CGIAR

A Global Agricultural Research Partnership

From modelling to management

SEPTEMBER 30, 2012 BY *WATER LAND ECOSYSTEMS* *hydrological models*, *Information*, *modelling*, *News*, *policy*

This **post (http://www.iwmi.cgiar.org/News_Room/Archives/From_modelling_to_management/)** was originally published on the **IWMI website (http://iwmi.cgiar.org)**.

***Hydrological models bring clarity and consensus to challenging policy issues* (http://www.tandfonline.com/r/WI-Hydrological-Models)**

by Vladimir Smakhtin and Robyn Johnston

Free access to all articles in this special edition of Water International. Offer is for a limited time only, until 3 October.

Register or sign in at Taylor & Francis for this free access (http://www.tandfonline.com/r/WI-Hydrological-Models)

Making management decisions about landscapes has always been challenging. It is very hard to predict how a complex system will respond when changes are made in the way that a resource is used or conserved. Unforeseen consequences can have calamitous results. With the advent of computer modelling techniques, however, the lives of landscape policymakers got significantly easier. Also, as computing power has improved, its influence on natural resource management has rocketed. By processing and modelling large amounts of digital data, a complicated water system, such as a river basin, becomes far more predictable. Different management regimes can be quickly and easily tested using models, giving policymakers new insights on best practices and more sustainable approaches.

Computer models for water systems

A large number of computer models for water systems have been developed worldwide in both the commercial and public domains. This special issue of ***Water International*** takes a step back from the technical complexities of model development, to examine the roles that models currently play in water resource policy in the developing world. The articles review the effectiveness of models in addressing policy and management concerns, and assess the constraints on their adoption and use.

(HTTP://WLE.STAGING.INTERCONNECTIT.COM/BLOGS/FILES/2012/09/WATER-INT-PIC2-.JPG)

Water management students at the Kyrgyz National University learn measuring and data collection techniques
Photo: Ikuru Kuwajima/IWMI

Subscribe via Email

Enter your email address to subscribe to this site and receive notifications of new posts by email.

Join 18 other subscribers

Email Address

SUBSCRIBE

Twitter

What do we really know about fisheries in the Mekong? CPWF surveys 'state of knowledge'. http://t.co/xCSzFKkN In 5 regional languages!

1 hour ago

@FAOnews Joint initiative on revitalizing Asia's #irrigation featured on @ChicagoCouncil blog http://t.co/5RJko8xN

2 days ago

New post for World Food Day: Full granaries but empty stomachs. How does land grabbing affect #foodsecurity? #WFD2012 http://t.co/4VyXXGsp

2 days ago

40 mil. rural people, more than 2/3 of rural population in Lower Mekong Basin, are engaged in the wild capture fishery http://t.co/xCSzFKkN

2 days ago

Land grabbing: Feeding the world or the corporate bottom line? New post by Fred Pearce for #WFD2012. http://t.co/4VyXXGsp

2 days ago

Hydrologic models are particularly useful in bringing attention to policy issues in developing countries, where data describing water resources are often limited and the understanding of water systems is incomplete. The Blue Nile in Ethiopia is a good example. It is vitally important to the region's food security. Millions of households depend on it. However, pressure for hydropower has led the government to invest in a huge dam in the Benishangul-Gumuz region. This has made downstream governments in Sudan and Egypt nervous. However, a team of researchers, led by the International Water Management Institute (IWMI), linked several models describing climate, hydrology and water management to analyze water allocation issues in the Blue Nile Basin. They found that contrary to widely held regional assumptions, proposed large-scale development of hydropower and irrigation in the Upper Blue Nile Basin will only have modest impacts on downstream flows. The policy implications of this revelation for economic development and international negotiations in the Blue Nile Basin are profound.

Taken together, the studies in this special issue demonstrate the many ways in which hydrological models contribute to policy analysis in developing countries. Many of the modelling efforts focus on the management end of the policy cycle. Yet, there are important applications also in problem definition and agenda setting. Models can also be very effective agents in promoting consensus solutions to challenging questions. To that end, simplicity, transparency and consistency are probably as important as technical accuracy in ensuring the successful uptake of the results.

(HTTP://WATERLANDECOSYSTEMS.FILES.WORDPRESS.COM/2012/09/1.JPG)

The Global Environmental Flow Calendar

About the Author:

James Clarke is Head of Communications for the International Water Management Institute. He has worked for over a decade in communications for development in Africa and Asia.

Institutionalizing Soil Health Surveillance Systems in Africa

FAO launches new training handbook for farmer field schools