



**The Asia-Pacific
Regional Space
Agency Forum
(APRSAF)**

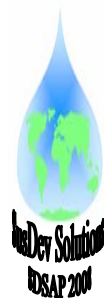
**The 17th Asia-Pacific Regional
Space Agency Forum (APRSAF)**

Plenary Session Panel Discussion

**25 November 2010
Melbourne, Australia**

**UNITED NATIONS
ADVISORY BOARD ON
WATER &
SANITATION
(UNSGAB)**

**Olivia la O' Castillo, D.B.A.
U.N. Sec.Gen Advisory Board
on Water & Sanitation
(UNSGAB)**



Sustainable Development

**Solutions for Asia & the
Pacific**

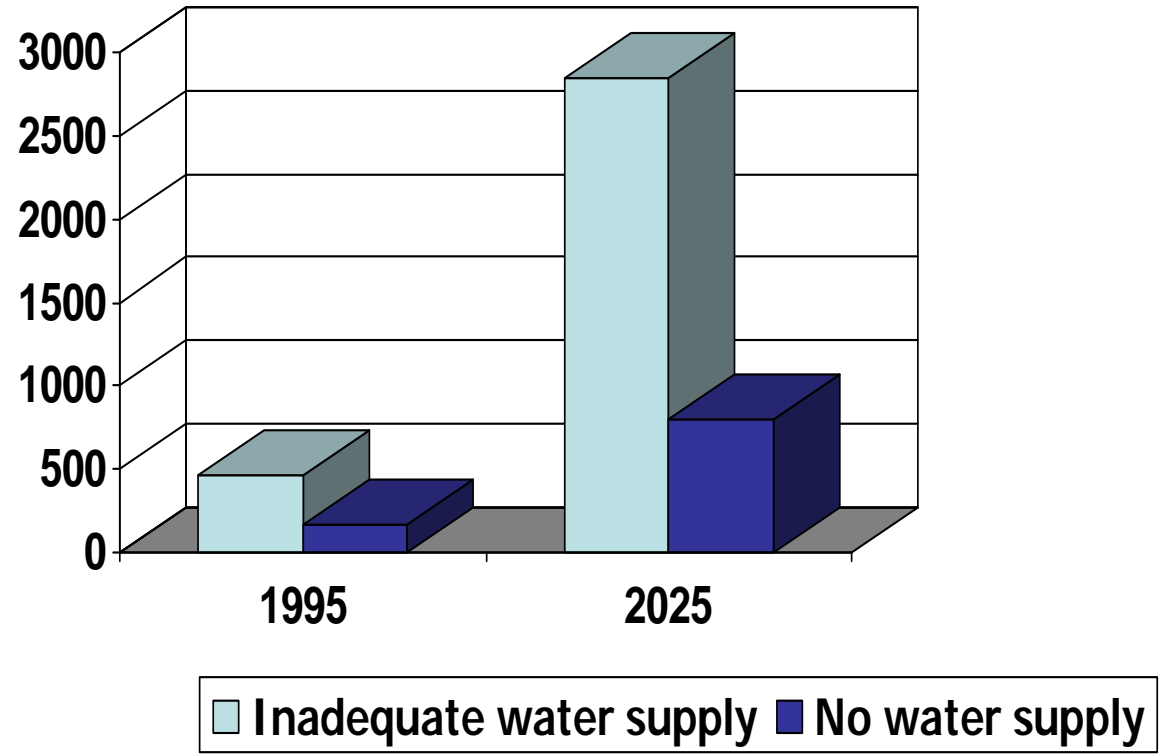
Water-Oriented Climate Change Adaptation

- Water plays a central role in adaptation to Climate Change
- There will be water-related disasters, causing floods, droughts, and other water-related climate change impacts
- Climate Change Risk Adaptation Measures are needed: assessment of the disaster risks and promotion of adaptation through actions such as the construction of rainwater storage facilities in areas or basins
- Disaster risks will be analyzed, assessed, identified to have appropriate adaptation measures

