

POLICY TOOLS - CROSS CUTTING THEMES

4.4 MANAGING LOW DEMAND FOR TRANSPORT IN RURAL AREAS

Problem: Sparse population densities, low rural incomes and poor communications often hamper The provision of effective rural transport services

Solution: Maximising the available demand through improved communications, infrastructure and location of services can enhance the viability of rural transport provision.

BACKGROUND

The single largest obstacle to providing reliable, frequent and cost effective transport services to rural areas is the combination of low cash incomes, low population densities and poor communications. The viability of transport services is reduced by the need to service poor, small and dispersed rural populations. However, there are a number of ways in which effective demand can be maximised:

- Improved provision of rural markets and storage facilities
- Encouraging the use of information communications technology (ICTs)
- Consideration in the planning of the route network to ensure interconnectivity; Improving the flow of information

IMPROVED PROVISION OF RURAL MARKETS AND STORAGE FACILITIES

An efficient and competitive marketing system is essential if the full benefits from improved rural transport services and infrastructure are to be realised. However, the presence of markets and/or storage facilities in themselves also constitute a means by which the effective demand for transport can be increased. A market acts as a point where goods and people are amalgamated together and thereby concentrating the demand for transport. Where populations are dispersed markets are also likely to be dispersed with long average distances to markets and people less likely to make the trip.



Box 1 gives some different examples of marketing structures in Mali, Zambia and Honduras. It can be seen that the marketing system in Mali lends itself to the efficient provision of rural transport services whereas in Zambia the demand for transport is very much more seasonal.

Box 1: Rural markets**Mali**

A good example of where rural markets work well is in Mali. Rural transport in Mali is centred around weekly markets. In a given area there will be a village or town which has a market on every day of the week. Each market serves a group of villages who visit this market on the given day of the week. Rural communities are generally within 30 kms of their nearest market and they transport themselves and their goods by IMT's and headloading (rural Mali has many IMT's including donkey carts, ox carts and bicycles). Where motorised vehicle services exist villagers use these depending on the distance, quantity of goods they have and the quality of the roads. Therefore most rural communities only see motorised services on one day per week; on this one day there may be more than one vehicle that visits the village depending on demand. The traders use the motorised services to travel between the different markets on different days of the week buying the produce. The daily markets maybe upto 50 kms apart.

Zambia

The parastatal marketing boards, which organised the collection of agricultural produce have historically dominated the marketing of agricultural produce in Zambia. In the liberalised economy post 1991, agricultural marketing companies have taken over many of the roles of the parastatals. These companies have formed collection points for produce. In some instances the farmers bring their produce to these collection points and in others the companies send large trucks to pick up directly from the farm. However, these collection points are little more than storage areas. Formal rural markets are scarce, distant and usually concentrated at district centres. For example in the high poverty districts of Eastern and Northern Provinces the average distance to markets is nearly 40 kms.

Honduras

In the Guinope Municipality of Honduras the nearest market was Tegucigalpa the capital city 60 kms from the district. Although there was widespread use of animal transport in the area, the capital was out of reach to most rural people. As a result they were reliant on the traders or "Coyotes" for the sale of their produce and for hire of vehicle services. The communities felt they were being exploited and set up mobile markets which met periodically and were advertised on the radio. In this way markets were set up within reach of IMT's and allowed direct contact between the farmers and buyers.

Source: Ellis S and J Hine (1998)

The issues that relate to a wider strategy on demand management in rural transport are as follows:

- Where distance to rural markets is large, the creation of more rural markets has the potential for making transport services more viable by encouraging the amalgamation of demand, for both goods and passenger.
- A regular market for agricultural produce and household goods may also increase incentives for farmers to buy IMT's to travel the relatively short distances to rural markets. It would also encourage transport operators and traders from the towns to visit the markets because they can guarantee sufficient demand to warrant the trip.
- If it is considered that rural communities are too dispersed to justify weekly rural markets, it maybe that introducing mobile markets which shift from place to place on a more informal basis are the answer. In this context a market is just a collection of people selling and buying goods and may only take place once a month.
- Storage facilities are important at both the village and district level to allow the amalgamation of goods for subsequent onward movement.
- All interventions in this area need close co-operation with agricultural authorities in the countries involved.

ENCOURAGING THE USE OF IN DEMAND MANAGEMENT

There are a number of ways in which rural transport operators can find loads. Commonly operators will wait in designated areas such as lorry parks or at bus stands and wait for the passengers and/or load to come to them. In many countries this means a long wait for vehicles and passenger alike as the vehicle will not move until full. Vehicle operators can also seek loads more proactively by travelling along a road looking for passengers or loads. However, this tends not to happen in most rural areas. In less

populated areas farmers will walk into the main urban centre to find a vehicle that is prepared to go to the village and pick up the load.

In many countries, particularly around harvest time, there are reports of harvest spoiling on the sides of the road because transporters are unaware as to the location of the harvest. At the same time there can be vehicles waiting in urban areas for days at a time waiting for a load. In this regard transport brokers can provide an invaluable service in matching available demand with the available supply of vehicles.

