

Virtually meaningful or virtually meaningless?



**PAULA NOVO (UPM), APARNA SRIDHAR (LSE)
AND ELENA LOPEZ-GUNN (FMB-OBS)**



ISTANBUL 18TH MARCH 2009

ceigram
Research Centre for the Management
of Agricultural and Environmental Risks



Fundación
Marcelino Botín

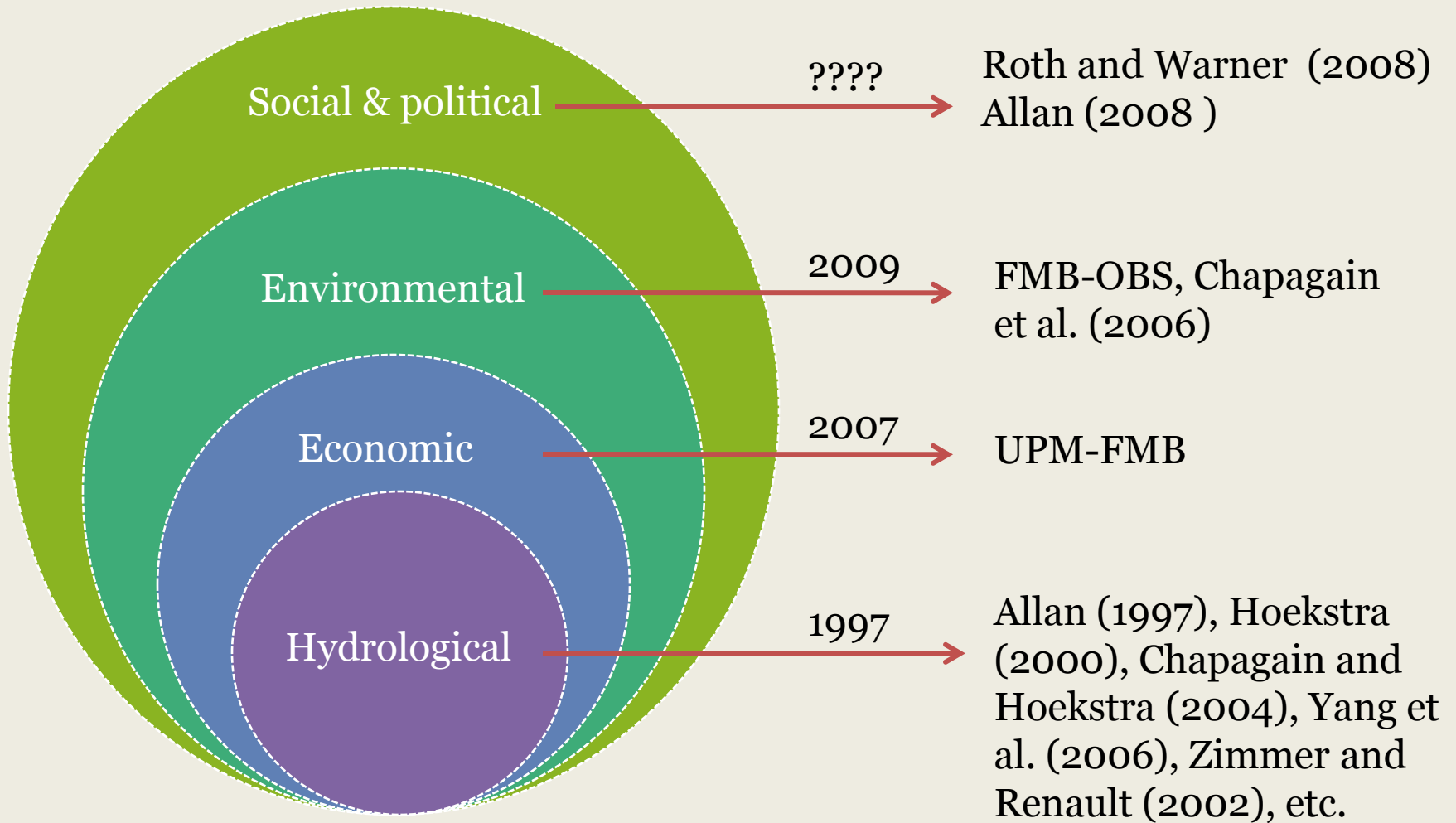
OBSERVATORIO DEL AGUA
WATER OBSERVATORY

Outline



1. WF 'Onion' layers
2. Water & Environment
3. Water & Equity
4. Problems with Translating Virtual Water?

WF 'Onion' Layers



Water & Environment



- 'E' water footprint- to consider at least two aspects:
 - Environmental flows (& 'E' water footprint)
 - ✦ Example: Guadalquivir (Spain), South Africa
 - Water quality (& 'Grey' water footprint)
- Example:
 - Brazil and Biofuels: quantity but not quality neutral

