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## **The African Community Access Programme (AFCAP)**

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and Local Government (PMO -RALG)  
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### **Research Consultant to Support the Design, Construction and Monitoring of Demonstration Sites for District Road Improvements in Tanzania**

1. Lawate - Kibongoto - Siha District - Kilimanjaro Region
2. Bago - Talawanda- Bagamoyo District - Pwani Region



## **Sociology Report**

**May 2012**

**The African Community Access Programme (AFCAP)  
Research Consultant to Support the Design, Construction and Monitoring of  
Demonstration Sites for District Road Improvements in Tanzania**

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**GLOSSARY**

AFCAP:	African Community Access Programme
Bodaboda:	Local term for motorbike operator;
Chekecheke:	Local term for a stretcher, improvised from a sieve used to dry maize in the sun;
Daladala:	Local term for a public bus;
DFID:	Department for International Development (UK Government)
EOD:	A system of road design that considers the variation of different road environments along the length of the road such as steep gradients, marshy areas etc;
Pikipiki:	Local term for motorcycle;
Tsh:	Tanzanian Shillings.

## EXECUTIVE SUMMARY

### Introduction

Roughton International undertook a short investigation into pertinent issues which are impacting the lives of local inhabitants in the project areas of Bagomoyo and Siha Districts. These issues include aspects such as access to health services, agricultural markets and schools, and any associated road safety issues. It highlights key observations and suggests areas for more detailed investigation to maximise the positive impact of future AFCAP interventions. The surveys were conducted using qualitative 'checklist' interviews comprising one-to-one and key informant interviews. Approved check sheets were used flexibly as a research method for exploring the effects of the roads on the communities.

### Findings

#### Impact on Access to Health Facilities

Access to health facilities was a common issue to both locations. It was found that some people used alternative medicines until they could get to hospital, as the journey to hospital is difficult. It was reported that people are often carried to health centres on improvised stretchers known locally as *chekecheke*. In the past, poor accessibility has caused complications for child bearing women in both communities.

Before road construction began in Bagomoyo, there were cases of women in labour having to walk long distances to get to the hospital. Since construction, access to health facilities has improved and there are now transport options, such as motorbike taxis, which people can use to get to hospital.

It is anticipated that once the road in Siha is completed, similar positive benefits will be seen in this area.

#### Impact on Access to Education

In Bagomoyo, it was reported that the longest distance walked by children to school is about 3 km. There was no report of absenteeism due to accessibility, only punctuality of younger children due to the distance travelled on foot.

In Siha district they reported travel distance for school children to be no more than 2 km. The area has a sufficient number of schools; consequently, the road improvements are unlikely to impact on the pupils travel. The main issue was punctuality, rather than absenteeism, and this was reportedly due to children either being sent on errands before coming to school, or having to turn back if they slip and fall in wet weather.

As a result of being late, children are usually given additional duties such as cleaning the toilets, pruning or watering in the garden and sweeping the compound.

It was reported that weather disrupts the planned school trips because the hired buses are not able gain access to the school to pick up the children.

#### Impact on Local Economies

In Bagomoyo, there has been a positive impact on the local economy. There are reports of new shops opening and villagers developing business ideas. Reportedly, there are individuals buying farm land in the area now that the road is accessible. Respondents say this is in anticipation of the pineapple harvest. There are hopes for the future, and in Bagomoyo many intend to open shops by the roadside, and indeed some already have.

In Siha, respondents believe the new road will attract many local people back to the village, who are currently in the town, to set up their businesses. Since the road will now allow for easy all year access residents believe they can begin planning to build their homes. The anticipation of an improved road in Siha has inspired people and motivated them to do more business. People spoke of starting another market, a possible grazing method for livestock so cows produce more milk and organising another centre within the village where they can sell larger volumes of milk to industries during the rainy season.

### **Additional Issues Raised by Locals**

#### Environmentally Optimised Design

Whilst the majority of locals show optimism with regards the road project and its prospects; in Siha one of the local residents was not convinced of the road quality, as the road is utilizing the EOD approach. This is most likely a lack of understanding of the design approach and expectancy for the entire road to be constructed to a high standard – which is not the objective of the project.

#### Public Transport

In Bagamoyo, transport operators tend to increase their fares in wet weather. There are no changes in fares at the moment on the Siha road, unless the transport operator has to avoid the construction area by driving round and taking a longer route. Not many villagers complain about the inconvenience of having to pay more, or travel longer, because they understand it is due to the temporary road construction. Most welcome the disruptions in anticipation of a better road. However, there were a few complaints about disruption to their daily activities.

#### Public Safety

An emerging area of interest was people being afraid of using bodaboda at night. Apparently, on the Bago-Talawanda road, there have been robberies and killings at night before the construction began. These occurrences now make people in the community cautious and the attacks have developed into an emerging public health issue. It has been mentioned that some bodaboda operators now travel with a knife for protection at night. Although those we spoke to denied having knives themselves, they confirmed that others did. In Bago-Talawanda, most people living far off the road are now moving closer to the road side, because people disturb them. It is understood that staying closer to the road would prevent robbers from attacking your home. However, since construction of the road there have been no cases of such road side robberies occurring.

### **Recommendations**

**Road Safety Measures:** These rural communities have little understanding of fast moving vehicles and the conflict between cars and pedestrians. Road safety measures and education for motorists and pedestrians are recommended.

**Road Safety Audit:** Along the road there are numerous locations where pedestrians are likely to be endangered as traffic volumes grow and speed increases. It is recommended that a road safety audit is carried out. This will inform Engineering solutions which need to be supported by intensive road safety training in communities and schools.

**Motorcyclist Training:** The issue of drivers lack of knowledge in handling the motorbike could be mitigated by providing a free training course for bodaboda drivers, paid for by the motorbike manufacturers or government/donor funding. This training could be offered upon purchase of the motor bike and before they begin operating the machine commercially. Drivers would have to pass the course prior to receiving an advanced driving licence, which is separate to the formal license also required.

## **Conclusions**

### Social and Family Networks

Social networks may be strengthened as relatives from outside the region are encouraged by better roads and transport to visit more regularly than before, as the option of returning the same day becomes available.

### Access to Health Facilities

In the Bagomoyo area, access to health services has improved since construction of the road. The increasing use of mobile phones, combined with year-round accessibility along the road, will contribute to faster and easier travel in the case of emergencies. It is anticipated that the same benefits will be seen in Siha once construction is complete.

### Gender Impacts

#### *Hospital Access for Pregnant Women*

Since the completion of the road in Bagomoyo, women have easier access to hospital when in labour. Previously they had to travel on improvised stretchers over long distances. Now they can use the bodaboda to travel quickly to the hospital when required. It is anticipated that similar benefits will be seen in Siha once the road is completed.

#### *Head Loading and Access to Markets*

By creating awareness of the effects of head loading and still keeping the tradition alive, it is our hope that with the construction of the roads, these practices will diminish.

It is reasonable to infer that head load carrying, although being a cultural behaviour, is likely to reduce with improved road access and transport availability. However, a 'before and after' comparison would be useful in validating this inference.

#### *Employment*

The employment prospects for local men and women have improved since the road construction in Bagomoyo and they look like they will also improve in Siha. This should provide more business opportunities for women selling agricultural and other produce in the markets. Generally men have been employed as labourers on the construction sites and this provided a temporary source of income for these people. Also, the improved roads provide increased capacity for taxis and other public transport which will likely be provided mostly by men in the area.

### Age Impacts

#### *Young People*

The main impacts for young people are improved access to education facilities and the prospect of higher youth employment.

As children can get to school more readily, it is reasonable to infer that their education will be positively impacted by this. This will lead to better prospects in their future lives. Also, the increasing number of shops and businesses will provide employment for young people, as will the improved outputs in produce from the agricultural sector.

#### *Middle Aged People*

This part of the society generally consists of people who are parents, home-owners and business people. Arguably, these will perhaps be most impacted by the construction of the new road.

Parents, especially housewives, will have easier access to markets, shops and places of employment. Business people will benefit from increased trade and improved incomes.

#### *Elderly People*

Elderly people in the community will benefit from easier access to hospitals, markets and shops. This will have a positive impact on their overall health and improve quality of life.

#### Improvement of the Local Economy

The economy appears to be improving in both areas, with more businesses opening and many more aspiring.

In Bagomoyo, the pineapple season will begin soon and it is anticipated that there will be more profit as access has been improved.

While in Siha, even more economic growth is expected. There is increased anticipation of higher profits from agricultural production and increased sales. As road access improves, and transport services increase in frequency, it allows for more competition and a decrease in transport costs. The road will allow for increased profits from milk production and perishable crops.

