Hydrology for the Environment, Life and Policy (HELP) Model to Promote Good Governance in River Basins over the World

Prof. Shahbaz Khan and Tariq Rana

Presented by
Tariq Rana

*   *Charles Sturt University and CSIRO Land & Water*
** *Australasian Coordinating Unit - HELP programme, United Nations Educational, Scientific and Cultural Organization – UNESCO.* *Shahbaz.Khan@csiro.au*

Hydrology for the Environment, Life and Policy

➢ HELP is a joint initiative of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Meteorological Organization (WMO).

➢ Following the recommendations of the 5th UNESCO/WMO International Conference on Hydrology (February 1999), HELP was launched and led by the International Hydrological Programme (IHP).

➢ HELP is creating a new approach to deliver social, economic and environmental benefit to stakeholders through sustainable and appropriate use of water by directing hydrological science towards improved integrated catchment management basins

| Real people | Real catchments | Real answers |

HELP

North America:
- Cupatitzio (Mexico)
- Lake Ontario (USA-Canada)
- Lake Champlain (USA-Canada)
- Lerma-Chapala (Mexico)
- Luquillo Mountains (Puerto Rico)
- Mississipi-Missouri (USA)
- Mystic (USA)
- Panama anal (Panama)
- Red-Arkansas (USA)
- San Pedro (USA-Mexico)
- Upper Laurentian (USA-Canada)
- Willamette (USA)
- Wisconsin (USA)

LAC:
- Pamplonita-Tachira (Colombia)
- Chaguana (Ecuador)
- Rio Jequetepeque (Peru)
- Amazon (Brazil)
- Sao Francisco Verdadeiro (Brazil)
- Rio Tacuarembo (Uruguay)

Europe:
- 9 basins in UK: Frome-Piddle, Pang-Lambourn, Tern, Eden, Feshie, Oona, Thames, Upper Severn, Welland
- Guadiana (Portugal)
- Rhône (France)
- Hérault (France)
- Pays de Savoie-Mont Blanc-Lac Léman (France)
- Saale (Germany)

Europe (continuation):
- Upper Danube (5 countries)
- Liguria-Piemonte-Veneto (Italy)
- Dragonja (Slovenia)
- Nestos-Mestas (Greece, Bulgaria)
- Pilica (Poland)
- Eman (Sweden)
- Motala (Sweden)
- Karjaanjoki (Finland)
- Lake Peipsi/Chudskoe (Estonia-Russia)

HELP Global
Call 2003-04

Africa:
- Iraa (Morocco)
- Bouregreg (Morocco)
- Sénégal (Senegal, Mali, Mauritania)
- Nakambé (Burkina Faso)
- White Volta (Ghana)
- Nile (6 countries)
- Gash (Sudan, Eritrea, Ethiopia)
- Atbara (Sudan, Eritrea, Ethiopia)
- Blue Nile (Sudan, Eritrea, Ethiopia)
- Ewaso Ng'iro (Kenya)
- Greater Ruaha (Tanzania)
- Malewa (Lake Naivasha) (Kenya)
- Olifants (South Africa)
- Ouémé (Rep. Benin)
- Thukela (South Africa)
- Mandaratsy (Madagascar)

Asia:
- Yasu (Japan)
- Davao (Philippines)
- Langat (Malaysia)
- Walawe (Sri Lanka)
- Tamil Nadu (India)
- Gagas (India)
- Indus (Pakistan)
- Tarim (China)
- Irtysh (Kazakhstan, China, Russia)
- Chirchik (Uzbekistan)
- Aral Sea (6 countries)
- Upper Gangan (India)

Middle East:
- Barka (Sultanate of Oman)
- Khalil/Besor (Israel/Palestine)
- Ephrate-Tigris-Osiris (Turkey-Syria-Irak)

Australia and Oceania:
- Burdekin (Australia)
- Fitzroy (Australia)
- Murrumbidgee (Australia)
- Motueka (New Zealand)
- Epule-Fanafo-Talise (Vanuatu)

Classification of HELP River Basins

➢ *World Demonstration* **HELP Basin**: This is seen as demonstrating best practice in HELP and IWRM, with something to offer other basins.