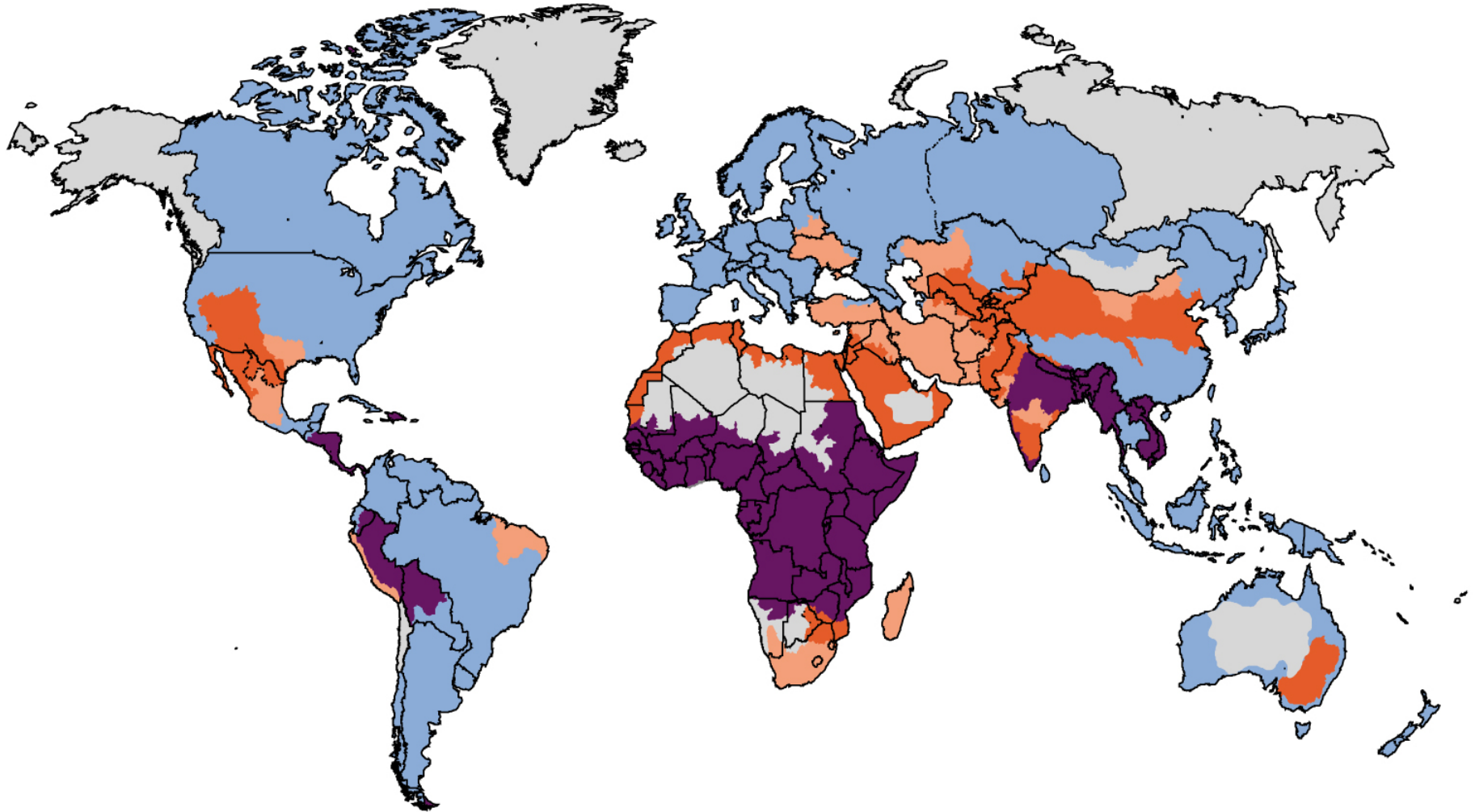
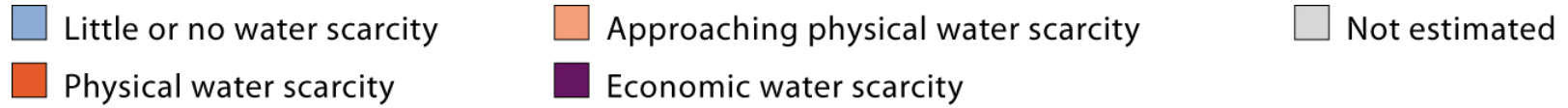
Diminishing Resources Worldwide