#### Improved Access to Education

In both districts, most villages have both primary and secondary schools, which makes travel time and distance for school children reasonably short. Thus, there is no substantial change due to road access. There was no report of absent teachers or pupils due to heavy rain or road inaccessibility; there were only punctuality issues with pupils at times when it rained.

However, it is hoped that the new road and year round all weather accessibility will improve punctuality levels and encourage more non-resident teachers to accept teaching jobs in the local schools.

## 1.0 INTRODUCTION

### 1.1 Background

The African Community Access Programme (AFCAP) is a Department for International Development (DFID) funded research initiative. It aims to address the challenges of providing reliable, year round access for poor communities to local amenities such as shops, schools, healthcare facilities and markets.

AFCAP is funding the design, and the Tanzanian Government (PMO-RALG) the construction, of two demonstration sites in Bagomoyo and Siha District of Tanzania. The site in Bagomoyo District is located in the dry, humid and sandy coastal region of eastern Tanzania. The second site, in Siha District, is situated on the wet, fertile slopes of Kilimanjaro. These were existing earth/gravel roads which have been upgraded to all-weather standard, using a variety of road surfacings appropriate for labour-based construction and local materials.

The designs were created using an Environmentally Optimised Design (EOD) approach. This considers the variation of different road environments such as steep gradients, poor subgrades (marshy areas) or flat areas, for example. Designs are assigned to each environment which specifically target issues preventing year round access. The project aimed to incorporate locally sourced material, labour and utilise labour-based construction methods wherever possible. This allows for easy maintenance in the future and creation of employment in the area.

Roughton International undertook a short investigation into the pertinent issues which are impacting the lives of local inhabitants. These include aspects such as access to health services, agricultural markets and schools, and any associated road safety issues. It highlights the key observations and suggests areas for more detailed investigation to maximise the positive impact of future AFCAP interventions. The primary source of information is via interview with members of the communities bordering the roads. This report documents the findings of the 10 day investigation and outlines the socio-economic changes, perceived by local inhabitants to have occurred, as a result of the road improvement.

### 1.2 Objectives

The brief study explored the impact of the road on the local community before, during and after construction. It examined the impact on accessibility, improvement in travel time and costs since construction and other general impacts on the livelihoods of the population.

The specific objectives of the study were to:

- Obtain a qualitative perspective on how the roads have impacted diverse sectors of the population with reference to gender, age, socio-economic status;
- Pick up road safety issues that could be further explored;
- Pick up on both positive and negative outcomes to do with the road;
- To get views on varying issues (i.e. triangulation) for example; transport fares from the transporters and the passenger's point of view;
- Compile a broad review of socio-economic conditions on the Siha and Bagamoyo roads;
- Submission of stories centred on people affected by the roads (pictures inclusive).



## 2.0 SOCIO-ECONOMIC DATA FOR THE PROJECT AREAS

### 2.1 Bago – Talawanda Road

The Bago-Talawanda road located in Bagomoyo district is 20.2 km in length and passes through Kiwangwa and Talawanda wards (see Figure 1).

Bago village is located at the start of the road, in close proximity to the main highway. This is a relatively new village, which is growing rapidly due to the construction of the new road. As it is a recent development, the census report does not include population counts.

There is a settlement called Ludiga which is located half-way along the project road. It is not officially recognised as a village, but its inhabitants refer to it as one. The settlement was formed from people migrating from the surrounding rural areas in an attempt to live closer to the road.

The population of the area is comprised entirely of low income households. The homes are traditional mud huts with very few brick houses and candles are the main source of light at night. Only a few concrete houses were observed and these had solar powered devices used to charge mobile phones and possibly generated electricity for domestic use. However, the overall impression is a village of low income households, whose main means of income are subsistence farming and small scale trading.

The population, which is mainly Muslim, consisted of bodaboda operators, small scale traders, small scale farmers, and subsistence farmers (mostly housewives). These were primarily family owned farms growing pineapples and maize.

The project area has a population of approximately 23,124. The road has a traffic volume fewer than 30 motorised vehicles per day, there are five primary schools, two secondary schools, two markets (each open once a week) and two dispensaries in the area.

There are thirteen different engineered sections constructed along the road with nine different types of surfacing materials used. The surfacings were selected to test the performance of various types of low cost all-weather surfacing. The types of surfacing included:

- Single Otta seal with sand seal cover;
- Concrete geocells (see Figure 2 below);
- Double sand seal;
- Engineered natural earth;
- Slurry seal;
- Natural gravel;
- Double surface dressing;
- Hand-packed stone, and;
- Concrete strips (see Figure 2 below);

**Figure 1: Map of Bagomoyo District**



**Figure 2: Concrete strips (left) and concrete geocells (right) as seen in Bagomoyo.**



**2.2 Lawate – Kibongoto Road**

The Lawate-Kibongoto Road is located on the slopes of Mt. Kilimanjaro in Siha District, approximately 45 minutes drive from the town of Moshi. It is 13.5 km long and is currently under construction.

This ‘loop road’ passes through two wards, including four villages, as seen in Figure 3. The two wards are Ivaeny where the road starts and ends, and the second is Kashashi which covers about 11 km of the road. In Kashashi there are two villages called Manio and Kyengia. After this, the road loops back to the starting point at Ivaeny.

This area is characterised by steep hills, red volcanic clay soil from Mount Kilimanjaro and black soil from Mount Meru. The road is passable in dry weather but immediately becomes slippery and



### **3.0 SURVEY METHODOLOGY**

#### **3.1 Planned Survey Methodology**

The surveys are conducted using qualitative 'checklist' interviews comprising one-to-one and key informant interviews. Drafted and approved check sheets are used flexibly as a research method for exploring the effects of the roads on the communities. We aimed to develop areas of interest while conducting the interviews, picking up different areas of interest and people.

The checklists are administered to villagers, bodaboda drivers and traders that use the roads. Efforts are made to interview women in the area, such as market traders, mothers of school children and older women. We aimed to locate and interview land owners, landless labourers and livestock keepers. Interviews are to be undertaken with men and women of varying ages and varying scale of business and also village heads, health workers, teachers and farmers.

Our analysis will identify key statements in the data from a diverse range of respondents. Respondents targeted and interviewed include people of diverse socio-economic status and occupational background. Efforts will also be made to interview residents of related off-road villages. The following are features and benefits of checklist interviews and related qualitative research approaches:

- Checklist can be used to explore issues in much greater depth than with survey questionnaires.
- Checklist can be used to explore 'multiple realities' – i.e. issues where there is no one right answer, but where different people have different ideas and perspectives.
- Checklist can be used as a stand-alone technique as in this research study, where research time is restricted.
- Qualitative research is good for uncovering why things happen and understanding people's own understandings of their situation, so a very useful starting point in research.
- The checklist interview may offer a good opportunity to introduce a new project, its goals etc.

Gina Porter, a geographer/anthropologist working on behalf of AFCAP, was contacted to provide advice and guidance so as to achieve the above objectives. Gina is based at Durham University and has worked extensively across Africa on issues such as child mobility and transport, gender and transport and off road communities and physical access.

#### **3.2 Experience in the Field**

It was only possible to interview a limited number of key informants during the short duration of the field visit. In Siha, this was further exacerbated by difficulty with access during heavy rains which occurred over the field work period. We were therefore able to experience first-hand the difficulty with access during rainy periods. Our visit also coincided with the Easter holiday, so it was difficult to make contact with health workers in the community dispensaries and in the local hospital.

We were able to interview village chairmen, teachers, bodaboda drivers and various local residents. We managed to conduct interviews in two off-road villages, Kirisha in Siha and Kiembe in Bagomoyo. Altogether it was considered that the sample, although limited, provided sufficient data to make meaningful analysis. We tried to conduct interviews on a one-to-one basis, but because an interpreter was required there was always a third party present. There were also times when a group of spectators gathered who had comments to add. The Interpreter was instructed to

provide only respondent answers in verbatim. There was no evidence that having the interpreter and the spectators influenced the respondents answers.

In the course of interviewing we found local residents willing to be interviewed for the people centred stories. Some of our respondents, who were very descriptive of their personal experiences, were also happy with us using their stories.

### **3.3 Stories/One-Page Reports**

The objective of this aspect of the assignment was to produce news articles focused on the social effects of the road on the surrounding villages and how the work has affected the lives of local residents and the district (see Appendix A). This required interviewing community members, local trades people and officials to collect data which could be used by AFCAP to promote their work on the projects in newsletters and conferences.