➢ *Operational* **HELP Basin**: This is an established basin which may become a World Demonstration Basin in due course.

➢ *Evolving* **HELP basin**: This is a basin, which is not yet fully operational.

➢ *Proposed* **HELP Basin**: Additional information is needed to re- classify this basin.
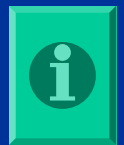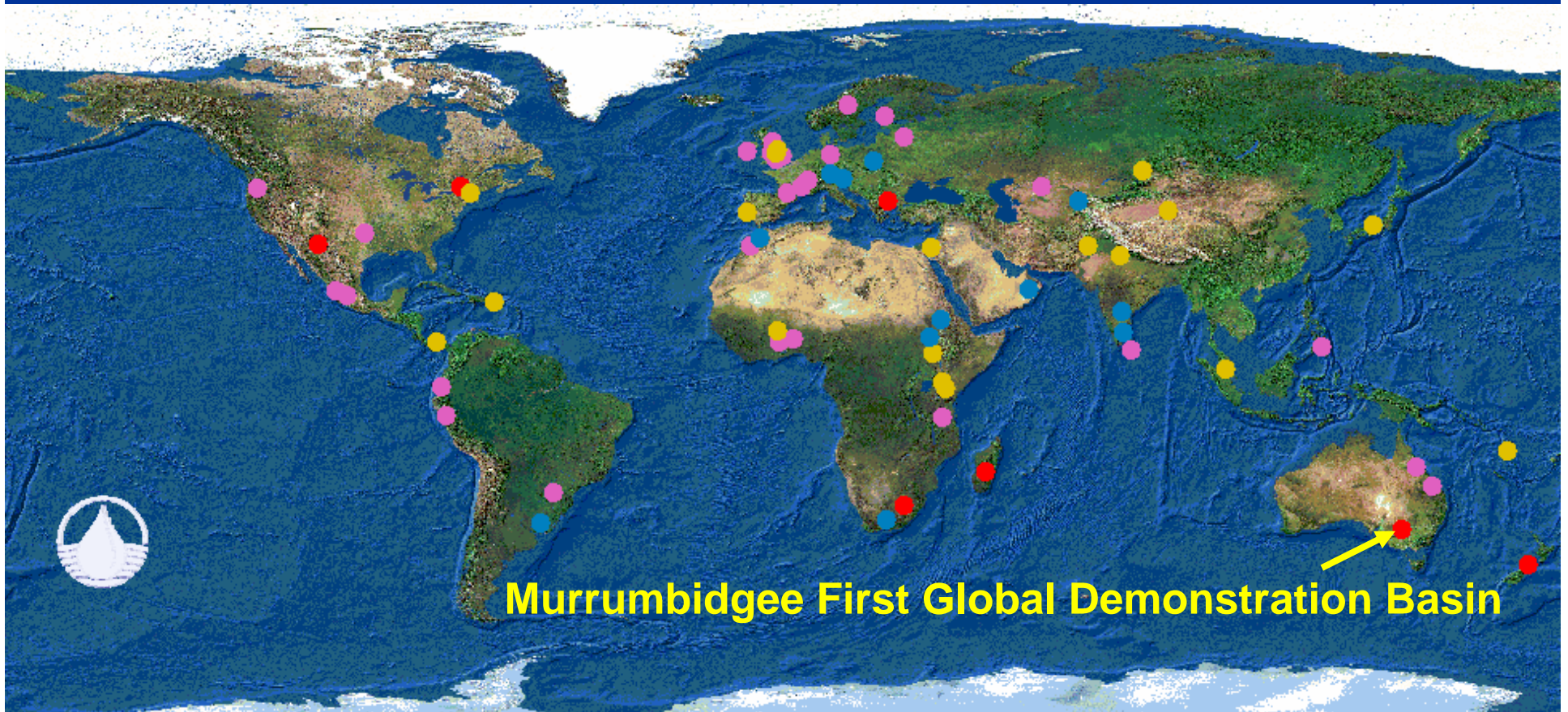
Regional classification of HELP basins

| Region	Total Basins	Demonstration	Operational	Evolving	Proposed
Africa	14	2	4	4	4
Asia	13		4	6	3
Australasia	5	2	2	1	
Latin America and Caribbean	5		3	1	1
Europe	20	1	11	5	3
Middle East	2			1	1
North America	8	2	4	2	
Total	67	7	28	20	12

