THE GLOBAL PARTNERSHIP ON
Wealth Accounting and the Valuation of Ecosystem Services

Strengthening Capacity for Water Resources Management in the post 2015 Development Framework
Water accounting and policy applications

UN November 26, 2016
John M. Matuszak -Head of Global Engagement
WAVES World Bank

Franklin Delano Roosevelt

October 3, 1937

It said that because we have made money in wasting and eroding large human resources and piled up nominal wealth in securities and bank balances, we have lost sight of the fact that the natural resources of our land – our permanent capital - are being converted into those nominal evidences of wealth at a faster rate than our real wealth is being replaced.

That is well worth thinking about. That is the unbalanced budget that is most serious and it is to balance that budget that the great program of conservation and useful public works is being carried out. The success of that form of budget balancing is just as important to the future of America as that of the Treasury, important as that may be.

As a matter of fact, the Treasury is all right and we are balancing that budget – you needn't worry – but, in addition to it, we are going to use every effort to balance the budget of our human and natural resources"

What Do Policy-Makers Need from Water Accounts?

Economic information to make decisions:

- **Allocation of water, water infrastructure among competing users:**
  - economic users and water productivity
  - ecological requirements
  - international requirements for shared water resources
- **Water pricing and economic instruments:**
  - Variation of water delivery costs/scarcity by region
  - Impact of water tariffs on different industries and different social groups, especially the poor
- **Managing water pollution:** sources, costs & benefits of reducing pollution
- **Coordinating policy in related sectors: agriculture, rural development, tourism, etc.**
- **Planning for future water requirements, water demand mgmt.**

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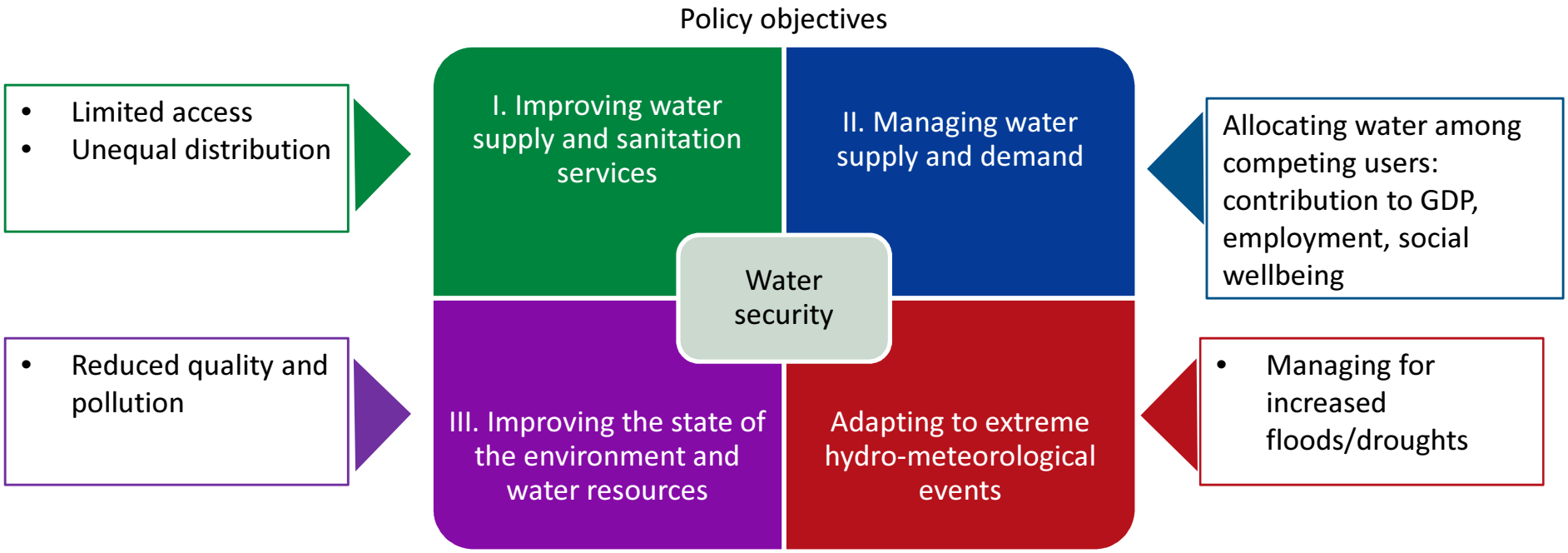
Water issues and policy objectives: A broad grouping



Water accounting

Country examples

- Netherlands
- Australia
- Botswana, South Africa
- Colombia
- Mexico
- Guatemala

