

Simple transport solutions cut drudgery and improve livelihoods

RIU

Validated RNRRS Output.

In Uganda, Intermediate Means of Transport (IMTs)—such as pack animals and ox and donkey carts—are lessening rural women’s burden by helping to move crops, water and firewood. Previously, women covered their transport needs by head-loading, carrying heavy bundles from the field to the homestead and from there to the market. The use of oxen for ploughing is also enabling farmers to pay back quickly the loans they take out to purchase draught animals and carts. At the community level, IMTs are being used to haul building materials for community centres, schools, and churches. The Uganda Transport Forum Group has helped to spread the use of IMTs, coordinating project activities among farmer groups, intermediary organisations and international research institutes.

Project Ref: **CPH27:**

Topic: **6. Promoting Success: Partnerships, Policy & Empowerment**

Lead Organisation: **Natural Resources Institute (NRI), UK**

Source: **Crop Post Harvest Programme**

Document Contents:

[Description](#), [Validation](#), [Current Situation](#), [Environmental Impact](#),

Description

CPH27

A. *Description of the research output(s)*

Research into Use

NR International
Park House
Bradbourne Lane
Aylesford
Kent
ME20 6SN
UK

Geographical regions included:

[Uganda](#),

Target Audiences for this content:

[Crop farmers](#), [Livestock farmers](#), [Fishers](#), [Forest-dependent poor](#), [Processors](#), [Traders](#),

1. *Working title of output or cluster of outputs.*

In addition, you are free to suggest a shorter more imaginative working title/acronym of 20 words or less.

Building Partnerships for Sustainable Rural Transport Development

2. *Name of relevant RNRRS Programme(s) commissioning supporting research and also indicate other funding sources, if applicable.*

Crop Post-Harvest Programme

3. *Provide relevant R numbers (and/or programme development/dissemination reference numbers covering supporting research) along with the institutional partners (with individual contact persons (if appropriate)) involved in the project activities. As with the question above, this is primarily to allow for the legacy of the RNRRS to be acknowledged during the RIUP activities.*

R8114: Improved Food Crop Marketing through Appropriate Transport for Poor Farmers in Uganda; undertaken from April 2002 to December 2004.

Project Partners

Mr Ulrich Kleih, Natural Resource Institute (NRI), University of Greenwich, Central Avenue, Chatham Maritime, Kent, ME4 4TB, UK. Tel 00 44 1634 883065, Fax 00 44 1634 880077; u.k.kleih@ge.ac.uk

Dr Charles Kaira, Mr Paul Kwamusi, and Ms Harriet Iga, Transport Forum Group, Uganda;

Mr Mustapha, Benmaamar, TRL Ltd, UK;

Mr David O'Neill, Silsoe Research Institute, UK;

Intermediary organisations at District level in Uganda, i.e. MTCEA (Mr Peter Owor, Iganga), KFP (Ms Janet Biira, Kasese), YWAM (Mr Simon Oliao, Katakwi);

Primary stakeholders such as farmer groups, artisans, and veterinaries participated in this action-research project through participatory appraisals, implementation, monitoring, and evaluation exercises.

4. *Describe the RNRRS output or cluster of outputs being proposed and when was it produced? (max. 400 words). This requires a clear and concise description of the output(s) and the problem the output(s) aimed to address. Please incorporate and highlight (in bold) key words that would/could be used to select your output when held in a database.*

The project aimed to address on the key constraint to market access, i.e. transport of crops from the field to the homestead and from there to the market, aiming particularly to alleviate problems that women encounter in transporting produce i.e. backloading and headloading. The project produced the following outputs:

- **Capacity for Uganda Transport Forum Group** offices to manage and backstop rural transport development

research projects at national and regional level;

- Knowledge and information on agricultural production, post-harvest and marketing, and economics and technical aspects of IMTs (Intermediate Means of Transport) and their use by poor farmers, and impact on poor farmers' livelihoods in three districts;
 - Best practices on promotion of validated means of transportation.

The project had a strong emphasis on **partnership building** amongst the project coalition members. The Kampala based Transport Forum Group played a lead role in coordinating project activities involving farmer groups, intermediary organisations in the three districts (i.e. Iganga, Kasese, and Katakwi), and international research institutes (i.e. Knowledge Providers) such as the Natural Resources Institute, TRL Ltd., and Silsoe Research Institute.