UNESCO IHP-HELP Global Network

Practical Examples of IWRM in a Catchment Context
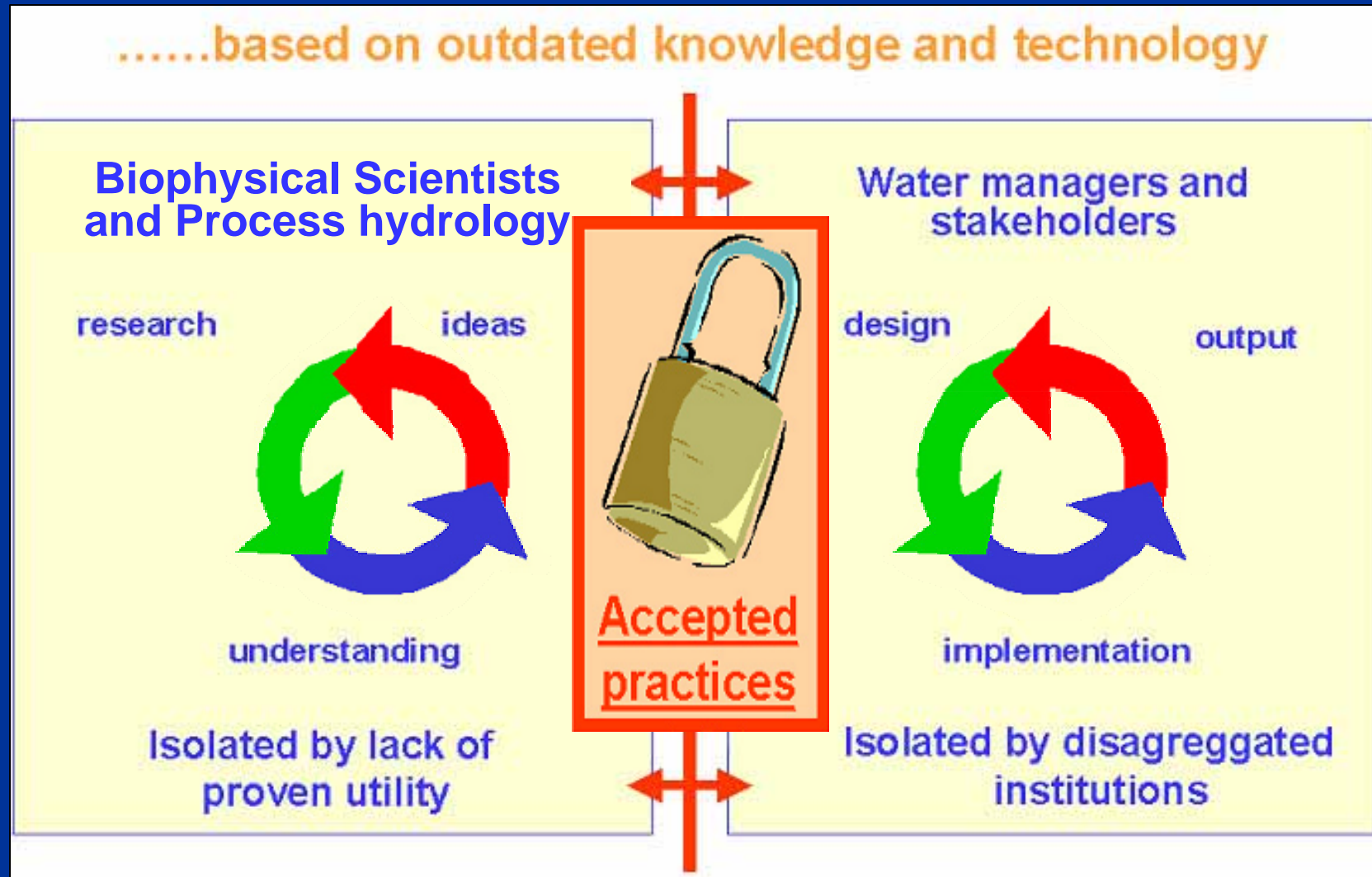
Murrumbidgee First Global Demonstration Basin

