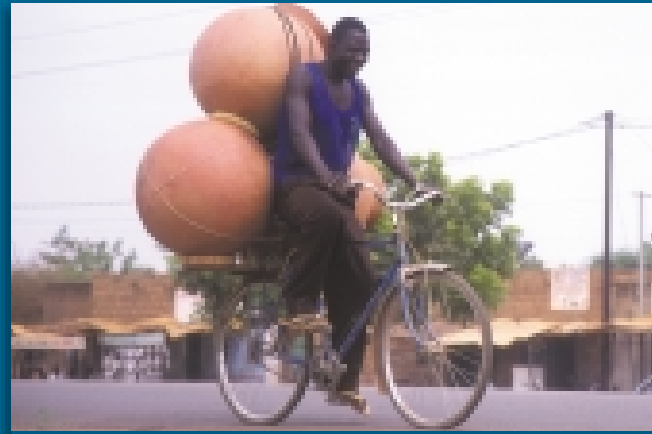




RTTP:
transport
for rural
development

DFID Department for
International
Development

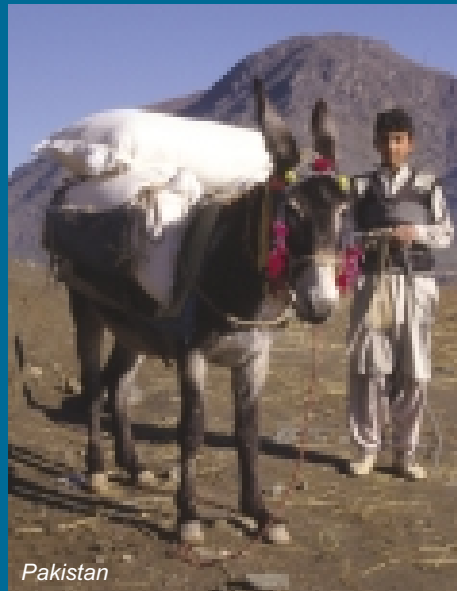
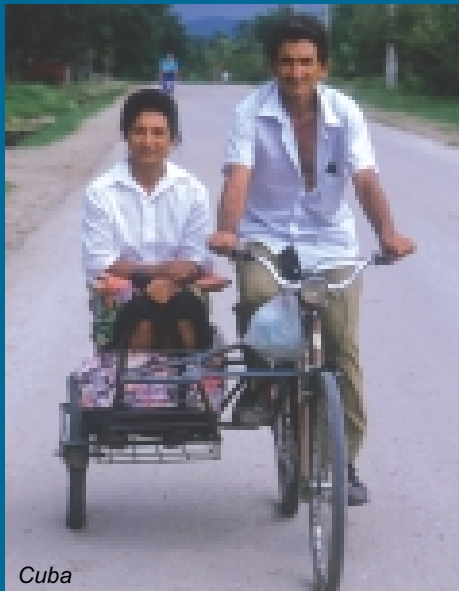


Local transport
solutions for
rural development

Paul Starkey

Local transport solutions for rural development

Paul Starkey





Local transport solutions for rural development

Acknowledgements

This book was prepared for the Rural Travel and Transport Program (RTTP) with funding from the Department for International Development (DFID), UK. Paul Starkey prepared the text and also took most of the photographs. Many people assisted the preparation of this work.

- George Banjo (RTTP) initiated the whole project and provided many ideas and suggestions.
- Peter Roberts (DFID) provided suggestions and arranged the funding.
- Priyanthi Fernando and Michael Noyes of the International Forum for Rural Transport and Development (IFRTD) assisted with suggestions.
- Upali Pannilage, Roberta Burgess and Stephen Lawrence provided additional photographs.
- Lakshmi Mhishi and Krishan Jayatunge assisted with graphic designs.
- Danièle Perrot-Maître undertook the French translation.
- Andrew Leimdorfer prepared the web pages.

The contribution of these people and the others who helped is gratefully acknowledged.

Many of the lessons and case histories highlighted come from the personal observations of the author. Additional valuable information comes from other sources that are acknowledged although formal citations are not given here. The complete list of references (together with more detailed case histories) is provided in the associated working paper: *Local transport solutions: people, paradoxes and progress* (SSATP Working Paper No 56), available from The World Bank or its website (see next column).

Publication and printing details

Design, layout and desktop publishing: Paul Starkey

Photographs © Paul Starkey

Upali Pannilage (four photographs, pp. 17, 26, 27, 46)

Stephen Lawrence (one photograph, p. 40)

Cover Paul Starkey. *Left to right:* Burkina Faso, Kenya //

Cambodia, Cuba. Burkina Faso // Cuba, Madagascar

Printing: Russell Press Ltd, Bulwell Lane, Nottingham, NG6 0BT, UK

Published and copyright (©) 2002

The Department for International Development (DFID)

1 Palace Street, London SW1E 5HE, United Kingdom



Madagascar

Further information and contacts

The information presented in '*Local transport solutions for rural development*' is published in English and in French in several forms including colour booklets, exhibitions of posters, on a CD and on a web site: <http://www.worldbank.org/afr/ssatp/rttp.htm>

There are also more detailed resource documents including: *Local transport solutions: people, paradoxes and progress* (SSATP Working Paper No. 56, 74 pages) available in both English and French from the Sub-Saharan Africa Transport Policy Program (SSATP) of The World Bank (see below). This may also be downloaded from the SSATP website:

<http://www.worldbank.org/afr/ssatp/rttpubs.htm>

Further information relating to this publication and the many issues raised may be obtained from:

Rural Travel and Transport Program (RTTP)

Sub-Saharan Africa Transport Policy Program (SSATP)

The World Bank, 1818 H Street NW

Washington DC 20433, USA

E-mail: ssatp@worldbank.org Fax: + 1-202-473-8038

Website: <http://www.worldbank.org/afr/ssatp/rttp.htm>

Department for International Development (DFID)

1 Palace Street, London SW1E 5HE, UK

E-mail: enquiry@dfid.gov.uk Fax: + 44 20 7023 0019

Website: <http://www.dfid.gov.uk>

International Forum for Rural Transport and Development

2 Spitfire Studios, 63-71 Collier Street, London N1 9BE, UK

E-mail: ifrtd@ifrtd.org Fax: + 44 20 7713 8290

Website: <http://www.ifrtd.org>

Paul Starkey, Animal Traction Development

Oxgate, 64 Northcourt Avenue, Reading RG2 7HQ, UK

E-mail: P.H.Starkey@reading.ac.uk Fax: + 44-118-931 4525

Website: <http://www.animaltraction.com>

The ideas and opinions expressed here are those of the author. They do not necessarily represent the views of RTTP or DFID.



Local transport solutions for rural development

Intermediate means of transport, including cycles and carts, fill the gap between expensive motor vehicles and tedious human effort. With the help of many photos, the importance of local transport solutions to rural development is explored in the under the following headings:

- **Mobility for rural communities:
the case for better local transport solutions** 4
- **Challenges to be addressed** 12
- **Meeting challenges: learning from experiences** 24
- **Moving ahead: directions to move forward** 36
- **Future directions** 48



Mobility for rural communities: the case for better local transport solutions



Romania



Egypt



Ethiopia



The case for better local transport solutions

There are many good reasons why it is necessary to develop the use of local transport solutions:

- Without transport there is little output despite much effort 6
- Efficient transport increases household productivity 7
- Transport stimulates agricultural production 8
- Transport increases access to markets 9
- Diverse transport solutions are available 10
- Rural people have insufficient mobility 11



Little output despite much effort

Rural people face many transport problems

Production, trade and daily life require the movement of goods and people. Most women and men in rural areas have few transport alternatives to walking and carrying loads on their heads or backs. Rural people, particularly women, often walk long distances each day carrying heavy loads, such as water, firewood, grains, agricultural produce and goods for marketing. Large-scale investment in transport infrastructure has had little impact on family and village-level transportation problems.



Photo: Paul Starkey

Photos:

Centre/right:
Women headloading
in Chad

Far right
Woman in Ethiopia
carrying cooking lids
to market

Left:
Man carrying forage
in Pakistan



Photo: Paul Starkey



Photo: Paul Starkey

Rural women and men invest much time in essential transport tasks when they depend mainly on walking and carrying. This reduces the time available for more productive activities and reinforces their state of poverty. Much productive time and effort can be saved through local transport solutions

Many studies have shown how much time and effort are invested in basic transport, particularly for women. In sub-Saharan Africa, it has been estimated that women account for 70% of the time spent on transport and nearly 85% of the effort. For example:

- In Chipinge, Zimbabwe, women's annual water collection was equivalent to a 2260 km walk with a load of 20 kg.
- In Makete, Tanzania women spent over four hours per day on transport tasks.
- In Beira, Mozambique, women spent 3.6 hours per day transporting water and firewood.



Efficient transport increases household productivity

Girl in Ethiopia with donkeys carrying domestic water



Photo: Paul Stankey

Using intermediate means of transport for domestic tasks, including the movement of water, fuel and food, saves time and energy, particularly for women and children. The time and energy saved can improve the productivity and quality of life of rural households. Intermediate means of transport can assist access to markets, schools, health centres and other social and economic facilities.



Transport stimulates agricultural production



Photo: Paul Stankey

Camel transporting forage in Egypt

Transport of crop residues

Feeding animals in the dry season is a big problem. One of the simplest and cheapest solutions is to stock crop residues after the harvest. However, hays and stovers are bulky and heavy, and transport by carrying is seldom practicable. When farmers use carts, they are able to transport crop residues easily, and more effective use is made of them, increasing farm production and profitability.

Farmers with access to transport find it easier to purchase farm inputs, such as fertiliser. Farmers with carts increase crop production through greater use of manure, they increase animal production by transporting and stocking crop residues and they avoid losses by timely transport of their harvests.



Photo: Paul Stankey

Farmer spreading manure from an ox cart in Mexico

Transport of manure and fertiliser

Animal manure is a valuable product, but it is heavy and messy to transport without a cart or other means of transport. When farmers adopt carts, they are able to transport manure from cattle enclosures to their fields, increasing crop production, soil fertility and sustainable crop-livestock integration.