- Water availability
- Climatic changes
- Growing pollution

World population suffering from water shortage (millions)

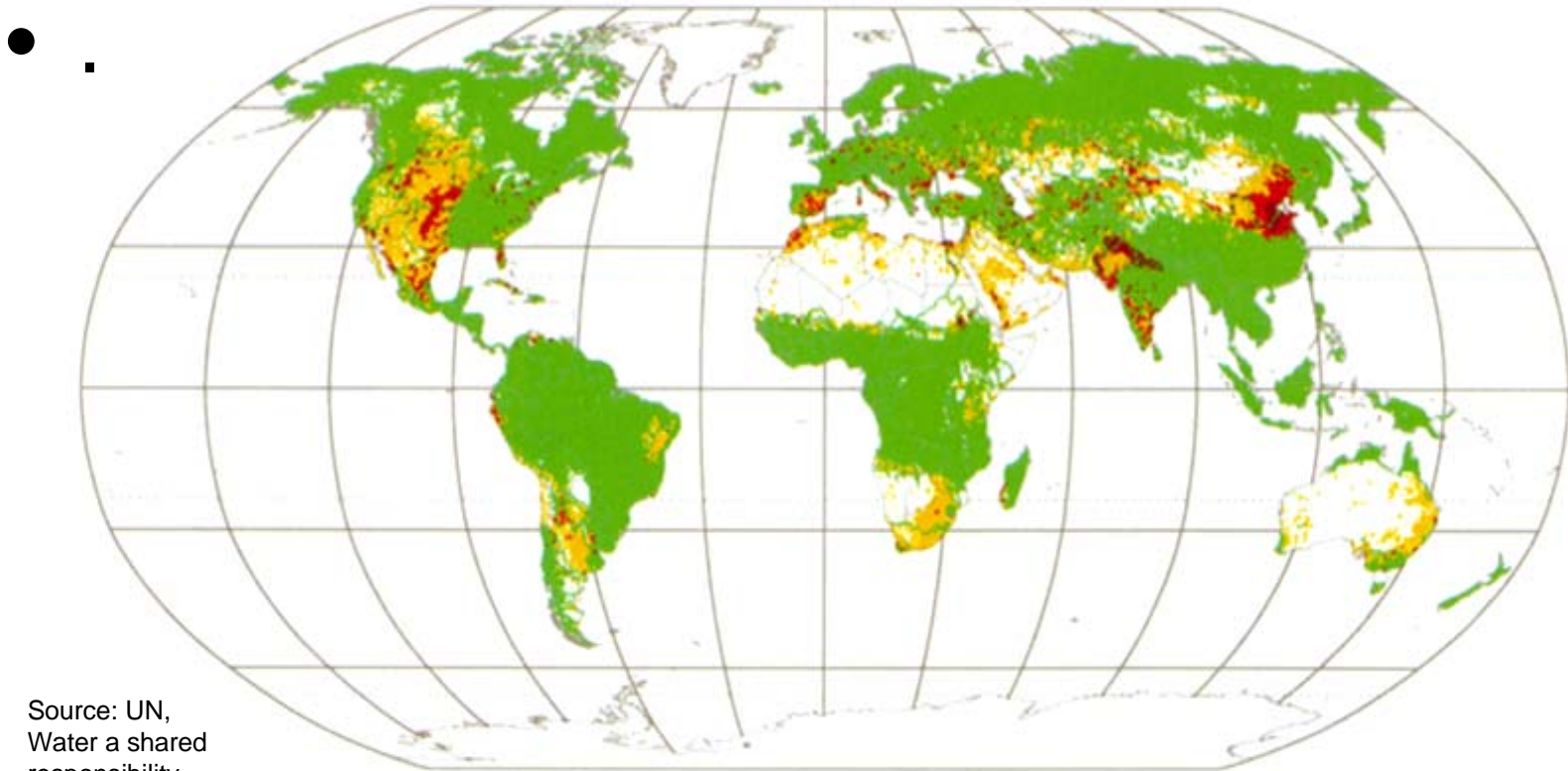


Water Scarcity 2000



1/3 of the world's population live in basins that have to deal with water scarcity