The project was able to demonstrate the usefulness and also economic viability of the **Intermediate Means of Transport (IMTs)**, i.e. **oxen** and **ox-carts**, **donkeys** as **pack animals**, and **donkey carts**. **Ploughs** have been distributed to farmers taking into account the **multi-purpose function of most IMTs** and the potential to increase agricultural production. All IMTs were used for **transporting crops** as well as for domestic purposes such as **carrying water and firewood**, thereby relieving women from transport chores requiring **headloading**. Testing and validation of the IMTs has been undertaken by farmer groups as part of **Participatory Monitoring and Evaluation** exercises.

Besides workshop and monitoring reports, the project partners have produced publications for wider dissemination such as a project brief (IFRTD Update 4, October 2004, **Building Partnerships for Sustainable Rural Transport Development**), which was disseminated worldwide to members of the **International Forum for Rural Transport and Development (IFRTD, London)**, and a paper has been published in the **Uganda Journal for Agricultural Sciences** (Kleih, U., Kaira, C., Iga, H., Kwamusi, P. (2004) **Rural Transport and Livelihoods in Uganda**; pp56–63; *Uganda Journal of Agricultural Sciences*, Vol.9 No.1 September 2004, ISSN 1026-0919).

5. What is the type of output(s) being described here?

Please tick one or more of the following options.

Product	Technology	Service	Process or Methodology	Policy	Other Please specify
X	X		X		

6. What is the main commodity (ies) upon which the output(s) focussed? Could this output be applied to other commodities, if so, please comment

The project focused on farming systems in Uganda, East Africa. As such the emphasis was on a range of commodities including maize, beans, cotton, cassava, coffee. In addition to the transport of agricultural crops, households and small-scale enterprises benefited from the project in using improved means of transport for transporting water, firewood, and building material.

7. What production system(s) does/could the output(s) focus upon?

Please tick one or more of the following options. Leave blank if not applicable

Semi-Arid	High potential	Hillsides	Forest-Agriculture	Peri-urban	Land water	Tropical moist forest	Cross-cutting
X	X	X	X	X			

8. What farming system(s) does the output(s) focus upon?

Please tick one or more of the following options (see Annex B for definitions). Leave blank if not applicable

Smallholder rainfed humid	Irrigated	Wetland rice based	Smallholder rainfed highland	Smallholder rainfed dry/cold	Dualistic	Coastal artisanal fishing
X			X	X		

9. How could value be added to the output or additional constraints faced by poor people addressed by clustering this output with research outputs from other sources (RNRRS and non RNRRS)? (**max. 300 words**).

Please specify what other outputs your output(s) could be clustered. At this point you should make reference to the circulated list of RNRRS outputs for which proformas are currently being prepared.

In order to add value to the outputs of R8114, it could be clustered together with outputs of projects related to market access, inventory credit schemes, animal draught power, animal welfare, e.g.

- R8274, R8498; Farmer access to markets, Kawanda Agricultural Research Institute, Uganda.
- R8275; Farmer access to markets; Imperial College at Wye, UK.
- R6344, R7013, R7668, Inventory Credit Schemes, Dr Gideon Onumah, Natural Resources Institute.
- R8113, Animal draught power, Kenya Network for Draught Animal Technology, (KENDAT), Kenya.
- R7401, Draught Animal Power, Serere Agricultural and Animal Research Institute, Uganda.
- ZC0204, Draught Animal Power Toolbox, Kenya Network for Draught Animal Technology, (KENDAT), Kenya.
- ZC0235, The use of radio programmes to promote donkey welfare; Kenya Network for Draught Animal Technology, (KENDAT), Kenya.
- R6970, Improved management and use of draught animals in Latin America, Silsoe Research Institute.

Validation

B. Validation of the research output(s)

10. How were the output(s) validated and who validated them?

Please provide brief description of method(s) used and consider application, replication, adaptation and/or adoption

in the context of any partner organisation and user groups involved. In addressing the “who” component detail which group(s) did the validation e.g. end users, intermediary organisation, government department, aid organisation, private company etc... This section should also be used to detail, if applicable, to which social group, gender, income category the validation was applied and any increases in productivity observed during validation (max. 500 words).