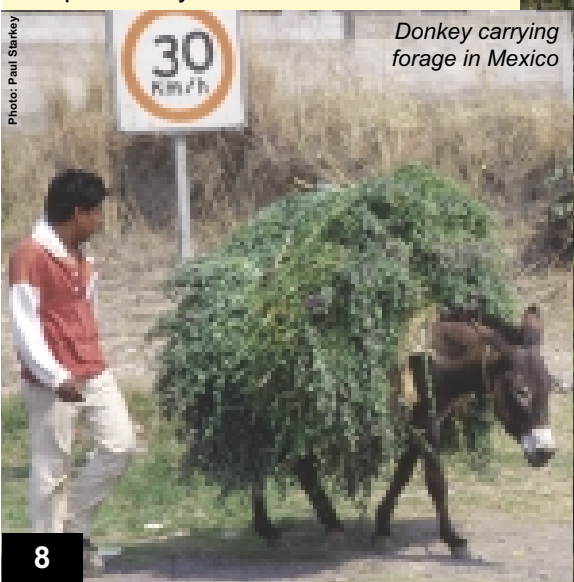


Photo: Paul Stankey

Donkey carrying forage in Mexico

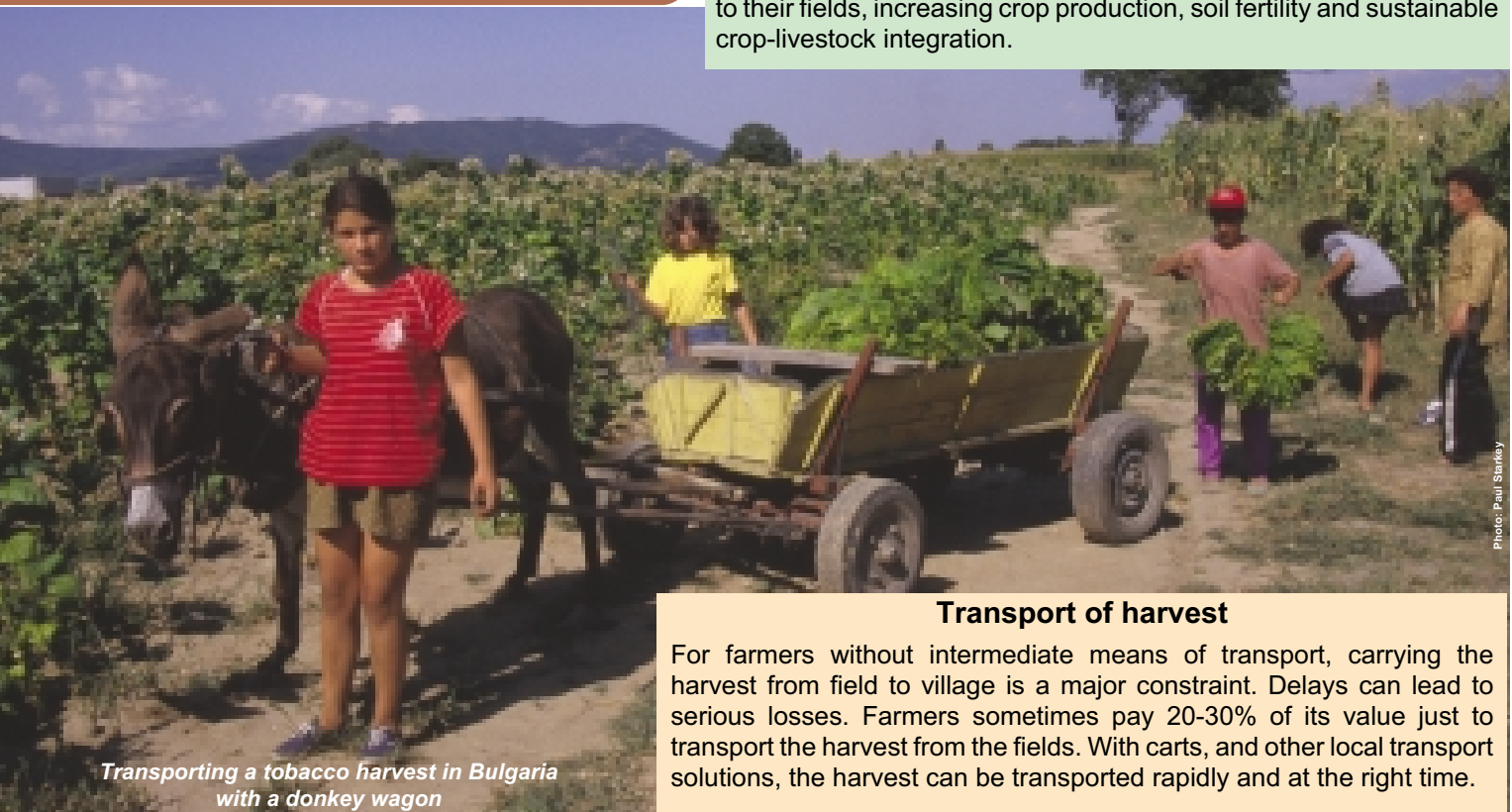


Photo: Paul Stankey

Transporting a tobacco harvest in Bulgaria with a donkey wagon

Transport of harvest

For farmers without intermediate means of transport, carrying the harvest from field to village is a major constraint. Delays can lead to serious losses. Farmers sometimes pay 20-30% of its value just to transport the harvest from the fields. With carts, and other local transport solutions, the harvest can be transported rapidly and at the right time.



Transport increases access to markets

Marketing bananas in Burkina Faso



Photo: Paul Starkey

'Feeder transport' between farms, roads and markets is crucial. Farmers with bicycles, carts or pack animals can carry more produce to market more quickly. They have larger circles of travel and contacts, giving access to new information, markets and trading possibilities. Intermediate means of transport stimulate greater trade, production and profit.

Bringing tomatoes to the road in Dominican Republic



Photo: Paul Starkey

Profitable transport to market

In Makete in Tanzania, some people use donkeys for the transport of potatoes from field to village and from village to market. While women and men transport headloads of 20-30 kg, a single donkey can carry 80 kg. In one study, donkey-owning households in Makete were found to have higher levels of agricultural inputs and outputs, higher incomes and more wealth indicators than other households. The benefit-cost ratio of donkey investment (7:1) was very high.

Marketing potatoes in Madagascar



Photo: Paul Starkey

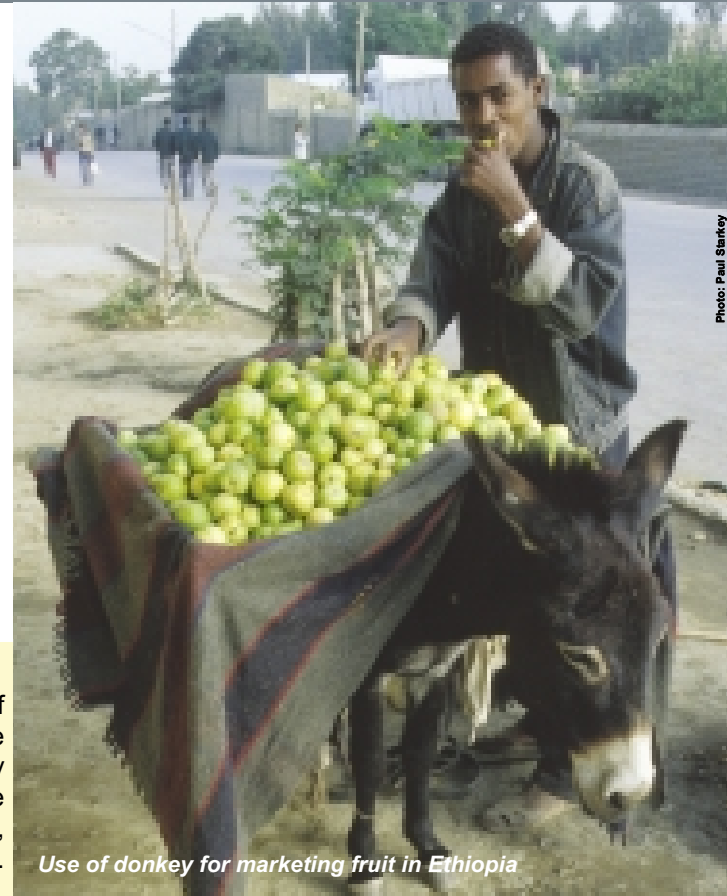


Photo: Paul Starkey

Use of donkey for marketing fruit in Ethiopia

Bicycles used to market milk in Madagascar



Photo: Paul Starkey



Diverse transport solutions are available

In parts of Honduras and El Salvador, families use goats to pull carts to collect water



Photo: Paul Starkey

People have developed a wide range of local transport solutions. The various technologies offer different combinations (and design compromises) of cost, weight, carrying capacity, manoeuvrability, speed, durability and aesthetic characteristics. The private sector has been responsible for most developments.



Transporting sheep in a boat in India

Photo: Paul Starkey

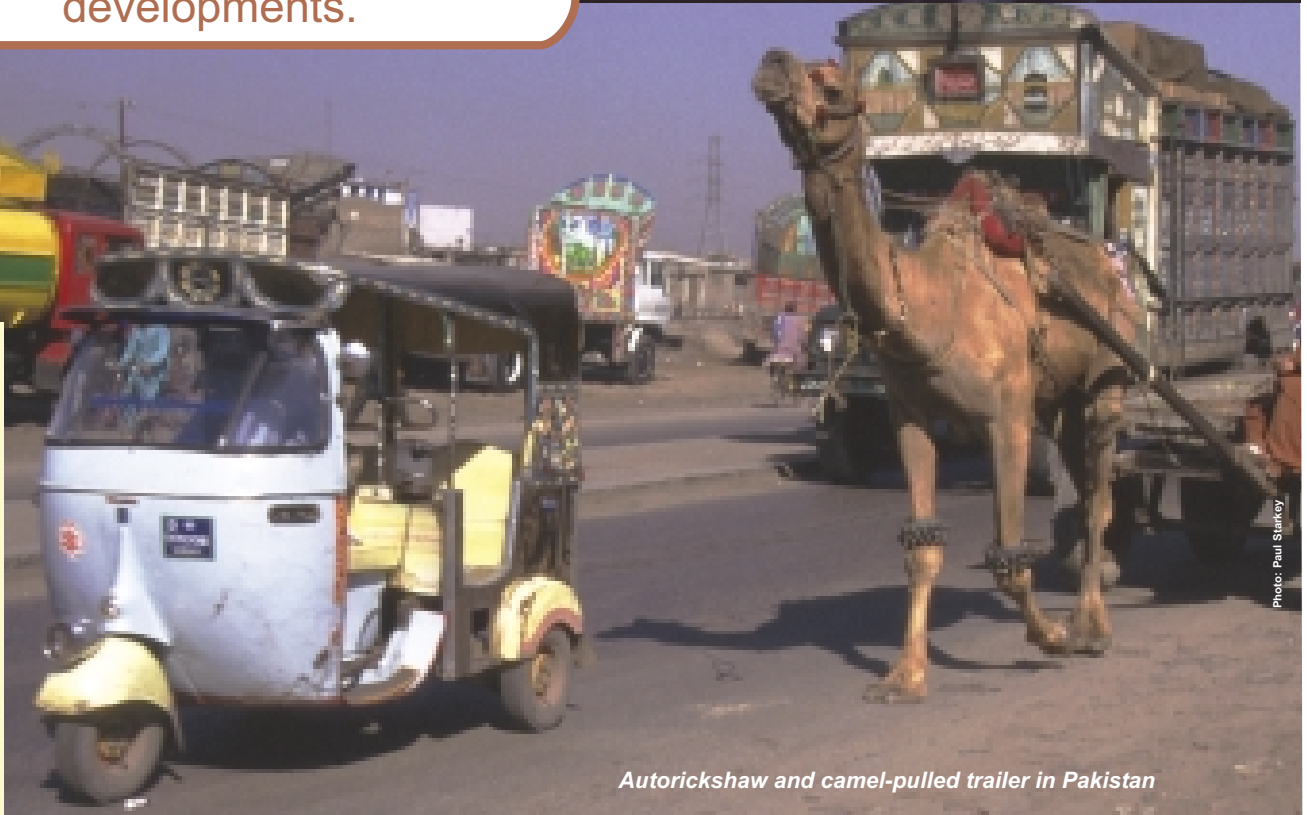


Transporting sacks with a rickshaw in Madagascar

Photo: Paul Starkey

Intermediate means of transport include:

- wheelbarrows and trolleys; hand carts (two wheel, three wheel, four wheel; large wheel, small wheel; wooden wheel, cycle wheel, old bearings); human rickshaws
- cycle based IMTs (bicycles, delivery bicycles, tricycles, cycle-rickshaws)
- pack animals and animal-drawn carts (many variations: two wheels, four wheels; one animal, two animals; cartwheels, rubber tyres; oxen, horses, donkeys)
- small boats
- motorised IMTs (mopeds, motorcycle-based, autorickshaws, power-tillers)



Autorickshaw and camel-pulled trailer in Pakistan

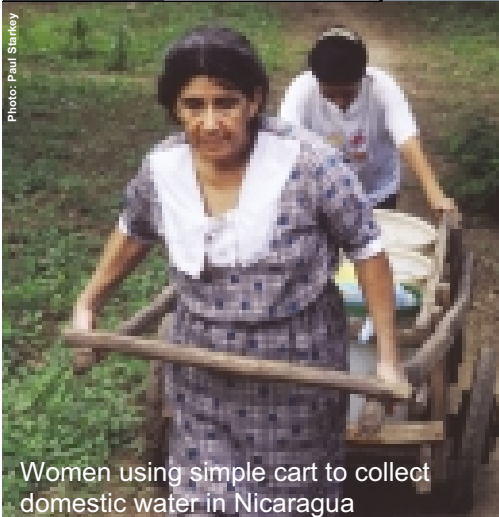
Photo: Paul Starkey



PTMR:
transport
pour le
développement
rural

Rural people have insufficient mobility

Photo: Paul Starkey



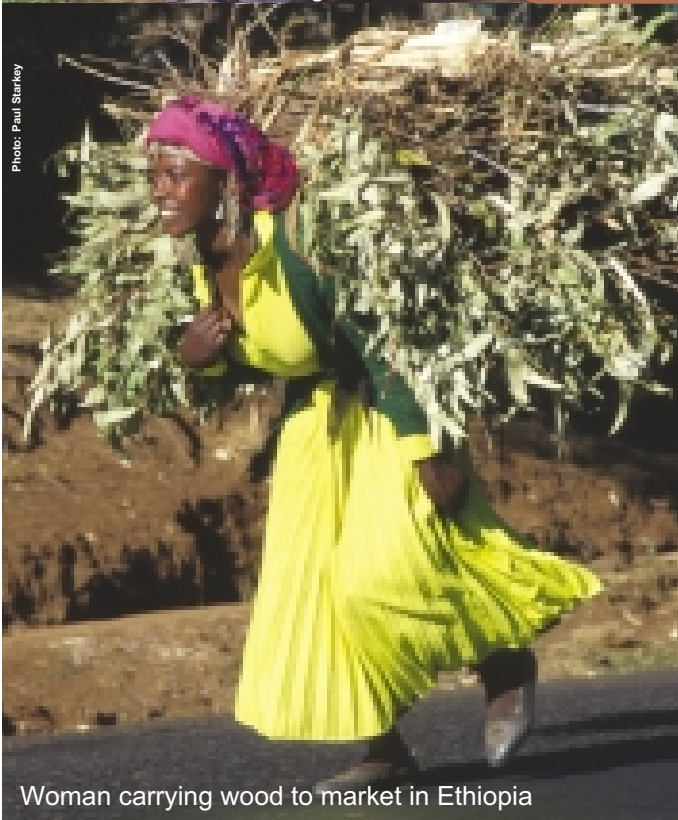
Women using simple cart to collect domestic water in Nicaragua

Despite a wide spectrum of transport technologies, in rural areas, much transport involves either walking and carrying or large-scale motorised technologies. Rural people need intermediate means of transport that increase capacity and reduce human drudgery at an affordable cost.

Why do rural areas have fewer transport innovations?

The development of local transport solutions is generally faster in urban areas, assisted by trade patterns, information flows, cultural diversity and year-round economic activity. A 'critical mass' of mutually-reliant transport users and support services develops quickly in towns so that innovation, assessment and adoption can be rapid.

