

## **ACTION RESEARCH ON THE LIVELIHOOD IMPACT OF INTERMEDIATE MEANS OF TRANSPORT IN GHANA'S OFF-ROAD SETTLEMENTS (R7575)**

Villagers who live at a distance from good roads often face major difficulties in getting their produce to market. Where roads are bad in Ghana, transport services are typically infrequent, unreliable and expensive. By the time village-based traders reach market they may be too late to meet their 'customers' and produce may have to be sold at a lower price or even carried home unsold. Because of poor and expensive transport services, the vast majority of farm produce has to be head-loaded from farm to village and onwards to the nearest good road or market. This burden falls mainly on women and children. It reduces the time available for other activities, such as farming and education, and may have long-term impacts on the livelihoods and health of women and their children.

One way of reducing this burden and improving farm to village and village to market transport is through Intermediate Means of Transport (IMTs) such as bicycles, push trucks and handcarts, wheelbarrows, power tillers and animal-drawn carts. These are considerably cheaper than conventional motorised vehicles and may have other advantages, such as ability to move along narrow and uneven tracks, lower maintenance requirements and suitability for small to medium-sized loads.

There is growing interest in the potential of IMTs in Ghana, but previous failed projects here and elsewhere in Africa have indicated the need for much more careful research into local preferences, conditions and potential pitfalls, prior to large-scale introductions. This is particularly the case when interventions in regions with little experience of IMTs - such as southern Ghana - are being considered.

### **Research highlights**

A three-year study on IMT potential for improving access in off-road areas of southern Ghana, funded by the UK Department for International Development's Crop Post-harvest Programme, is in progress. This is a collaborative research study by the Ministry of Agriculture's Agricultural Engineering Services Department, the Rural Infrastructure Coordinating Unit's Village Infrastructure Project and the University of Durham.

Although field monitoring is still in progress, the project has already highlighted a number of important issues affecting IMT adoption and use in southern Ghana. One such factor is the importance of introducing IMTs which villagers have chosen themselves. In our study in five off-road villages in Central Region, villagers were provided with a range of IMTs - men and women's bicycles, wheelbarrows, a specially constructed hand-cart, power tiller and a local push truck - to try out and then purchase, if they wished, on credit. To the surprise of the researchers, the most popular IMT selected in the villages has been the local Kumasi- manufactured push truck. This is a piece of equipment which, though heavy, most villagers feel comfortable with, because they have seen it being operated in urban market areas, it is fairly cheap and can be repaired locally. Local availability of an IMT in substantial numbers encourages the establishment of repair



facilities and promotes cultural acceptance, a situation of *critical mass*, which is increasingly highlighted as a factor crucial to successful IMT adoption.

A total of 44 push trucks are now in operation in the five villages and are used for a variety of tasks such as domestic water and firewood carting and local construction, in addition to carting produce. They have even been used as make-shift ambulances and for taking corpses to the cemetery. Some path widening and improvement has been undertaken by villagers to accommodate movement of carts to their farms, but the most significant impact on produce movements has probably been intra-village, transporting goods from houses to commercial vehicle loading points. Conventional transport is still used in preference to the push trucks to take produce to market, because it is difficult to operate the trucks over distances of more than a few kilometers. One unforeseen element of the push truck adoption has been in terms of operation: this is mostly undertaken by children, especially boys. Indeed, it would seem that one of the critical factors influencing villagers' decision whether to take a truck or not was the availability of children to operate it.

Bicycles were purchased by some villagers, including some women. However, all the cycles purchased were men's cycles with a cross-bar, despite the option of having a woman's cycle. It has become apparent over the project that, although women said they were purchasing cycles for their own use, the cycles are generally passed over to husbands and children. The children use the cycles to undertake errands for their mothers and husbands use cycles for personal travel and in some cases to get to their farms and to bring small quantities of food crops for consumption from the farm. This is particularly the case where farms are at a distance from the village, since use of a cycle substantially reduces travel time. In northern Ghana and other regions of West Africa bicycles are used for carrying produce to market, but there is little sign of this occurring in the project villages in Central Region, despite the shortage of conventional transport. This may be partly due to topography, but cultural factors clearly play a strong role: there are other areas with undulating topography (such as Volta Region) where cycles are used more widely for load carrying.

Funding of maintenance costs is an important issue. There were a few IMTs in the study villages prior to the project (mainly bicycles) but a large proportion were out of use because owners could not afford to pay for maintenance and repair and because of the distance to repair facilities. Maintenance workshops are being undertaken in the current project and the project may provide a sufficient critical mass of IMTs to support development of local repair services. The importance of budgeting for repairs and maintenance probably needs greater emphasis.

A general point which emerges from the project is the need to have a reliable and effective credit system for IMT purchase in place. This is especially crucial when IMTs are to be introduced in off-road areas, since people resident away from good roads are typically poorer than those living at the roadside in the same region. Such villages usually have less access to alternative income sources and face higher transport costs to market centres. Consequently, many inhabitants - especially women - cannot afford the

capital cost of IMT purchase. However, repayment collection is particularly difficult to organise in remote areas at some distance from the nearest bank, since a village-based collector may not wish to keep large sums at home and costs and difficulties of taking transport to the bank are high. Externally-based collectors face similar transport difficulties. The credit component of this project was initially operated through local banks, but a competent NGO would probably be more effective for organising credit in such poor off-road communities. In southern Ghana far fewer NGOs operate than in northern Ghana, and another alternative for IMT credit could be operation through dedicated susu groups

### **Summary of recommendations**

The study suggests critical mass, credit and maintenance issues are all crucial to successful IMT uptake, particularly in off-road areas. Critical mass affects not just repair services and parts availability but also improves the cultural acceptability of new technology. Improved credit facilities will be particularly important if women's ownership of IMTs is to be encouraged. Where credit is provided to women for IMTs, repayment scheduling will need to be designed to suit their income receipt patterns. Experience in the project suggests loan installments need to be collected very regularly to be effective. Collection might be best organised by NGOs or through a dedicated susu collection, rather than directly by the rural banks. Finally, maintenance and budgeting for maintenance and repair usually receive insufficient attention among IMT owners. They will need a far higher profile if IMT use is to be sustained.

For further information contact:

Dr Gina Porter  
Department of Anthropology  
University of Durham  
43 Old Elvet  
Durham  
UK  
[r.e.porter@durham.ac.uk](mailto:r.e.porter@durham.ac.uk)

Mr J. Boamah  
Agricultural Engineering Services Department  
MOFA  
P.O. Box M 82  
Accra  
Ghana

Mr B. M. Opong  
Rural Infrastructure Coordinating Unit  
Village Infrastructure Project  
MOFA  
PO Box M 37,  
Accra  
Ghana

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Or contact:  
Regional Coordinator (West Africa)  
DFID Crop Post-Harvest Programme  
PO Box 135  
Accra  
Ghana.