport. Also shared 4-wheel taxis • Motorcycle taxis are not available • Accessible year round	• Three-wheelers are predominant mode of transport • Motorcycle taxis are not available • Accessible year round
Population	• 600 people approx. • Many young people. More females than males • Majority are of Akan ethnic group. Also Dagaari, Mamprusi, Kussasi	• 200 people approx. • Many young people. More males than females • Majority are of Asante ethnic group. Also some from northern Ghana • Relatively wealthy
Economy	• Agriculture: tomatoes, cocoa, cashew nuts, cassava, plantains	• Agriculture: Cocoa, pepper, tomatoes, rice • Relatively wealthy because of cocoa farming
Recent development	• Local government recently installed street lighting	• Boreholes constructed • Local roads are well-maintained
Local issues	• Poor sanitation • Poorer than nearby villages	• No electricity • Frequent crashes involving three-wheelers due to overloading of passengers



Source: Google Maps

Figure 7 Map of Bredi and Gyaakye

Table 4 Settlements in Ada East District, Greater Accra Region

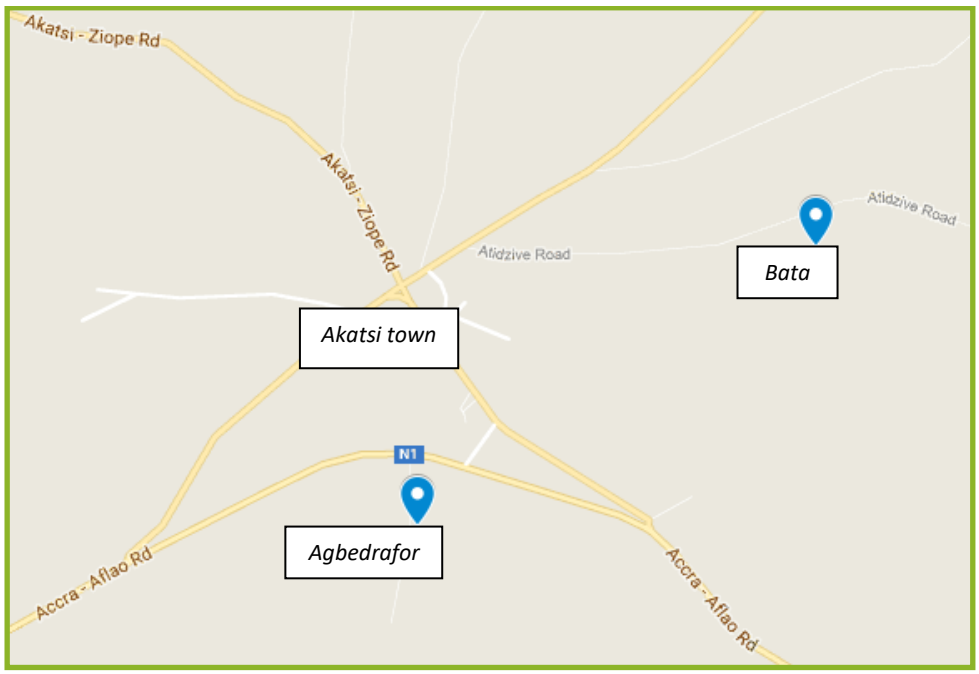
	Anyakpor Village	Togbloku Village
Location and access	• 5 46 58.2N 0 35 16.1E • 113 km from Accra city • 3 km from district centre (Ada Foah town) • 5 km from nearest sealed road • Less remote	• 5 50 13.6N 0 33 12.6E • 99 km from Accra city • 23 km from district centre (Ada Foah town) • 6.5 km from nearest sealed road • More remote
Transport options	• Motorcycle taxis are dominant means of transport • A few public minibuses and 4-wheel taxis. Also 3-wheelers • Accessible year round, although difficult for 4-wheeled vehicles during rainy season	• Motorcycle taxis are dominant means of transport • A few public minibuses and 4-wheel taxis. Also 3-wheelers • Only accessible by motorcycle during rainy season
Population	• 5,000 people approx. • More females than males • Many young people • Dangme ethnic group	• 4,500 people approx. • Majority are adults and older people. Few youth. More females than males • Dangme ethnic group, also a few Ewe, Ga and Twi
Economy	• Agriculture: Carrots, tomatoes, onions, peppers, maize • Fishing	• Agriculture: Watermelons, cassava, tomatoes, peppers • Fishing
Recent development	• Introduction of electricity in 2013 enabled irrigation so increased agriculture yields, as well as other businesses such as sewing and hairdressing • Good mobile phone connectivity	• Motorcycles and mobile phones – including mobile money transfers – have reduced the need to travel
Local issues	• No formal drainage or sanitation system leads to cholera and malaria • Changes in weather patterns affect farming • Motorcycle taxi-related problems – speeding, robbery, alcohol and drug-use among riders	• Poorer than nearby villages • Dependent on rainfall for water harvesting for domestic use and farming • Lake is drying up, so fishing is becoming less productive