Demonstration   Evolving   Operational   Proposed

Lower Murrumbidgee Catchment
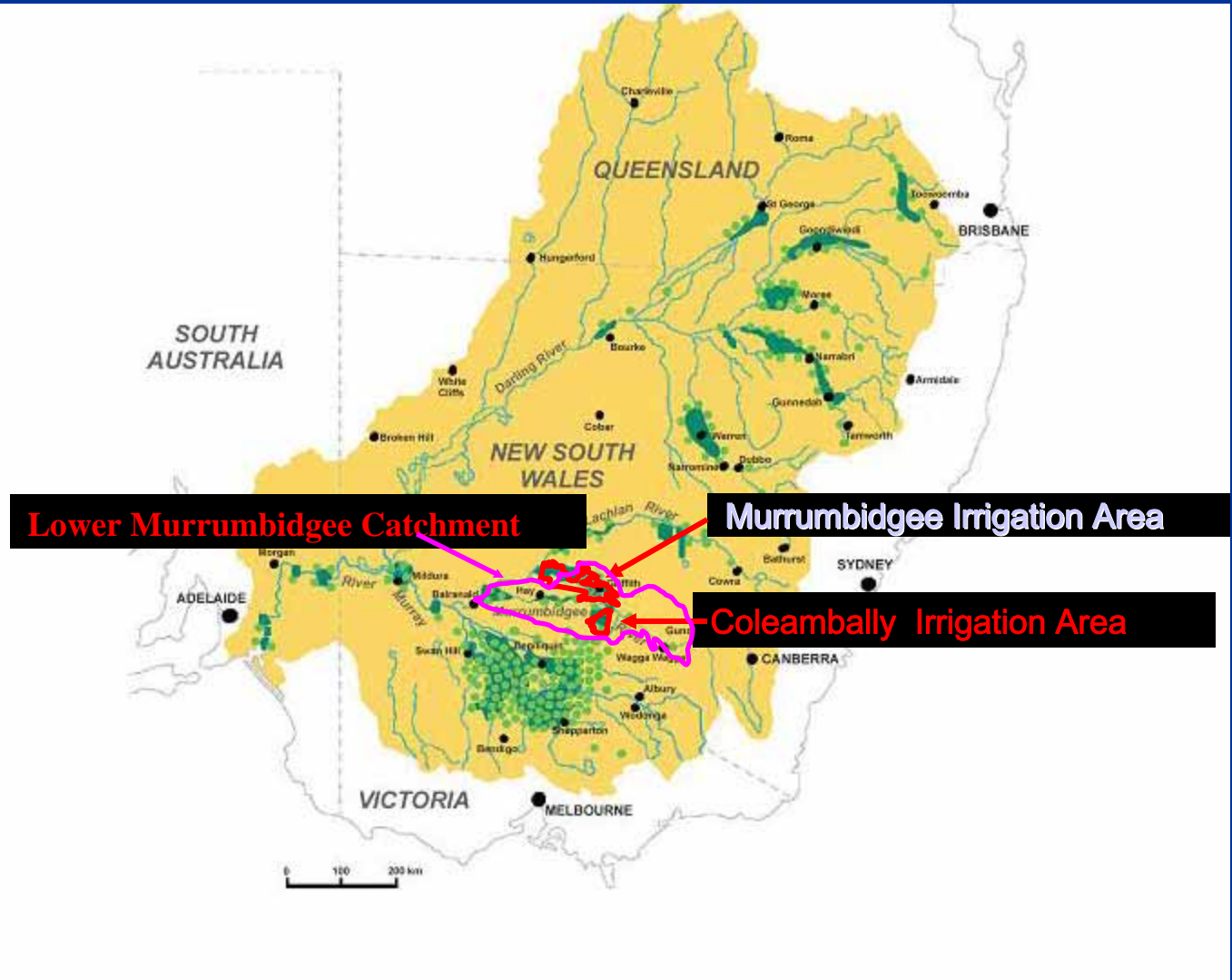