Regions where water withdrawals are exceeding natural supply

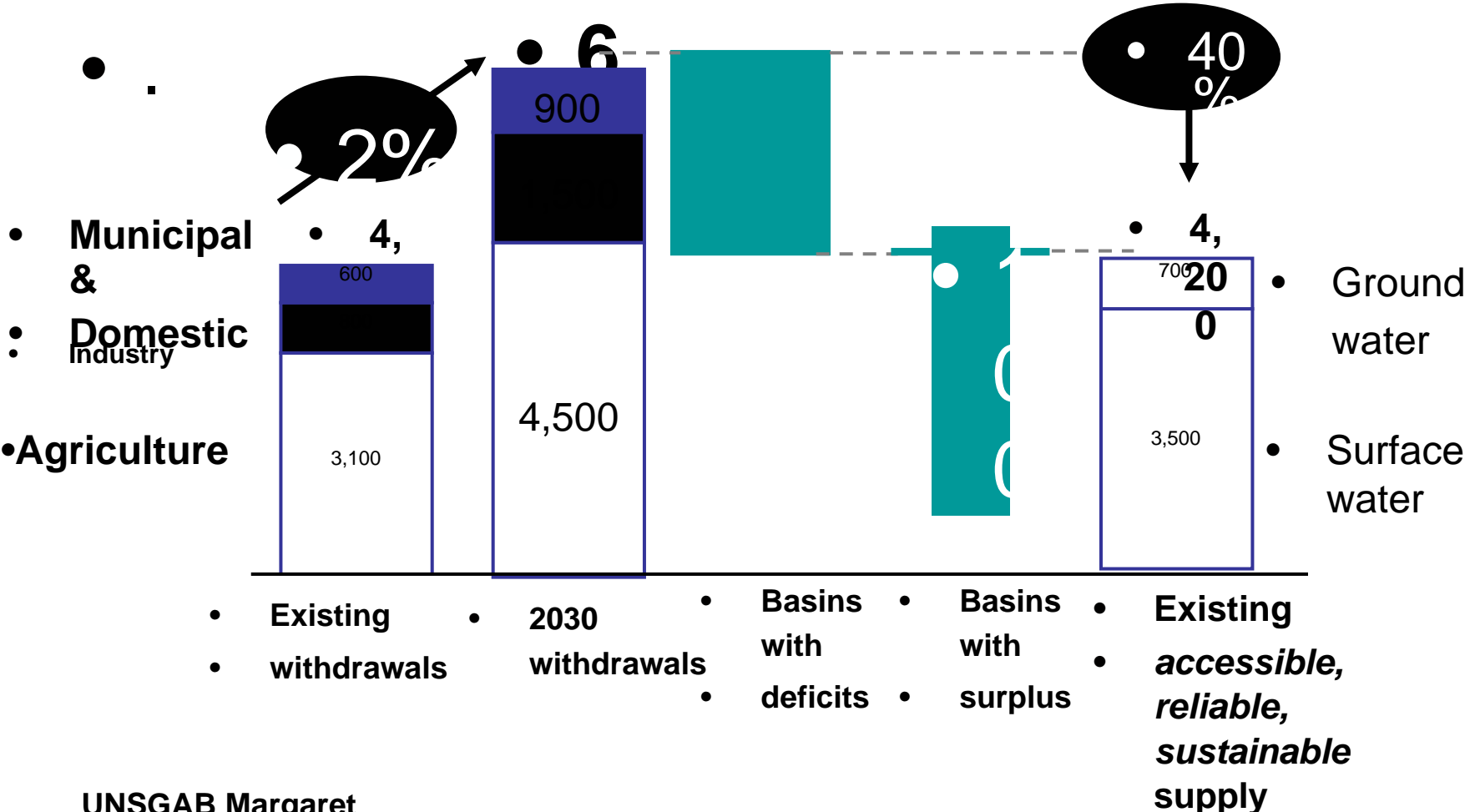


Source: UN,
Water a shared
