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ReCAP is pleased to share the third blog post in a series on trends in the road sector, affecting the developments and implementation of low volume rural roads and transport services in Africa and Asia.

Our blogger is Mrs Grace Muhia and she is addressing the topic of First Mile transport for smallholder farmers. Mrs Muhia has worked on several research projects related to rural transport and development in Sub-Saharan Africa and is currently part of a team running a project on Gender Mainstreaming in transport in Kenya, sponsored by the Africa Community Access Partnership (AfCAP). As a programme's coordinator at the International Forum for Rural Transport and Development (IFRTD), she was involved in the implementation of the AfCAP-funded First Mile pilot project in Kenya, in the Kieni region, particularly looking at the cost analysis. She presented the project successfully at a Low Volume Roads symposium in Cairn, Australia in 2013. She has organised a number of transport and development related events in Kenya, such as for the Sub-Saharan Transport Programme (SSATP) of the World Bank and for AFCAP.



In 2015 Mrs Muhia founded IDENTITY Youth forum, supporting youth in finding purpose and vision, and PEARL Women group for women empowerment and networking.

## **Addressing First Mile transport challenges for smallholder farmers**

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### **Introduction**

In many rural areas of East Africa, smallholder agriculture has become more market oriented and is a key source of employment and family income generator. Growing urbanization and increasing access to export markets are fueling the demand for good quality consumer food items such as tomatoes, onions and a wide range of vegetables that mature quickly and need a quicker delivery time from farm to consumer.

The trend of diversifying smallholder farming from traditional slow-maturing staples such as maize and cereals, or cash crops like coffee, pyrethrum and sugarcane presents an important window for increasing rural household incomes and lifting many out of poverty. This emerging smallholder sector provides new opportunities for the youth and women to participate in a variety of agri-enterprises such as farming, processing, marketing and supply of inputs.

This blog post focuses on the transport challenges faced by smallholder farmers as they seek to become important players in emerging food supply chains in Africa. It draws from the results of two small-scale scoping studies that looked at the transport challenges faced by smallholder farmers in one rural village in Kenya (Njenga P, Wahome G and Hine J. 2014), and another one in Tanzania (Njenga P, Willilo S and J. Hine. 2015).

The studies identify transport as an important component in the overall functioning of the smallholder value chains. They particularly draw attention to the transport bottlenecks that farmers face in the initial movement of their produce from the farm to the first point of commercial opportunity – which could be a collection/consolidation point along the rural road, a trucking stop or the nearest market hub. This initial distance is referred to as the **first mile**.

### Challenges of The First Mile

The First Mile is the segment of transport that links the farmers to the nearest motorable rural road or a produce collection point. Its infrastructure may consist of the local village or farms paths and tracks that are inaccessible to conventional transport vehicles. The distance of the first mile, in actual terms can range from 0.25km to 5km. Means of transport typically used in this segment are human portering, animal carts, bicycles, animal carts, motorcycles and in some cases, tractors and pick-up trucks.

Head loading which is commonly used in the first mile is the most expensive method of transport. This is on account of the low individual volumes transported, the poor condition of the first mile road infrastructure, and limited options in the means of transport available. Head loading can be over 20 times as expensive (on a per ton/km basis) than transport by truck. Even if distances of the first mile are short (0.25km – 5km) compared to the full journey to final markets, the transport costs can make up to 20% of the overall transport costs of a value chain.



Figure 1: Back loading from farm to collection point is most common. Animal carts are also common in Kenya. (Photos: International Forum for Rural Transport and Development)

First mile transport for a farmer can also change depending on the seasons as some collection points become less accessible in wet seasons. This transport segment was found to be critical for agricultural produce such as tomatoes, vegetables and fruits that are time and transport sensitive due to perishability and fragility. Crop losses from bruising, exposure to the elements and unpredictable delays are also common bottlenecks of the first mile value chain to the agricultural smallholder.

In Kenya it is estimated that onion farmers spend around 10 to 20% of their income on initial movement costs when they use traditional forms of transport. In Tanzania it was estimated that in the dry season, the farmers spend 20-30% of their tomato produce income on first mile movement costs and 40-50% in the wet season.

Huge economies would result if farms were directly accessible by trucks.



**Figure 2 : Food growing areas in Kenya are in highland areas with heavy rainfall and difficult topography for road maintenance. (Photos: International Forum for Rural Transport and Development)**

### **Suggestions improve the First Mile Transport**

Following the studies referred to above, some suggestions are provided as to solutions and follow up research:

- Ensuring all weather motor vehicle access for rural roads going into strategic smallholder farming areas.
- Since it is often uneconomical for transporters/traders to collect produce from each individual farm, there is need to develop designated low cost roadside sheds where farmers can assemble and consolidate their produce for collection.
- The transport efficiency between the farms and the roadside collection point can be improved through joint efforts of farmers and local engineers/road technicians. Improving transport inefficiency between the farm and the collection point can lead to considerable reduction in post-harvest losses.
- The small scale nature of the studies that are referenced here underscore the need for larger studies to validate and amplify the planning and policy implications of these initial findings.

*The views expressed in this blog-post are of the author only and do not necessarily reflect the views of ReCAP or Cardno Emerging Markets (UK) Ltd, for whom the post was prepared.*