The use and diversity of local transport solutions is less in rural areas. This is particularly true in sub-Saharan Africa. Processes of innovation and adoption take longer, affected by lower economic activity, lower availability of certain materials, fewer cultural exchanges, smaller information flows and higher seasonality of cash flows and transport demand.



Woman carrying wood to market in Ethiopia

'The missing middle'

In much of sub-Saharan Africa, much rural transport involves walking or carrying. People who can afford long distance transport make use of the public services provided by buses, lorries, pickups and taxis. In some areas wheelbarrows and handcarts are used for very short distances, with animal-drawn carts and bicycles offering wider transport circles. However, it is quite difficult for people to travel and transport goods more than 20 km unless public transport is available and affordable. This can be a constraint to people meeting, marketing, trading and producing efficiently.

Photo: Paul Starkey



Women transporting water in Dominican Republic

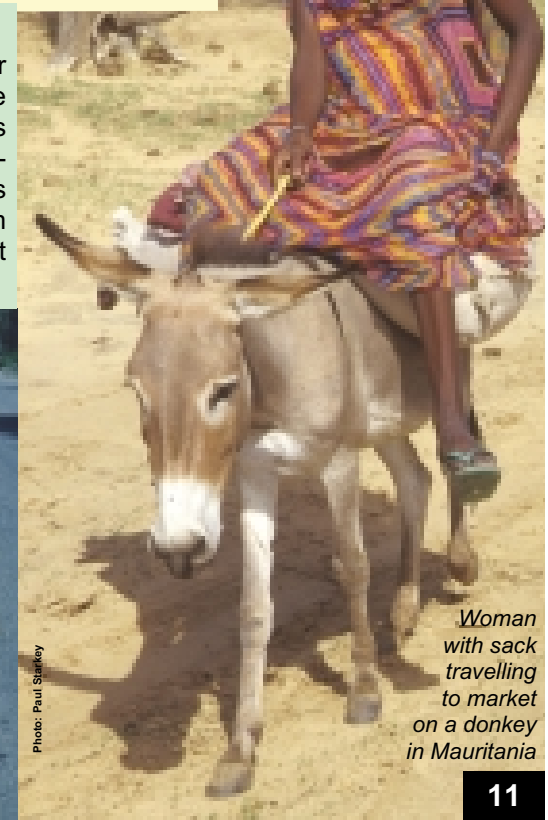


Photo: Paul Starkey

Woman with sack travelling to market on a donkey in Mauritania



Challenges to be addressed





Challenges to be addressed

There are many challenges to be addressed by organisations wishing to improve the use of local transport solutions for rural development:

- Patterns of adoption are not straightforward 14
- The 'old-fashioned' image limits acceptance 15
- Transport devices are often costly relative to incomes 16
- Women and children have particularly poor access to transport 17
- Understanding the many uses of transport devices 18
- Recognising the complementarity of transport solutions 19
- Creating a 'critical mass' of users 20
- Learning how markets stimulate transport development 21
- Redressing inadequate investments in local transport solutions 22
- Incorporating non-transport solutions 23



Patterns of adoption are not straightforward

Population density, incomes, cultures, topography, climate, farming systems, transport needs and project activities all affect the success of promotional programmes. Complex combinations of environmental and socio-economic factors, together with fickle human reactions, influence transport adoption.



Motorcycle with sidecar in the Philippines

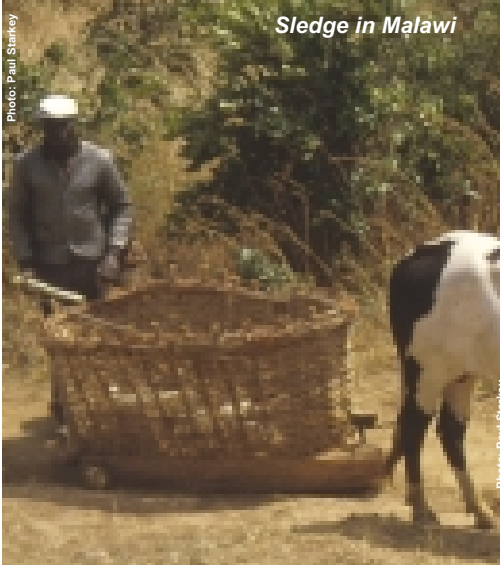
Motorcycles with sidecars are common in the Philippines, but not in other countries. Men and women riding mopeds in Burkina Faso, Benin and Togo but this is uncommon in Guinea, Ethiopia and Tanzania. Power tillers pull trailers in south Asia, but this is not yet common in Africa.

Within any country, adoption of transport solutions is not homogenous. Some differences can be attributed to variations in population density, incomes, cultures, topography, climate, farming systems, transport needs and project influences. Motorcycles are found mainly in rich, high-density areas, donkeys in dry zones and hills, while handcarts and wheelbarrows are most common in urban and peri-urban areas. In other respects, the distribution of intermediate means of transport appears random. This may be due to differences in human inventiveness, entrepreneurial skills, personal preferences, fashions and simple 'chance'. Community reaction to innovations is influenced by many social, cultural and economic factors, with many 'random' or 'chaotic' chance elements.



Cow cart in Portugal

India has 14 million ox carts. Ethiopia has 14 million work oxen and five million donkeys, but very few carts. In Madagascar and Cuba oxen pull carts. Cows, rather than oxen, pull carts in Portugal and Romania.

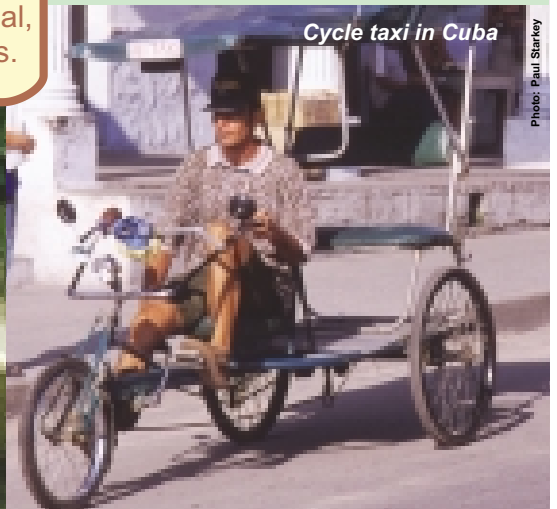


Sledge in Malawi

In Madagascar ox carts with wooden spoked wheels are common, but cartwheels are now seldom encountered on the African mainland. Animal-drawn sledges are common in Madagascar, and also in eastern and southern Africa. Such sledges are seldom seen in West Africa, but they are used in Cuba.



Hand carts in Nicaragua



Cycle taxi in Cuba

Cycle-rickshaw tricycles are common in South Asia, but are not uniformly distributed within countries. Tricycles have not been widely adopted in Africa or Latin America, but different types of tricycle taxis are used in Cuba. Bicycle taxis are in use in East Africa.



The 'old-fashioned' image limits acceptance

People (particularly the young) often perceive non-motorised transport as 'old-fashioned'. This damaging view also exists among politicians and within development agencies. Human and animal power will always have appropriate and valuable transport applications, and their modern relevance must be acknowledged and promoted.

This wheelwright in Mexico had learned his skills from his father and grandfather. He wanted his son to take over the family business. His son thought that making cartwheels was old-fashioned and he went into telecommunications instead. The workshop will close.



Photo: Paul Starkey



Photo: Paul Starkey

Old man with a cow wagon in Romania



Transport devices are costly relative to incomes



Photo: Paul Starkey

Strong but expensive horses with a wagon in South Africa

Many local transport solutions are cheap relative to motor options, but expensive relative to local incomes. High cost limits adoption. People who can purchase, through savings or credit, find intermediate means of transport are a good investments, due to the profitability of transport.

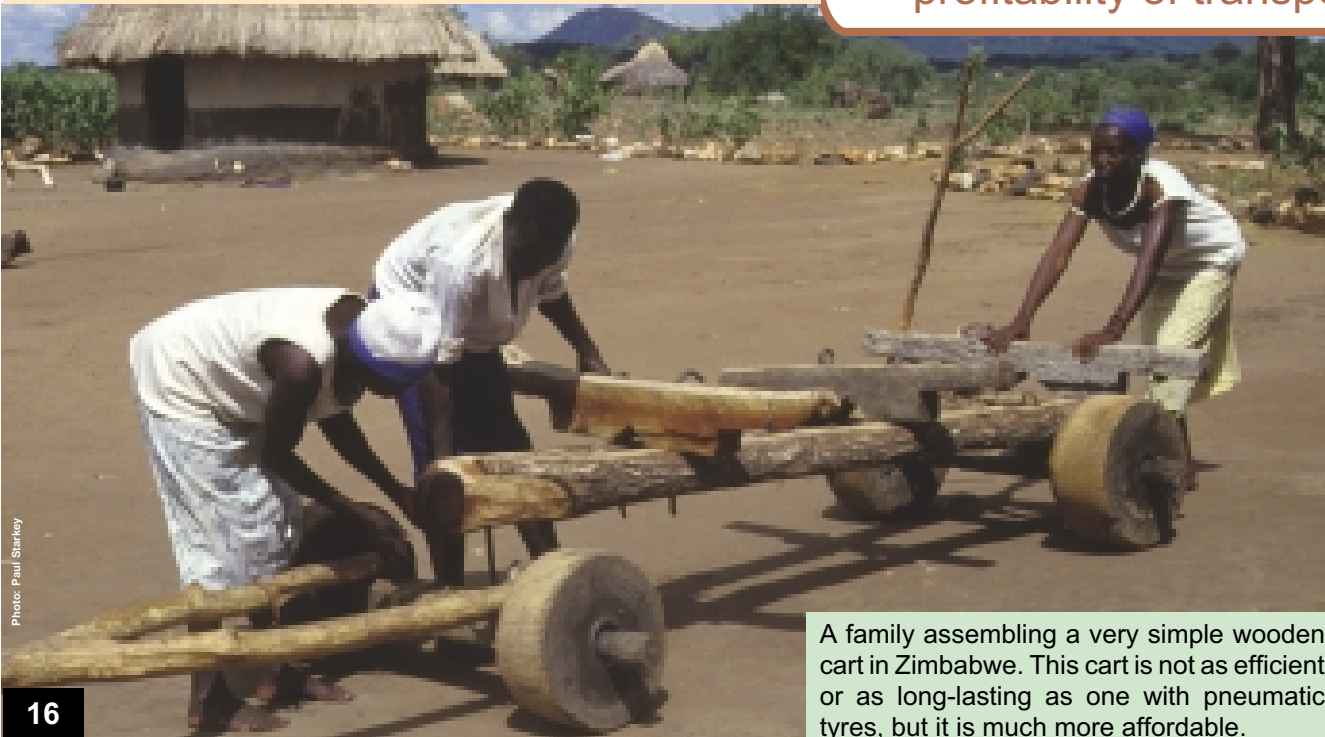


Photo: Paul Starkey

A family assembling a very simple wooden cart in Zimbabwe. This cart is not as efficient or as long-lasting as one with pneumatic tyres, but it is much more affordable.

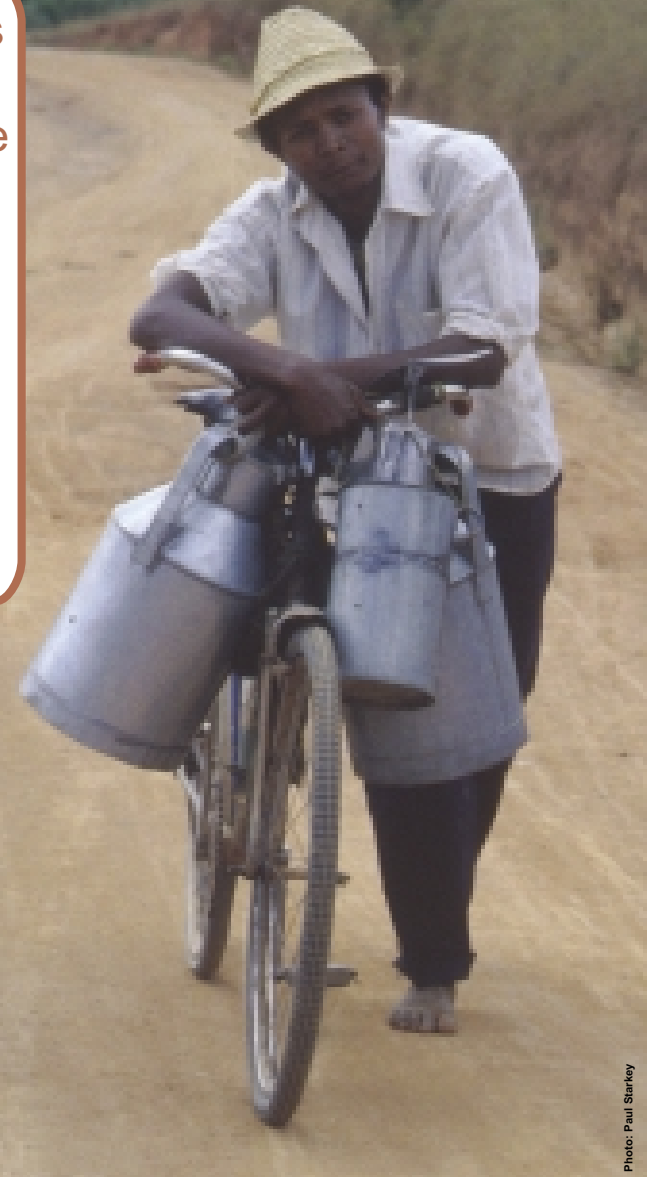


Photo: Paul Starkey

A simple bicycle is expensive relative to household incomes in Madagascar. However, if funds can be obtained to purchase a bicycle, it can be used to generate income. In this case the man uses his bike to sell milk.