Before departure, Claire Doole, a journalist working on behalf of AFCAP, was contacted to provide advice and guidance on the best people to interview to achieve the above objectives. She suggested the submission of the following stories:

- One bodaboda operator;
- One teacher, and;
- One interesting family from each site.

However, due to the Easter holiday and time constraints, these stories were not necessarily the best at achieving the objectives and some improvisation was necessary.

In total 21 people were interviewed in Bagamoyo and 19 people in Siha. This included key interviews with Kashashi Ward Councillor Susannah Kihunrwa, Siha District Executive Director Rashidi Kitambulio, Roughton International Engineer Robert Ayieko and Tom Bishop, Director of Amend NGO. Using the guidance provided by Claire this information was narrowed down to produce six news articles which best meet the set objectives. Each individual news story is designed to stand alone. Therefore, there may be some repetition when they are shown together



## 4.0 DATA COLLECTION

### 4.1 Objective

The objective of the data collection was to learn how the roads have impacted diverse sectors of the population with reference to socio-economic status.

### 4.2 Methodology

We spent 3 days in each location carrying out interviews. A total of 32 interviews were conducted and the responses were categorised into themes from the checklist (see Appendix B)

One-page reports have been compiled which focus on the socio-economic effects of the road on the surrounding villages and towns and how they have affected the lives of local residents and the districts concerned. These reports include key messages, quotes and photographs that illustrate the impacts of the road on the surrounding areas.

### 4.3 Key Informants

The sample recruitment was mostly random. After defining the population type we needed to speak to, we went into the community and chose our respondents randomly. Key informants identified a district councillor and district engineers, however, these people either had little to contribute or were too busy to see us.

In Bagamoyo (4-7<sup>th</sup> April 2012) interviews were conducted with a total of nine men and seven women. They consisted of a village chairman, teacher, bicycle shop owner, bodaboda operators (see Figure 4), and local residents and tradesmen.

In Siha (9-11<sup>th</sup> April 2012) we interviewed nine men and seven women comprising a village head, resident government workers, farmers and livestock keepers, bodaboda operator, teachers and other local residents and shop owners (see Figure 4). The population in Siha is predominantly Christian and the ages of respondents ranged from 23-75 years. We attempted speaking to a nine year old girl we met on the road, but she was too shy to give useful responses. Eventually, we decided against interviewing children, unless in school, because we could not locate parents in order to gain consent.

**Figure 4: Photos showing bodaboda operator Mr. Athumani Iddi from Bagomoyo (left) and local dress maker Ms. Vick Makundi from Lawate (right).**



#### 4.4 Interview Locations

Interviews took place at the interviewees location (i.e. their shop, office or market stall) so as not to inconvenience them. We gained access to areas impenetrable by cars by walking off road through the fields. At both project sites we drove the entire road distance before commencing on interviews to observe and try a get a feel and understanding of the road use.

**Figure 5: Photos showing interviewees (Mr. Imani Ali, a bicycle shop owner in Bago) and typical interview locations.**



## 5.0 DATA ANALYSIS AND DISCUSSION

### 5.1 General

These findings are based on a limited sample of key informants, interviewed in less than ideal conditions. The interview sample was randomly selected by the interviewer to avoid biased responses. Despite its limitations, the results provide a good glimpse of some key impacts of the road as perceived by residents of the communities living within the influence of the roads.

### 5.2 Access to Health

#### 5.2.1 General Health Issues

In Siha we spoke to a nurse who pointed out that the main health issues are malaria, pneumonia, and dysentery (amoeba). In recent years, dysentery has reduced due to increased availability of clean water. There are now several wells in the villages, all of which are within walking distance of people's homes.

Malaria, pneumonia, arthritis and high blood pressure leading to stroke, diabetes, and cancer were listed when asked for ailments affecting the elderly. Liver disease was also of concern because of the consumption of the locally brewed alcoholic beverages.

Access to health facilities was an issue common to both locations. Some used alternative medicines until they could get to the hospital, as travelling to the hospital is difficult. It was reported that people, even corpses, are often carried to the health centres on an improvised stretcher known locally as a *chekecheke*. A respondent in Talawanda said,

*"I used natural herbs instead of going to the hospital and now after construction I use the motorbike to get to the clinics."* Saidi Dibwe, 75, Talawanda Village, Chairman/Farmer.

#### 5.2.2 Women's Health (Pregnancy and Child Birth)

In the past, poor accessibility caused complications for child bearing women in the community. Before road construction began in Bagomoyo, there were cases of women in labour having to walk long distances at night to get to the hospital.

We spoke to a woman who had been through such an ordeal when the road was a pathway. We were told that at night, whilst in labour, she decided to walk to Talawanda dispensary during heavy rain. However, she reached the dispensary and as there was no doctor present, had to travel to Chalinze hospital. She gave birth to a still-born baby on her way there. She was *"ashamed"* to speak about her experience in front of the crowd, however her sadness and grief was apparent. She said:

*"It was a painful experience but now at least my health is good, this can't happen now that we have a good road surface"* Mwajuma Haji Athumani, 38, Housewife

This issue was also highlighted in Siha. It was reported that sometimes pregnant women are carried to hospital on a *chekecheke* when the road is inaccessible. They either call a nurse living in the same village or, they are carried through the mud on the *chekecheke*. The following quotations reflect their concerns:

*"The issue of pregnant women, when there is no way we have to carry them using the stretcher"*  
Simon Kaaya, 56, Farmer

*"Even me, I was not sleeping, they used to wake me up to escort them"* Aingaya Mlay, 50, Nursing Officer.



### 5.2.3 Head Loading

In Siha, women travel to Lawate market with their produce twice a week, on Mondays and Thursdays. The norm is to use money from their sales to purchase cooking ingredients from the market for use in their homes. These are carried by 'head-loading' back to their homes.

We observed one of the market women interviewed the previous day walking to Sanya market, which is a distant market town, carrying head-loads. She highlighted an observation about the effects of load carrying on women saying,

*"We carry our loads more often on our heads, now some of us have bald heads"* Dina Kileo, 49, Farmer

## 5.3 Access to Education

In Bagamoyo district, a teacher who works in Talawanda primary school was interviewed. He lived very close to the school in a provided accommodation. His responses indicate there are no cases of school children involved in road accidents while walking to school. The longest distance walked by the children is about 3 km and as the children live close-by, walking to school is relatively safe. There was no report of absenteeism due to accessibility, only punctuality of the younger children due to the distance travelled on foot.

In Siha district we interviewed a male principle and a female teacher. Similarly, they reported travel distance for school children to be no more than 2 km. The area has a number of schools; consequently, the road improvements are unlikely to impact on the pupils travel. The main issue was punctuality rather than absenteeism. This was due to children either being sent on errands before coming to school, or having to turn back if they slip and fall while walking in the rain. This was captured in the following statement;

*"During the rains even those who stay near can't make it to school on time...some parents can't afford to buy umbrellas for their children"* Dina Marunda, 50, Teacher.

In both locations, respondents reported that as a result of being late, children are usually given additional cleaning duties such as cleaning the toilets, pruning or watering in the garden and sweeping the compound.

It was reported that the weather also disrupts planned school trips because the hired buses are not be able to gain access to the school to pick up the children.

## 5.4 Road Safety

### 5.4.1 Increase in Vehicle Numbers

There has been an increase in the number of vehicles in both locations since the road construction began. There have been reports of an increase in the number of motorbike taxi (bodaboda) since the road completion in Bagomoyo, as well as in Siha, even though the latter is not yet completed. Bodaboda are the most common means of transport in these areas.

However, in Siha there are public buses available for traders to use. Increases in bodaboda operators could potentially mean an equal increase in accidents, as traffic speeds increase due to the improved road surfaces. There have also been reports of bodaboda accidents caused by the weight or imbalance of loads. This causes the motorbike to tip over to one side, not only injuring the driver but destroying farm produce being transported. This causes a double loss to bodaboda operator and the produce owner.

#### 5.4.2 Road Design

The road is single lane, and there were many complaints about the road being too narrow, making overtaking slightly difficult but not impossible. From observation it is a simple case of basic driving skills. Drivers should wait patiently for one to pass in order for the other to go; however, this does not occur. Bodaboda complain of cars taking up most of the road causing them to drive off road.

In Bagomoyo, from observation there was a problem of water draining off the road at a particular spot near a river. If the rains are very heavy the river overflows onto the road causing a large stagnant pool of water. This is a hazard not only for pedestrians but also for residents since they are mosquito breeding grounds if the water stands for an extended period of time. However, it appears the water drains off after some hours. Respondents highlighted concerns:

*“All the places there is bridges there is a lot of water coming which makes it hard to get to the other side”* Athumani Iddi, 33 Bodaboda Operator.