Source: Google Maps

Figure 8 Map of Anyakpor and Togbloku

Table 5 Settlements in Akatsi South District, Volta Region

	Agbedrafor Village	Bata Village
Location and access	• 6 06 25.3N 0 48 02.0E • 137 km from Accra city • 4 km from district centre (Akatsi town) • 1 km from nearest sealed road • Less remote	• 6 08 08.7N 0 50 30.2E • 142 km from Accra city • 6 km from district centre (Akatsi town) • 5 km from nearest sealed road • Less remote
Transport options	• Motorcycles are predominant mode of transport. Also some public taxis and minibuses • Only accessible by motorcycle during rainy season	• Motorcycles are predominant mode of transport • Only accessible by motorcycle during rainy season
Population	• 4,000 people approx. • Many young people. More females than males • Majority Ewe ethnic group, but also Ga and Twi	• 400 people approx. • Many young people. More females than males • Ewe ethnic group
Economy	• Agriculture dependent: Cassava, maize and vegetables • Hairdressing is popular among females	• Agriculture: Carrots, tomatoes, onions, peppers, maize
Recent development	• Construction of a dam is planned by local community, but funding is a challenge • Excellent mobile phone network coverage	• A well was recently dug in a nearby village, although water quality is poor • Very good mobile phone network coverage, including high-speed internet
Local issues	• No irrigation system, so dependent on (unreliable) rains • Poor farming techniques – lack of agriculture education • Frequent motorcycle crashes – riders are untrained	• Recently stopped cassava farming – takes too long to harvest • High levels of poverty. Most farming is for personal consumption only, with little remaining for sale • Access to water is difficult and poor sanitation leads to diseases • Frequent motorcycle crashes



Source: Google Maps

Figure 9 Map of Agbedrafor and Bata

2.5.2 Survey respondents

A total of 313 questionnaires were completed across the eight different Ghanaian settlements. Table 6 shows the breakdown of the survey respondents.

Table 6 Survey Respondents, Ghana

	Motorcycle taxis				Motorised three-wheeler taxis				
	Riders	Passengers	Vehicle owners	Freight owners	Riders	Passengers	Vehicle owners	Freight owners	Non-users
Number of Respondents	84	84	18	9	32	45	6	20	15

In Ghana, far more than in the other surveyed countries, three-wheelers were found to be common in rural areas. Different designs of three-wheelers are found in different parts of the country – some designed to carry passengers and others designed to carry freight. However, those designed for freight were also observed carrying passengers.

Figure 10 shows the age profile of the motorcycle and three-wheeler taxi riders.

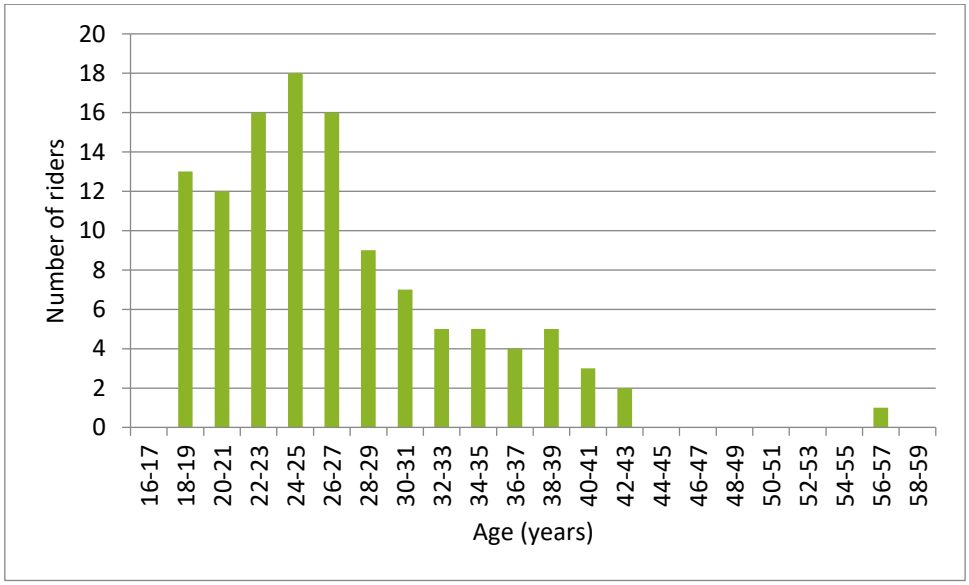


Figure 10 Age profile of riders interviewed, Ghana

The chart shows that the vast majority of riders who were interviewed were between 20 and 30 years old. They had an average age of 26 years. Of the 116 riders interviewed, two were female, and the other 114 were male. The majority (55%) of riders interviewed said they were single.

Sixty-six percent of riders had completed no higher than junior high school level education, suggesting that it is possible to enter this profession with relatively low levels of formal education.

Forty-six percent of riders said they were a member of a motorcycle or three-wheeler taxi association.

Eighty-nine percent of all riders said they own a mobile phone in working order, and 34% of all riders said that they have access to internet on their phone.

Figure 11 shows the age distribution and gender of passengers.