Poor access for women and children



Photo: Paul Starkey

Woman, without access to a cart, carrying forage in Kenya

Male-orientated designs can constrain use by women and children. For example, most bicycles are designed for men. Women and children have problems riding men's bicycle and in most rural locations it is difficult to obtain affordable alternatives.

Photo (right): Tricycle with a load platform in Bangladesh, showing a classic 'male' cycle design with a crossbar.

Photo: Upail Pannilage



Most work animals and carts are owned by men. Gender-related traditions may make it difficult for women to own work animals. When ownership is difficult, access to transport may be possible through hiring or borrowing arrangements.

Photo: Paul Starkey



Photo: Paul Starkey

Women are the main transporters but men are the main users of intermediate means of transport. Gender-related constraints often limit women's access to local transport solutions for trade, production and domestic activities.

Men controlling donkey carts transport goods to market in Guinea Bissau



Many uses of transport devices



A motorcycle, fitted with donkey panniers, carrying sheep in the Dominican Republic

Photo: Paul Starkey

Rural women and men develop many different uses for intermediate means of transport. As transport devices increase, there is more mobility of people and goods, with increasing economic activity and social benefits.

When rural people own intermediate means of transport, they develop many different uses for them. Bicycles are used for load carrying as well as personal transport. Farm carts may carry domestic water and fuel wood. Simple, adaptable designs are often best for household use. Flatbed carts are more versatile than water carts. Professional transporters may prefer efficient specialised designs.



In Mali, farmers who have adopted bicycles can use them to transport agricultural implements, seeds, fertilisers and spare parts

Photo: Paul Starkey

Transport devices often benefit several families through formal or informal hiring systems.



Photo: Paul Starkey

Simple cart acting as an ambulance in Ethiopia



Photo: Paul Starkey



RTTP:
transport
for rural
development

The complementarity of transport solutions



Ox cart providing 'feeder' transport in Kenya

Photo: Paul Starkey



Photo: Paul Starkey



Donkey carts distributing goods imported by lorry in Mauritania

Photo: Paul Starkey

Different transport solutions can coexist alongside each other, fulfilling different specialised niches. Motor power has advantages for large loads and long distances. Human and animal power may be more appropriate for lighter loads and shorter distances, including on-farm, within-village and 'feeder' transport.

There are many complementary uses of human, animal and motor power in the Dominican Republic. Horses may work with combines to transport the harvest (above). In sugar cane estates ox carts are used for short-distance transport, complementing tractors that transport cane from more distant fields (right).

Donkey cart assisting a broken down taxi in South Africa



Complementary tanker technologies in Ethiopia

Photo: Paul Starkey



Photo: Paul Starkey



The need for a 'critical mass' of users



Photo: Paul Starkey

**One cart—one puncture
Ten carts—one puncture repair service!**

To introduce a new transport technology, projects in Sierra Leone and Guinea placed one new ox cart in each of several villages. Many carts stopped being used after their first puncture. The projects should have concentrated the carts in a few villages and encouraged the establishment of puncture repair services.



Photo: Paul Starkey

Transport repairs in Madagascar: importance of a critical mass

In the village of Anjanadoria, in Madagascar, most of the 850 families own an ox cart but few use bicycles. Two carpenters make and repair ox carts in the village, but no one repairs bicycles as there are few bicycles and little demand. One reason why few people own bicycles is the problem of repairs. Bicycles are taken by cart 15 km to the local market town, where artisans have established small bicycle repair workshops. Ox carts already have a 'critical mass' in that village, but bicycles have yet to achieve this. People anticipate that in a few years there will be more bicycles and a bicycle repairer in the village.



Photo: Paul Starkey

In Burkina Faso there is now a 'critical mass' of users of cycles and mobylettes in Ougadougou and the surrounding rural areas. There are numerous users (men and women) so that there are few social inhibitions and there are plenty of support services for easy repairs.

There is need to develop a 'critical mass' of users to make ownership socially acceptable and to justify the establishment of service providers

Where intermediate means of transport are rare, it is difficult to buy, use and maintain them. People may be shy and there are insufficient sales outlets and repair services for easy adoption. It can be a vicious circle, as there will be insufficient users to sustain sales and support services.



Markets stimulate transport development

Motor tricycles, cycle rickshaws, cycles and other transport technologies near a market in The Philippines

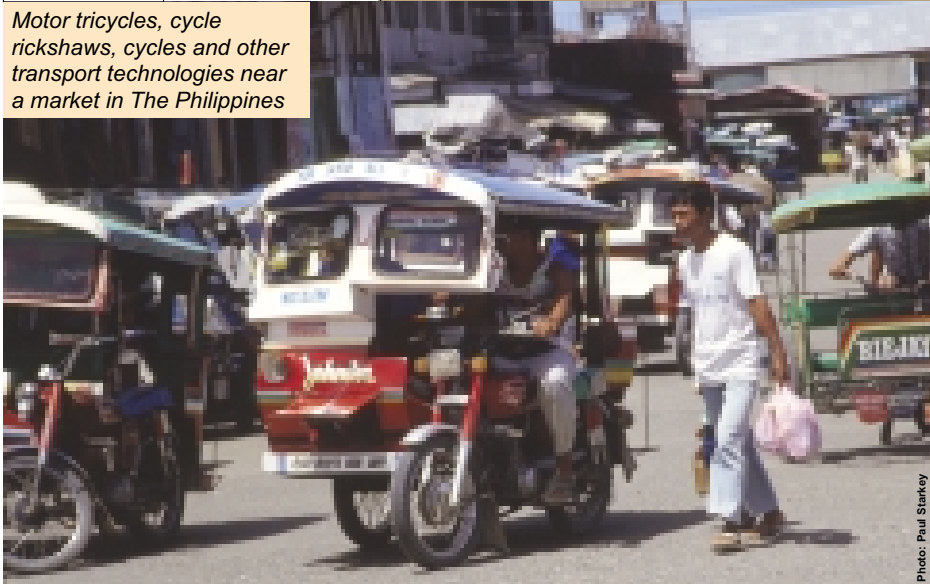


Photo: Paul Starkey

The high transport demand around urban and rural markets stimulates the production and use of a wide range of complementary transport solutions. Rural programmes promoting local transport solutions can stimulate the establishment of viable support services near important local markets.



Around the old market in Lahore, Pakistan, there is a very wide range of transport technologies, with different types of hand carts, cycle technologies, many different animal-drawn carts and motorised transport, complementing each other.



Photo: Paul Starkey

Hand carts, cycles and motorised transport around a market in Western Kenya

The diversity of local transport solutions can be clearly seen in the vicinity of markets. Markets involve the inward and outward transport of many goods and they attract many people (traders and customers). This creates many different transport markets (people/goods, nearby/distant, light/heavy, prestigious/economical). Around markets there may be production and repair facilities, raw materials and scrap yards.

The wide range of transport solutions seen in close proximity illustrates both the diversity and the complementarity transport devices. The different local transport solutions each offer a different combination of design compromises between cost, weight, carrying capacity, manoeuvrability, speed, durability and aesthetic characteristics.



Inadequate investment in local transport solutions

National governments (and supporting donor agencies) have concentrated on road networks. Comparatively little money or time has been invested in the promotion of intermediate means of transport for rural people. There is a need to redress the imbalance and emphasise local transport interventions that benefit the majority of rural households

Photo: Paul Starkey





Incorporating non-transport solutions

Some transport and accessibility problems can be solved without intermediate means of transport. Development planners and practitioners should consult with rural communities and jointly identify solutions to transport constraints.



Photo: Paul Starkey

Woman carrying water in Namibia, due to the absence of a village well

Water transport is a major problem in many communities. Water may be carried by people or by using wheelbarrows, carts, cycles or pack animals. If water is piped to houses, the transport of water ceases to be a domestic problem. Similarly, the provision of additional wells or communal taps may be more important to a community than the supply of water-carts.

Queuing for water in South Africa



Photo: Paul Starkey

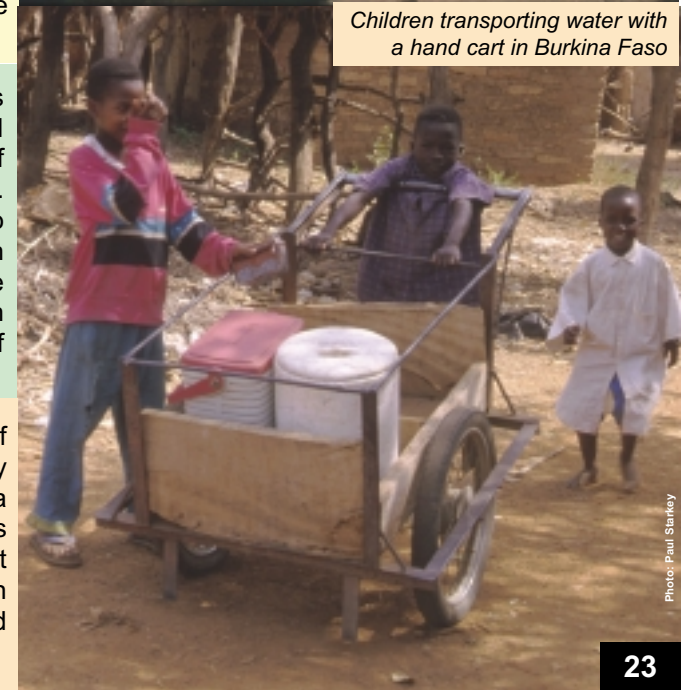


Donkeys carrying grains to grinding mill in Zimbabwe

In Makete, Tanzania, the introduction of piped water reduced household transport requirements by 1400 person kilometres and 350 transport hours per year. Village grinding mills saved another 100 transport hours per household per year, with women being the main beneficiaries.

The problem of transport of goods from village to market can be solved with intermediate means of transport, such as carts or bicycles. An alternative solution might be to establish a new market or depot in the village. Similarly, increasing the number of schools and clinics can help solve the transport problems of schoolchildren and the sick.

Although intermediate means of transport are clearly useful in many different situations, they are not a universal panacea. Sometimes transport problems are best addressed through the combination of human walking/carrying and large-scale transportation systems.



Children transporting water with a hand cart in Burkina Faso

Photo: Paul Starkey



Meeting challenges: learning from experiences



Romania



Guinea



Meeting challenges: learning from experiences

There have been many initiatives to promote rural transport solutions. By learning from successful and unsuccessful experiences we can meet the challenges better.

- Some technologies spread 'spontaneously' 26'
- Adoption is not automatic 27
- Women have special transport constraints 28
- Transport empowers women 29
- Learn from experiences: good and bad 30
- Promote, evaluate and improve 31
- Credit assists adoption 32
- Access to transport services benefits communities 33
- Essential to talk with all stakeholders 34
- Consider environmental factors 35



Some technologies spread 'spontaneously'

If a transport technology is appropriate and profitable, rapid adoption is possible within one generation. Government funding and promotion are not prerequisites for rapid adoption. Entrepreneurs can establish manufacturing facilities and supply systems involving formal and informal trading systems.



Photo: Paul Stankey

Donkey carts used for transport to market in Mauritania

Spread of donkey carts in Mauritania

Pack donkeys have been used for centuries in Mauritania to transport water, goods and people. Recently there has been a large expansion in carts pulled by donkeys and horses. Over 75,000 donkey carts have been bought in the past 30 years.

This rapid increase has been due to entrepreneurial activity, not government intervention. The cart components derive from workshops in Senegal and Mali. Most have been made from components in small workshops in Mauritania. Carts cost US\$ 180-260, implying some US\$ 15 million has been invested in carts in 20 years. Credit for carts has been minimal. Urban transporters and rural families have found cart investment profitable. The carts have increased the capacity to transport water, produce, forage, materials, traded goods, people and urban waste. Donkey carts are important in the urban and rural economies of Mauritania.



Photo: Usafil Parmlige

Load-carrying tricycles (cycle rickshaws) in India

Most transport technologies have been developed and spread by entrepreneurs and users and not by public sector services. This applies to the historical development and spread of wheelbarrows, animal-drawn carts, bicycles, cycle rickshaws and motorcycles.

Development and spread of cycle rickshaws

Rickshaws are two-wheel carts pulled by a person. Cycle rickshaws are tricycles (developed from a bicycle front and a rickshaw rear). On the Indian subcontinent, six million cycle rickshaws transport people and goods. They are made and operated by entrepreneurs. Their success is due to their transport value, relative simplicity and low cost, ease of local manufacture and repair and ease of use. Engineers claim the designs are heavy and poor, with inefficient gearing, poor steering geometry, lack of suspension, weak wheels and inadequate brakes. Some initiatives in India and Bangladesh have aimed to improve technical efficiency and operator comfort. Small entrepreneurial manufacturers could rapidly copy new designs if components were available. However the 'improved' designs have yet to be widely adopted.