#### 5.4.3 Driver Training

In contrast to previous reports of driver training supposedly taking place before road licences are issued, it was reported that bodaboda operators generally either teach themselves to ride the motorbikes, or get a friend to teach them. However, there are cases of bodaboda operators teaching new operators for a fee. Most bodaboda operators drive without a licence.

*I don't have a licence, if I see traffic police I just tell them it's being processed”.* Mahida Saidi, 28, Bodaboda Operator.

The use of helmets is a further issue which arose during the surveys. Bodaboda operators complained that some passengers are reluctant to use helmets due to hygienic reasons associated with sharing helmets with previous passengers.

Additionally, bodaboda operators are known to carry as many as five passengers at a time on their motorbikes. When asked about this, they responded that the maximum they took on their bikes were two passengers if “medium” sized. There have also been reports of bodaboda accidents caused by the weight or imbalance of loads, which was discussed previously.

This apparent lack of professional driver training will no doubt contribute to the increase in road accidents. Villagers admitted that the road was not the cause of the accidents, but the drivers' lack of knowledge of how to drive the motorbike.

*“I think it's necessary because most of the young people who are in the village operating transport just learned how to operate their transport means locally without going to a proper school”.* Paulo Kisaka, 35, Casual Labourer.

#### 5.4.4 Education

Road safety is not specifically taught to children in primary school. See extracts below:

*“We don't teach road safety, it's not on the curriculum, but now I know there is an importance of doing that”* Selemani Kasamba, 38, Teacher.

*“We tell them to look left and right before crossing the road. There is also a chapter in science where it teaches about safety precautions in our environment”.* Dina Marunda, 50, Teacher.

There was general consensus on the need for implementing road safety measures in the communities. The following quotation reflects respondents' submissions about the importance and benefits of road safety:

*"I think children should be given road safety education. This should be taken to the leaders and also their parents should be told about teaching their children about road safety"* Malieck-Zedek James, 65, Farmer.

## 5.5 Local Economy

### 5.5.1 Local Trade and Business

In Siha, respondents believe the new road will attract many people back to the village to set up their businesses. Since the road will allow for easy year-round access, residents believe they can begin planning to build their homes. It was explained that in the past they experienced difficulty building because contractors were unable to deliver building material because of the slippery roads. Drivers of the delivery trucks also charged high rates because of the condition of the road.

In Bagomoyo, there have also been reports of new shops opening close to the road and villagers developing business ideas. This is evident in the newsletter story about Imani Ali, a bicycle shop owner in Bago village – see Appendix A.

### 5.5.2 Youth Employment

The road projects have also provided youth with employment opportunities. Males and females from the community are employed as casual labourers for jobs that don't require special skills. This not only gets them off the street, it teaches them a trade and acquire minor skills.

*"I learn many things about road construction from different people from different areas and you may meet technicians here who may call you to do some work with them again later in the future"*.  
Paulo Kisaka, 35, Casual Labourer.

### 5.5.3 Agriculture

In Bagomoyo, there are individuals buying farm land in the area now that the Bago-Talawanda road is accessible. Respondents say this is in anticipation of the pineapple harvest. There are hopes for the future, and in Bagomoyo many intend to open shops by the roadside, indeed some already have.

In Siha, farmers sell their milk to a cooperative union, which is a centre where milk sellers take their produce and co-operations buy in bulk for factory processing. It was mentioned many times during the course of interviewing, that the poor road condition caused numerous problems for them in selling their produce. One man complains that when he cannot access the centre to sell his milk, he remains with the milk for days because not only can he not reach the centre but buyers cannot access the road either. The milk goes bad and he finds it hard making a living:

*"Even now we still experience problems when it rains, there is no transport and we have to remain with our milk, and the sale is what we depend on"* Simon Kaaya, 56, Kirisha.

However, the presence of this road in Siha has got people inspired and motivated to do more business. Comments were made about beliefs that accessibility of the road will bring about massive development. There was talk of another market being started, a possible grazing method for livestock in order for cows to produce more milk and organising another centre within the village where they can sell larger volumes of milk during the rainy season to industries. Some had hopes of car rallies passing through the village on the new road:

*“It’s a good thing because it is a sport. They want challenging roads, people will enjoy it; they will go outside on the road to cheer”.* Geoffrey Mlay, 56, Civil Servant.

## 5.6 Other Issues Raised

### 5.6.1 Environmentally Optimised Design

With majority of the population showing high optimism with regards the road project and its prospects; in Siha one of the local residents was not convinced the road would be of good quality as the road is utilizing the EOD approach. When asked his views he states:

*“Most of the roads which are constructed in our country, especially the ones you say it is an experiment, I don’t know, how do you call it? Trial or test whatever! By only using that term makes me to think it will only be good 50%”.* Geoffrey Mlay, 56, Civil Servant.

This is most likely a lack of understanding of the design approach and expectancy for the entire road to be constructed to a high standard – which is not the objective of the project.

### 5.6.2 Public Transport Charges

On the Siha road, transport operators do not use the road when it rains for fear of getting stuck in the mud. Therefore, there is no increase in fares during wet periods. However, in Bagamoyo, transport operators simply increase the fare and carry the passengers.

There are no changes in charges at the moment on the Siha road, unless the transport operator has to avoid the construction area by driving round and taking a longer route. Not many villagers complain about the inconvenience of having to pay more, or travel longer, because they understand it is due to the temporary road construction. Most welcome the disruptions in anticipation of a better road. However, there were few complaints about disruption to their daily activities. See extract below:

*“Sometimes I get late to work; I don’t arrive at the time I plan. Sometimes customers come to look for me and they miss me. If I was to make 2 dresses I end up only making one because of the time lost”* Vick Makundi, 30, Tailor/Dress Maker.

In Bagomoyo, now the road is finished there is the option of a weekly bus service, hitching a ride on a pickup or using the bodaboda services. There are reportedly more bodaboda operating in the area and this has brought about competition among them. They do not have a formal union so as far as fares go they are free to charge as they see fair. However, one respondent complains about the change;

*“There is big competition around here among bodaboda, before I was making a lot of money when the road was bad but now the road is good I’m making less because I can’t charge more because of my competition”.* Athumani Iddi, 33, Bodaboda Operator.

Fares have reduced noticeably in Bagomoyo after road construction. For instance, before construction bodaboda fares from Bago to Talawanda were between 7000 - 10000Tsh. It is claimed bodaboda charged between 12000 - 13000 Tsh during the day and up to 20000 Tsh at night to travel from Bago to Talawanda during road construction. This was because they had to drive on a pile of gravel in a high gear and assumed this used more fuel. One operator suggests the reason for the increased fare at night is the possibility of being attacked and this will be discussed in the next section. However, since construction the fare lies between 5000 - 8000 Tsh in the day time or 15000 - 16000 Tsh if it rains.

Bodaboda is a business and this makes it more difficult for there to be a fixed fare. It is a bargaining business, so the fare tends to vary given time of day, weather, or number of passengers. A bodaboda operator confirms the above saying;

*“There is no association that sets price. We compete with each other so if a passenger comes along we call on the passenger, offering a better deal to them”.* Mashida Saidi, 28, Bodaboda operator.

Bodaboda operators charge rates substantially above other motorised transporters as they have an advantage of being able to take passengers or loads (produce) direct to the door. Fares for male and female passengers are generally the same. However, one of our female respondents admitted that if there was some flirting involved ladies could possibly get a lower rate.

*“They charge us the same price that they do men, almost the same but it depends. Maybe the bodaboda likes you, you can negotiate to reduce price”.* Mwanahamisi Omari, 38, Talawanda.

### 5.6.3 Public Safety

An emerging area of interest was people being afraid of using bodaboda at night, reportedly in Bagomoyo there have been robberies and killings at night before the construction began. Being that the road was a narrow path, robbers would hide in the over grown bushes and wait for anyone passing by.

These occurrences now make people in the community cautious. They fear if they take a bodaboda at night, not only that the bodaboda could be attacked, they believe the bodaboda operator could be the attacker. Likewise, the bodaboda reported that there have been instances of passengers planning an attack on them, having others lie in wait so they can rob him and steal his motorbike.

These attacks have developed into an emerging public health issue. It has been mentioned that some bodaboda operators now travel at night with a knife for protection. Although those we spoke to denied having knives themselves, they confirmed that others did.

In Bagomoyo, most people living far off the road are now moving closer to the road side. It has been reported that this is because people disturb them. They believe that staying closer to the road prevents robbers from attacking their home. Since construction of the road, there have been no cases of such road side robberies occurring.