NETHERLANDS
Water issues

Safety, protection against flooding

Water management: excess of water

Water management: water resources and water use

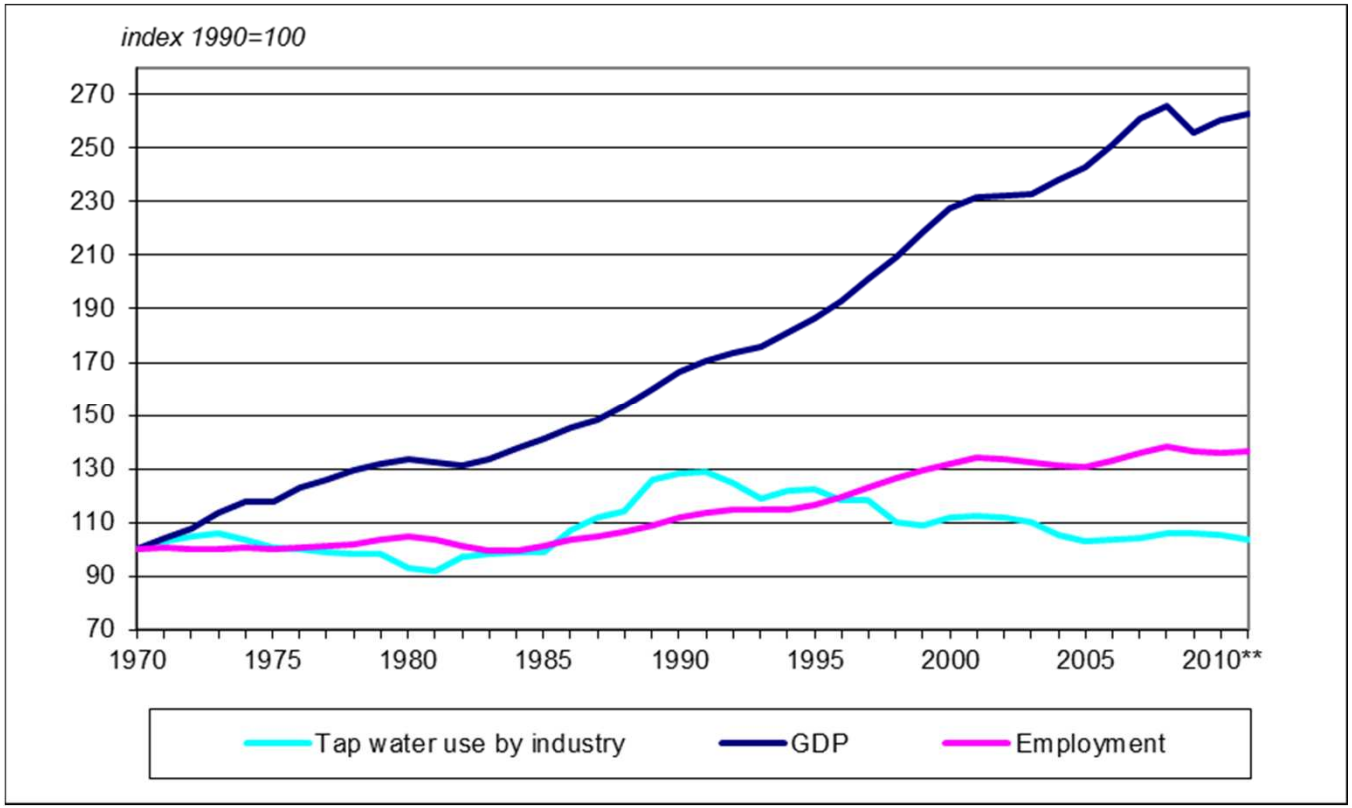
Water pollution

Water quality

NETHERLANDS

Is there decoupling between water use and economic growth ?

Volume change GDP, employment and tap water used for production

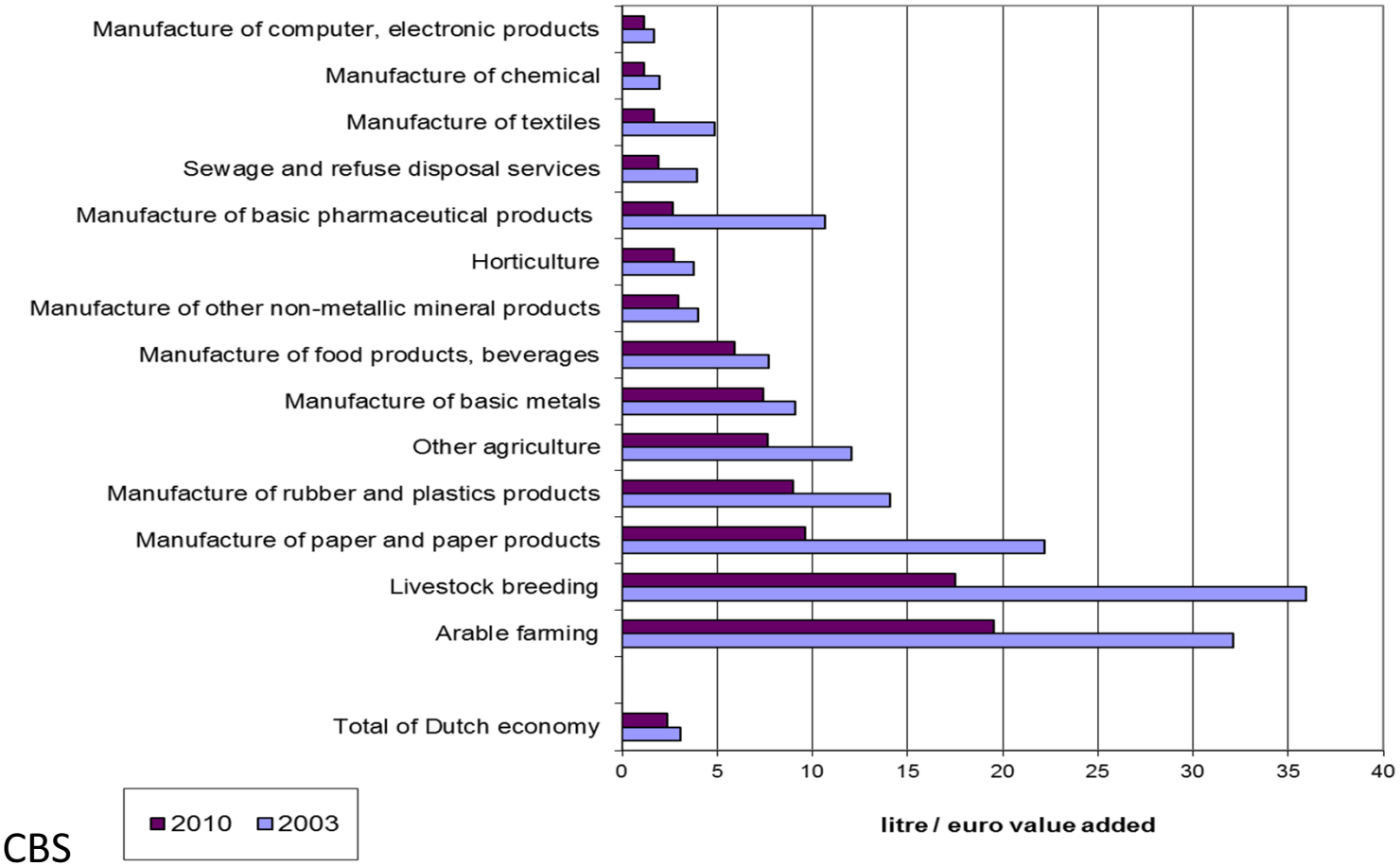


Source: CBS

NETHERLANDS

Water Profiles: What are the most important users of water? Is their water productivity improving between 2003 and 2010?

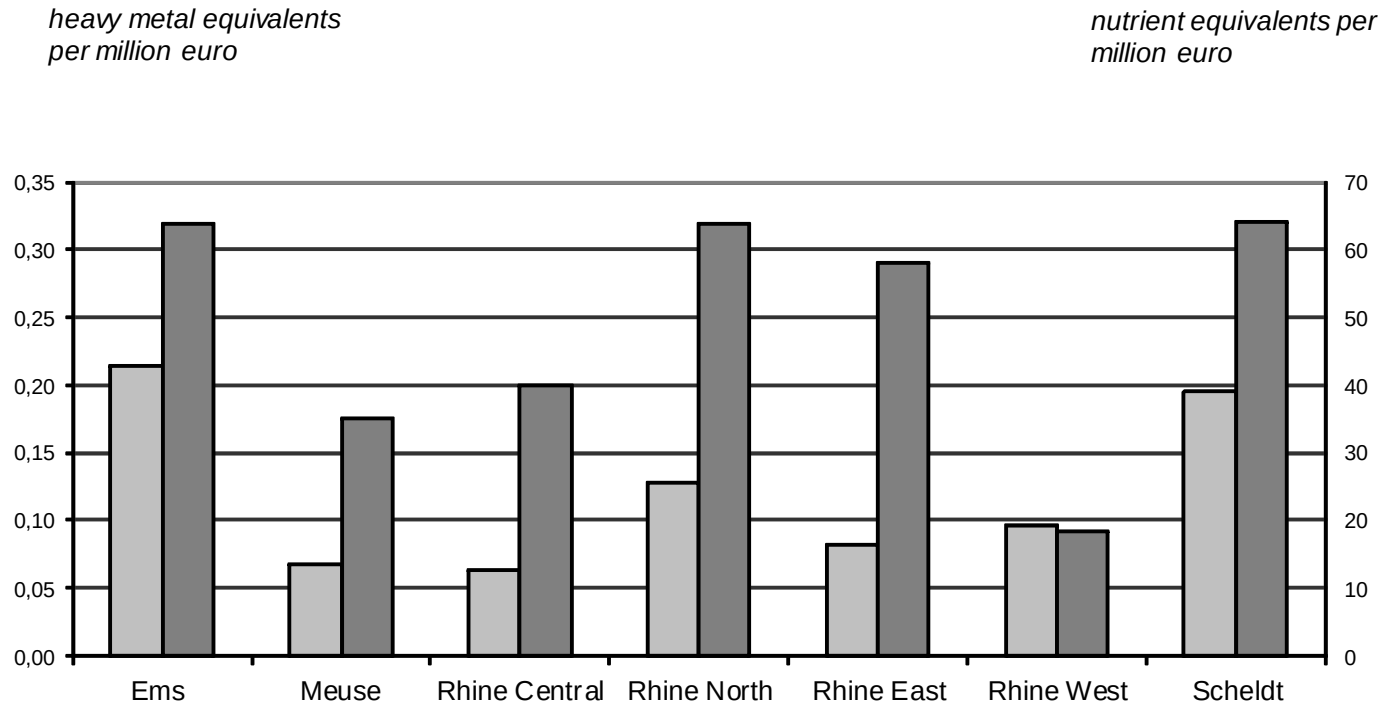
(liter/ euro of sector value-added)