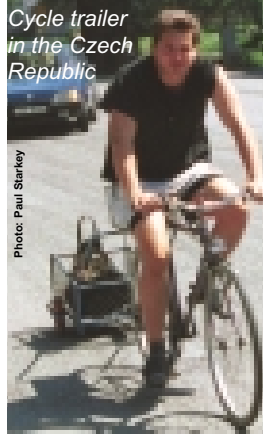
Photo: Paul Stankey

Parking for mopeds and bicycles in Burkina Faso where cycle technology has spread rapidly in recent years



RTTP:
transport
for rural
development

Adoption is not automatic



Cycle trailer
in the Czech
Republic

Photo: Paul Starkey

Project initiatives must encompass participatory methods to clearly establish the benefits, costs, usage patterns, gender issues and technical, social and economic constraints to transport technologies. Even then, rapid adoption cannot be assured.

Widespread innovation but disappointing adoption

Some transport technologies have been launched with much enthusiasm, but adoption has not been as rapid as anticipated. Some people have blamed disappointing adoption on inappropriate technologies. Some have criticised the marketing and promotion systems. In some situations it appears there were insufficient time and resources to rapidly achieve a critical mass of users. Cycle trailers provide examples of such disappointing project progress. In many countries, innovative people have made and used cycle-trailers. Some have been one-off solutions to an individual's problems. Some have been developed and manufactured by entrepreneurs. In recent years, projects have promoted their use and manufacture in several countries including Ghana, India, Kenya, Sri Lanka and Tanzania. In all

cases, the trailers seemed technically capable, but their adoption was less than planned, even when credit was made available. There is no consensus about why this has been so and whether, or not, cycle trailers will ever become common.

Cycle trailers . . .

- can increase the weight and volume of loads carried by bicycles
- are detachable, allowing the bicycle to be used for personal transport
- have been found to be useful and profitable by some people.

but they are also considered by users to be

- heavy to pull when laden
- expensive (the same price as a bicycle)
- difficult to manoeuvre along village paths
- much more complicated than a bicycle when loads are small

and what about cycle rickshaws?

- some apparent criticisms of cycle trailers also apply to cycle rickshaws, but cycle rickshaws are much more common: millions are used South Asia.

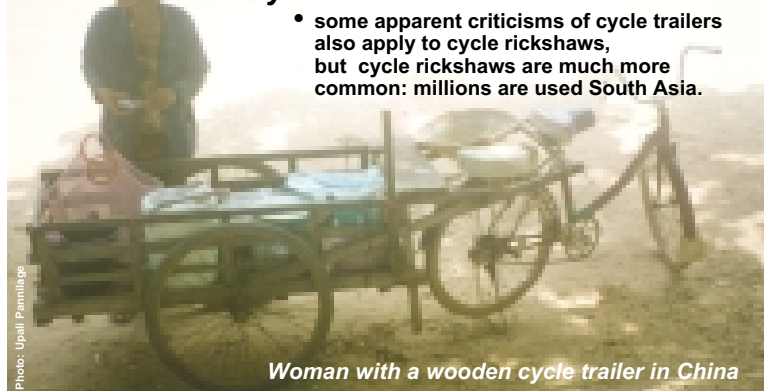


Photo: Upali Panmillage

Woman with a wooden cycle trailer in China



Photo: Paul Starkey

Cycle trailer in Sri Lanka



Photo: Paul Starkey

Innovative cycle trailer in Guinea

Participative processes but disappointing adoption: cycle trailers in Sri Lanka

Sri Lanka has over two million bicycles in use. IT Sri Lanka has been promoting cycle trailers for ten years, but there is little optimism about their widespread adoption. This is despite a participatory and inclusive methodology involving NGOs and small-scale manufacturers in disadvantaged rural areas.

Five cycle trailer prototypes were introduced to Sri Lanka in 1990. Small workshops were assisted to produce them. In 1994, a project was initiated to bring 800 trailers into use. The project identified constraints to adoption including economic problems (low incomes, low agricultural production, lack of credit) and socio-cultural factors (expectations of public transport services and desire for prestigious products). The project worked through small NGOs responsible for promotion and credit. Marketing and advertising strategies were implemented. Bicycle retailers were linked to the small-scale workshops. By 1999, only 400 cycle trailers had been made but the five NGOs and 16 small manufacturers continue trailer promotion. IT Sri Lanka is convinced that disadvantaged rural families can use cycle trailers to gain social and economic benefits. The slow uptake is not understood but there seems little economic demand. It is unclear whether 'mainstream' adoption can be achieved through small workshops or large-scale manufacture



Women have special transport constraints

Photo: Paul Starkey



Woman carrying water with a donkey in South Africa (she also earns a living by hiring out her donkey)



Photo: Paul Starkey

Photo above: Woman with a pack donkey in Kenya. The donkey provides transport for domestic use (especially the collection of water) and for trading (selling charcoal).

Programmes relating to rural transport need to understand women's perspectives. Programmes should encompass gender analysis in their planning, implementation and evaluation. Gender issues should be considered when selecting and designing transport technologies.

Wheelbarrows and donkeys for women in Makete, Tanzania

The Makete Integrated Rural Transport Project operated for many years in south-west Tanzania. Women carried out most transport tasks by head-loading.

As it was a remote, hilly area, the project considered wheelbarrows and pack donkeys would be suitable intermediate means of transport. However, the wooden wheelbarrows introduced were heavy, awkward and expensive. Women considered them unsuitable, particularly on the steep paths. Women noted that two hands were needed to push a wheelbarrow which was a disadvantage when walking with children. The wheelbarrows were never widely adopted.

The acceptance by men and women (but mainly men) of donkeys appeared higher, adoption was slow. Pack donkeys were useful for men who transported potatoes from field to village and from village to market. Some families used donkeys for water collection and one woman used donkeys in a beer brewing business.

Despite much detailed transport research in Makete in Tanzania, most transport is still carried out by women by head-loading.



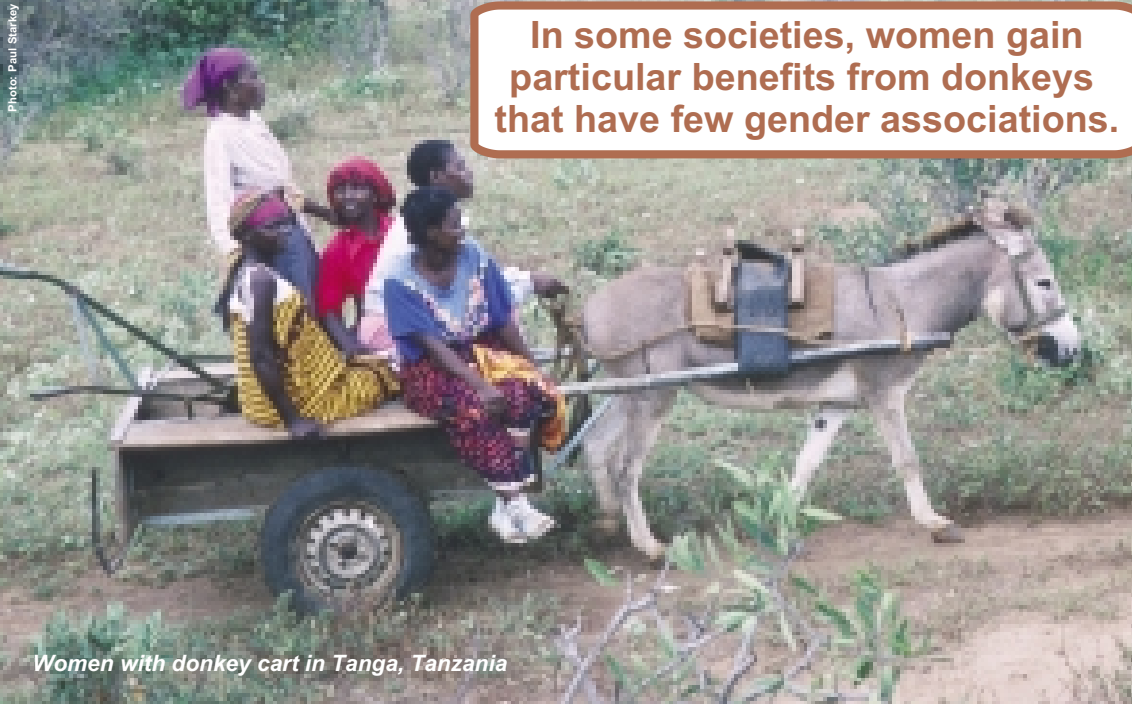
Photo: Paul Starkey

Woman carrying water with a wheelbarrow in South Africa



Transport empowers women

Photo: Paul Starkey



Women with donkey cart in Tanga, Tanzania

In some societies, women gain particular benefits from donkeys that have few gender associations.

With improved access to transport, women can gain time, income, productivity, status and independence. Whole families may benefit through women's access to transport.

Women are often the main transporters, and particular attention needs to be paid to women's transport needs. In many societies, men generally own or control large animals (cattle, camels, horses) and transport devices (cycles, carts). Donkeys are more 'gender-neutral' and women may find it easy to adopt them. It may seem ironical that women (the disadvantaged gender) may benefit from donkeys (the most marginalised of domestic livestock).



Women on a motorcycle in Burkina Faso

Women and donkeys in Tanga, Tanzania

The Tanga Animal Draft Power Project started in north-eastern Tanzania in 1981. Lack of farm power and transport were identified as crucial constraints for smallholder farmers. The Project first introduced work oxen and ox carts and then started to promote the use of donkeys.

When the project started, it was normal to work mainly with male farmers. Project gender sensitivity increased and more attention was paid to women farmers. Women started to benefit from the spread of donkey carts. Women found it easier (socially, economically and practically) to own and manage donkeys than oxen. Women used donkey carts for carrying water and fuel wood, harvest products, forage for animals, goods for trading and people themselves. Donkeys were also used for plowing and weeding. Initial prejudice against donkeys was rapidly overcome through practical demonstrations of donkey employment.



Woman with a donkey wagon in Bulgaria



Learn from experiences



Photo: Paul Starkey

Cycle trailer in Sri Lanka

Evaluation lessons: training artisans was not enough

The Katopola Agricultural Engineering Centre near Chipata in Zambia provided services relating to vocational training and rural structures. During the 1980s, donor agencies provided nine years' funding including expatriate personnel. School leavers and rural carpenters were taught how to make wooden ox carts, push-carts, wheelbarrows and farm implements. However, there appeared no demand for these, and the carpenters went into furniture production and house carpentry. The project aimed (among other things) to assist rural transport, but despite almost a decade of activity, it had no impact on transport.

- *The project had predetermined the wooden technologies to promote. Although the designs were not adopted, alternative technologies were not offered.*
 - *The project addressed one perceived problem (artisan training) but did not assist production or marketing.*
 - *The project did not identify and address the problems causing the lack of adoption of the technologies being promoted.*

Evaluation lessons: cycle trailers promoted for women in Ghana

In 1991, subsidised cycle trailers were promoted in Northern Ghana. Credit was provided through NGOs. Participants were said to be 'ecstatic'. Workshops in Tamale started production.

In 1994, the programme was evaluated. Women reported that cycle trailers were expensive and sales were minimal. Women did not generally use cycles. Strong women's cycles were not available. On the roads, market trucks were used. On footpaths, the trailers did not work well. The trailers were not strong enough for large loads. If loaded, the trailers were heavy to pull. Ordinary bicycles were capable of carrying significant loads and were very flexible at half the price of a cycle/trailer combination. The evaluation revealed that trailers had been promoted as a solution without clear understanding of the social, economic and technical problems and gender issues.

Projects need to undertake regular, self-critical and participatory evaluation of progress. They should react to unforeseen situations and problems, and be prepared to change direction to achieve greater impact.



Photo: Paul Starkey

'Flintstone' ox cart in Zambia



Promote, evaluate and improve



Photo: Paul Starkey

Changing technologies proved successful

The North-Western Integrated Rural Development Programme in Zambia aimed to introduce ox carts, so farmers could transport maize to depots. Wood was plentiful and the project started with carts with wooden wheels and bearings. From the programme's monitoring activities it was clear that the carts were not successful.

Programme staff worked with farmers to assess alternative designs. They eventually chose steel axles, roller bearings and pneumatic tyres fitted to locally-made wooden cart bodies. Although the axles/wheel combinations accounted for 90% of the cart cost, they proved appropriate. The ox carts were popular and their adoption, assisted by extension and credit, was rapid.

When the adoption target of one cart per ten households was reached, promotion and credit were stopped. Monitoring and evaluation then revealed that cart numbers were insufficient to meet the new transport needs and people's new aspirations. The ox cart programme had been a greater success than planned, and it continued with higher targets.

Planning models must be updated as technologies are adopted or rejected.

Photo below:

Ox cart in North West Zambia carrying an old man. Ox carts were promoted for maize transport, but soon a variety of transport needs were met.

Photo above: Farmer in North West Zambia bringing produce to town in an ox cart. He said the ox cart had allowed him to increase his production and sales of tomatoes and other vegetables since he was no longer limited by headloading his produce to market.