### 5.6.4 Destruction of Agricultural Land and Crops

In one instance the road works and road closures were causing bodaboda to divert through peoples farms, destroying some of their crops. Also, reportedly the road works had allowed run off to drain into people’s farm land which washed away their seedlings.

### 5.6.5 Child Safety

Finally, another potential negative outcome to the road construction is allowing school children to hitch rides from passing vehicles to drop them in school. These could be total strangers and the children would be opened up to all manners of negative influence and potential abduction.

## 6.0 RECOMMENDATIONS

### Road Safety Measures

Under projects such as AFCAP in Tanzania, rural roads are being improved communities where inhabitants are accustomed to very low traffic, hence very safe roads. The introduction of these new roads can leave them open to potential harm. A rural community with little understanding of fast moving vehicles leads to conflict between cars and pedestrians. Road safety measures not only for motorists but for pedestrians are recommended.

### Road Safety Audit

Along the road there are numerous locations where pedestrians are likely to be endangered as traffic volumes grow and speed increases. It is recommended that a road safety audit is carried out. This will inform Engineering solutions which need to be supported by intensive road safety training in communities and schools.

### Motorcyclist Training

There are notoriously high motorbike-taxis accident rates and road traffic injuries and as such there is potential for these rates to further increase. Motorbike-taxi operator's offer a valued service for many in the communities however the drivers need to be better trained on proper use of not only the roads but the vehicle as well as the use of safety helmet for driver and passenger. The issue of drivers lack of knowhow in handling the motorbike could be mitigated by providing a free training course for bodaboda drivers, paid for by the motorbike manufacturers or government/donor funding. This training could be offered upon purchase of the motor bike and before they begin operating the machine commercially. Drivers would have to pass the course prior to receiving an advanced driving licence, separate from the formal license which would also still be required.

The issue of passengers not wanting to share helmets could be tackled using a sanitizing wipes or spray.

## 7.0 CONCLUSIONS

There are a number of conclusions which can be drawn from the surveys conducted in Bagomoyo and Siha. These are outlined in the following sections:

### Social and Family Networks

Social networks may be strengthened as relatives from outside the region are encouraged by better roads and transport to visit more regularly than before, as the option of returning the same day becomes available.

### Access to Health Facilities

In the Bagomoyo area, access to health services has improved since construction of the road. The increasing use of mobile phones, combined with year-round accessibility along the road, will contribute to faster and easier travel in the case of emergencies, such as accidents and getting to the hospitals.

It is anticipated that the same benefits will be seen in Siha once construction is complete.

### Gender Impacts

#### *Hospital Access for Pregnant Women*

Since the completion of the road in Bagomoyo, women have easier access to hospital when in labour. Previously they had to travel on improvised stretchers over long distances. Now they can use the bodaboda to travel quickly to the hospital when required. It is anticipated that similar benefits will be seen in Siha once the road is completed.

#### *Head Loading and Access to Markets*

By having awareness of the effects of head loading and still keeping the life long tradition, it is our hope that with the introduction of the road these occurrences will subside.

It is reasonable to infer that head load carrying, although being a cultural behaviour, is likely to reduce with improved road access and transport availability. However, a 'before and after' comparison would be useful in validating this inference.

#### *Employment*

The employment prospects for local men and women have improved since the road construction in Bagomoyo and they look like they will also improve in Siha. This should provide more business opportunities for women selling agricultural and other produce in the markets. Generally men have been employed as labourers on the construction sites and this provided a temporary source of income for these people. Also, the improved roads provide increased capacity for taxis and other public transport which will likely be provided mostly by men in the area.

### Age Impacts

#### *Young People*

The main impacts for young people are improved access to education facilities and the prospect of higher youth employment.

As children can get to school more readily, it is reasonable to infer that their education will be positively impacted by this. This will lead to better prospects in their future lives. Also, the

increasing number of shops and businesses will provide employment for young people, as will the improved outputs in produce from the agricultural sector.

#### *Middle Aged People*

This part of the society generally consists of people who are parents, home-owners and business people. Arguably, these will perhaps be most impacted by the construction of the new road. Parents, especially housewives, will have easier access to markets, shops and places of employment. Business people will benefit from increased trade and improved incomes.

#### *Elderly People*

Elderly people in the community will benefit from easier access to hospitals, markets and shops. This will have a positive impact on their overall health and improve quality of life.

#### Improvement of the Local Economy

The economy appears to be improving in both areas, with more businesses opening up and many more aspiring.

In Bagomoyo, the pineapple season will begin soon and it is anticipated by the residents that there will be much more profit as access has been improved.

While in Siha, even more economic growth is expected. There is increased anticipation of higher profits from agricultural production and increased sales as road access improves and transport services increase in frequency allowing for more competition and decrease in transport cost. The road will allow for increased profits from milk production and perishable crops.

#### Improved Access to Education

In both districts, most villages have both primary and secondary schools, which makes travel time and distance for school children reasonably short. Thus, there is no substantial change due to road access. There was no report of absent teachers or even pupils due to heavy rain or road inaccessibility; there were only punctuality issues with pupils at times when it rained.

However, it is hoped that the new road and year round all weather accessibility will improve punctuality levels and encourage more non-resident teachers to accept teaching jobs in the schools in those districts.

#### Road Safety

Road safety is reportedly not taught to children in primary school and this is something which needs to be rectified. The issue of driver training and licensing also need to be investigated further with an aim to remediating the issue and increasing awareness of the dangers of un-trained drivers using the roads. Road safety should be given consideration at the design stage and a road safety audit performed on the designs once completed.

#### Additional Issues

Engineering issues to be checked are, for instance, potential floods that could occur with torrential rainfall. Engineering measures should be put in place to prevent run off water from entering peoples farms and destroying seedlings (as reported). It should also prevent standing water at the roadside, potential river overflow and possible erosion in the future - good drainage off the road is essential.



### Future Study

There is need for further study to explore potential changes in socio-economic and health conditions in the same communities' occurring over time. However, there is no doubt that the communities of Siha and Bagomoyo are already experiencing the benefits of the roads developments.

**Appendix A: People-Centred News Articles from Bagomoyo and Siha Districts**

A total of 6 one-page news articles were written as part of this project. These are provided in the following pages.

# CHANGING LIVES: Helping local businesses

Imani Ali tells *Roughton* how the new road has changed his life for the better. Business is booming for 33-year-old bike shop owner Imani Ali. His life has been transformed. It is hard to imagine that this time last year he was just a pineapple farmer earning money by selling his produce at market. But, now he is making a living from various businesses and hopes to open more in the future. How was this achieved? The answer is simple: access.

Roughton International has provided design and consultancy services for the upgrading of the Bago to Talawanda road in Bagamoyo, Tanzania, to all weather standard under the African Community Access Programme (AFCAP). The road, which was previously impassable in the rainy season has been redesigned and constructed using the Environmentally Optimised Design Approach to provide reliable access for rural communities in all weather. This development has caused an increase in transportation to the area which businessman Imani intends to profit from.

A year ago, Imani, originally a farmer from Msinune, invested money from his pineapple farm to open a bike shop in Bago, at the start of the new road. Here he sells spare parts for bicycles and motorcycles as well as renting bicycles to the local community.

Imani, was hard at work when we met with him at his busy bike shop. Rows of bikes are lined up outside ready to be hired. Each decorated with different football stickers so you can tell them apart. Inside you can see various bicycle parts, food and drink for purchase. He says that he opened the shop because he saw the road was



*Imani Ali, 33, rents bicycles from his shop in Bago*

being improved and wanted to make money from it. "Before if it was raining people didn't go anywhere. If you had a bicycle you would just leave it and go on foot. There was no type of transport," he recalls. "But, now the road is good people can use bicycles every day."

"All the time people are coming here to get a bicycle to go to Talawanda or Chalinze," he says. Within 20 minutes Imani has had four customers. Before the construction, which was funded by the Tanzanian Government, this would not have happened. But, now more people are passing. "If they need to buy a pump, tyre or water they stop and buy," he says.

The road has had a positive affect on Imani's income. "If the road was bad I would have made less money," he says. "But, now the road is good more people pass and it is good for business."

Imani lives approximately 5km away in the traditional village of Msinune, home to over 2000 villagers. Many of the residents here are farmers and rely on this road to get to the market in Kiwangwa where they sell their produce. But, before the construction it wasn't even called a road. It was referred to as a passing.

Imani, who has lived near the road all of his life, has no alternative routes to get home. He says: "Now it is good because the road is safer. I can get home very quickly compared to before."