Virtual Water Content of Sugar Cane Ethanol Production

Virtual water content of sugar cane crop (m ³ /ton)	Processing Water (Blue) (m ³ /ton)	Gray virtual water (m ³ /ton)	TOTAL (m ³ /ton)
44.66	14.81	71.50	125.93

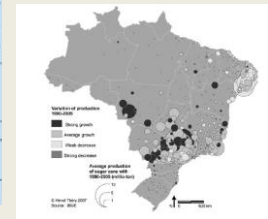
Source: Sridhar (2008)

States in Brazil



IBGE (2008)

Sugar Production in Brazil



Bertrand et al (2006, 36)

'Grey' WF of Biofuels in Brazil



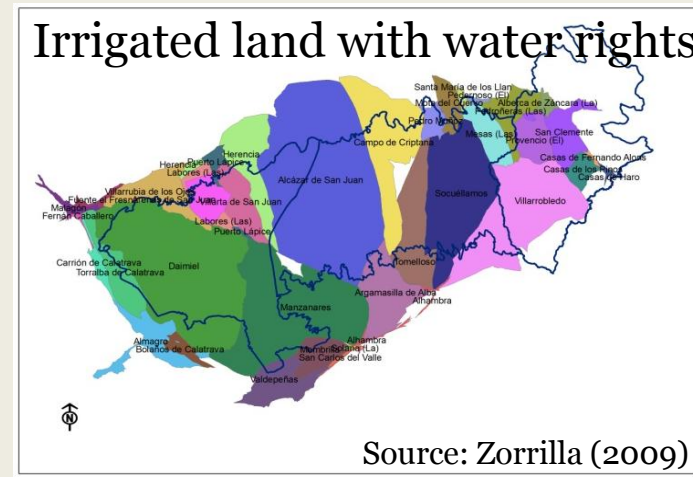
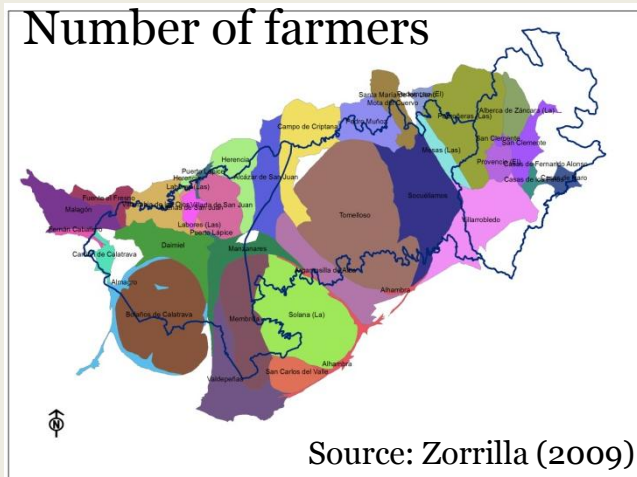
- Hoekstra and Chapagain (2006)
 - Brazil's WF to be 233.59 Gm³/year.
- Sridhar (2008)
 - 7% of Brazil's total WF can be attributed to sugar cane ethanol production in São Paulo.
 - However, the WF of sugar cane ethanol, is predominantly 'polluted water.'
- Degradation of water quality (<stock?)
- Ethical and social questions particularly locally for the poorest? Other countries?

Water & Equity

- Social WF

- Mixing apples with pears:

- ✦ Acuífero 23 (Mancha Occidental, Spain): PEAG + Re-forestation
 - 10000 €/ha + 600 €/ha x 20 years -> Social Water Footprint?
 - ‘More jobs per (ill)legal drop’?



- Myth of ‘social’ water neutrality (Roth and Warner, 2008)

Water & 'Translations'



- Meaning is dependent on context...