The project had two main components, i.e. a process component and a technical component.

The **process component** consisted of the building of a project coalition and partnership for sustainable transport development. As such, this action research project adopted the *innovation systems* approach outlined by the DFID Crop Post-Harvest Programme (CPHP) that focuses on the interaction between stakeholders as a key determinant of the uptake of new technologies or systems. Instead of a linear transfer of knowledge from the research organisation to passive beneficiaries, this methodology recognises that anyone touched by or directly involved in the research process will affect its outcome, and that the role they play, in line with their interests and expectations, may change over time.

The adoption of the innovation systems approach placed further emphasis on a participatory and inclusive approach to monitoring and evaluation (M&E). The programme stressed that participatory M&E should not be limited to the involvement of end-users, but should take a multi-level approach recognising the differing and often conflicting information needs of various stakeholders. The indicators used for performance monitoring reflect this by incorporating a separate set that measure the level and quality of interaction among stakeholders.

Validation, which involved participatory monitoring and evaluation (PM&E), was mainly carried out by intermediary organisations and end users of the project outputs. In particular, PM&E by end users focused on key parameters such as work-plan implementation, effects of outputs, benefits, and partnerships.

As such the project can be seen as a successful partnership model creating a coalition between its internal (i.e. farmers and community based organisations, local NGOs and service providers/intermediary organisations, Transport Forum Group, international research institutes) and external stakeholders (e.g. DFID/CPHP Regional Office and GoU PMA Secretariat, and NAADS).

In addition, through participatory appraisals and ergonomics / economics related studies, the project was able to demonstrate the usefulness and also economic viability of the **technical component** (i.e. Intermediary Means of Transport such as oxen and ox-carts, donkeys as pack animals, and donkey carts). Ploughs have been distributed to farmers taking into account the multi-purpose function of most Intermediate Means of Transport (IMTs) and the potential to increase agricultural production. Also, the economic analysis has shown that a farmer stands a much better chance of being able to reimburse a loan for animals and equipment if contract ploughing for neighbours is involved.

All IMTs were used for transporting crops as well as for domestic purposes such as carrying water and firewood, thereby relieving women from transport chores that traditionally involve headloading or backloading. As a consequence, women reported that their health had improved, they felt less stressed, and had more time for leisure or other productive purposes.

11. **Where and when** have the output(s) been validated?

*Please indicate the places(s) and country(ies), any particular social group targeted and also indicate in which production system and farming system, using the options provided in questions 7 and 8 respectively, above (**max 300 words**).*

The validation took place in 2004 in three districts of Uganda (i.e. Iganga, Kasese, and Katakwi). The production systems where testing and validation of the outputs took place include high potential, hillsides, forest-agriculture, and to some extent semi-arid (e.g. Katakwi, due to drought conditions during project execution).

The farming systems include mixed cropping systems with emphasis on crops such as maize, coffee, beans, and cassava. All the farming systems were based on rainfed, smallholder production in humid, highland, and dry conditions.

In particular, poor farming communities were targeted as part of the validation exercise. This involved female members of farmer groups that tested and validated the Intermediate Means of Transport distributed as part of the project. In particular, donkeys as pack animals proved popular amongst women in areas where little or no alternatives exist (e.g. Mountains of Kasese District) in that they can handle the animals themselves. Whilst oxen and carts also proved attractive to users, they are more a men's domain.

Current Situation

C. Current situation

12. How and by whom are the outputs currently being used? Please give a brief description (max. 250 words**).**

Process output

The partnership created by the project is in use in that the Transport Forum Group (TFG) is being recognized as a Ugandan information centre for rural transport issues. For example, NGOs active in Katakwi District (e.g. Actionaid) would contact TFG for advice prior to carrying out initiatives on the ground. Likewise, the Iganga based intermediary organization MTCEA is in regular contact with TFG. Only the intermediary organization based in the more remote district of Kasese (i.e. KFP) seems to have more difficulties to maintain contact.

Technical outputs

Oxen are used for both ploughing and transport. Use is always high at the beginning of the planting season when trained oxen and a few donkeys are used for ploughing (e.g. Iganga and Katakwi).