Transport solutions can stimulate production, economic growth and people's aspirations, further increasing the demand for transport.



Photo: Paul Starkey

Photo left:

Innovative ox cart with cover developed by a trader moving between villages in North West Zambia



Photo: Paul Starkey



Credit assists adoption

Photo: Paul Starkey

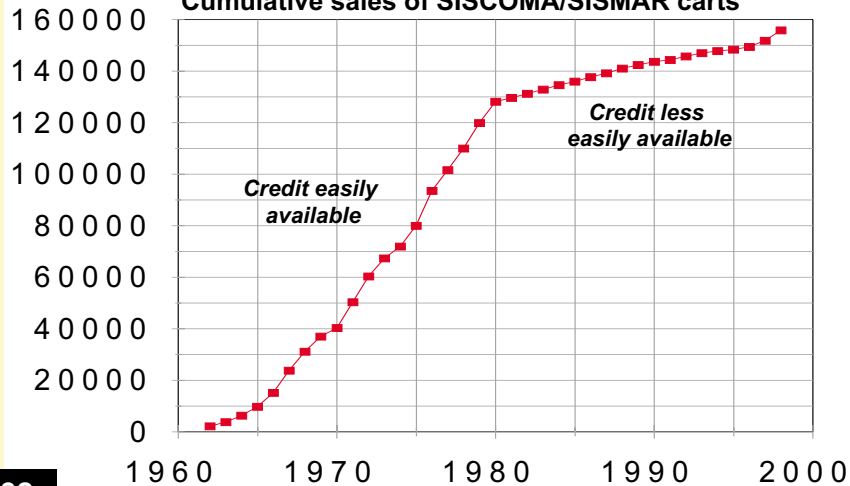


SISMAR ox carts in northern Senegal

Credit was important for the spread of carts in Senegal

Prior to 1960, animal-drawn carts were not very common in rural Senegal. In 1960 SISCOMA established a factory at Pout in Senegal to manufacture a range of agricultural implements and animal-drawn carts. Sales in the 1960s and 1970s were high, boosted by agricultural credit schemes. The sudden termination of credit in 1980 caused sales to plummet and made SISCOMA bankrupt. A new company, SISMAR, was formed to take over the factory, and has been selling many carts, although annual sales have not returned to the levels when credit was readily available to farmers.

Cumulative sales of SISCOMA/SISMAR carts



Credit easily available

Credit less easily available

Women with their donkey cart in Tanga, Tanzania



Photo: Paul Starkey

Credit for carts in Tanga, Tanzania

The Tanga Animal Draft Power Project found that men and women wanted to buy donkey carts but they could not afford the purchase cost. Rural incomes and employment opportunities were low. Credit repayments were difficult for such expensive items. This was partly solved by combining credit with a labour-intensive, rural road maintenance programme. Farmers were contracted to bring gravel to resurface roads, and the income from this programme made it possible for farmers to repay loans. The carts were used for many other purposes besides gravel haulage. Women and men both benefited from the spread of donkey carts.

Intermediate means of transport increase profitable farm production, trade and provide hire income, but the high cost is a constraint for many. There is much evidence that credit can assist the adoption of local transport solutions. Manufacturers and stockists may also need credit.



Transport services benefit communities

Two wheel tractor and trailer with passengers, Sri Lanka



Photo: Paul Starkey

Intermediate means of transport can provide employment for the operators and valuable services for the communities.

Rickshaws, 'boda-boda' bicycles, tricycle taxis and animal-drawn carts offer readily available and flexible transport solutions to the public, benefiting the owners, operators and users.

Donkey cart providing transport service, Zimbabwe

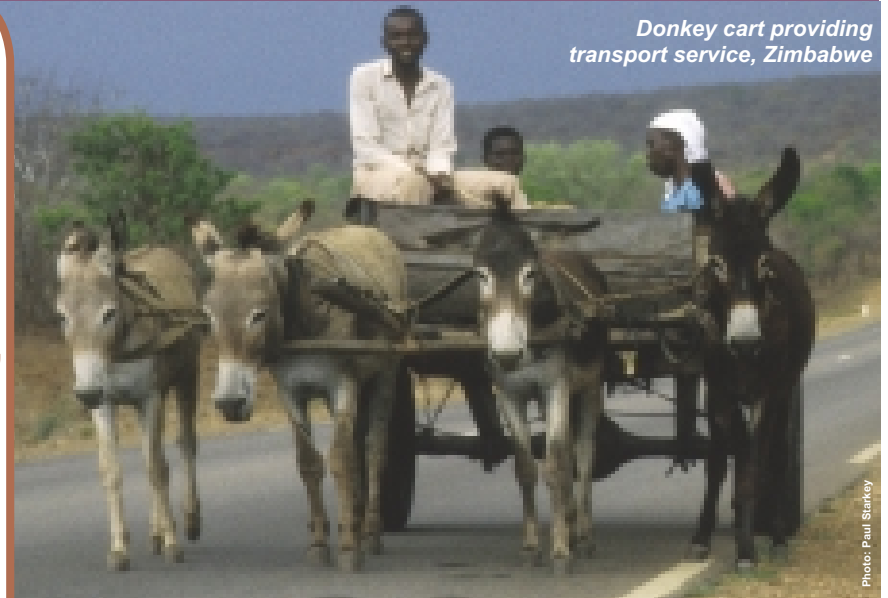


Photo: Paul Starkey



Photo: Paul Starkey

Tricycle taxis for hire in the Philippines



Photo: Paul Starkey

Ox cart providing transport service, Chad



Talk with all stakeholders

Development planners must consider a wide range of rural transport needs, and not simply road infrastructure. Dialogue with rural communities and transport users is essential. Transport technologies involve compromises between competing criteria. Prohibitions in the interests of roads or traffic may cause problems for resource-poor users.



Photo: Paul Starkey

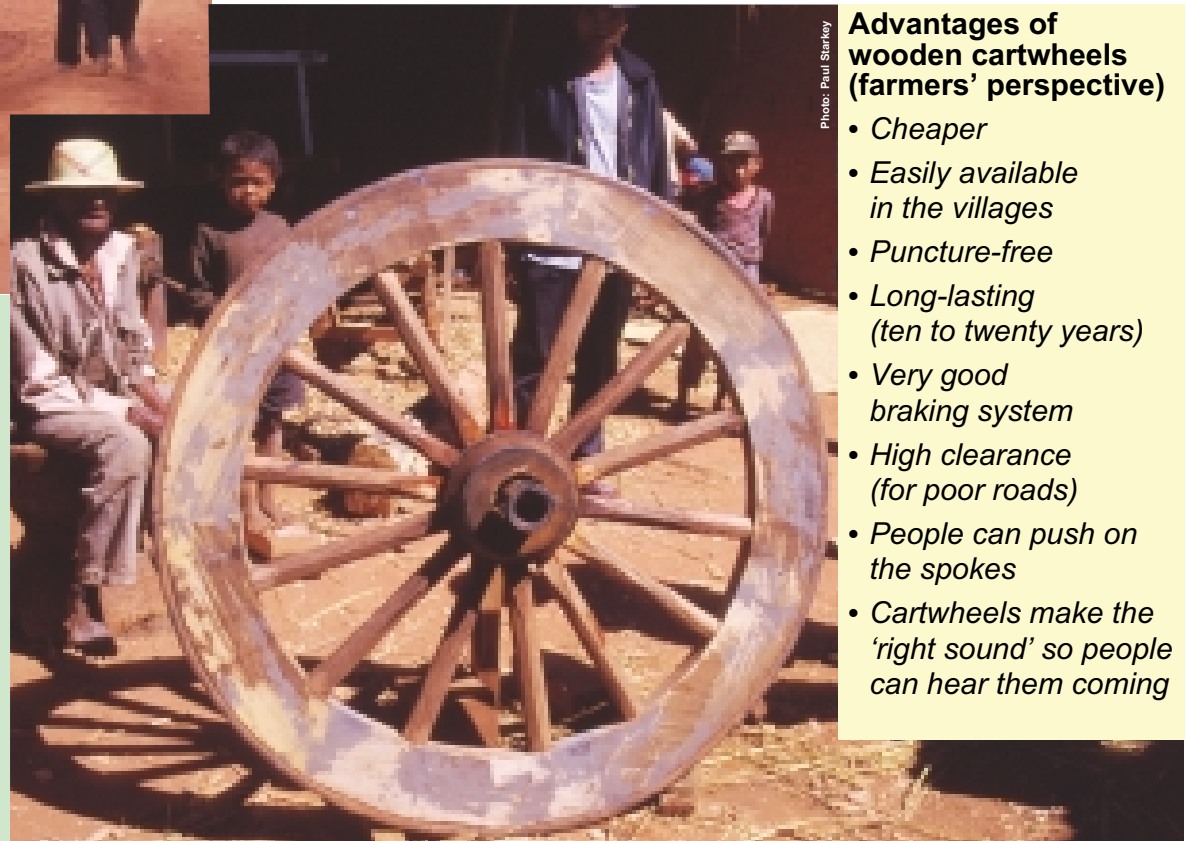


Photo: Paul Starkey

Advantages of wooden cartwheels (farmers' perspective)

- Cheaper
- Easily available in the villages
- Puncture-free
- Long-lasting (ten to twenty years)
- Very good braking system
- High clearance (for poor roads)
- People can push on the spokes
- Cartwheels make the 'right sound' so people can hear them coming

Should wooden cartwheels be banned in Madagascar?

In Madagascar, senior policy makers in the transport sector attended a workshop. During the first day, rural road maintenance was discussed. The traditional wooden cartwheels with their narrow metal-rims damage rural roads. Several people thought traditional carts should be banned to protect the roads. Only modern carts with pneumatic tyres would be allowed.

The workshop participants then visited villages and put such ideas to local farmers, transporters and village authorities. The farmers agreed that cartwheels made ruts in roads, but pointed out that ox carts were the main users of the rural roads. There was no point in protecting empty roads. Farmers gave eight reasons why traditional cartwheels were better than pneumatic tyres on rural tracks.

The cartwheel issue was more complex than people had imagined. It will not be easy to resolve but immediate prohibition is not a realistic solution. The great importance of such 'networking' and dialogue between planners and transport users was recognised by all concerned.



Consider environmental factors

In some humid parts of the Dominican Republic (below) and Sri Lanka, where equids do not thrive, people use oxen and bulls as riding and pack animals.

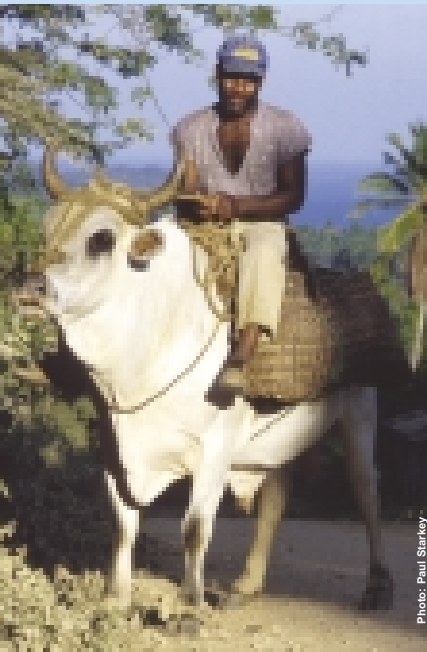


Photo: Paul Starkey

Adoption of intermediate means of transport may depend on environmental conditions, whether social, economic, technological or agroclimatic.

Transport animals, such as donkeys, have clear ecological niches. Moving animals long distances into new ecological zones is risky.

Introducing donkey transport: successes and failures

Donkeys are adapted to arid conditions: they are mainly found in highlands or areas with less than 800 mm annual rainfall. Their drought resistance is a major factor in their increasing popularity. In West Africa, the southern limit of the donkey population (the 'donkey line') has been moving southwards. As environmental conditions have changed (decreased rainfall, less bush and lower disease challenge) donkeys have started to thrive in areas that had previously been unsuitable. There have been similar expansions of donkeys' ranges in Eastern and Southern Africa.

The gradual introduction of donkeys has been due to farmers and traders purchasing donkeys in existing (drier) breeding areas and bringing them into the new areas. The overall success of the introductions (several million donkeys are now used in 'new' areas) has been based on large numbers of small successful attempts—and also very many failures particularly in the early years. Farmers and traders have arranged most introductions of donkeys without any government intervention or support.

Some projects have assisted farmers to obtain donkeys for transport. Projects that have been successful have normally been in semi-arid zones, with close target areas. Major project failures have occurred when projects have attempted to bring donkeys large distances and into humid conditions (eg, The Gambia to Sierra Leone, Botswana to Malawi, Zimbabwe to northern Zambia, northern Uganda to Rwanda).



Photo: Paul Starkey

Horse cart in The Gambia. In the past thirty years, horses have been increasingly used in The Gambia and southern Senegal, but they do not thrive in the more humid parts of West Africa.

Guinea Bissau used to be beyond the southern ecological limit of donkeys in West Africa. However, farmers and traders have imported donkeys from Senegal. The donkey population is now breeding and expanding.



Photo: Paul Starkey



Moving ahead: directions to move forward



Burkina Faso



Tanzania



Hungary



Moving ahead: directions to move forward

Local transport solutions can help communities and stimulate rural development.