responsibility,
New York 2006



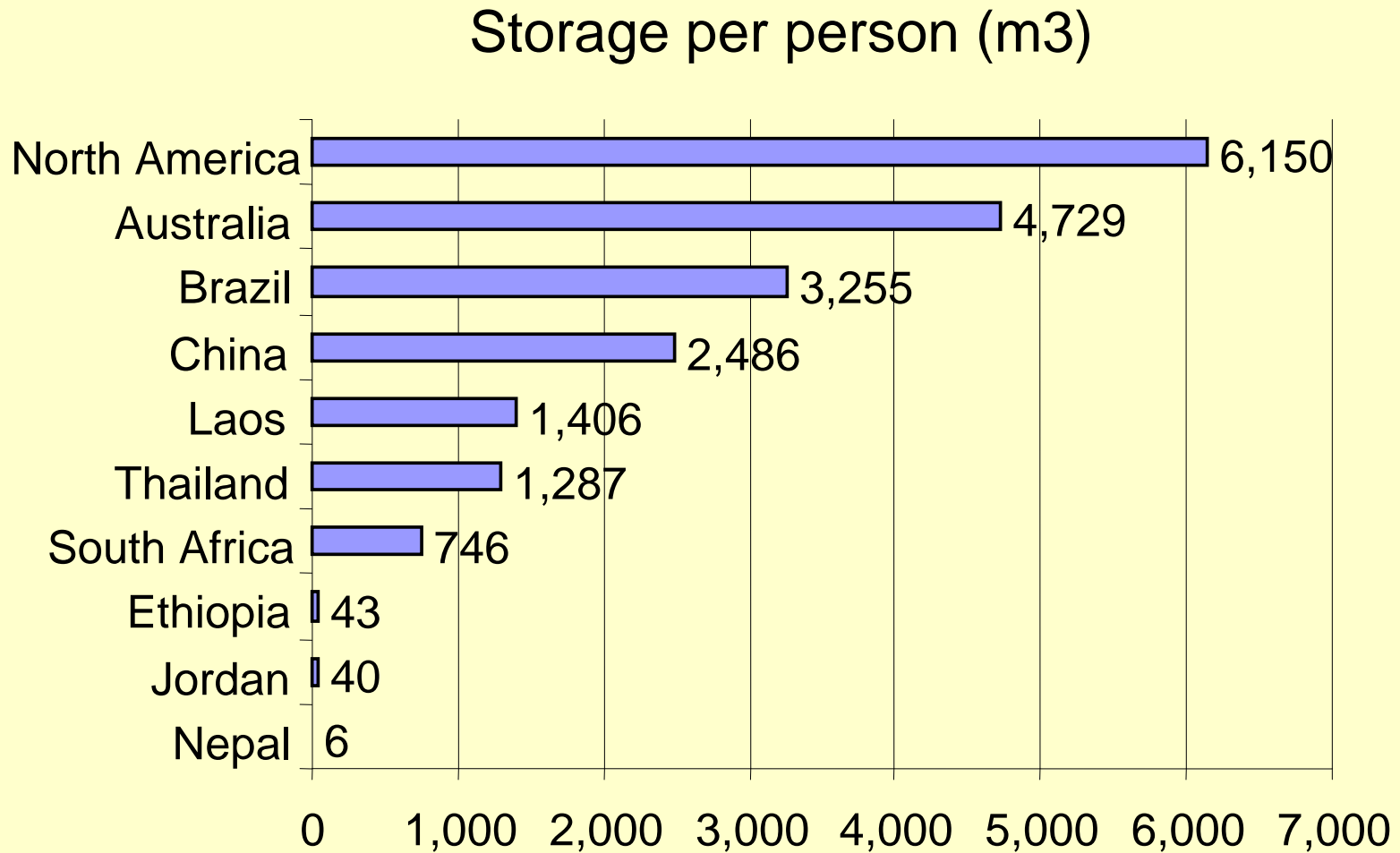
UNSGAB Margaret Catley-
Carlson: Biovision 2010