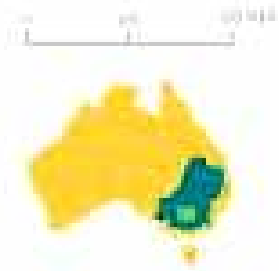
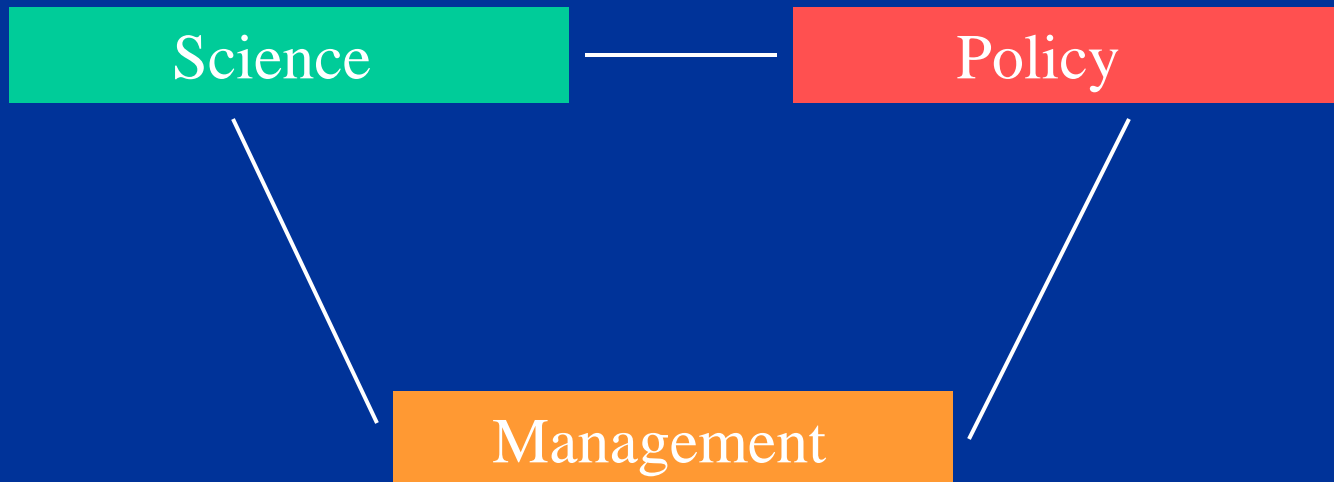# The HELP Approach