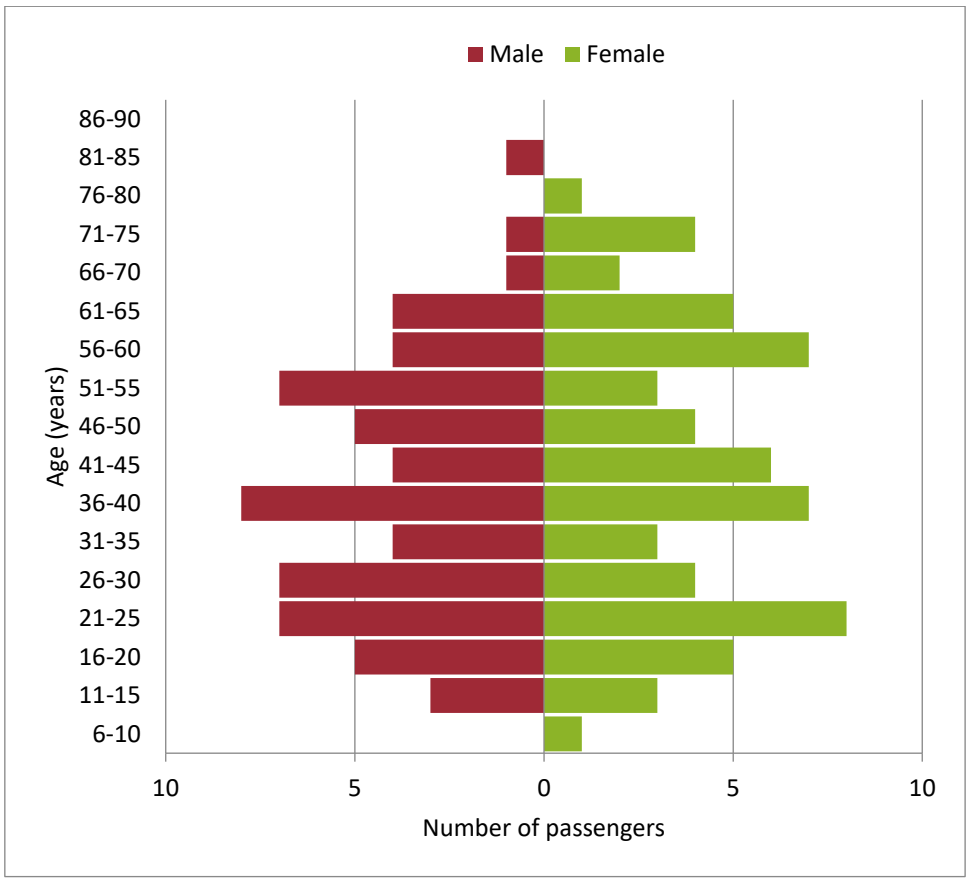


Figure 11 Age profile and gender of passengers interviewed, Ghana

The chart shows that the passengers who were interviewed had a wide spread of ages, from early teenagers to the elderly. The average age of female passengers interviewed was 42 years, and the average age of male passengers interviewed was 40 years. Fifty percent of passengers interviewed were female and 50% were male. None of the passengers interviewed had a physical disability, unlike in the other countries surveyed.

Sixty-four percent of passengers said that they owned a mobile phone in working order, with 19% of phones having access to the internet.

Forty-two percent of survey respondents said that their overall opinion of motorcycle and three-wheeler taxis is 'Excellent' or 'Good'. Eighteen percent said 'Very bad' or 'Bad', with the remaining 40% being ambivalent. Of the four project countries, Ghana had the highest percentage of respondents who had a 'Very bad' or 'Bad' overall opinion of motorcycle and three-wheeler taxis.

2.5.3 Access and mobility

Seventy-six percent of passengers said that it was either 'very easy' or 'quite easy' to access a motorcycle or three-wheeler taxi. The data also show that in many areas, motorcycles are simply the only type of motorised transport available. However, it is notable that 13% said it was 'very difficult'; and this is higher than in the other surveyed countries. Passengers said that they value motorcycle taxis for being fast and convenient.

"I am respectful and understand instructions"

In Ghana, we heard the reasons why some riders think they are popular with customers:

"I often transport people to hospitals and pharmacies because I'm popularly known in the community as a very jovial and free person who is respectful and understands instructions."

"I am well known for safe riding in the community so most often if there is any emergency or health issues, people call on me. Once I take people to the hospital on delivery or accident, I go back to visit them from time to time."

The majority (60%) of passengers summon the motorcycle or three-wheeler taxi by mobile phone, compared to only 19% who go to a taxi stand and 14% who stop the motorcycle at the roadside.

The results of the survey show that motorcycle taxis provide access to vital health services for rural communities, although slightly less so than in the other countries involved in this study. As is also the case in the other countries in this study, rural Ghana has limited ambulance services, especially between the home and the first level health centre.

Forty-three percent of passengers interviewed said they had used a motorcycle taxi for non-emergency access to a health facility, which is a little lower than each of the other countries, compared to 67% in both Kenya and Tanzania, and 68% in Uganda. Similarly, 87% of motorcycle taxi riders said that they transport people to health facilities for non-emergency cases, but this compares to 88% in Kenya, 92% in Tanzania and 95% in Uganda.

Motorcycle taxis are also used in emergency situations, as is shown in Figure 12.

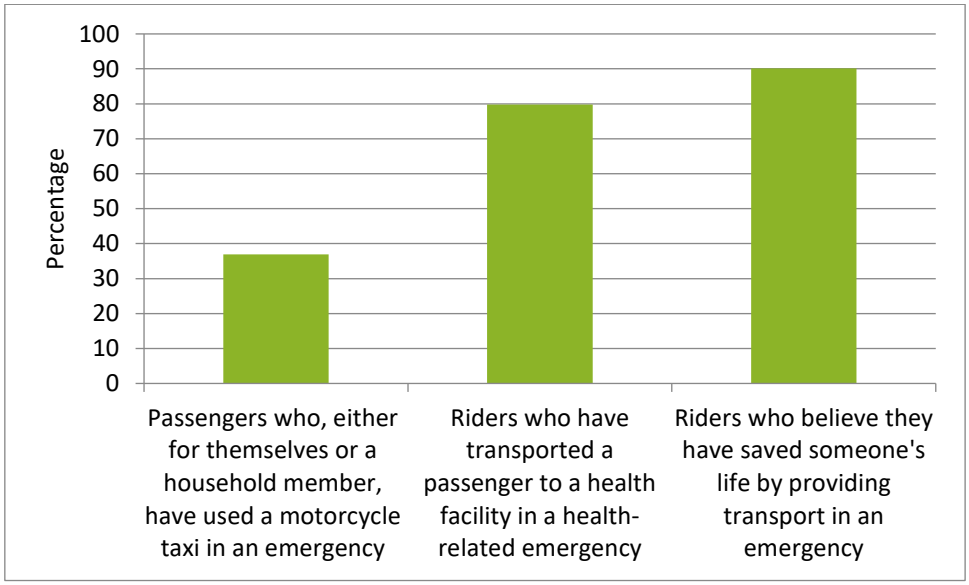


Figure 12 Use of motorcycle taxis in an emergency in Ghana

The chart shows that 37% of passengers said either they or a member of their household had used a motorcycle taxi in an emergency. Eighty percent of motorcycle taxi riders reported that they have transported passengers to a health facility in an emergency, which compares to 81% in Kenya, 85% in Tanzania and 91% in Uganda.