New Voices: McKinsey 2010: Future demand for water will outstrip our capacity to provide it



UNSGAB Margaret Catley-Carlson: Biovision 2010

New Storage: Huge discrepancies in hydraulic infrastructure between developed and developing countries



The 850 million undernourished.

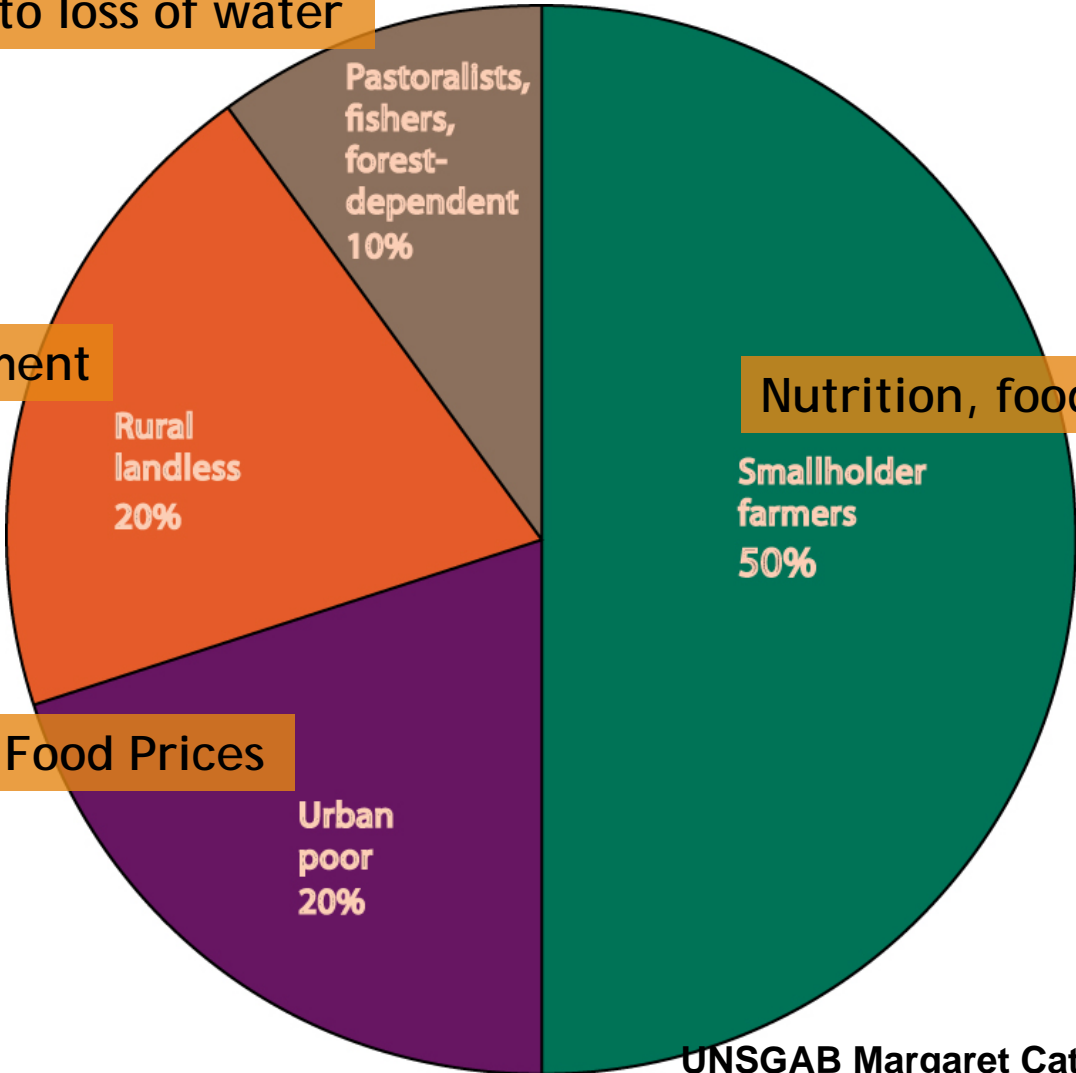
Dependent on Water for Agriculture?