There are several ways in which national authorities and development organisations can assist:

- Develop policies that encourage local transport solutions 38
- Include all stakeholders 39
- Improve the image 40
- Plan for safe, integrated use 41
- Define needs and promote options 42
- Prioritise and concentrate resources 43
- Ensure availability and maintaince capacity 44
- Market actively, subsidise with caution 45
- Build on experiences 46
- Collaborate and share information 47



Develop policies to encourage local transport solutions

Photo: Paul Starkey



Donkey carts providing transport services near a regional market in Mali. The number of donkey carts and other intermediate means of transport have increased greatly in Mali in recent years, assisting people and stimulating the local economy.



Photo: Paul Starkey

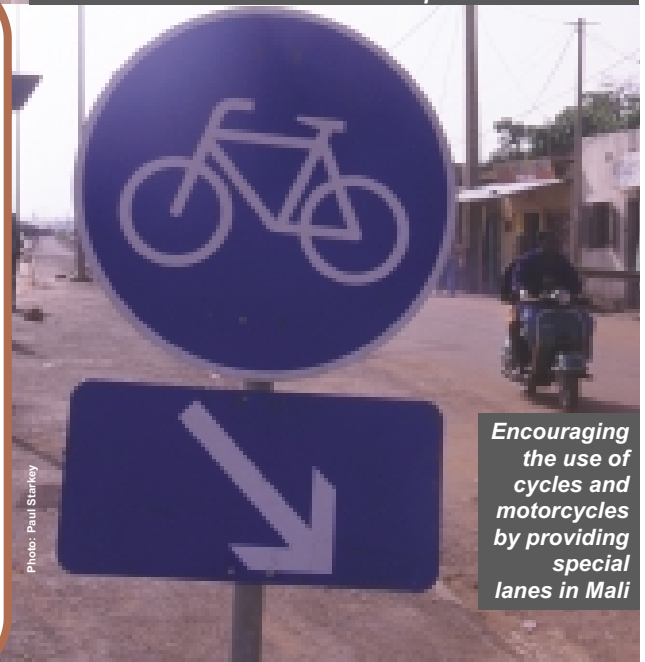
Village workshop making and repairing carts and other intermediate means of transport in Mali

Photo: Paul Starkey



Hand cart in Burkina Faso made by one entrepreneur and operated by another entrepreneur

Policy makers and development organisations must work towards a positive enabling environment that allows people to manufacture, purchase and efficiently operate intermediate means of transport. If conditions are right, the private and informal sectors can efficiently make, promote, supply and repair a wide range of intermediate means of transport



Encouraging the use of cycles and motorcycles by providing special lanes in Mali

Photo: Paul Starkey



Include all stakeholders



Photo: Paul Starkey

Young boy controlling a donkey cart collecting water in Kenya



Boy carrying a root crop using a wooden 'bicycle' with a woman headloading fuelwood in Tanzania

Development programmes should ensure that all stakeholders are involved in planning for local transport solutions. Planners and development organisations should pay particular attention to disadvantaged groups (such as women and children) to ensure they are included and they benefit.



Photo: Paul Starkey

Woman on a motorcycle passing a trader with a sales cart in Burkina Faso



Photo: Paul Starkey



Improve the image

**Local transport solutions are modern and relevant.
They will always be important.**

Intermediate means of transport will continue to be important throughout the world, in rich and poor areas. Examples of 'high status' local transport solutions include trolleys at airports, golf-courses and supermarkets, sporting bicycles, recreational animals and tourist carriages.

In rural areas, local transport solutions are often necessities, not luxuries, but their value is often unacknowledged. There is need to counteract the 'old-fashioned' image and encourage greater appreciation and pride in their use.

Positive images showing the value of transport solutions to present and future development should be included in schoolbooks, media programmes and documentaries and development reports. Targeted campaigns should help raise awareness.



A positive image of donkeys is portrayed in this statue in Mekele, Ethiopia. It commemorates the role of donkeys in assisting civilian refugees and the guerrilla fighters

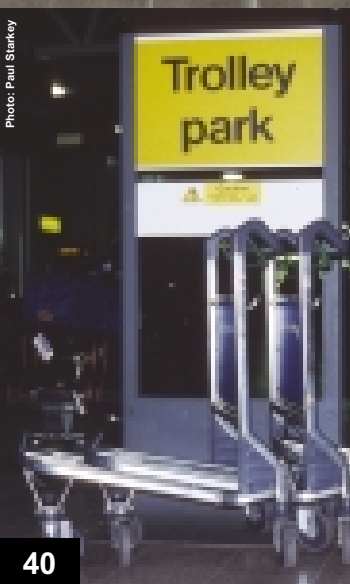


Photo: Paul Starkey



Photo: Paul Starkey



Photo: Stephen Lawrence

When celebrating national Freedom Day in 1997, President Mandela entered the stadium at Uppington on a donkey cart. Such carts are important local transport solutions in South Africa. By his action, Nelson Mandela assisted the image of donkey carts.



Plan for safe, integrated use



Buffalo-pulled sledge on a road in the Philippines

Photo: Paul Starkey



Sign prohibiting slow vehicles, Hungary

Dangerous loads

Many laden carts, cycles and motor vehicles are dangerous.

Owners maximise usage.

Investment in safety is not their priority.

Legislation for improved safety may be needed.

This should be developed through participative discussions with the users of the

technologies to identify problems and solutions.



Motorcycle with bulky load, Sri Lanka

Photo: Paul Starkey

Carts, bicycles and other slow-moving vehicles should not be prohibited, but allocated special lanes.

Prohibition or planning for mixed traffic?

Steel-rimmed cartwheels and sledges can cause damage to roads. Pneumatic tyres may be a solution but people may be unable to afford to buy and maintain such carts. Prohibition of cartwheels and sledges may cause financial and social problems to rural people. Prohibition should not be contemplated until affordable alternative technologies are available.

Drivers of motor vehicles often consider intermediate means of transport to be dangerous nuisances. They want them banned from towns and from rural roads. They do not understand how important rural roads are for short-distance local transport. The combination of fast traffic and slow-moving means of transport can be dangerous. Solutions may include traffic-calming measures or special lanes for slow vehicles.

Some urban authorities have banned carts and rickshaws from city centres, for reasons of safety or improved traffic flows or as a matter of prestige—they want 'modern' cities. Authorities in Addis Abeba and Bamako banned horse carts, and those in Islamabad banned almost all intermediate means of transport.

Some cities in India and Indonesia banned cycle rickshaws. They were replaced by more 'modern' autorickshaws. These motorised vehicles increased pollution, but did not appear to reduce traffic congestion. In urban areas the prohibition of slow vehicles has not automatically improved traffic flows, since traffic speed is often limited by vehicles stopping for loading and unloading.

Transport planners should recognise the value of local transport solutions and plan for their integration and safe use.

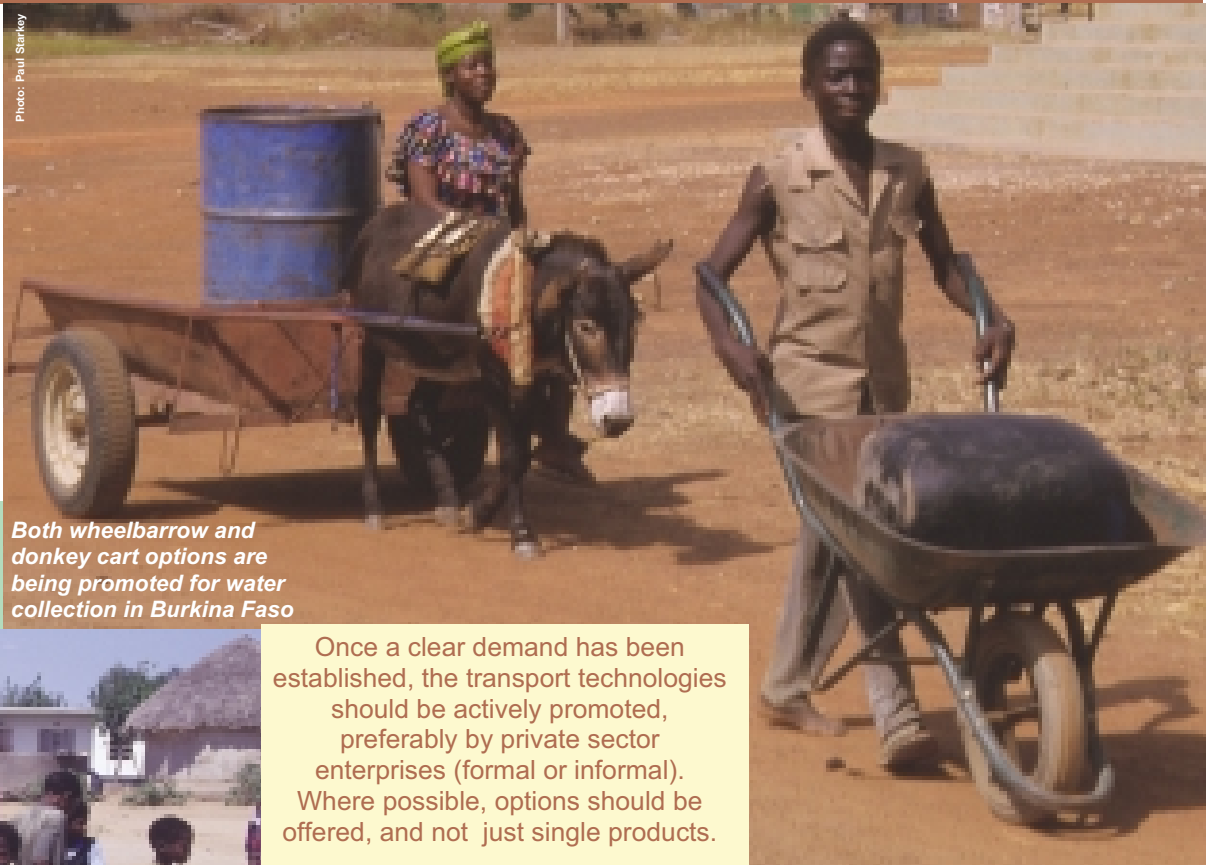


Define needs and promote options

Development programmes must understand the transport needs, wants, preferences, priorities and purchasing power of potential beneficiaries. Once users have tested suitable technologies, collaborating organisations (private, public, NGO) should implement targeted promotional campaigns.

Development programmes, in collaboration with all stakeholders, should conduct thorough 'market research' prior to any technology promotion. Participatory methods, including peer-to-peer discussions, should be used to assess transport needs and economic demand.

Photo: Paul Starkey



Both wheelbarrow and donkey cart options are being promoted for water collection in Burkina Faso

Once a clear demand has been established, the transport technologies should be actively promoted, preferably by private sector enterprises (formal or informal). Where possible, options should be offered, and not just single products.

Talking with a transporter in South Africa to learn about his needs and constraints



Photo: Paul Starkey



Photo: Paul Starkey



Prioritise and concentrate resources



Photo: Paul Starkey

*Donkey cart at fish market in Mauritania:
markets offer many profitable transport options*



Photo: Paul Starkey

Donkey carts serving a regional market in Mali

Programmes should target their resources to stimulate a 'critical mass' of users in one, or more, locations. Promotion should start in favourable locations, eg, near rural markets offering supporting infrastructure and income-generating prospects.



Photo: Paul Starkey

Children with a hand cart at a roadside village and market in Mali



Photo: Paul Starkey

Hand carts serving a market in Mali



Ensure availability and maintenance capacity

*Tyre repair service
in Zimbabwe*



Photo: Paul Starkey

Artisanal cart workshops in Senegal



Photo: Paul Starkey

Local manufacture (or local assembly) by artisans in the small workshops of market towns, may enhance rural supplies of intermediate means of transport. Local production generally assures good repair and maintenance services. Some technologies benefit from factory-scale manufacture or importation. Where this is the case, emphasis should be on development of effective supply systems, with good stocks of transport devices and parts in rural areas.

Carts at a small workshop in Burkina Faso



Photo: Paul Starkey

Rural people can have problems obtaining and maintaining local transport solutions. There are advantages in fabricating transport devices in small local workshops. Factory-made products need effective supply systems. They should be locally repairable and backed with good rural stocks of parts.

It is often difficult to buy intermediate means of transport in rural areas. Cart adoption is often limited by lack of wheels and axle assemblies. In some countries, if rural traders were assisted to maintain stocks of components and parts, the number and range of local transport solutions would increase.