While this is rider perception and has not been verified, 90% of motorcycle taxi riders interviewed believed that they have saved someone's life in a health-related emergency. This compares to 85% in Kenya, 78% in Tanzania and 95% in Uganda.

The survey of freight owners showed that three-wheelers are important for transporting freight – especially heavy and bulky agricultural produce – with 69% of freight owners using these, compared to 31% using motorcycles. Sixty-nine percent of freight owners interviewed were female: they were mainly farmers or small business people. Eighty-three percent of freight owners said they arrange transport using a mobile phone.

Among the people who said that they do not use motorcycle or three-wheeler taxis, around half said this was because they were concerned for their personal safety or security, while a quarter said that they have their own means of personal transport. None said that they were unable to afford to use motorcycle or three-wheeler taxis, and none said that they were physically unable to use them.

Motorcycle taxis used to carry corpses

In Bata village in Akatsi South, the survey team heard stories on more than one occasion of corpses being transported secretly by motorcycle taxi, as this is an affordable way of transporting a body for burial – cheaper than using a hearse or other four-wheel vehicle, and important as a social ritual.

The body is transported in an upright position between the rider and a family member, in an attempt to make it look like a regular passenger.

This usually happens at night to avoid encounters with the police and questions from other members of the community.

2.5.4 Economics and finance

Motorcycle and three-wheeler taxis are used to generate income for both riders and owners in rural areas. The majority of riders (58%) reported that the 'best thing about motorcycle and three-wheeler taxis' was earning money or generating employment.

"Without motorcycles, we find it difficult to eat"

Many community members told us why they feel motorcycle taxis should be legalised:

"The moto business should be legalised. This will help our young men and women to be fully employed. To now it has provided a lot of job opportunities in our village. The road network, if properly constructed, will also make the motorcycles last longer."

"The motorcycle is helping in the village because there is no skilled work apart from farming. During the dry season if the moto is not around we find it difficult to eat."

"Motorcycle taxis are better than other modes – the cost of transport is less and it is very fast because they don't have to wait for other passenger to fill it up before moving. They are the easiest and fastest mode of transport'

The survey found that after paying all expenses related to operating the motorcycle or motorised three-wheeler taxi, the average rider's profit for the last seven days – according to the riders themselves – was around GHS 90.22 (GBP 14.32). Using the latest Gross National Income figures from the World Bank (data.worldbank.org/country/ghana), average weekly income in Ghana in 2017 was around GBP 22.01 – although it should be noted that this includes both rural and urban populations. At GBP 14.32 for riders, the survey found that their weekly profits were around 65% of the national average.

The average reported daily profit – after paying all expenses – for riders in Ghana, was around GBP 2.53 for motorcycle riders, GBP 2.76 for riders of three-wheelers designed for freight and GBP 2.29 for riders of three-wheelers designed to carry passengers. In each case, this was an increase of over 40% in comparison to what riders reported to earning in their previous job.

Of the 46% of riders who said that they belonged to a motorcycle taxi association, the majority (over 80%) paid a one-off joining fee averaging around GBP 3.05. Less than a third (around 28%) paid a monthly fee.

Members of associations were found to have earned higher average profits in the last seven days: around GBP 12.80, compared to non-members with an average profit in the last seven days of GBP 9.22. This is shown in Figure 13.

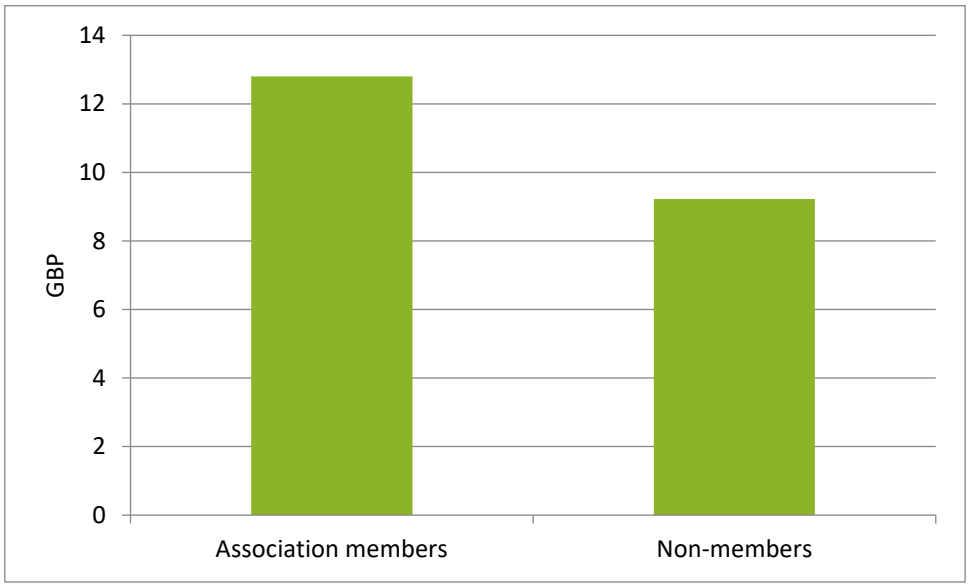


Figure 13 Rider profit in last seven days in Ghana

Forty percent of the vehicles were owned by the riders themselves, with 38% being owned by family members or friends and 22% being operated as part of a commercial arrangement with a business person who was not a family member or friend.

The average purchase price of a motorcycle was around GBP 474, which was the lowest of the four countries. The average purchase price of a three-wheeler designed for passengers and a three-wheeler designed for freight were GBP 1,976 and GBP 964 respectively. Eighty percent of all riders who owned the vehicle themselves had bought it as a one-off, lump-sum purchase.