Vulnerable to loss of water

Employment

Lower Food Prices

Nutrition, food security, income



There are few options outside of agriculture for most rural poor at present

UNSGAB Margaret Catley-Carlson: Biovision 2010

Source: FAO data, graphic from SEI

The main problem??

- We don't value water; don't pay enough for it; We don't design it in as a scarce **VALUABLE**
- We need the **VALUABLE MODELING TOOLS** to inform and raise the awareness of the Value of Water, the water-related risks, etc.
- Contribute to Climate Change Adaptation

Great New Ideas

(the world we need to create)

- Highly accurate prediction of extreme events is essential for assessing the impact of Climate Change
- Climate Change Impact assessments in areas such as water resources, human health, agriculture, forest ecosystems, coastal zones and disaster prevention are being undertaken by Japan and supporting the Asia Pacific Region
- Common Modeling to facilitate the utilization and sharing of water-related simulation models ranging from hydrologic and hydraulic models to material circulation models is available
- New Technologies such as APRSAF's knowledge and expertise....may play an important role today!!!

- **"THE ROLE OF SPACE TECHNOLOGY AND INDUSTRY IN ADDRESSING CLIMATE CHANGE"**
- **APRSAF's views, observations, expertise should be included in a country's agenda and working plans/programs**
- **Investing in adaptation/ providing information/ translating information into different languages/making language understandable**
- **Coordinating better**

**So – with all this rising demand –
How do we create this better water world?
And ??? "THE ROLE OF SPACE TECHNOLOGY
AND INDUSTRY IN ADDRESSING CLIMATE
CHANGE"**

- Adaptation Strategies for Drought & Floods**
- Modeling Tools for Adaptation to Climate Change**
- International Initiatives on Climate Change**
- Wise Water Management with APRSAF's support will lead to Climate Change Mitigation**

Mechanisms we need

New ideas/ suggestions coming from APRSAF's Groups on:

- ✓ **Understanding Hydro-meteorological Hazards**
- ✓ **Typhoon Tracking Exercises**
- ✓ **Flood Forecasting Systems**
- ✓ **Early Warning Signals on Dam/Basic Operations**
- ✓ **Basic information on Global Warming, Climate Change, and Climate Variability**
(source Philippine Star, November 4, 2010, page 10)



Raises difficult questions...research areas

1. Safe and productive use of GPS/GIS, etc Technologies

*→ Field level action research to enhance food safety
and sound water management*

2. Integration of water resources for agriculture and the environment

→ Modelling up- and downstream impacts of cities

3. Institutional capacity building for sustainable water resources management

→ Multi-stakeholder processes and policy support

4. Improve Monitoring and Responsiveness Capacity

developing institutional processes to detect trends, encompass areas of limited knowledge, determine appropriate institutional responses.

5. Improving Monitoring means identifying hydrological, ecological, and/or social variables that can serve as EARLY-WARNING INDICATORS of shifts in important traits in system of interest.

Short-term impacts such as droughts or more complex such as a shift in the mean number of heat-stress days for an endangered coldwater fish species. Such changes will require interventions or changes in planning or design policies (source:WWF Water Security Series3 March 2009, John H. Matthews, Tom Le Quesne)



Thank you very much!

UNSGAB

Please visit our website:

www.unsgab.org

www.sdsap.org



**Sustainable Development
Solutions** for Asia & the
Pacific