"Before if it was raining I was using two to three hours. Sometimes you slip and slide in the rain," he recalls. "This time I can use up to half an hour because the road is good."

He says the road has had a positive affect on his life. "I can make more money and use the money to open more businesses like this one."

“ Now the road is good people can use bicycles every day

*Imani Ali, 33, Msinune*



For more information on the African Community Access Programme (AFCAP) please visit: [www.afcap.org](http://www.afcap.org)





# Enhancing transport in Tanzania

How **AFCAP** is helping transport operators by providing safe and reliable access

Eastern Tanzania, rain falls heavily on the Bago to Talawanda road. Motorbike taxis, known locally as boda-boda, continue to speed past. But, this hasn't always been possible. Just over a year ago, the poor condition of the road under the stress of rain would have made it impossible for vehicles to pass. But now the road has been redesigned and constructed under the African Community Access Programme (AFCAP) to provide reliable access for rural communities in all weather.

Boda-boda operator Mohina Saidi was taking a break in a restaurant at the start of the road in Bago when we met with him. The development of the road has increased the number of transport operators in the area. "Business is better now even though there is competition because travel time is shorter," he says. "The road is better and it gets rid of a lot of my problems."

"It was very bad before, very hard and difficult to pass. Sometimes we couldn't pass especially in the rain," he describes. "There was always accidents and people would hurt themselves."

The 28-year-old was involved in three accidents before the construction, which was funded by the Tanzanian Government. "The first one I was taking a passenger to Talawanda, on the way it started raining, but I didn't have the information that it was going to rain," he recalls. "I fell off and hurt myself but my passenger was fine."

After the accident, Mohina had to ride his motorcycle to the hospital in Msata. He gestures to a scar on his leg and says: "It was very painful because heat from the bike made my injury worse."

"I haven't had an accident since the new road but my friends have," he says. "The problem is not the road it is the

cars." "The cars use high speeds and because the road is narrow they don't want to give motorcycles space to pass," he explains.

Habibu Milaji lost two of his front teeth in a boda-boda accident shortly after the road was complete. "The driver was going very quickly, about 60 km/h. Ahead you can see a sharp corner," he recalls. "The motorcycle hit some small stones and swerved."



The 54-year-old livestock keeper was knocked out on impact and woke up two hours later with some memory loss. "People came to the accident and were like 'wow he's dead'," he says. When he came around he was taken to the hospital where he remained for two weeks. "Even now I don't have teeth," he smiles. But, despite his injury Habibu does not blame the road for the accident. "Maybe it is because the drivers are going quickly," he says. "There is not a lot of accidents now."

Road traffic injury is a killer, which kills more people than HIV, Malaria and Tuberculosis worldwide. Which is why AFCAP is working with Amend NGO to provide road safety research and education. "Our concern is rural communities with little understanding of fast roads and conflict between fast cars and pedestrians," says Tom Bishop from Amend NGO.

Mohina is very safety conscious. "I wear a helmet with a visor to protect myself from wind, insects and dust. Also, I am afraid of accidents and traffic police," he explains. A motorcycle passes carrying four passengers. He looks at them disappointed and says: "The most people I take on my bike is two and myself." Mohina taught himself to ride but would like to learn about road safety. "If someone could help me get training or go to college I would be very happy," he says.

But, before construction accidents were not the only problem. The fear of being ambushed by bandits at night caused the price for boda-boda to double. "I am afraid of the passenger stealing from me. You get to a destination and passenger takes the bike and maybe even kills you," he says as he gestures slashing his throat. "I don't carry a knife myself but other boda-boda drivers do." "Nobody has been attacked since the new road. If somebody had I would know," he says.



Business  
is better now  
because travel  
time is shorter

*Boda-boda operator,  
Mohina Saidi*



# Better access to healthcare

How **AFCAP** is helping pregnant women in Tanzania access health facilities

Every year around 50 million women give birth without skilled care. The vast majority of these women live in developing countries like Tanzania. In rural Bagamoyo a major problem is access. Many of the roads are difficult to travel on and transport during rain can be impossible. The Bago to Talawanda road was in such poor condition that the local community did not call it a road. It was called a passing. Roughton International has provided design and consultancy services, under the African Community Access Programme (AFCAP), to provide reliable access for rural communities in all weather, allowing pregnant women to access the health facilities that they need at any time.

“Before construction we were just using natural medicines for caring,” says Talawanda West Village Chairman Saidi Dibwe. “But now many sick people are able to be transported.”

Three years ago, before the road was constructed, Mwajuma Haji Athumani, 38, went into labour at home in her village of Kiembe. She stares at the ground and says: “I am too ashamed to talk about it.” The mother-of-five was too distraught to tell the story in her own words but she wanted her story to be told.

It was raining heavily the night she went into labour. The road had become more of a river than an access route. No vehicles could pass; the only access was by foot. It was very muddy and slippery. The road towards Kiwangwa hospital was completely impassable in the rain so Mwajuma faced a difficult 10km walk to the nearest medical dispensary in Talawanda. It was a painful two-hour walk in terrible conditions and when she arrived at the dispensary the doctor was not there.

Still desperate for someone to deliver her baby she faced another four-hour walk to the next hospital in Chalinze, 20km away. But, upon arrival she faced the news that they couldn't help her so she was sent to the Tomby Kibaha Hospital. The baby did not survive the journey. Mwajuma gave birth at the side of a road, without any medical assistance, to a baby that was already dead.

She believes that if the road was better her baby would still be alive. “The doctor suggested that if the road was better children wouldn't die,” she says. “Thank you for constructing that road. Now we can manage to get to the hospital at any time. Thank you. Thank you. Thank you.”

Mwajuma, who normally travels by bicycle, recalls: “Before the road construction there was many many problems. The road was very bad. We used only bicycle to travel from one place.” But, pregnant women are unable to ride because the vibrations created by the bad condition of the road are dangerous.



38-year-old farmer Mwajuma Haji Athumani, reveals how the condition of the new road could have saved her baby's life.



Now we can manage to get to the hospital at any time. Thank you. Thank you. Thank you.

Asha Faraha, 35-year-old mother, from neighbouring village Ludiga, used a bicycle for the first three months of her pregnancy. “But, after that I had to walk because it created a pain in my back,” she recalls. “Sometimes if I go on bicycle I urinate on the bicycle. So it forced me to walk,” she says.

But, since the construction, which was funded by the Tanzanian Government, cars and motorcycles are able to pass in all weather. Thanks to the increase in transport, Asha, who has to visit the dispensary in Talawanda every month with her 14-month old baby, Subira Ibrahim, is now able to get there in just 10 minutes.

“Now you can travel easily from one place to another,” agrees Mwajuma. There is even a public bus that comes once a week. This allows for access to health facilities at any time. “The situation is good because you are able to travel at any time, even at night,” she says. “Now my health is good.”

Asha Faraha, 35, with baby Subira



For more information on the African Community Access Programme (AFCAP) please visit: [www.afcap.org](http://www.afcap.org)





# Increasing access to healthcare

How **AFCAP** is helping to provide safe, reliable and sustainable access to healthcare in Tanzania

Over 95% of the Tanzanian population are at risk of Malaria. With approximately one million deaths and more than 400 million cases a year in sub-Saharan Africa, it is the leading cause of morbidity and mortality. In the Siha district of Northern Tanzania access to health facilities can be the difference between life and death.

The Lawate to Kibongoto road, on the foothills of Mount Kilimanjaro, is characterised by steep hills and red volcanic soils which immediately becomes impassable when wet. This makes accessing health facilities problematic. But, Roughton International is currently providing consultancy services to the upgrading of the road to all weather standard, under the African Community Access Programme (AFCAP), so that health facilities can be accessed all year round.

Nursing officer Aingaya Mlay has lived on the road in Lawate for eight years. "The road was not good and it was slippery especially during the rainy season," she recalls, "Someone may be suffering from Malaria and the road is bad and it is far because there is no transportation and they decide to sit at home."

"Now the patients will not delay," says the 50-year-old. "Most people will access the hospital because of the road."