For those riders who hire the vehicle from a third party, the daily hire charge was GBP 2.67 for motorcycles, GBP 8.34 for three-wheelers designed for passengers, and GBP 13.77 for three-wheelers designed for freight.

Riders said they pay an average of GBP 0.12 per day on official fines and unofficial bribes or 'dashes' to police and/or other government officials. This is the lowest amount of the four project countries.

For motorcycle passengers, the average cost of a trip is GBP 0.17 per passenger kilometre. This is slightly cheaper for passengers of three-wheelers, at GBP 0.12 per kilometre, as these vehicles carry more passengers. The average cost of transporting freight by motorcycle is GBP 0.0101 (1.01 pence) per kilogram kilometre.

During both night-time and when it is wet, the average cost of a trip increases in comparison to when it is day-time and when it is dry, respectively. The ratio of fares from night-time to day-time, and from wet weather to dry weather, for each of the different vehicle types, is shown in Table 7.

Table 7 Fare ratios: Night-time and wet weather, Ghana

	Motorcycle taxis	Motorised three-wheeler taxis for passengers	Motorised three-wheeler taxis for freight
Ratio of night-time fares to day-time fares (day-time fare = 1)	1.86	1.59	1.58
Ratio of wet weather fares to dry weather fares (dry weather fare = 1)	1.45	3	1.24

The greatest increase is for the use of three-wheelers for passengers when it is raining, when the price is round three times greater than in dry weather – perhaps as this mode of transport allows passengers to stay dry.

Figure 14 A female three-wheeler rider in Ghana

2.5.5 Injuries

Seventy-four percent of riders and 75% of passengers said that 'the worst thing about motorcycle and three-wheeler taxis' was the risk of the rider or passenger being a victim of a crash or injury.

In the study, data was collected only on injuries which riders said occurred while they were riding a motorcycle or three-wheeler taxi on a rural road, and which resulted in them either losing money, requiring medical attention or affecting their family life.

Figure 15 shows the frequency of injuries suffered by motorcycle taxi riders.

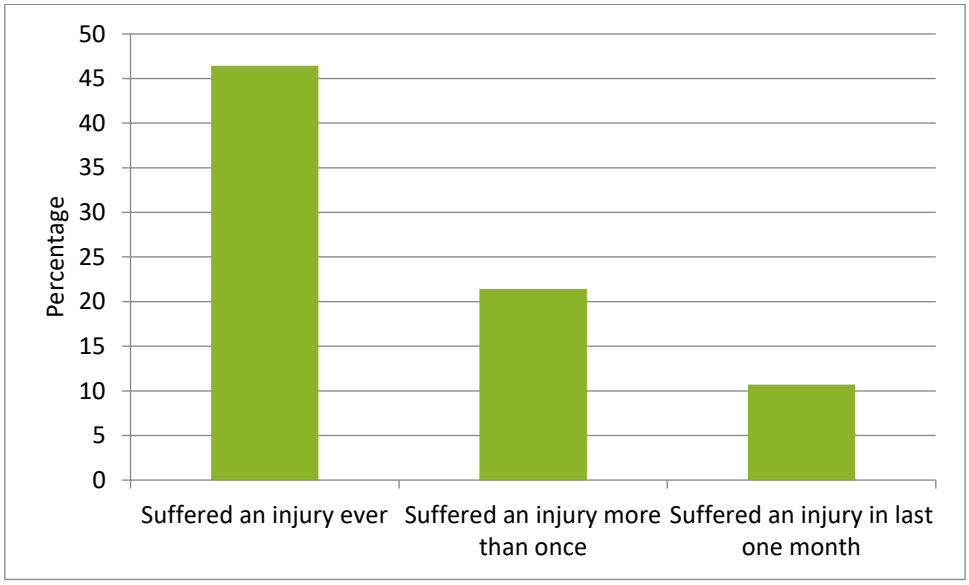


Figure 15 Frequency of motorcycle taxi rider injuries in Ghana

The chart shows that 46% of motorcycle taxi riders said that they had suffered an injury ever. Twenty-one percent of motorcycle taxi riders had suffered more than one injury, and 11% had suffered an injury within the last one month. Both of these were the highest proportions of the four countries in this study.

Among riders of motorised three-wheelers, the percentages were far lower, with only 5% of riders of passenger three-wheelers, and 15% for riders of freight three-wheelers reporting that they had suffered an injury ever.

In the case of the worst injury suffered by motorcycle taxi riders within the last three years, 19% of riders said that the most severely injured part of their body was their head, face or neck – this being the highest of the four countries. Forty-three percent of all injuries were described as being 'Severe' – again, this being the highest of the four countries.

Again, looking only at the worst injury suffered by a rider within the last three years, 87% percent of riders missed at least one day of normal activity as a result of the injury. Of these, 53% missed more than one week of normal activity. One rider missed over one year.

Twenty-six percent of riders said that they are still suffering some physical impact from the injury, 15% said they are still suffering some economic impact, and 13% said that they are still suffering some psychological impact. In all cases, these were the highest proportions of the four study countries.

Of the riders who had suffered an injury, only 24% had been carrying a passenger at the time of the crash that resulted in the injury. A 'single vehicle crash / fall' (36%) was the most common type of incident reported by riders, and 'rider error (self)' (45%) was the most common cause of the incident. These findings suggest that rider behaviour is a root cause of crashes.

Forty percent of riders said that they had been travelling at over 50 kph at the time of the crash, and 3% had been travelling at over 80 kph.

Sixty-three percent of riders said they were wearing a helmet at the time of the incident that resulted in the injury.

