

Re-inventing the wheel in western Kenya

What a difference a wheel makes!

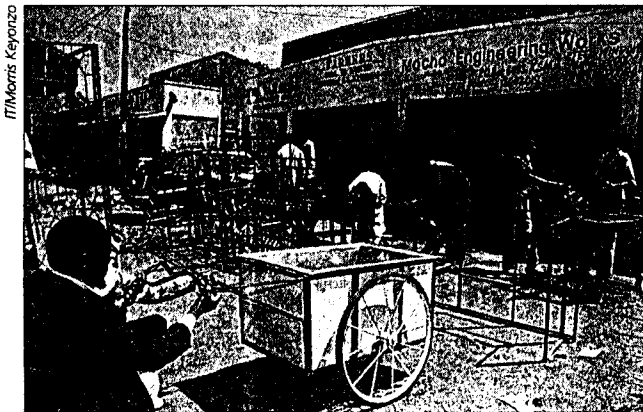
Karungu Nursing Home is a rural health centre 150 km south of Kisumu. The health centre has transported seventy-two sick people using a bicycle-trailer ambulance within a period of six months. The hospital uses the ambulance trailer profitably with charges varying from KSh 30 for a sick person to KSh 300 for a dead body. The trailer has not developed any major problems and punctures are easily fixed locally.

In Ndhiwa, a rural area 130 km south of Kisumu, a bicycle trailer owned by a school is being used at least three times a day to transport water.

Margaret Omollo purchased a water cart which she leases to a door-to-door water seller. She earns KSh 40 per day from leasing it out and the water seller gets an average of KSh 170 per day from selling water to urban households. The vehicle is used ten to twelve times each day for short journeys of 1-2 km.

87 Kenya Shillings (KSh) = £1

Johannes Omiti puts final touches to a bicycle trailer that is insulated for carrying fish.



IT/Morris Keyorzo

Somewhere in the heat of western Kenya there is a sick person with no way of reaching a health clinic; there is a woman going on her second or third trip to get water from 10 km away, carrying 20 litres on her head; there is a woman with a child on her back making an important journey, walking some 70 km.

In most of rural Kenya people spend considerable amounts of time and effort in transport activities related to their basic needs. Transport problems reduce people's opportunities to earn a living from agriculture and trade. Although wheelbarrows, handcarts, bicycles and animal carts are used, local communities have expressed interest in designs which are more appropriate to their needs and where they can have a say in the production process.

Intermediate modes of transport

IT Kenya and a local partner, Kisumu Innovation Centre Kenya, have been involved in an activity that has kept a dialogue going between local metal smiths and the inhabitants of rural areas around the western Kenyan town of Kisumu. The activity has been aimed at producing intermediate modes of transport (IMT) that better meet the needs of the rural inhabitants.

An assessment of rural transport needs indicated that the acceptance and purchase of the new types of transport would depend on the costs being kept lower than present; on the carrying capacity of the vehicle being large; and on the ease of propulsion of the device.

Metal smiths met with their potential customers and discussed needs and problems. The

smiths were trained in the use of simple wheelmaking equipment, a jig and a wheel-bender, which could be used to make wheels for bicycles and motor vehicles.

As a result of these various activities the following transport devices were developed:

- an extended bicycle and carrier that allows bicycles to carry bulky goods more easily;
- a domestic water barrow that can carry two jerry cans of water;
- a bicycle trailer that has insulation for carrying fish and other perishables;
- a hand cart that can also be pulled by animals;
- a mobile shop;
- a 70 litre portable water/paraffin tank;
- a water cart that can carry goods as well as twelve jerry cans of water;
- a bicycle- or hand-pulled ambulance used by rural communities to transport sick people to health clinics.

The vehicles were then shown in areas that had participated in the needs assessment: rural people could see what they had helped to produce and could order what they wanted to buy. Shows were held in five market areas and attended by 2,250 people altogether.

Skilled wheel-makers

As a result of these activities two artisans in Kisumu have become very skilled wheel-makers, doing most of the wheel making for customers who include other artisans. Immanuel Odera has sold three bicycle trailers, four axles and six handcarts and has had his income increased by KSh 57,700 within a period of six months. Johannes Omiti has sold seven bicycle ambulances and had an income of KSh 55,500 within a period of six months. The market is still expanding after these initial sales.

Last December, IT Kenya and Kisumu Innovation Centre Kenya were able to withdraw support for these activities, as the producers of IMTs have now firmly established their markets for the re-invented wheels!

Jeffrey Maganya
Project officer, IT Kenya

Intermediate Technology - Small World 24
Myson House,
Railway Terrace
Rugby, CV21 3HT, UK