Source: CBS

NETHERLANDS
Are there regional differences in emission intensity ?

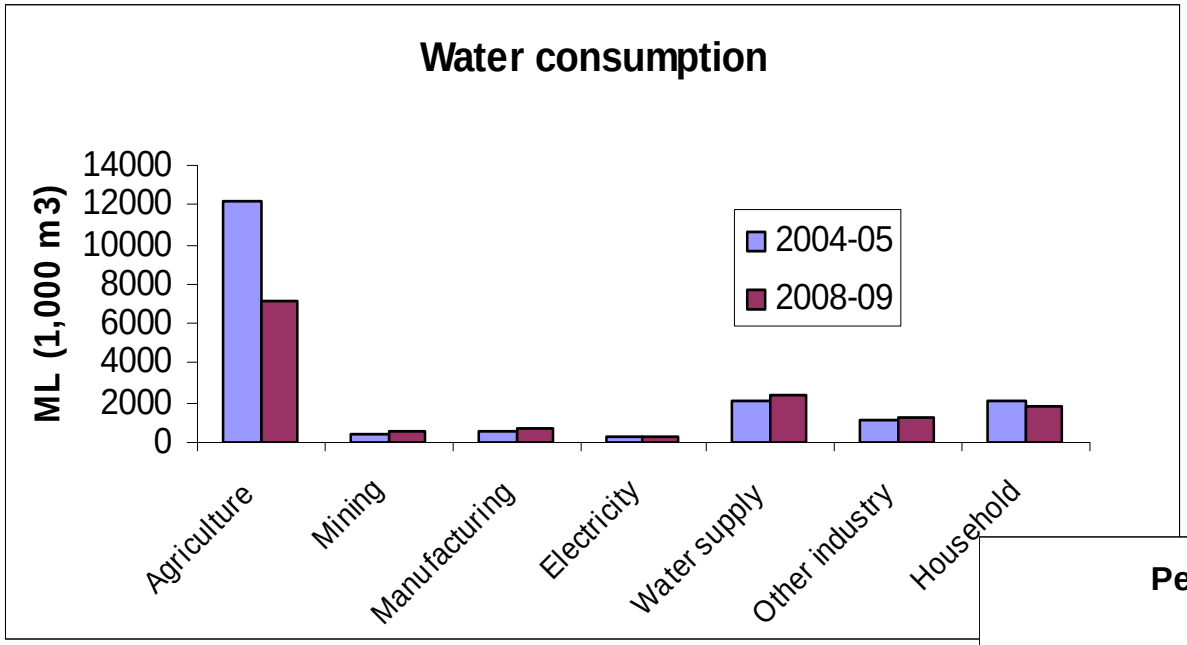
Emission-intensity per river basin (only producers)

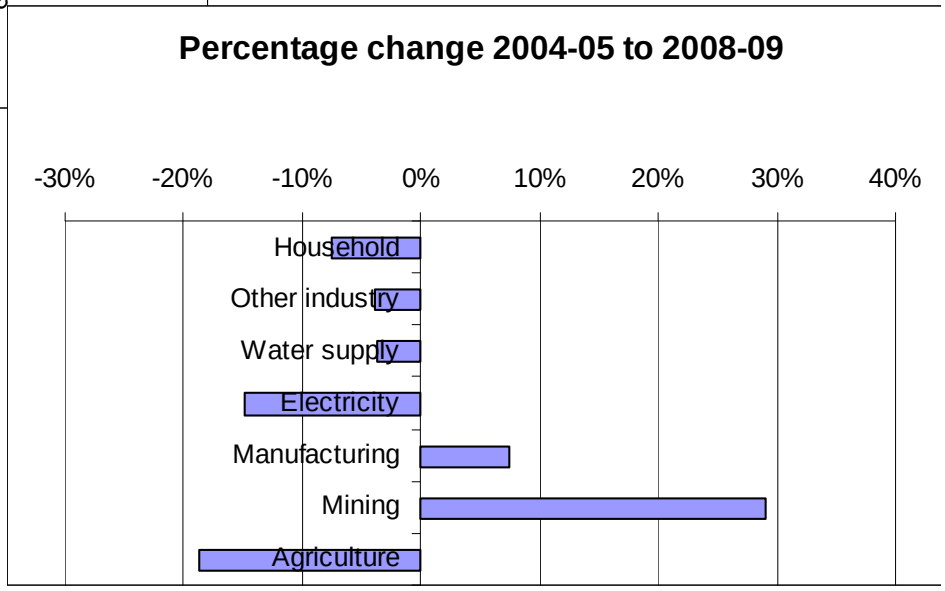


Source: CBS

Australia:

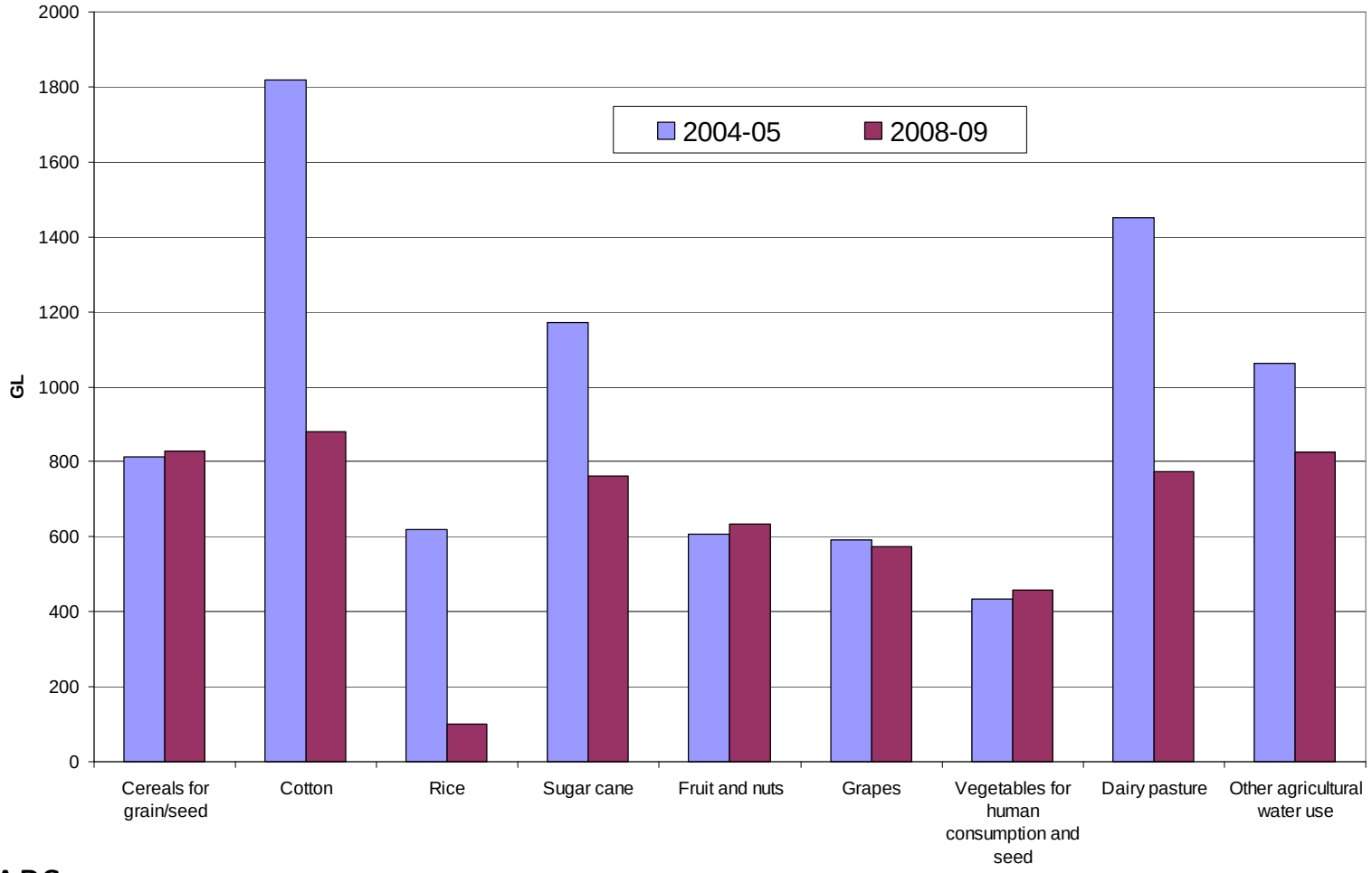
Increasing water efficiency by sector, 2004 & 2008





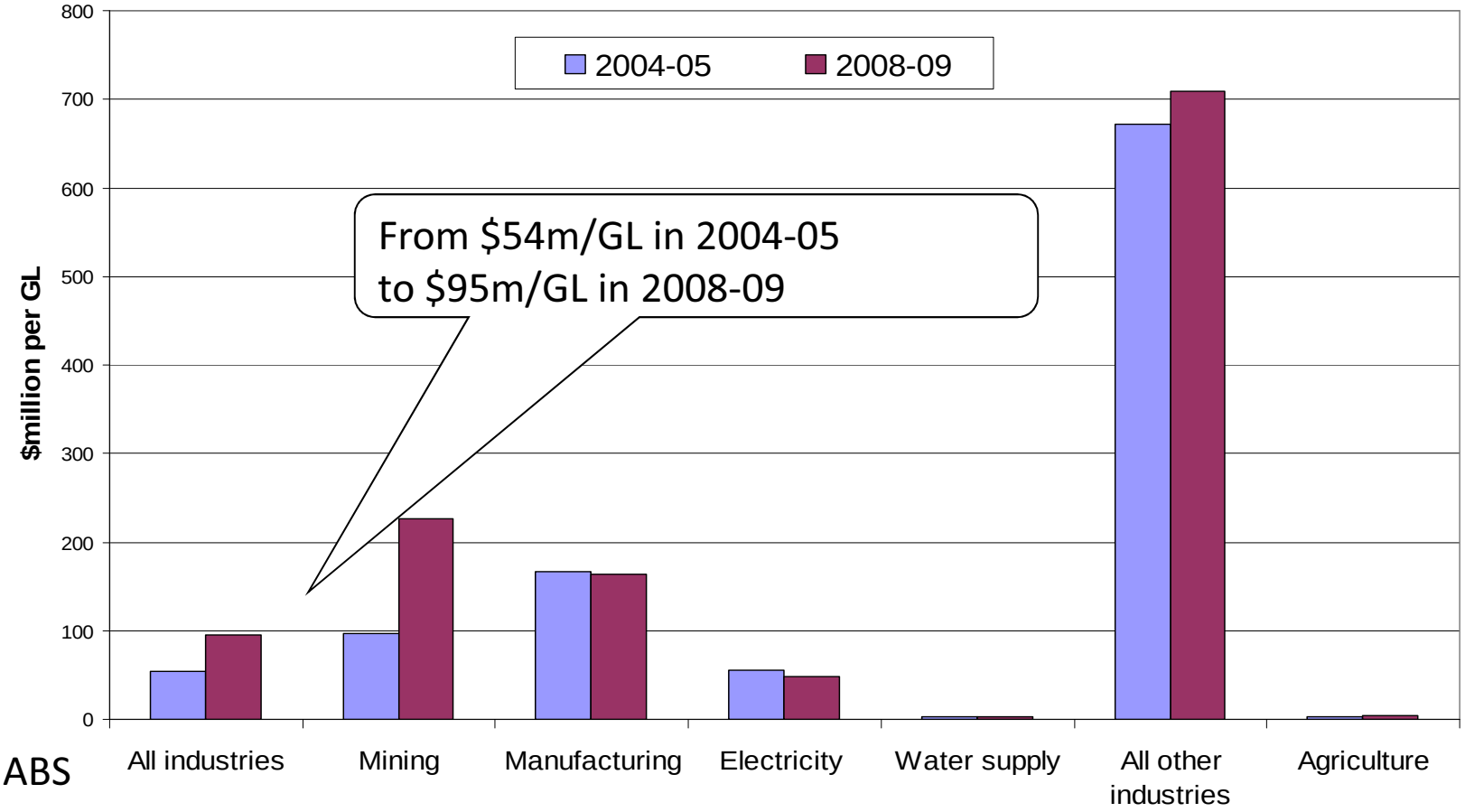
Source: ABS

A closer look at water use for Agriculture in Australia, 2004 and 2008 (in Gigaliters)



Source: ABS

AUSTRALIA:
Are scarce water resources allocated efficiently?
Water Productivity by sector, 2004 & 2008 ($GDP per GL)