Community members' concerns about crashes

In Ghana, numerous survey respondents shared their concerns about crashes:

"The problem is that there are youths who have not grown up using motorcycles for business yet once they learn how to ride it becomes a business for them – this results in numerous accidents."

"I think our riders needs to be spoken to or educated in order to use motorcycles in a way that prevents accidents on the roads because some of them don't normally take instructions from you the passenger."

"I plead with you that my time used to answer all these questions will not be in vain, but will go a long way to bring improvement on our means of transport so that lives will be saved through accidents and income will be generated through their work'

Ten percent of passengers reported that while travelling on a motorcycle taxi in a rural area they had suffered an injury that either resulted in them losing money, requiring medical attention or affecting their family life. Passengers cited their injuries as cuts, scrapes and scratches. Passengers said that 'roadway condition/damage/obstacle' (46%) was a more common cause than 'rider error' (31%).

Of the interviewees who said they very rarely or never use motorcycle taxis, none said that this is because they are afraid of crashing.

2.5.6 Health issues

Forty percent of riders said that they had suffered from a health issue that they attributed to riding a motorcycle or three-wheeler taxi in rural areas. This is more than double the percentage of any of the other countries included in this study: Kenya (20%), Tanzania (12%) and Uganda (20%). Of this 40%, almost three-

quarters described the issue as 'general body pain' (73%), and over three-quarters attributed this to riding on bumpy roads (76%).

2.5.7 Crime and personal security

Only 4% of riders and 5% of passengers think that the worst thing about motorcycle taxis is something related to crime. These were the lowest numbers of the four countries in this study.

Ten percent of riders said they had been a victim of crime while riding a motorcycle or three-wheeler taxi in a rural area. Of these, the most common types of crime were robbery (using force) (55%) and assault (27%). Seventy-three percent of the crimes against riders happened at night. Only one of the 129 passengers interviewed had been a victim of crime, a bag-snatching.

Of the interviewees who said they very rarely or never use motorcycle or three-wheeler taxis, 50% said that this is because they fear for their personal security.

2.5.8 Access to services and protective equipment

The vast majority of riders interviewed said they had either been taught by friends or family, or were self-taught, while only 1% had ever attended a driving school – the lowest proportion of the four countries in this study. The main reasons cited for not attending formal training were 'no training available in the local area' (56%), 'I do not need training' (23%) and 'training is too expensive' (17%).

"No point in formal training"

In Ghana, we heard the reasons why some riders feel they do not need training:

"*We had a motorcycle at home. Learning to ride was obvious. I didn't need to go to an institution to learn to ride…going for training would be a waste of money"*

"Motorcycle training is unheard of in the village many people just teach themselves"

Only 6% of riders surveyed had a driving licence and 16% had insurance. Both of these figures are the lowest of the four countries surveyed.

Forty percent of riders reported that they always wear a helmet and 20% said they never wear a helmet – the highest proportion of the four countries. The main reason cited for not wearing a helmet was that helmets are too uncomfortable or too hot (53%).Thirty-nine percent said that helmet enforcement was weak. Of those riders who had been stopped for not wearing a helmet, 20% said they had paid a bribe or 'dash' – this was the highest of the four countries.

Avoiding police

In Ghana, we heard that riders use long routes, despite the protests of passengers:

"Motorcycle taxi riders use bush roads to avoid police on the main roads. This prolongs travel time but the complaints of passengers during the journey fall on deaf ears'

3 Stakeholder Consultation

A series of workshops was held in September 2018, to present the draft Country Discussion Papers and share the initial findings from the research activities. Firstly a 4-day workshop was held in Ghana, bringing two key government stakeholders from each of the four countries together with the project team. Secondly, a 1-day workshop was held in each of the four project countries, each one bringing together between 20 and 30 key local stakeholders.

3.1 Ghana Draft Country Discussion Papers

Upon completion of the Research Phase, four Country Discussion Papers were drafted – one for each country. These summarised the initial findings of the research, and presented ideas for points of discussion at the stakeholder workshops.

The points for discussion arising from the research activities in Ghana were identified as:

- Consider potential options for easing the ban on motorcycle and three-wheeler taxis in rural areas, with effective regulation
- The need to engage local government in the management of motorcycle and three-wheeler taxis
- The need to train and educate riders, which will also involve training trainers
- The need to consider health issues of riders and passengers
- The opportunities that three-wheelers present for economic empowerment, especially of women

3.2 4-Day, 4-Country Workshop

The 4-day, 4-country workshop was held from Monday 3rd to Thursday 6th September 2018, in Ada, close to the Ada East and Akatsi South locations where the survey of the benefits and disbenefits of motorcycle and three-wheeler taxis was carried out. A summary of discussions at this workshop is included in the full Final Report for this project.

3.3 1-Day Ghana Workshop

The 1-day Ghana workshop was held on Friday 7th September, in Accra.

The workshop allowed the project team to present the initial findings of the different research activities, including comparisons between the four countries, and provided opportunity for questions to be asked and ideas to be shared. A list of attendees of this workshop is included in Annex 1.

3.3.1 Summary of workshop discussion

Current ban on use of motorcycles as taxis

In general, there was support – although not consensus – for the idea that the ban on the use of motorcycle taxis should be lifted in rural areas. It is recognised that in rural areas motorcycle taxis provide many benefits – including employment opportunities for youth – and also recognising that there are very few transport alternatives for the majority of the population.

Those participants who do not think that motorcycle taxis should be legalised explained that the growth in the use of motorcycles is evidence of failings in the formal public transport system. The potential negative impacts of legalising the use of motorcycle taxis were highlighted, including crashes and injuries, crime and environmental pollution (noise and dust).

All participants agreed that if the ban is to be eased, the government needs to put in place strong systems to regulate and control motorcycle taxis. There was interest to understand more about the regulatory frameworks in place in other countries, and recognition that all countries face challenges and no country has a model that can easily be followed.