Photo: Paul Starkey

Axles, made by artisans from automotive parts, being sold with rims and tyres at a regional market in Tanzania



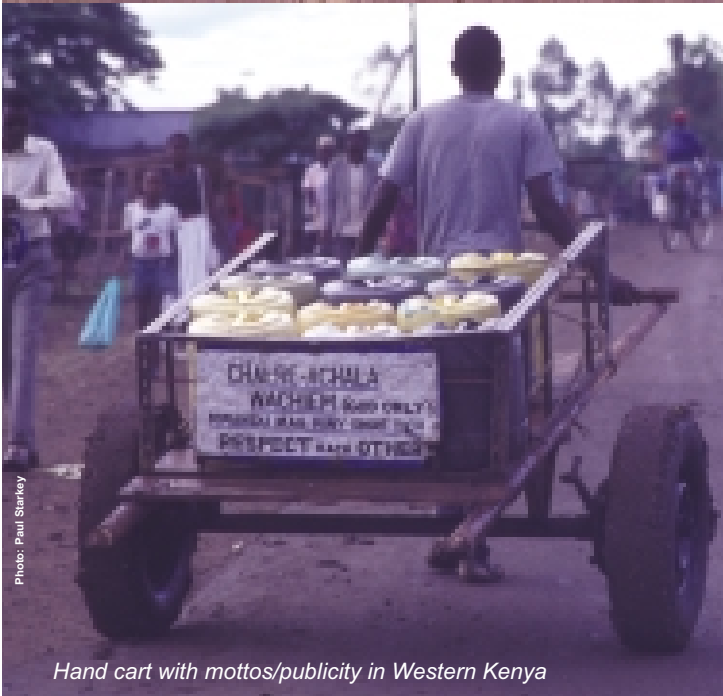
Market actively, subsidise with caution



Promotional demonstration of ox cart in Guinea



Rapid adoption of animal-drawn carts in Senegal (above) was based on commercial factory production, active marketing and the availability of credit.



Hand cart with mottos/publicity in Western Kenya

Marketing strategies may be associated with credit for manufacture, creation of stocks or final sales.

Although subsidies can assist initial adoption of new products, they distort markets. Subsidies to new products may damage markets for sustainable indigenous alternatives.

Motorcycle and sidecar transporting churns in Sri Lanka





Build on experiences

Programmes should learn from their experiences, involving all stakeholders in participative monitoring and open and rigorous evaluations. The lessons from evaluations should be documented and widely shared to allow everyone to learn and progress from both positive and negative experiences.

Monitoring requires reliable stakeholder opinions

Self-critical monitoring and objective evaluation are fundamental to the success of programmes developing or promoting local transport solutions. Without monitoring, enthusiasm for particular technologies may lead to lack of objectivity and irrational optimism despite disappointing adoption patterns. It is necessary to include potential users (of different genders, status, purchasing power, etc) and other stakeholders in planning, monitoring and evaluation procedures. Peer-to-peer discussions can help stakeholders talk honestly about their needs, concerns and willingness to invest in technologies. Information on user-perspectives must be cross-checked with objective sales and use patterns.



Farmers in Guinea discussing technology options

Photo: Paul Starkey



Photo: Paul Starkey

Transport planners learning from the experience of an artisanal cart manufacturer in Madagascar



Photo: Upali Panmilage

Prototype bicycle side car in Sri Lanka

Rigorous self-evaluation with networking partners

Regular objective evaluation is also vital. Many programmes fear the potential for criticism that may come with external evaluations. Sympathetic evaluators are often selected. This is more comfortable in the short term, but restricts the potential for learning and programme changes. Self-evaluation, aided by an independent external person, can be useful and may involve both programme staff and key stakeholders. If someone from a transport project in another country assists an evaluation, the learning process benefits two programmes simultaneously.



Share information

Photo: Paul Starkey



Demonstration of donkey transport technologies at a workshop organised by the Ethiopian Network of Animal Traction (ENAT) and the Animal Traction Network for Eastern and Southern Africa (ATNESA).

Photo: Paul Starkey



Discussions with a cart manufacturer during a workshop on the design, testing and manufacture of carts held in collaboration with the Animal Power Network of Zimbabwe (APNEZ) and the Animal Traction Network for Eastern and Southern Africa.

Demonstration of intermediate forms of transport at a workshop organised by the Lanka Forum for Rural Transport and Development.

The workshop and demonstration were attended by a wide range of local stakeholders, as well as by international delegates.

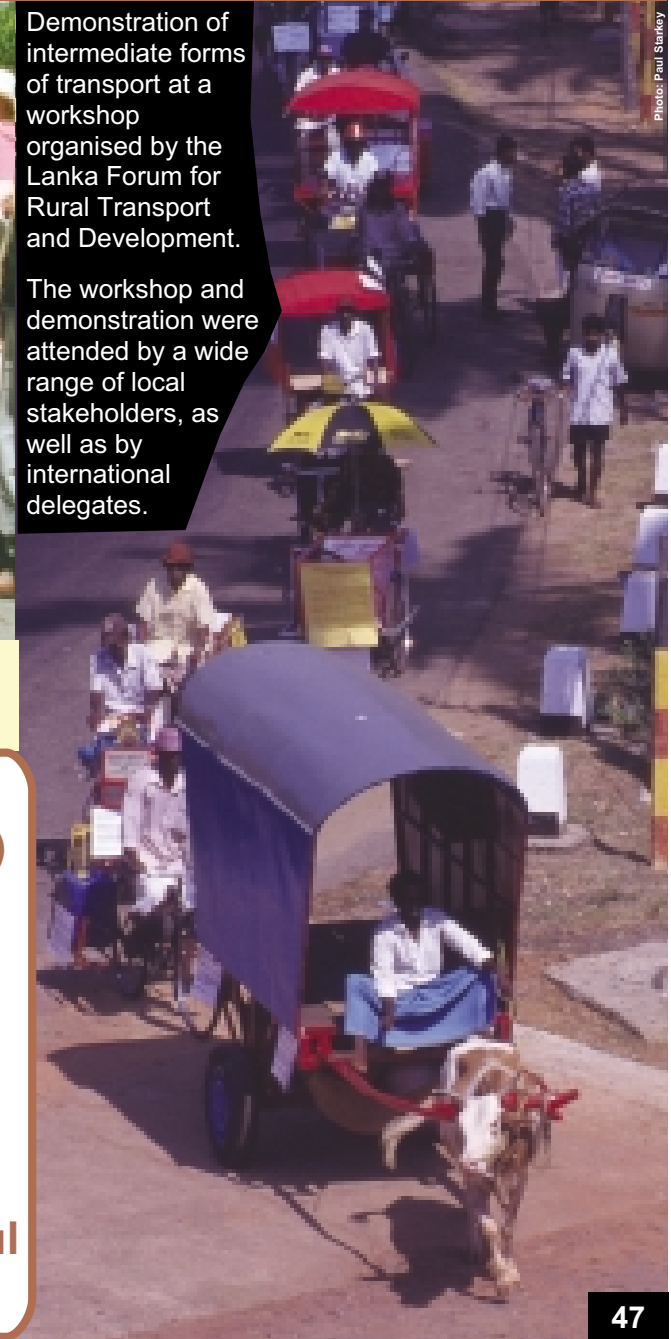


Photo: Paul Starkey

Participatory user-focussed networks (formal or informal) can link all stakeholders and encourage them to collaborate and learn from each other. National and international networking improves information exchange, cooperation, understanding and successful technical progress.



Future directions

National and international programmes must recognise the development benefits that come from local rural transport solutions and address the social, economic and technical implications. The Rural Travel and Transport Program and its partner organisations are among those working to promote the benefits that can come through improved rural transport and accessibility for all.

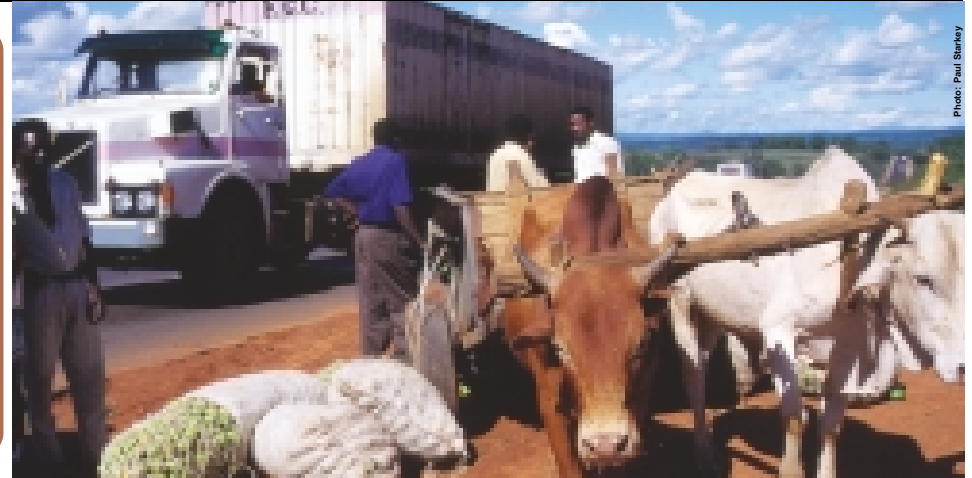


Photo: Paul Starkey

The Rural Travel and Transport Program (RTTP) is a multi-donor Program managed by the World Bank. It was set up to assist countries in sub-Saharan Africa put in place policies and strategies to address their rural transport problems. A consistent finding from the Program's activities in about twenty countries is that promoting the enhanced use of intermediate means of transport requires a holistic approach at national and regional levels. In response to this, the RTTP and its regional and international collaborating partners have established the Regional Intermediate Means of Transport Initiative, and this publication is one of its first outputs.

The key objective of the Regional Intermediate Means of Transport Initiative is to 'mainstream' the use of intermediate means of transport in Sub-Saharan Africa. Achieving that objective will require the various methods and approaches presented here, taking into account the appropriate lessons. It will require increased funding and support for activities to enhance the use of local transport solutions as well as the greater sharing of information and experiences. The initiative will incorporate a participative and collaborative methodology, encouraging local coordination mechanisms (eg, national networks) with good international networking. Among the networks and regional projects that are likely to collaborate in the initiative are RTTP, IFRTD, ATNESA and ILO-Asist, and their associated national networks and forum groups. Much relevant information is available on ways to develop collaborative programmes to promote the use of intermediate means of transport (see page 2 for the addresses and websites of some resource organisations).



The International Forum for Rural Transport and Development is a global network which aims to overcome the physical, economic and social isolation of the rural poor in developing countries. The goal is to improve the accessibility of rural communities by developing rural transport systems which respond to their needs and potentials. IFRTD encourages an integrated approach that recognises the importance of rural infrastructure and the potential for intermediate means of transport that fill the gap between walking/carrying and expensive motor vehicles. IFRTD has an international secretariat that encourages the formation of national networks (forum groups).

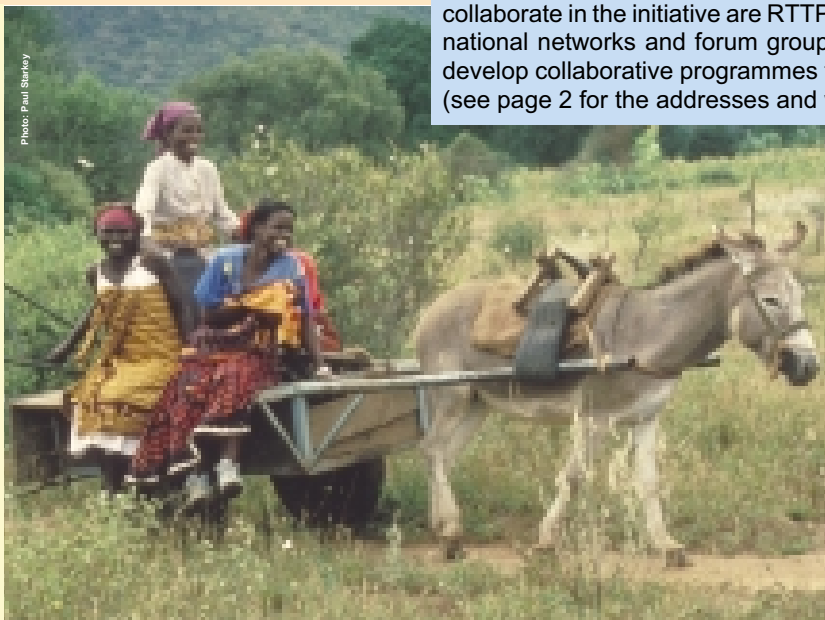


Photo: Paul Starkey

The Animal Traction Network for Eastern and Southern Africa (ATNESA) aims to improve information exchange and regional cooperation relating to animal draft power. ATNESA brings together policy makers, trainers, researchers, manufacturers, development workers, institutions and users of animal traction in the region. ATNESA is a decentralised network that operates largely through the actions of enthusiastic national networks (eg, Ethiopia, Kenya, Tanzania, South Africa and Zimbabwe).



ILO-ASIST is an international programme implemented by International Labour Organisation (ILO). It works in Africa, Asia and Latin America and provides advisory support, information services and training (ASIST) to those involved in the promotion and application of labour-based technologies, including intermediate means of transport.





RTTP:
transport
for rural
development

Local transport solutions for rural development



With the help of many beautiful and informative photographs from all parts of the world, this book explores the importance of local transport solutions as a means for increasing mobility for rural women, men and children. Many forms of intermediate means of transport are covered, including bicycles, animals and motor tricycles. It outlines the challenges to be addressed, concisely highlighting key lessons and providing numerous examples from practical experience. The book can be used to stimulate interest and debate among policy makers and within rural communities. It is an invaluable resource for people working in development projects, NGOs, government ministries or teaching institutions. The book is published in English and French versions, and related posters, websites and resource materials are also available.

DFID Department for
International
Development

Published for the Rural Travel and Transport Program (RTTP)
by the Department for International Development (DFID)
1 Palace Street, London SW1E 5HE, United Kingdom

ISBN 1 86192 427 5



9 71861 92427 2