Source: ABS

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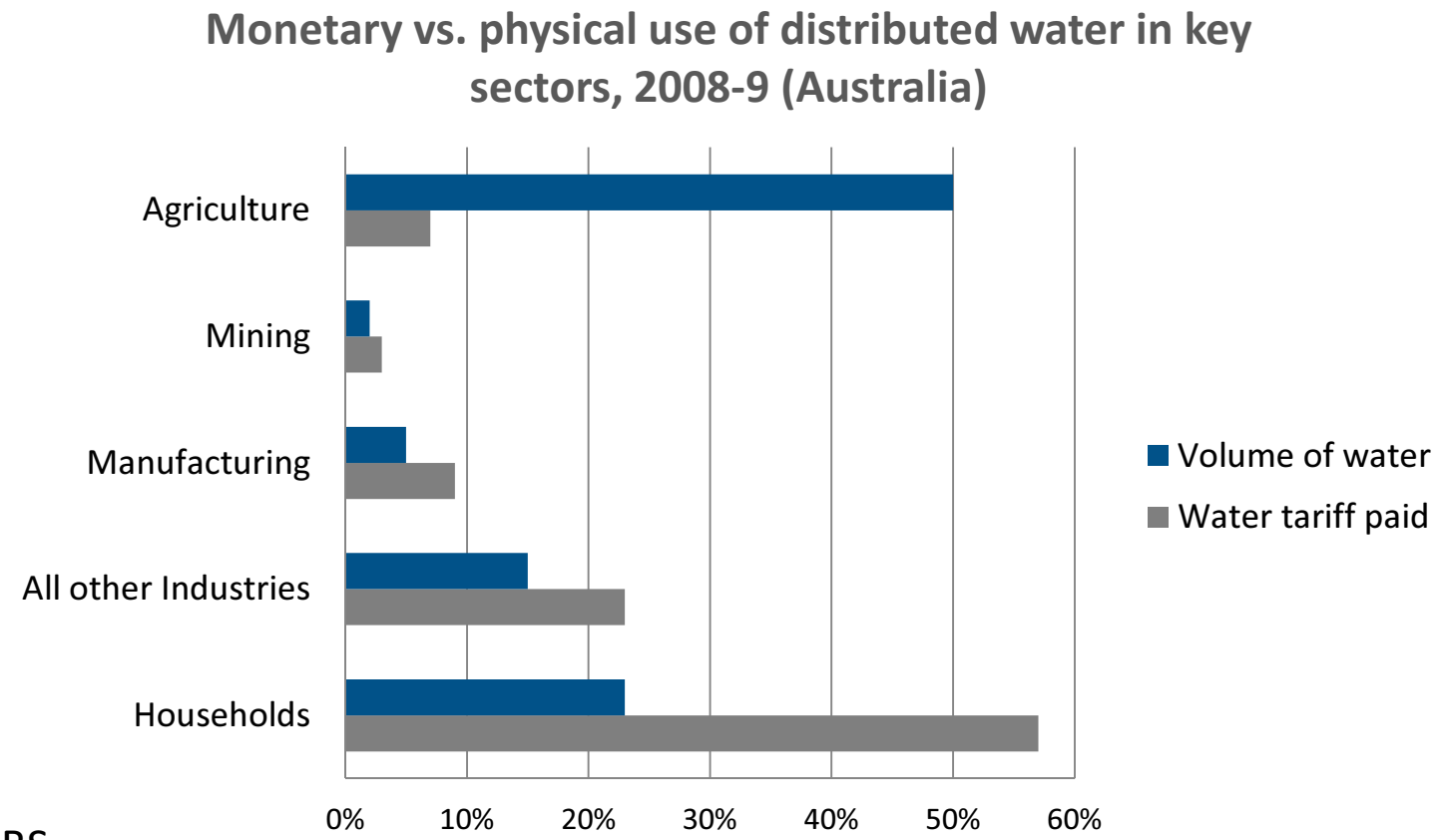
AUSTRALIA:
Who uses water and who pays for water?