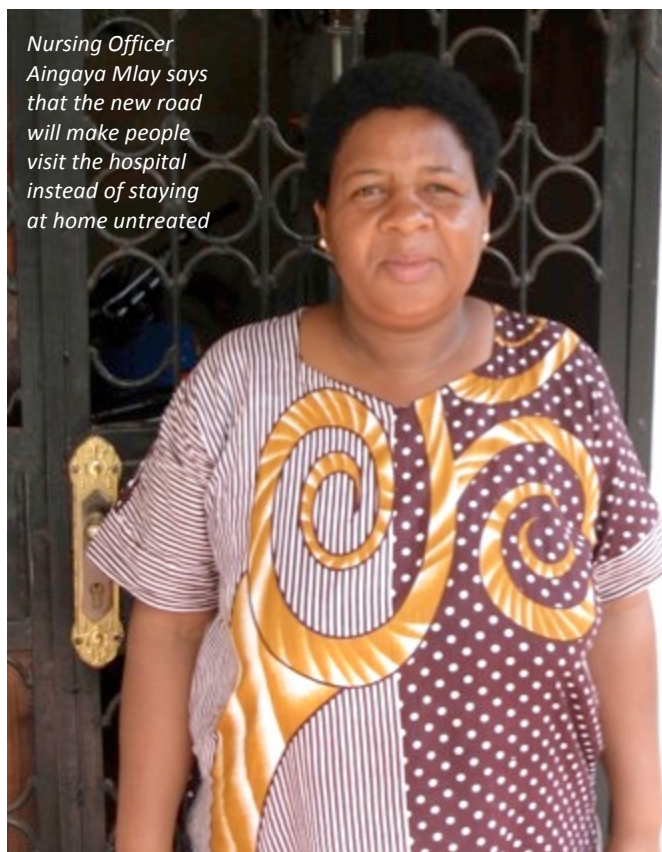
Eliamani Maimu, a 52-year-old farmer from Orumwi, agrees that lack of transport limits access to healthcare. She says: "Sometimes people are carried by chekecheke." "This is a kind of sieve used to clean maize which villagers use as a kind of improvised stretcher," she explains.

"When it is dry you might get transport but when it is raining even if you call someone they will not come to pick you up," she recalls. But, "Now I think it will be easier because even when it is raining you will call a boda-boda owner and they will come and take patient to the hospital," she adds. "My life will change for the better completely."

"A big problem was the delivery, at night pregnant women



*Kirisha Primary School students holding the chekecheke, which is used as an improvised stretcher*



*Nursing Officer Aingaya Mlay says that the new road will make people visit the hospital instead of staying at home untreated*

**“**The road will be very helpful for us because when people are getting sick they can get to the hospital in a short time  
*Nursing Officer, Aingaya Mlay*

who want to deliver would wake people in the village to escort them to the hospital," explains Aingaya. "But now they can call from their home or a neighbour's phone and the motorcycle will come and take them to hospital." "I was not sleeping. They used to wake me up to escort them but now I am sleeping. They go straight to the hospital without disturbing me," she says.

Health workers used to visit villages once a month to provide vaccination services. But, now mothers are able to take their babies to the hospital because there is transport. "The road will be very helpful for us because when people are sick they can get to the hospital in a short time," she says.

The construction of the road, which is being funded by the Tanzanian Government, has already improved Aingaya's travel time to her workplace at Hai District Hospital. "Before, it took four hours so I had to wake up very early in the morning. Now it takes one hour to half an hour," she says. "I used to wake up at 4am to get to work but now I can get up at 5.30am. I sleep more without thinking of waking up early."

For more information on the African Community Access Programme (AFCAP) please visit: [www.afcap.org](http://www.afcap.org)







# Getting farmers to market

## How AFCAP is helping farmers get to market by improving access in Tanzania

In Siha district in Northern Tanzania, on the foothills of Mount Kilimanjaro, the Lawate to Kibongoto road serves a highly productive agricultural area where one of the biggest sources of income is generated from selling milk and farm produce.

Farmers work on both sides of the road for its entire 13.5km length and need a route that is passable in all weathers so that they can earn a living all year round. The road, which is characterised by steep gradients and red volcanic soils, is passable in dry weather but immediately becomes impassable when wet.

Roughton International is currently providing consultancy services to the upgrading of the road to all weather standard, under the African Community Access Programme (AFCAP), so that farmers can access the road all year round.

“The road is important for the community,” says Siha District Executive Director, Rashidi Kitambulio. “It will increase their income and the life standard for them because they can access their business, send produce to the market and it will be passable throughout the year.”

“Economically it is going to improve very much,” agrees Kashashi ward councillor Susanna Kihunrwa. “People will be very happy. It is going to make their lives easy.”

“Before it was too slippery



People will be happy. It is going to make their lives easy.

*Ward Councillor, Susannah Kihunrwa*

and it was difficult for people who were going to sell their commodities in the market,” says Susannah who has lived on the road for 40 years. “Especially women, when they want to sell their commodities they have to carry it on their head and pass through slippery roads, so they find it difficult.”

Dina, a 49-year-old farmer and livestock keeper who sells milk and farm produce at market describes the road before construction as “very very bad”. “It was terrible,” she says.

Lack of transport on the road limits the amount of produce that can be taken to market.

Dina, who uses the road twice a day to travel to her farm and the local markets, explains: “When you are carrying a load with your head you will not

carry enough produce for you to sell at the market you will only carry the amount you can carry on your head.” On her head she is able to carry a quarter sack of maize, 25kg, or up to 20 litres of milk. But, sometimes the pressure from carrying heavy produce like this causes the women to go bald.

When the road, which is being funded by the Tanzanian Government, is complete vehicles will be able to pass in all weather. “We will not have to use our heads,” she says. Every Monday and Thursday there is a market at the start of the road in Lawate. Dina says: “When it was muddy I used four hours to get to the market on foot. Now, I can use two to two and a half hours.” But, she believes after the road is complete “transportation will be easier” and the journey will be quicker

Also, the quality of the road before construction deterred visitors from coming to the area. Dina says: “There are many people outside the village who did not want to come to the village because the road was bad.” But she believes the new road will help. “What we produce here they don’t have so they will come to buy things like banana, plantain, milk and vegetables and they will leave money in the village so it will bring some development in the village,” she says.

“Honestly, there will be very very big changes in our lives,” she says. “We will produce more milk because we know there will be transport and the market will expand.” Dina will use her extra profit to send her five children to school and also to improve her house.



*Milk is a major source of income for villagers in Siha*

For more information on the African Community Access Programme (AFCAP) please visit: [www.afcap.org](http://www.afcap.org)



# Helping businesses in Tanzania



*Vick Makundi, tells Roughton how the new road will improve her business*

Northern Tanzania, on the foothills of Mount Kilimanjaro, amidst the mayhem of Lawate market, a row of shops sit on either side of the Lawate to Kibongoto road. It is here that Roughton International is currently providing consultancy services for the upgrading of the road.

Vick Makundi, a 30-year-old tailor, is hard at work in her fashion shop with her small team of workers. An array of colours and fabrics hang neatly on the wall ready to be transformed into customised clothing. There is no electricity. Workers use coal irons and manual sewing machines. The process is slow and demanding but no one is complaining.

Inside Vick Fashion you can hear the friendly chatter of workroom gossip and scissors slashing fabric. But, outside, labourers are working hard to upgrade the problematic rural road to all weather standard to provide reliable access for the community all year round. Vick says: "We are grateful for this support because there will be no transport problems anymore."

Characterised by steep gradients and red volcanic soils, which are firm but slippery when wet, the 13.5km road immediately becomes impassable when wet. "The road was very very bad, there were no cars going through it and if you wanted to go up you have to go on foot because of how slippery it was," she recalls.

The unreliable condition of the road means that Vick, who normally accesses the road by car, is "sometimes forced to

walk on foot" which makes her late for work. "Sometimes customers come to look for me and they miss me. If I was to make 2 dresses in a day I only end up making one because of the time lost," she explains.

Vick's biggest problem is transport. Sometimes, "we have to wait for market days to get transport," she says, which limits the number of customers she receives. Roughton International has redesigned the road under the African Community Access Programme (AFCAP), using an Environmentally Optimised Design Approach, to facilitate safe and sustainable rural access on a budget. Vick is hopeful that

the new road, which is being funded by the Tanzanian Government, will bring improvements. "There will be no problem of transportation anymore and people will be getting wherever they want and there will be more customers," she says.

"My life will be very good and very successful. I will get many customers, there will be a lot of business because so many people will be coming," she adds.

"My income will increase because customers will increase," she says. "The money that I get I will build a house and send my children to school and expand my business."

Vick, who has lived in Lawate for five years, has already noticed the difference the road is making. "Now there are no problems because they have put gravel unlike before when it was slippery," she says. "I feel very good and more than that I am very happy."

“ My life will be very good and very successful

*Vick Makundi*



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### Check List Interview Questions for Bagomoyo

Purpose of the interview is to elicit in-depth information from individuals that are affected by the road

- Name of study area:
- Date of interview:
- Name of interviewer:

#### Basic information required:

- Name of key informant:
- Place of interview:
- Place of residence:
- Sex:
- Occupation/Position:
- Age:
- Duration of living at this location:
- Settler or indigene of this area:
- Do you travel on the new road? (Foot, car, bicycle, motorbike etc.)

