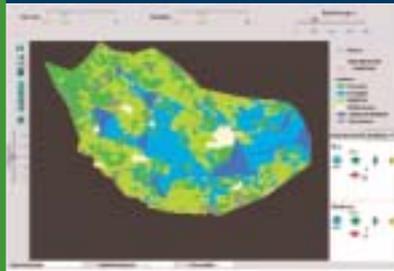


# Forests, flows and water harvesting:

## replacing myths in watershed management



Watershed-development projects have often been based on a set of common misbeliefs. This has all too often led to less water for those who need it most. Instead, evidence-based, pro-poor and integrated land and water management policies are needed. New tools are available to help.



Above: The EXCLAIM<sup>2</sup> viewer allows easy assessment of the effects that changes in rainfall, water harvesting and land use have on groundwater and surface water flows.

### Common water-related myths exposed

Better ways of measuring water, better models and powerful new geographic information systems (GIS) have exposed some fatal flaws in 'conventional wisdom'. It is a myth, for example, that trees always improve water availability by increasing local rainfall and runoff<sup>1</sup>.

Other common myths are that water harvesting is totally benign, and that drops in flows from catchments are always caused by a decrease in rainfall. Capturing and using more water upstream through terracing fields, planting trees and building water-storage structures is often actually the cause.

### New thinking is needed and new tools exist

Pioneering research and policy work around the world, from Costa Rica to South Africa and India, has yielded new insights and practical approaches. New computer modelling tools include HYLUC<sup>2</sup> and EXCLAIM<sup>2</sup>, as well as FIESTA<sup>3</sup>, which covers the entire tropics in detail—to a resolution of 1 kilometer.

Other innovative approaches have been developed and applied by the FAWPIO project<sup>4</sup> to help assess who wins and who loses when different land and water management tactics are used. These range from the quadrant approach (used to identify whether more soil water conservation measures would be helpful or harmful), to negotiation support tools and ways to allocate water equitably.

### What can policy makers do?

Policy makers need to:

- Recognise that many firmly held beliefs about forests providing and protecting water supplies are simply not correct
- Recognise that watershed-development projects involving tree-planting and water-harvesting often do not benefit the environment or alleviate poverty
- Base new catchment projects and land and water policy firmly on scientific evidence that shows that they will bring benefits
- Take advantage of the new models and user-friendly tools available, which aid decision-making on water and land use and which take the big picture into account.

<sup>1</sup>From the mountain to the tap: how land use and water management can work for the rural poor: [http://www.frp.uk.com/assets/Water\\_book.pdf](http://www.frp.uk.com/assets/Water_book.pdf)  
<sup>2</sup>[http://www.cluwrr.ncl.ac.uk/research\\_projects/modelling\\_tools/index.php](http://www.cluwrr.ncl.ac.uk/research_projects/modelling_tools/index.php)  
<sup>3</sup><http://www.geo.vu.nl/~fiesta/>  
<sup>4</sup>Forest and Water Policy - Improving Outcomes: [http://www.cluwrr.ncl.ac.uk/research\\_projects/ongoing\\_research/prj\\_fawpio.php](http://www.cluwrr.ncl.ac.uk/research_projects/ongoing_research/prj_fawpio.php)

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## What is the purpose of this brief?

This Policy Brief was produced to show that complex subjects can be explained very quickly and simply to busy policy makers. It is part of a series that showcases proven technologies, policies and new approaches in order to demonstrate the importance of high-quality scientific communication.

Through its Policy Brief and Pocket Guide series, Research into Use aims to encourage partners in both the developed and developing worlds to invest more in their communication efforts. Only in this way will useful technologies be widely adopted, helping the people that they were intended to help and contributing to the achievement of the Millennium Development Goals.

## What is Research into Use?

The Research into Use Programme aims to do exactly what its name says—to get research findings into use by resource-poor farmers in the developing world. The natural resources research programmes funded by the UK Department for International Development (DFID) produced many significant findings over their 11 year existence. Research into Use is working to put these results into practice—in order to reduce poverty on a very broad scale in sub-Saharan Africa and South Asia.

A key part of this work will involve helping partners to better understand how the promotion and widespread use of such research will help to cut poverty and boost economic growth.

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