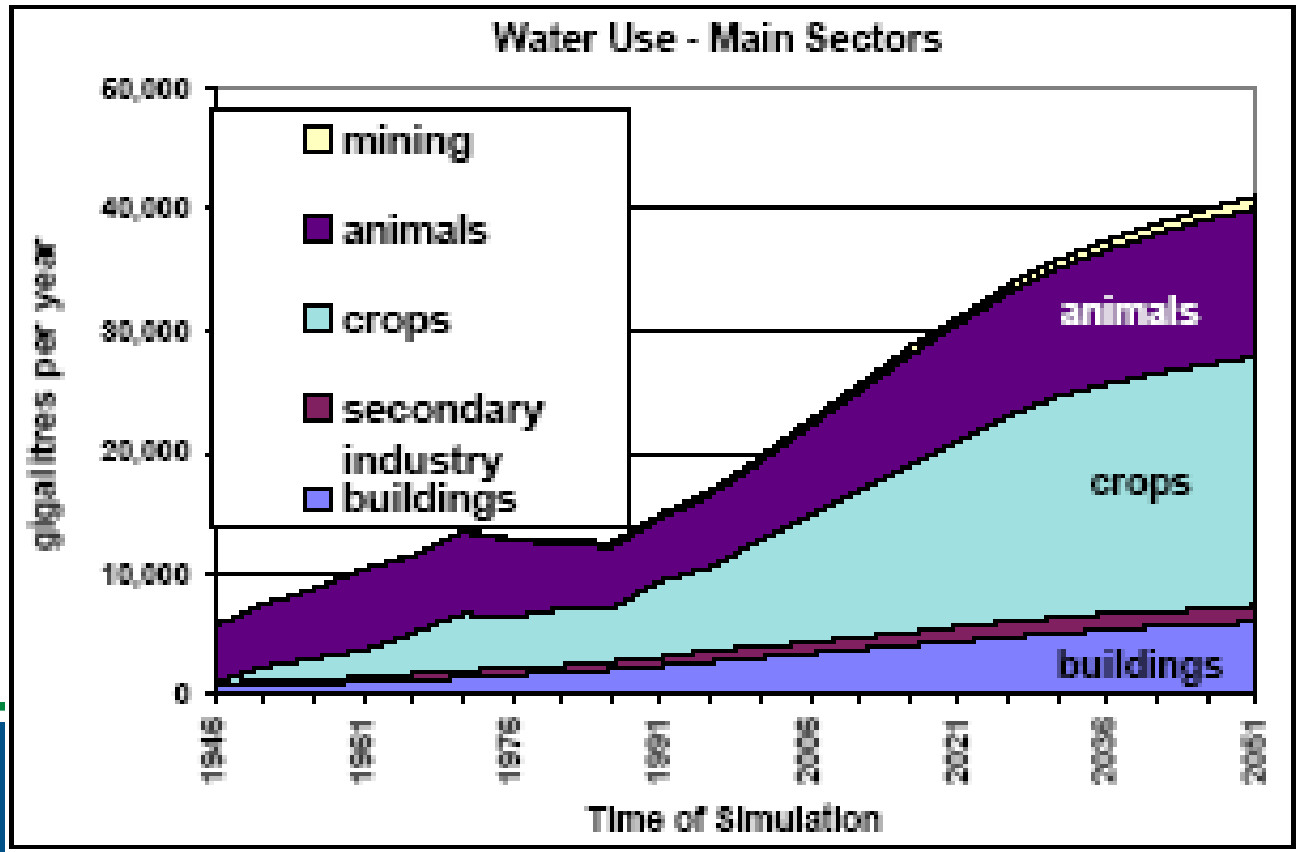
Source: ABS

Projecting future water demands Australia, 2050

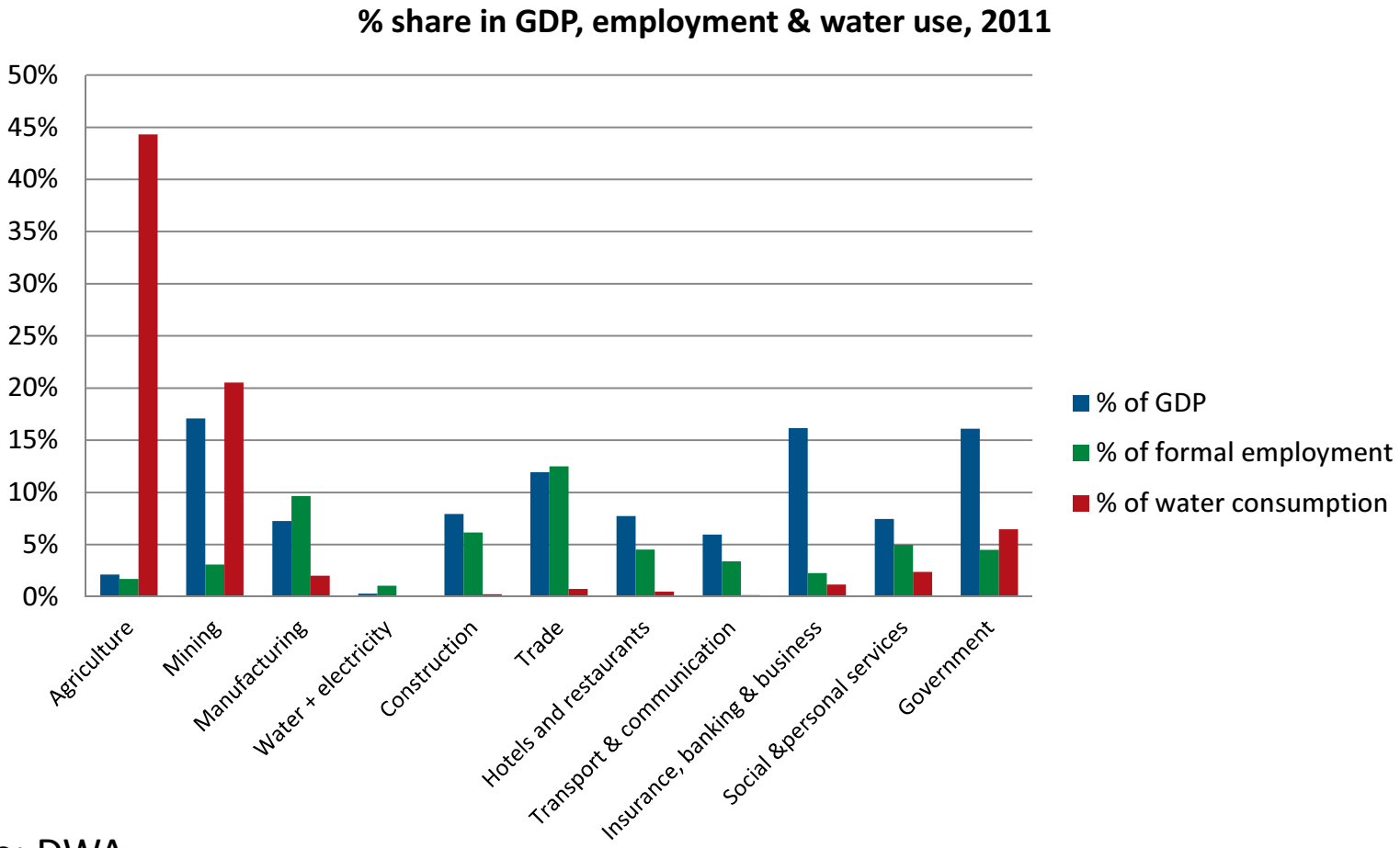
How is this done?

Economic models that include water use accounts

- **Simplest models are Input-Output models**
- **More complex models include simulation, programming & CGE models**



BOSTWANA
Are scarce water resources allocated efficiently?



Source: DWA

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International Trade & Water Use

Are water-scarce countries exporting water?

How does **export promotion** drive water demand in **Namibia, Botswana and South Africa**?

How much can '**virtual water**' in imports reduce pressure on water demand?

Exports in these countries are dependent on ***primary & processed primary commodities*** especially agriculture, mining--water intensive products

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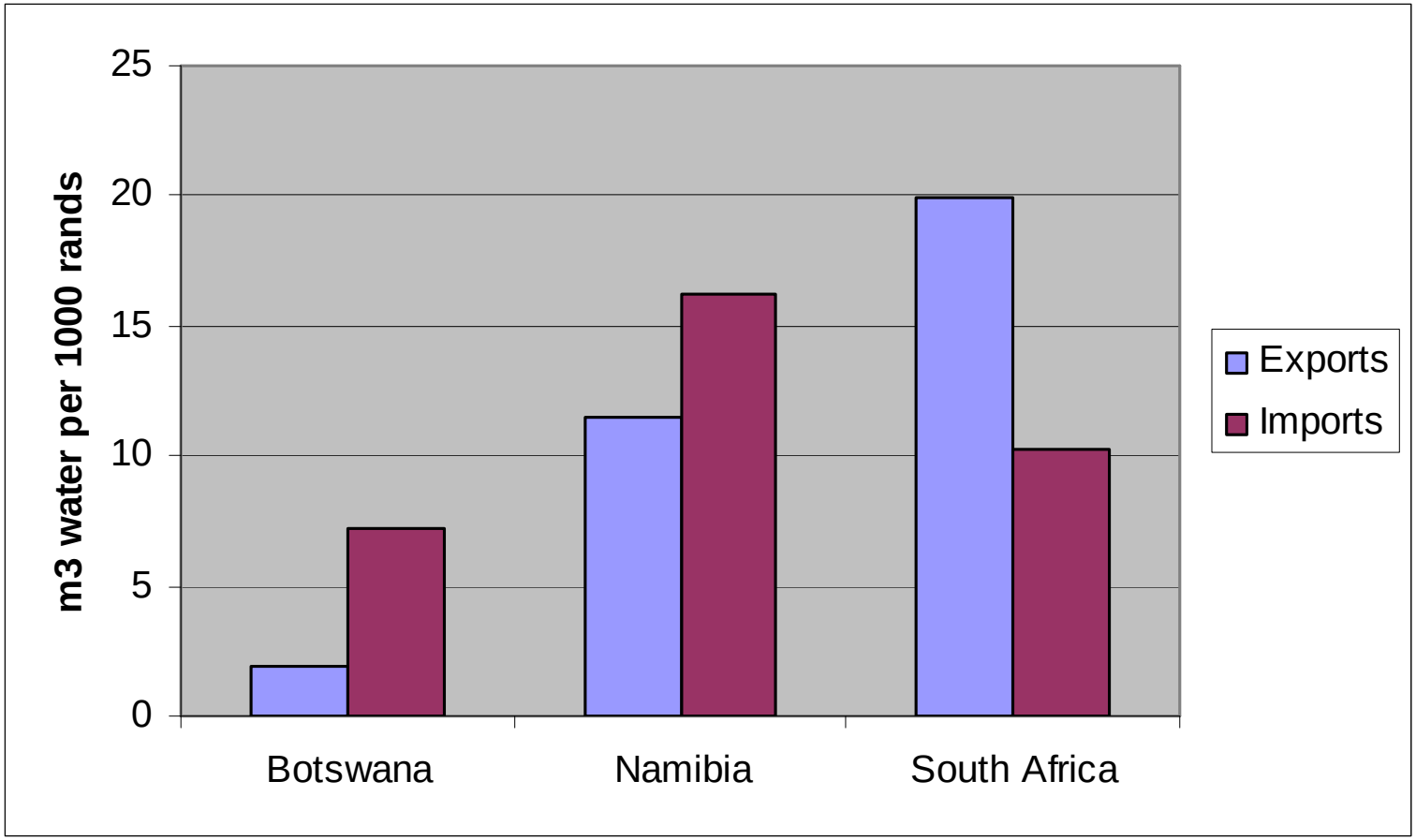
Water intensity of trade