Stake	Interest	Example	Power (Allan 2006)
Epistemic community	Knowledge <i>(Blue washing ?)</i>	www.waterfootprint.org 	.edu
Companies	CSR <i>(Green washing?)</i>	Corporate conferences 	.com
Government	Planning <i>(delay/ divert planning?)</i>	Art 5 WFD Canal Isabel II MARM 	.net
NGOs	Advocacy <i>(dangerous liaisons?)</i>	The Guardian 	.org

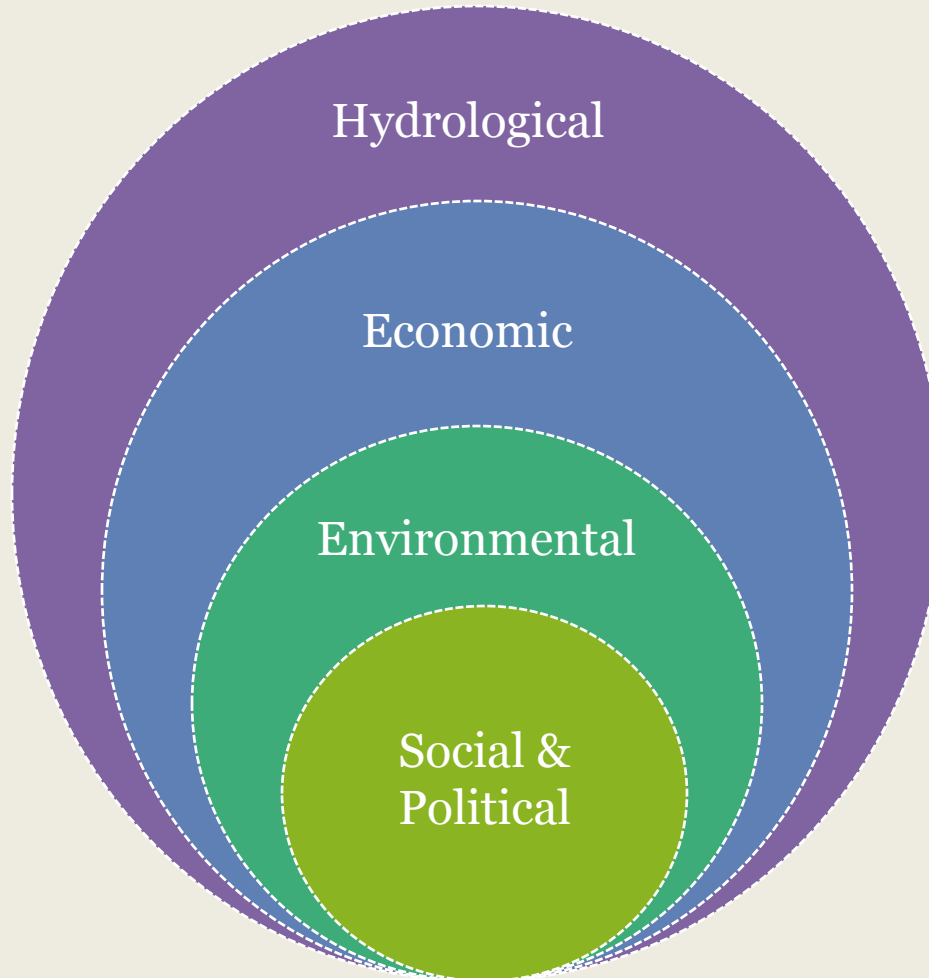
- Can 'translations' have unintended consequences?

Meaningful? Meaningless?



Issue	+ Meaningful?	- Meaningless?
Location: North/ South	Appropriateness	Blueprint for all?
Policy: Opportunity/Risk	Transparency	Rule of Capture?
Policy actors: <ul style="list-style-type: none"> • Epistemic community • NGOs • Private sector • Policy makers 	Legitimacy on methodology? WF as a 'policy driver' to change existing policies Normative change – internalizing the externalities A Policy Decision support tool suitable for IWRM	Naive on policy translation? Legitimacy quandaries? Coca cola's water neutrality? Ticking boxes ✓?
Unintended consequences	Spain and breaking myths on 'solidarity' of water use (territoriality of water) (Garrido et al. forthcoming)	Land 'shopping' in Africa?

WF 'Onion' Layers



Hydrological

Economic

Environmental

Social &
Political

The End



Thank you for your attention!