HELP aims to consolidate experimental hydrology to improve existing models

Develop strategic and innovative science which build on managers and policy-makers concerns

Science

Policy

Management

Stakeholder Dialogue Leading to Change
The Murrumbidgee Model

Decision Makers
MDBMC, MDBC
DLWC
EPA
Environmental Courts
Local Government
Irrigation Companies
Farmers
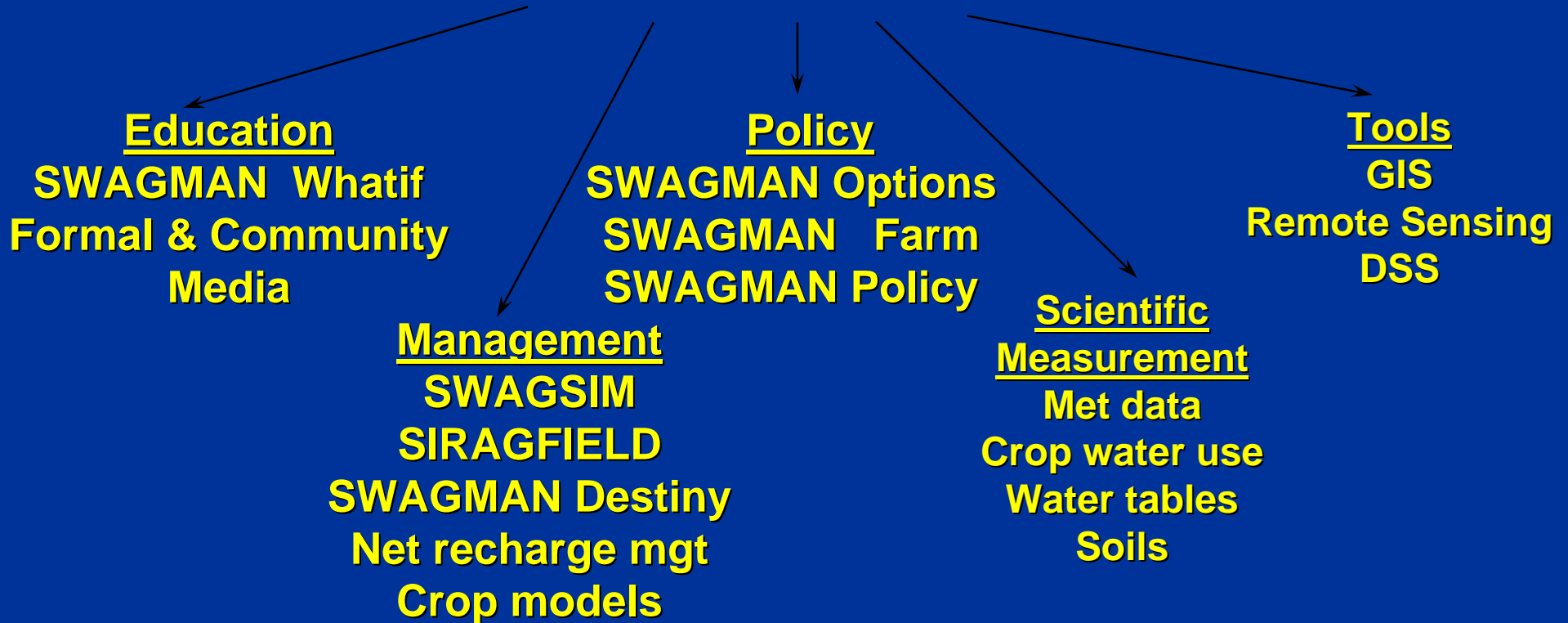
Knowledge Providers
Change Agents
CSIRO
NSW Agriculture
Cooperative Research Centres
Universities
Consultants

Multilevel Engagement

Stakeholders
Environment
Farmer Groups
Commodity Groups
Irrigation Companies
Downstream Communities
NGOs

HELP Water Governance Model

- Identify and engage stakeholders
- Gather critical bio-physical, social and economic data
- Work with the stakeholders and decision makers to define the questions
- Adapt models to address questions – at the right level
- Use model outputs to engage, teach, learn, assess and adapt

Multilevel Stakeholder Engagement – China & Philippine

Policy

Research

Extension

Education

Conclusions

➢ The HELP initiative has proved to be of widespread interest around the world, North and South, with a significant number of proposals received from outside the hydrological research community.

➢ The 2003-04 Gobal Call for proposals, which required the completion of a 15-20 page document, was designed to assess contribution to HELP criteria, two thirds of which were directed at issues of water governance.

➢ The Demonstration and Operational basins are practicing many aspects of good water governance and can share best practice experience with other basins.

➢ Proposed and Evolving basins are benefiting from international peer review and encouragement.

➢ The momentum created by the successful 2003-04 Global Call now needs to be built upon by implementing the next steps.

Questions and Clarifications?

Prof. Shahbaz Khan

Shahbaz.khan@csiro.au

+61-2-6933-2927