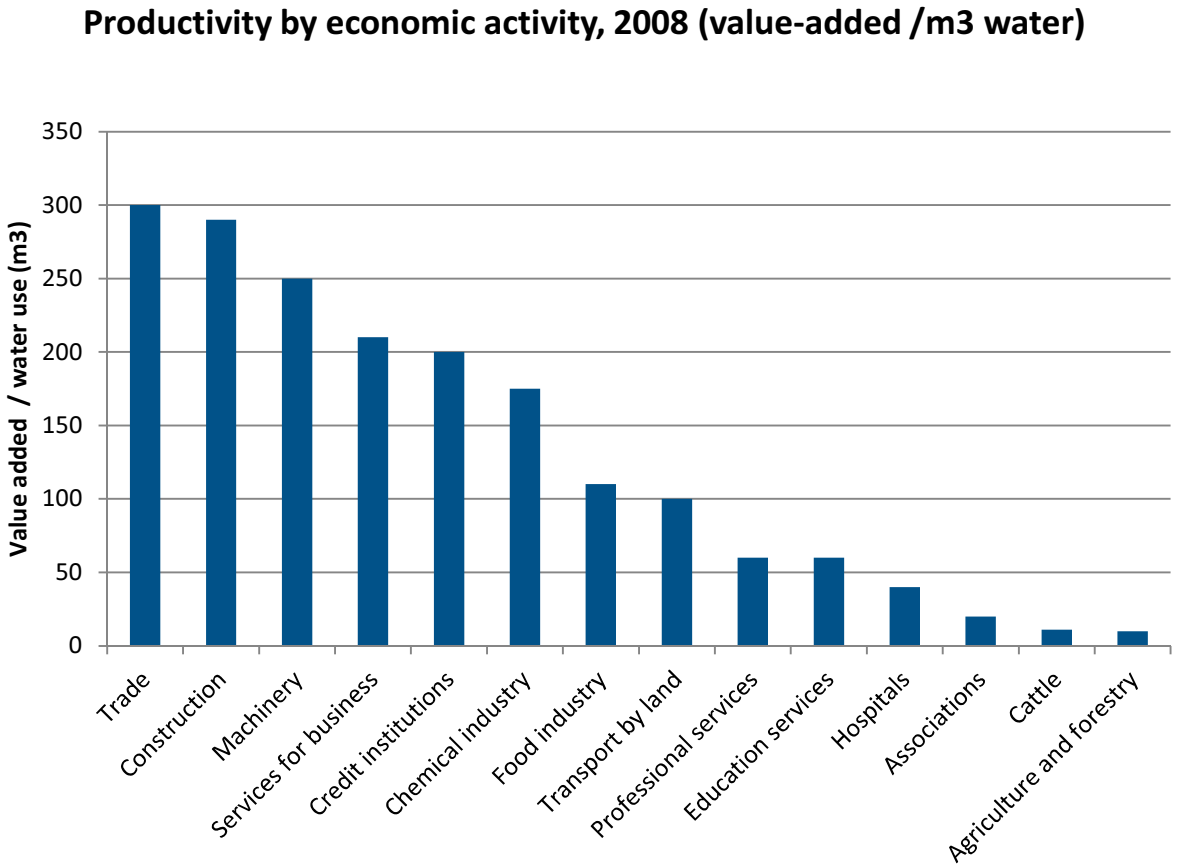
(m3 per 1000 rands of imports or exports)



South Africa is net exporter not only because volume of exports > imports, but also because water intensity of exports > imports.

MEXICO

Are scarce water resources allocated efficiently in the Valle de Mexico Watershed?



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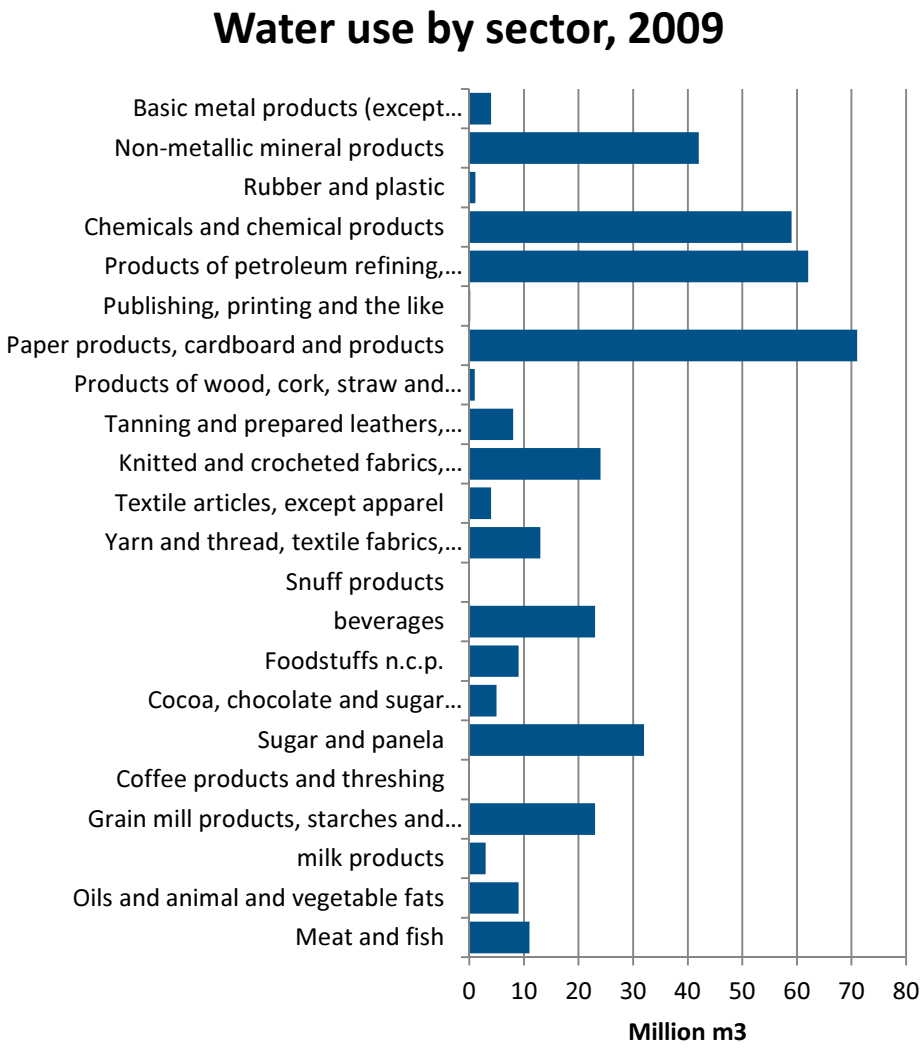
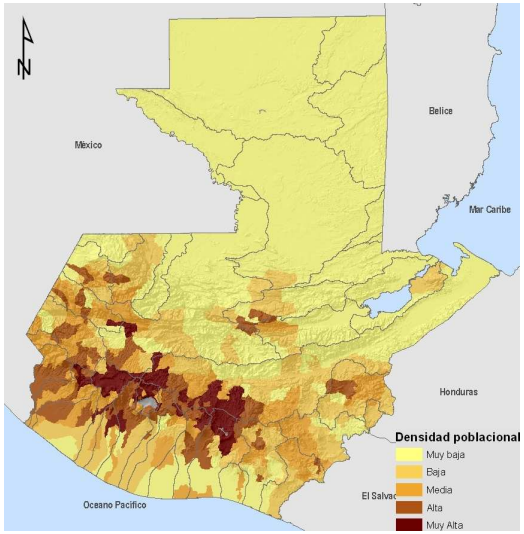
COLOMBIA
Identifying main water users