The introduction of transport brokers, and increasing the role of existing brokers, will improve the matching of goods with available vehicles and hence reducing the need for empty running. For a brokerage service to be most effective it is necessary to have a nation-wide network of brokers who are continually in contact with transporters and clients. A good telephone, or other communication, system is essential for the effective operation of these services and the increasing mobile phone network is increasing opportunities for this to happen. **Box 2** provides examples from Uganda and Pakistan where the telephone increases the options available to transport users and operators.

Box 2: Use of the telephone in transport provision

Boda boda operators and mobile phone use in Uganda

With a 52% drop in tariffs since 1998, the mobile phone in Uganda has opened up communications networks to a wider section of the population including students, and increasingly boda boda operators. Boda boda provide a motorcycle and bicycle-based passenger and small goods carrying service for low-income users, which can negotiate off-road terrain for short trips (typically within a radius of no more than 10km). There are estimated to be 200,000 bicycle and 70,000 motorcycle boda boda operating in Uganda. Although there is no indication of the proportion of boda boda operators who use mobile phones for business operations, there is sufficient evidence to suggest that this is a growing market, with operators providing a door-to-door service rather than the more conventional system of picking up fares from the street. This has been made possible with the extension of the cellular network into rural areas, combined with a drastic reduction in tariffs.

However, an 8% excise tax on airtime, introduced in June 2001 has already had considerable impact on mobile phone users, with average weekly expenditure having reduced by 25%. The Uganda Communications Commission have set up the Rural Communications Development Fund which recognise communication as being a vital tool in the social and economic development of Uganda, and that access to communication services in rural areas reduces isolation of communities and improves service delivery in the fields of health, education and agriculture. Parliament are currently being lobbied in an attempt to reduce or remove airtime tax to ensure the availability of quality basic communication services to everyone at affordable rates.

Source: Howe and Davis (2002)

Freight forwarding agents in Pakistan

Pakistan has one of the most efficient freight transport systems of any country in the world and a large network of freight forwarding agents supports it. These agents are normally individually owned and operate from a single office. Freight forwarding is their major income source although some also own vehicles and/or warehousing facilities.

Charges for the forwarding service varied from 4.8% for long journeys to 11.3% for journeys of less than 50km. It was found that 90% of agents had a working telephone and 96% had a reliable postal service. However, two thirds of all business was generated by personal callers and one third by telephone. This is because the majority of business came from urban centres.

Source: Hine and Chilver (1991)

Limitations of ICTs

Accessing ICT carried information requires:

- A telecommunications infrastructure to provide network access
- An electrical infrastructure to make the ICT's work, a skills infrastructure to keep the technology working
- Money to buy or access the ICT's
- Usage skills and literacy skills to use and read the content of ICT's

However, 80% of the world's population has no access to reliable telecommunications, and one third has no electricity. Furthermore, half of the population of low income countries is illiterate, with an even greater proportion unable to read English, the language that dominates digitised information (UNDP, 1998).

Investment in ICT's in low income countries means explicitly not investing them in other development areas. Capital available to donors and governments is finite. ICT's can improve access to the resources and services available to the rural poor but cannot replace those services altogether. Where ICT's are used, they should provide a supplement, not a substitute to existing 'organic' information systems.



Cost of Provision:

Information supplied by ICT's has no value unless it informs decision making and action by the recipient. However, there is an implied assumption, that information supplied through ICT's is both accurate and usable. Yet:

- Information about market prices is no value to farmers who cannot increase production to supply the market
- Information about new markets is no value to farmers who cannot transport their harvest to the market
- Information received about a new supplier is no good if the producer does not trust the supplier.

Information is a useful resource for improving livelihood outcomes and poverty reduction, yet it is certainly no panacea and the cost of provision of ICT's as an alternative to more conventional (transport) interventions as well as the actual benefits to users, should be borne in mind by policy makers.

Source: Clive Shirley / Panos Pictures

INTERCONNECTIVITY OF INFRASTRUCTURE

Where more than the minimum number of links and length of road are present on a road network, the network is said to exhibit redundancy. In providing accessibility to remote rural communities road engineers and planners often attempt to minimise their costs by avoiding redundancy. One result of this is that many rural feeder road networks are characterised by dead-end routes. The end of the route may occur at a town or village or at a natural obstacle such as a river or mountain. Sometimes these dead-end routes may exceed 100 kms. From the transport operator's point of view a major problem with these routes is they pose a higher risk in terms of load factors and revenues and may also involve more costs should a breakdown occur. Another disadvantage is that should the road become impassable, the rural community will become isolated from vehicle traffic.

Where there is an inter-connectivity of routes potential demand for transport services can be maximised. There is less chance of poor load factors and rural communities can respond to a wider range of market opportunities. With through routes traffic volumes will increase both because of greater demand and because operators can travel a route "on spec" with a reduced risk of an empty return journey. With a greater number of transport operators using a route there is then a chance of competition to become established in the provision of transport services.

KEY REFERENCES

Ellis, S. (2001). Matching demand with supply in rural transport. The Rural Transport Knowledge Base. Crowthorne: TRL Limited. www.transport-links.org/knowledgebase.htm

Heeks, R. (1999). Information and communication technologies, poverty and development. Development Informatics Working Paper Series. Working Paper No. 5. University of Manchester: Institute for Development Policy and Management.

O'Farrell, C. et al (2000). Information and communication technologies for sustainable livelihoods: Case studies. *Intermediate Technology*