All government transport policy decisions must be evidence-based and must address the needs of all stakeholders, including in both urban and rural areas. In general, transport policy must promote rural transport issues.

It was suggested by the retired Chief Superintendent of Police that it may be possible to enact different regulations in rural areas through the use of by-laws.

Motorcycle rider education and training

There was agreement that there is a strong need for improved education and training of motorcycle riders – both those who operate as taxis and those who use motorcycles for their own personal transport. It was recognised that training is essential to improve road safety.

Among the group, the preference was for training to be institutionalised, and for there to be close vetting by government of rider training schools. The DVLA is currently developing a training module for motorcycle riders, and this will include a First Aid component, recognising that motorcycle riders are often the first to arrive on the scene in the event of an accident. The intention is for police officers to be trained as trainers.

Enforcement

The Director of Training and Research at the Traffic Police (MTTD) explained that plans are underway for a dedicated team within the MTTD, responsible for motorcycles. This would need further strengthening should the use of motorcycles as taxis be legalised, as it is envisaged the numbers of motorcycles in the country would increase.

It was agreed that helmet use and passenger/freight loading should be properly regulated and enforced. An example was given that when you buy a motorcycle in Ghana it comes with a helmet, but the helmets are often sub-standard.

The formation of motorcycle taxi associations was recognised as an opportunity to assist with enforcement of laws.

Ongoing research

It was agreed that this research should contribute to the review of the ban, and a copy of the draft discussion paper, and subsequently the final report, should be provided to the Chief Director of the Ministry of Transport.

The importance of regular research was highlighted, to monitor changes in the rural transport system and corresponding impact on the rural communities.

3.3.2 Workshop evaluation

An evaluation of the workshop was carried out. The results of this evaluation are included in Annex 2 of this report.

4 Conclusions and Recommendations

The project's full Final Report contains detailed discussion that pulls together the findings from the four project countries, and provides recommendations.

The discussion covers how motorcycle taxis are of critical importance for rural transport in all four countries, but explains how in Ghana the benefits that motorcycle taxis can provide appear to be less evident, and the disbenefits appear to be more evident, in comparison with the other countries. For example:

- In Ghana, only 64% of survey respondents said that motorcycle taxis are available in their village and the surrounding area, compared to at least 95% in each of the other three countries.
- Ghana had the lowest levels of availability of public buses, shared car taxis and even bicycle taxis, of the four countries in the study.
- The lack of availability of motorcycle taxis – as well as other transport modes – in Ghana may be one of the reasons why Ghana had the highest proportion of survey respondents who said that walking was their most commonly used mode of transport.

- Motorcycle taxi riders in Ghana were found to earn less than their counterparts in other countries as a proportion of national average income. In Ghana, riders were found to earn 65% of national average income, compared to 95% in Kenya, 108% in Tanzania and 64% in Uganda.

- As well as yielding the least profit for riders, motorcycle taxi trips in Ghana are also not cheap for passengers, in comparison to the other countries. Tanzania has the highest cost per passenger kilometre, at GBP 0.19, although the cost in Ghana is only slightly less, at GBP 0.17.

- Ghana has the lowest proportions of riders who have ever received formal training, who have a driving licence and who have insurance.

- Ghana has the highest proportion of riders who:
    - Have suffered an injury more than once ever
    - Have suffered an injury within the last one month
    - Have suffered an injury to the head, neck and face in the last three years
    - Describe their most serious injury in the last three years as severe
    - Have missed over 30 days normal activity as a result of an injury in the last three years
    - Still suffer some physical, economic or financial impact from an injury in the last three years
    - Have suffered from a health issue that they attribute to riding a motorcycle taxi

Conversely, in Kenya, where management is strongest, the benefits that motorcycle taxis bring to rural communities appear to be are more evident and disbenefits appear to be less evident.

Another interesting finding from Ghana was that it was the only one of the four countries where more than a very small number of motorised three-wheelers were found to be operating in rural areas. Three-wheelers designed for passengers were found to be particularly popular with female passengers, with almost two-thirds of passengers on the riders' most recent trips being women.

Of the recommendations made in the Final Report, the following are of particular relevance to Ghana:

- The government should consider legalising the use of motorcycle and motorised three-wheeler taxis – specifically on low volume rural roads – recognising the benefits to rural communities identified through this study.

- Careful consideration should be given to the most effective legal framework for allowing motorcycle and three-wheeler taxis to operate on low volume rural roads, without leading to their unmanaged use on highways and in urban or peri-urban areas. This may involve the use of local bylaws.

- Driving schools' capacity to operate in rural areas should also be increased, for example through the provision of local government bursaries, as in Kenya.

- Governments should require that motorcycle taxi riders belong to associations. Associations should be supported and overseen by local government authorities.

- Enforcement should be applied gradually, supported by sensitisation activities.

- The distinction between training and sensitisation must be understood. Sensitisation has a role to play, but is no substitute for training. Driving licences should not be issued to drivers who complete a session or course of sensitisation.

- Consideration of motorcycles should be required through guidance provided to local government engineers, as was the case with the Tanzanian Ministry of Works' Low Volume Roads Design Manual.

- Efforts should be made to reduce the risk and severity of crashes, including through training and use of personal protective equipment, especially helmets.

- Rural health workers should be trained in how to deal with motorcycle rider health issues.
- Research should be carried out into the use of motorcycles and three-wheelers in urban areas and on highways.

The Ministry of Transport is currently undertaking a national consultative exercise on the operations of motorcycles and motorised three-wheelers. Legislative Instrument 2180 (LI2180) of the Ghana Road Traffic Regulations (2012) is currently under review, with the use of motorcycle and three-wheeler taxis being one of the key considerations. The Ministry recognises that the need to build consensus on the way forward is of paramount importance. ReCAP is supporting this national consultation exercise.