#### Questions for Locals

- How do you feel the road construction will/is affect/ing the community?
- What **was** the road condition like before construction? (wet season and dry season)
- How do you find it using the road **now** during construction? (Road blocks, traffic etc.)
- Any disruption in business activity causing loss of income?
- How **do** you feel the road condition will be after construction?
- Will the road change your life and that of the community after it is complete?

#### Use of the Roads

- How often do you frequent the road? (To access where? A to B?)
- Do you have alternative routes you use to travel? (What are the routes apart from the new road?)
- What are the current issues with access due to the weather conditions?

- Have you seen any accidents on the road? (Due to smoother road surface and tendency for drivers to speed?)
- Do you feel there will be accidents?
- Do you feel the roads are safer?

If using completed section of road:

- Has there been an improvement in travel time?
- How long did it take you to travel (from A to B) before the road construction?
- How long does it take you now?
- Are there more transport operators in the area now? (Frequency of transport services in the area post construction)

#### Impact of the Road

- What are the access problems you face now getting to the health facilities/school/markets etc?
- When the road is finished will these facilities be easier to access?
- What can you tell me about how the road now allows for better/ easier access to the Health facilities?
- How will the availability of this road affect your life?
- Will it cause any change? (Negative and positive?)
- Allow access to markets, schools, increase in businesses etc.?
- Do you think the road will cause people to come to the village? Why?
- Changes in charges for average journeys? (Seasonal variation: Do public transporters charge less in dry season?)
- Has there been an increase in transportation costs or decrease since the road construction?

Tell me if you ever take public transport at night? (Do charges differ at night? Example?)

#### Health workers

- Main problems faced by local residents who might want to use health facilities?
- Will the new road affect usage of the health facilities?
- Road accidents dealt with by your facility?
- Do transport factors reduce or increase older people's attendance at health facilities? If so, in what ways?

- Have there been changes in maternal health? Do pregnant women frequent the clinics more?
- Does the health centre provide any transport for patients, health staff transport or mobile clinics? (details)
- Any changes to health conditions post construction? (such as increase in clinic testing levels)
- Any likely impacts of the new road on health?
- Main mode of travel to health facilities by patients?

#### Communications

- Do you have access to a mobile phone? Do you use it to contact transport operators (bodaboda) for their services?

#### Bodaboda:

- Has the expansion of mobile phone ownership affected your work in any way? If so how?
- To what extent has the availability of mobile phones affected your business operation.
- Do you and your passengers wear helmets?
- How many passengers do you carry?
- How much are you to give the owner at the end of the day?
- How would you feel about more road construction being done?
- What other areas do you feel would benefit from similar road works? And why?

## Check List Interview Questions for Bodaboda Operators

Purpose of the interview is to elicit in-depth information from individuals that are affected by the road

- Name of study area:
- Date of interview:
- Name of interviewer:

### Basic information required

- Name of key informant:
- Place of interview:
- Place of residence:
- Sex:
- Occupation/Position:
- Age:
- Duration of living at this location:
- Settler or indigene of this area:
- Do you operate on the new road with your motorbike?

### Questions for boda-boda operators

- How did the road construction affect the community?
- What **was** the road condition like before construction? (wet season and dry season)
- How did you find it using the road during construction? (Road blocks, traffic etc.)
- Disruption in business activity causing loss of income?
- How **is** the road condition now after construction?

### Use of the Roads

- How often do you frequent the road? (To access where?)
- Do you have alternative routes you use to travel? (What are the routes?)
- Now that the rains are here, what parts of the road have you noticed are not passable?
- Are there any issues with access due to the weather conditions?
- Are there more accidents on the road? (Due to smoother road surface and tendency for drivers to speed?)

- Do you feel the roads are safer?
- Has there been an improvement in travel time?
- How long did it take you to travel a certain distance before the road construction?
- How long does it take you now?
- Are there more transport operators in the area now? (Frequency of transport services in the area post construction)

#### Impact of the Road

- How has the availability of this road affected your life? Has it caused any change? (Negative and positive?)

#### Access to markets, schools, increase in businesses etc.

- What can you tell me about how the road now allows for better/ easier access to the Health facilities?
- How is the traffic (human and vehicle) situation on the roads at present? (How was it preconstruction?)
- Charges for average journeys? (Seasonal variation: Do bodaboda charge less in dry season?)
- Has there been an increase in transportation costs or decrease since the road construction?
- Tell me if you ever take passengers at night? (Charges differ at night? Example?)

#### Communications

- Do you have access to a mobile phone? Do you use it in your business?
- Has the expansion of mobile phone ownership affected your work in any way? If so, how?
- To what extent has the availability of mobile phones and phone networks affected your business operation now?
- How would you feel about more road construction being done?
- What other areas do you feel would benefit from similar road works? And why?

Write two to three sentences after the interview about how this interview raises new questions to explore new areas.

**Appendix C: Socio-Economic Data****Table 1: Socio Economic Data for Bago – Talawanda Road**

<b>BAGAMOYO DISTRICT</b>		
<b>Kiwangwa Ward</b>		
<b>Talawanda Ward</b>		
<b>Population</b>		
<b>Census Taken in 2007 and population growth rate is 2%</b>		
	<b>Village</b>	<b>Population</b>
1	Kiwangwa	10205
2	Msinune	2004
3	Talawanda	6342
4	Msigi	1273
5	Kisanga	1054
6	Mindukeni Bane	2246
	<b>Total</b>	<b>23124</b>
<b>Primary Schools</b>		
<b>Schools</b>	<b>Location/ward</b>	<b>Capacity/No of Students</b>
Bago Primary School	Kiwangwa Ward	511
Msinune Primary School	Kiwangwa Ward	353
Talawanda Primary School	Talawanda Ward	160
Msigi Primary School	Talawanda Ward	260
Kisanga Primary School	Talawanda Ward	162
<b>Secondary Schools</b>		
<b>Schools</b>	<b>Location/Ward</b>	<b>Capacity/No of Students</b>
Talawanda Secondary School	Talawanda Ward	515
Kiwangwa Secondary School	Kiwangwa Ward.	839
<b>Market Statistics</b>		
	<b>Market</b>	<b>Location/Ward</b>
1	Kiwangwa - Market	Kiwangwa Ward
2	Talawanda Market	Talawanda Ward
<b>Health Statistics</b>		
	<b>Hospital/Dispensary/Health Centre</b>	<b>Location/Ward</b>
1	Kiwangwa Hospital	Kiwangwa Ward
2	Kiwangwa Dispensary	Kiwangwa Ward
3	Talawanda Dispensary	Talawanda Ward

**Table 2: Socio-Economic Data for Lawate – Kibongoto Road**

<b>SIHA DISTRICT</b>			
<b>Kashashi:</b> Ward covers 11km			
<b>Ivaeni:</b> Ward covers 2.5km			
<b>Population</b>			
<b>Census Taken in 2002 and population growth rate is 1.9%</b>			
<b>No</b>	<b>Village</b>	<b>Population</b>	
1	Lawate	4926	
2	Manio	4380	
3	Kyengia	2463	
4	Mae	5747	
5	Wanri	3558	
6	Kashashi	4653	
	<b>Total</b>	<b>25727</b>	
<b>Primary Schools</b>			
<b>No</b>	<b>Schools</b>	<b>Location/ward</b>	<b>Capacity/No of Student</b>
1	Lawate Primary School	Ivaeni Ward	333
2	Kitahemwa Primary School	Kashashi Ward	263
3	Suumu Primary School	Kashashi Ward	122
4	Kirisha Primary School	Kashashi Ward	235
5	Kyengia Primary School	Kashashi Ward	219
<b>Secondary Schools</b>			
<b>No</b>	<b>Schools</b>	<b>Location /Ward</b>	<b>Capacity/No of Students</b>
1	Suumu Secondary School	Kashashi Ward	356
2	Oshara Secondary School	Ivaeni Ward.	396
<b>Market Statistics</b>			
	<b>Market</b>	<b>Location/Ward</b>	
1	Lawate - Market	Ivaeni Ward	
2	Sanya Juu Market	Sanya Juu Ward	
<b>Health Statistics</b>			
	<b>Hospital/Dispensary/Health Centre</b>	<b>Location/Ward</b>	
1	Kibongoto Hospital	Ivaeni Ward	
2	Lawate Health Centre	Ivaeni Ward	
3	Kashashi Dispensary	Kashashi Ward	