The validation exercises have shown the importance of using oxen not only for transport but also for ploughing in order to enable farmers to break even in the shortest time possible. Without ploughing activities, farmers owning oxen are likely to struggle to pay back the credit they obtained for purchase of draught animals and cart.

Ox carts, donkey carts, and donkeys as pack animals are used for a range of activities including the transport of crops, firewood, water and building material. The latter has helped communities to construct community centres, schools, and churches. In particular, in the mountainous parts of Kasese Districts, there appear to be no alternatives to donkeys as pack animals. Women's chores are alleviated as a consequence of the animals.

13. *Where* are the outputs currently being used? As with Question 11 please indicate place(s) and countries where the outputs are being used (max. 250 words).

The project outputs are primarily used in the districts where they were introduced (i.e. Iganga, Kasese and Katakwi). However, within these districts use of the outputs is spreading from the original sub-counties to other sub-counties as farmers recognise their usefulness.

It has been difficult to ascertain the use of the outputs in other parts of Uganda and in other countries. Nonetheless, the fact that the project outputs have generated some interest by donors (e.g. Danida's Road Sector Programme Support in Uganda), private sector stakeholders (e.g. potential user of donkeys for transport and ploughing in Kabarole District), and international organisations (e.g. Institute for Transportation & Development Policy) may well have led to uptake beyond the original project sites.

14. *What is the scale of current use? Indicating how quickly use was established and whether usage is still spreading (max 250 words).*

As mentioned above, the scale of current use of outputs is concentrated in the districts where the original research took place.

Use of project outputs was quickly established during the course of the project (i.e. phase II). As indicated above, use is still spreading albeit at a relatively slow pace.

15. *In your experience what programmes, platforms, policy, institutional structures exist that have assisted with the promotion and/or adoption of the output(s) proposed here and in terms of capacity strengthening what do you see as the key facts of success? (max 350 words).*

In particular NGOs have provided the platform for the adoption of the outputs. For example, in addition to the original project partners, Action Aid and SOCADIDO have provided more IMTs in Katakwi District and sensitised poor farmers on animal handling and welfare.

In Iganga, it was the British based NGO Farmer Action Overseas Group (FAOG) that has provided support to farmers and the intermediary organisation MTCEA.

At the same time, these NGO initiatives can only meet a fraction of the demand, and in some cases may only provide inputs for demonstration purposes.

Despite their original enthusiasm for the project outputs and active attempts by the team to involve them in the project, Local Governments and supporting agencies such as the Belgian Technical Cooperation in Kasese have not lived up to their promise, according to local stakeholders.

Plan for Modernisation of Agriculture annual report 2003/2004 has highlighted the success and importance of project outputs. NAADS (National Agricultural Advisory Services) has incorporated animal traction in some of the areas where they work (e.g. some sub-counties of Iganga).

One of the issues with transport promotion is that the sector is considered a private sector domain, as a consequence of which private sector entrepreneurs are largely expected to take their own initiatives.

Capacity strengthening would require a concerted effort by a government department to promote best practice amongst stakeholders (e.g. farmer representatives, artisans, veterinaries) through regional workshops, training, and media initiatives. At present, the use of Intermediate Means of Transport seems to be neglected in this respect.

Environmental Impact

H. Environmental impact

24. What are the direct and indirect environmental benefits related to the output(s) and their outcome(s)? (max 300 words)

This could include direct benefits from the application of the technology or policy action with local governments or multinational agencies to create environmentally sound policies or programmes. Any supporting and appropriate evidence can be provided in the form of an annex.

Positive environmental impacts are likely if, as a consequence of this project, agricultural implement manufacturers (e.g. SAIMMCO in Soroti, Uganda) will replace the steel-wheels on their carts by rubber tyres. The latter are more environmentally friendly and cause less damage to fields and rural roads.

Also, the utilisation of manure from the draught animals can contribute to more sustainable land use patterns.

25. Are there any adverse environmental impacts related to the output(s) and their outcome(s)? (max 100 words)

There are no negative impacts on the environment as a result of this project.

26. Do the outputs increase the capacity of poor people to cope with the effects of climate change, reduce the risks of natural disasters and increase their resilience? (max 200 words)

As a consequence of improved transport, farming systems may become more flexible, and farmers may therefore be in a better position to adapt to climate changes.