While the consultation is ongoing, the findings of this study should be considered by the Ministry of Transport, National Road Safety Commission and other relevant authorities to prepare for any changes to LI2180. In particular, consideration should be given to the training, testing and licensing system, and the formation of riders into associations. The training instructor's manual and associations manual should be reviewed and considered for applicability in Ghana.

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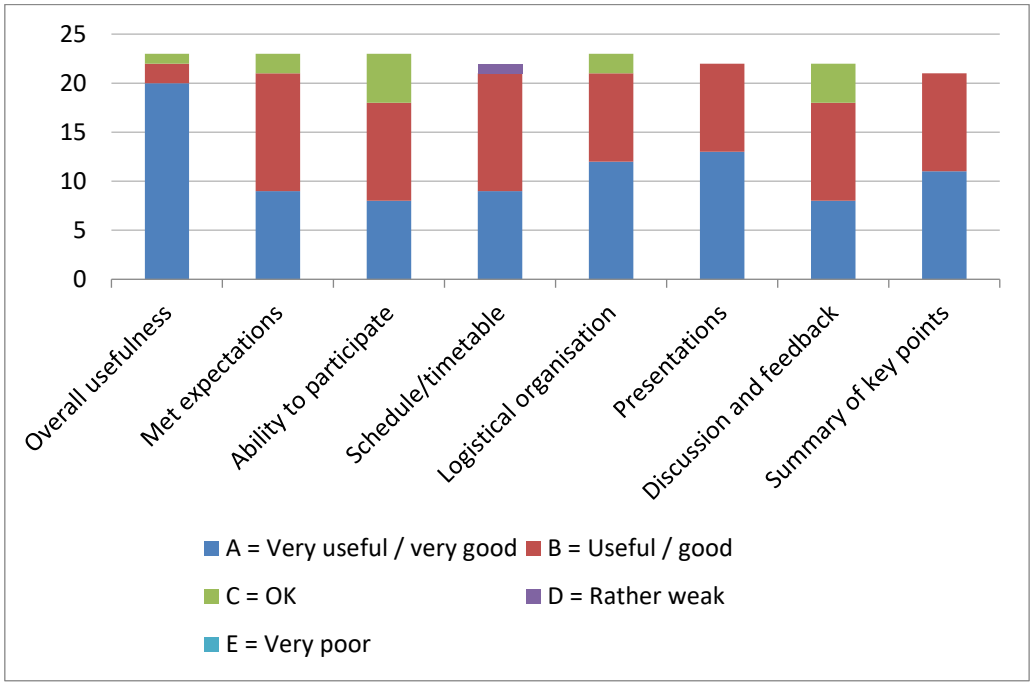
Annex 1 1-Day Ghana Workshop Attendees

	Name	Organisation	Position
1	Ing. David Adonteng	National Road Safety Commission	Director of Planning and Programmes
2	Dr. Patrick Bekoe	Department of Feeder Roads	National Coordinator, AfCAP Projects
3	Mr. Kafui Semevo	Driver and Vehicle Licensing Authority (DVLA)	Dep. Director, Driver training
4	Rev. Erasmus Amankwah Addo	Ghana Drive	Resident National Association of Drivers Schools
5	Supt. Alexander Obeng	Traffic Police (MTTD)	Director, Training and Research
6	Ms. Stella Arthur	Department of Feeder Roads	Civil Engineer
7	Mr. Ernest Obeng	Ministry of Roads and Highways	Director, RSIM
8	Mr. Daniel Korasse	Ghana National Association of Certified Instructors	President
9	Alhaji Saaka Dumba	Driving School for Motorcycles	Director of Transport
10	Dr. John B. Koranteng-Yorke	Vision Consult	Consultant on National Transport Policy
11	Mr. Ebo Hammond	Ghana Health Service	Dep. Director in Charge of Transport
12	Chief Supt (Rtd) S. K. Ntim	Civil Society	Road Safety Advocate
13	Dr. James Damsere-Derry	Building and Road Research Institute (BRRI)	Senior Research Specialist
14	Hon. Alex Addai-Boateng	Mpentemua Village	Assemblyman
15	Mr. Martin Kwafo Yirenkyi	Obonsu Village	Village Committee Secretary
16	Hon. Boakye Michael Houston	Bredi Village	Assemblyman
17	Hon. Kwame Nkrumah	Gyaakye Village	Assemblyman
18	Hon. John Kubi	Anyakpor Village	Assemblyman
19	Hon. Kotoka Sewu	Togbloku Village	Assemblyman
20	Torgbui Adifu IV	Agbedrafor Village	Local Leader
21	Hon. Famous Matsi	Bata Village	Assemblyman
22	Mr. Nat Dzadey	Akatsi South District Assembly	District Coordinating Director
23	Dr. Daniel Oppong	Tano North Municipal Assembly	Transport Officer
24	Richard Ofosu Apronti	Ada East District Assembly	DCE Representative
25	Rutherford Osei	Adansi South District Assembly	DPO Representative
26	Roni Ernest Anku	Ghana Highways Authority	Manager
27	Ing. Juliet Adu	Amend/Transaid	Project Ghana National Expert
28	Ing. Francis Afukaar	Amend/Transaid/ BRRI	Project Ghana Rural Transport Advisor
29	Aggie Krasnolucka-Hickman	Transaid	Project Communications and Knowledge Management support
30	Neil Rettie	Transaid	Project Motorcycle Safety Specialist

Annex 2 1-Day Ghana Workshop Evaluation

This chart shows the responses to the evaluation form completed by the participants in the Ghana one-day workshop.



Twenty-two of the twenty-three participants (over 95%) rated the overall usefulness of the workshop as 'Very useful' or 'Useful'.