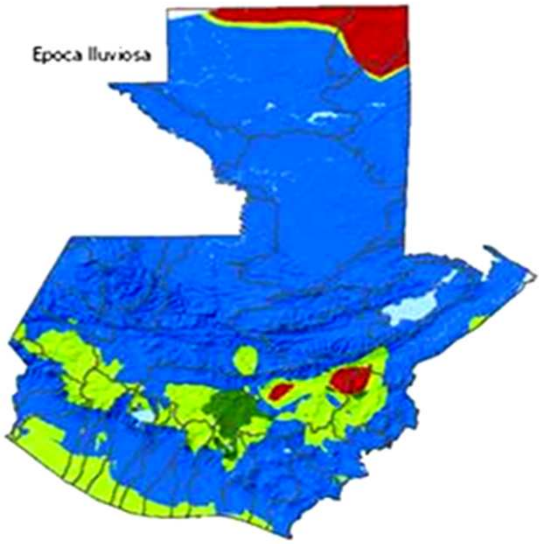


GUATEMALA

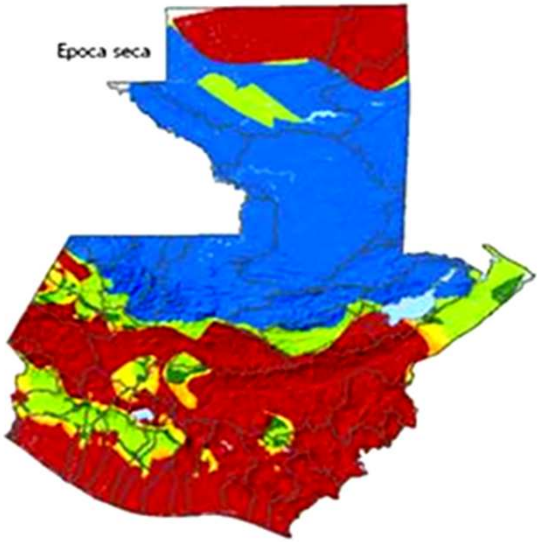
Is water supply enough to population's demands?



Population density, 2005



Water scarcity index, 2005 (rainy season)

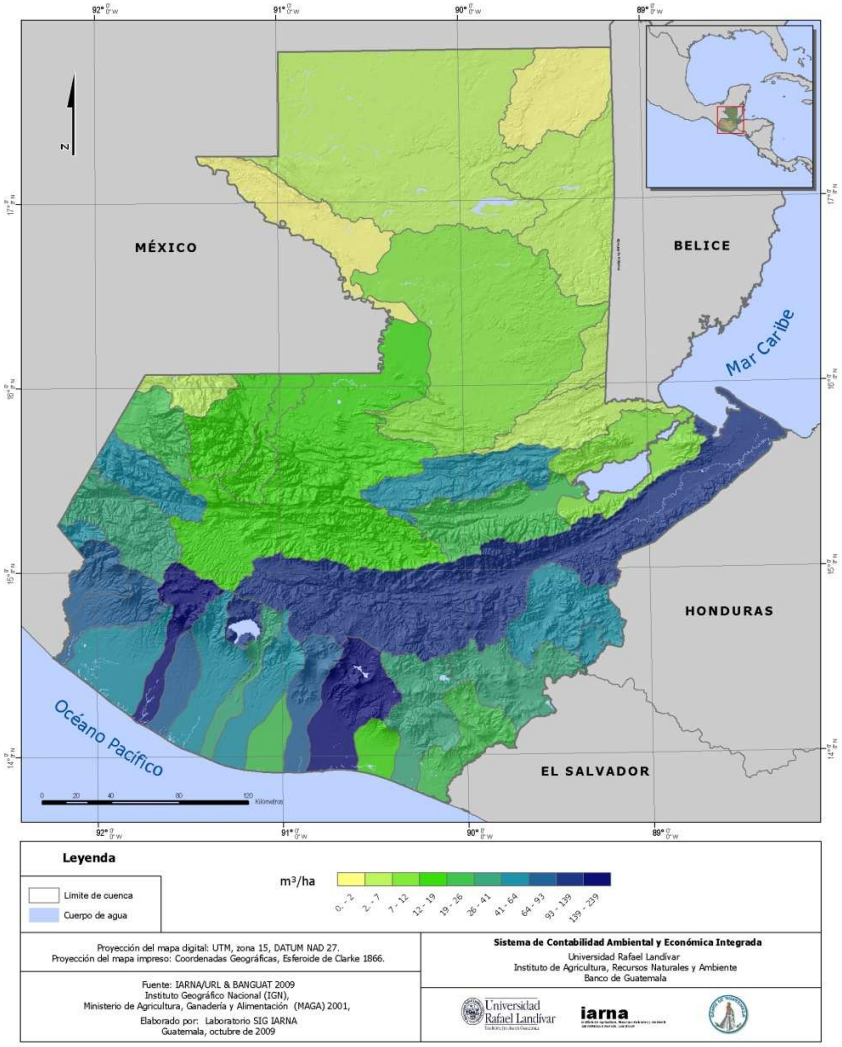


Water scarcity index, 2005 (dry season)

GUATEMALA

What are the pressures in the different watersheds?

Domestic water use in relation to watershed surface (m^3/ha), 2003



Thank you!

http://www.wavespartnership.org/waves/