

CAMP Research Summary No. 1: Poverty reduction in a semi-arid catchment

Key recommendations:

- Household adoption of productive uses of improved water supply should not be assumed, and caution should be exercised in promoting such an intervention. Evidence from water-stressed, rural households reveals a low preference for the productive use of improved water supply in comparison to the convenience of a home connection.
- Allocating streamflow resources to rural households above 'Schedule 1 Uses' without other development interventions will have limited poverty impacts at the catchment scale. A minority of households with greater asset endowments (land, income, transport) to invest in production can benefit from abstracting streamflow resources for irrigation.
- Development of catchment management strategies should acknowledge the interests of the majority of rural households, who have a significant dependency on dryland resources (crops, wild food, energy, materials, etc.) for livelihood security, by clear and equitable guidelines for sustainable dryland resource access and use. Livelihood dependency on these multiple goods and services is proportionally more significant for more vulnerable households with few assets (wage, transfers, land, livestock, etc.).



Target institutions

RSA Department Water Affairs & Forestry:

- 1) Water Allocation;
- 2) Catchment Management;
- 3) Water licensing.

RSA Department Land Affairs

RSA National Department Agriculture

Problem statement

- *What is the evidence that providing more water to rural households will reduce poverty, and for which households?*

It is generally acknowledged that water is inequitably distributed and a constraint to poverty reduction. There is an often implicit assumption that providing the rural poor with more water will reduce poverty. In water-stressed catchments with competing water users, it is important to understand and have evidence to support the view that providing more water to rural households will reduce poverty.

Research results

- *Will allocating more streamflow to rural households reduce poverty?*

The majority of rural households gain little productive benefit directly from streamflow resources, and increased flows are unlikely to reduce poverty in the absence of other development initiatives. It is possible without other constraints to derive benefit from streamflow through irrigation but there are limitations to how many people at the catchment scale could benefit.

- *Can increased domestic water supply reduce rural poverty?*



Indications are that household adoption of productive uses of improved water supply would require an estimated increase in the Human Needs Reserve from 25lcd to 250lcd, with significant water re-allocation, technical, financial and social implications. Research indicates that household trade-offs between domestic water quantity, quality, source, productive use and river flow, record the highest preference or welfare gain from the upgrading of domestic water supply to a private home supply. Findings indicate that rural households value the upgrading for convenience rather than productive use benefits. This result challenges the 'productive uses of domestic water' hypothesis from the low household preference for adoption of this potential pro-poor intervention.

- *How important are dryland (rainfed) resources for rural households?*

In the absence of livelihood alternatives, the majority of households have a significant dependency for energy, crops, materials, seasonal wild food/fruits etc. on dryland resources. The most marginalized households have the highest level of dependency. Households with more asset endowments can extract greater value from the dryland resource base through investments in dryland agriculture and livestock. There is a hierarchical relationship between non-farm inputs (wages, state transfers) permitting more efficient exploitation of the dryland resource base.

- *What are the developmental implications of these findings?*

Findings indicate that beyond the Human Needs Reserve water is a necessary but not sufficient condition for rural poverty reduction. Dryland resources, which are an important safety-net for the rural poor, are thought to offer more equitable opportunities for poverty reduction than re-allocation of streamflow resources or improved water supplies. However, their sustainable management will require greater investment and improved pro-poor institutions. The privileged solution of small-scale irrigated agriculture is unlikely to reach the majority of rural poor or be adopted if supplied domestically for micro-irrigation. The sequential drivers (assets, institutions, risk) determining the opportunities and constraints for rural livelihoods in semi-arid environments are currently only partially understood and limit firm conclusions about potential rural poverty reduction interventions. However, land and labour remain two assets that the majority of rural poor possess and opportunities based on these should be considered as essential building blocks to any poverty reduction interventions. Finally, without improved pro-poor institutions (particularly markets), and greater understanding of rural household preferences, the potential of natural resource use for poverty reduction in all sectors is limited.



For further information contact:

Centre for Land Use and Water Resources Research (CLUWRR), University of Newcastle-upon-Tyne, Bedson Building, Newcastle, NE1 7RU, UK. Tel: 00-44-(0)191-222-6913.

Website: www.ncl.ac.uk/projects/camp.index; Email: cluwrr@ncl.ac.uk

DFID
Department for
International
Development

This publication is an output from a research project funded by the United Kingdom Department for International Development (DFID) for the benefit of developing countries. The views expressed are not those of DFID. R7937- Catchment Management and Poverty, Forestry Research Programme. Reproduction of this publication for educational or other non-commercial purposes is authorised without prior permission from the copyright holder provided the source is acknowledged.