



“Groundwater security: tenure, equity and trade-offs”

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Nutgraf:

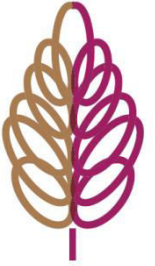
GROUNDWATER SECURITY-

What role does secure tenure play in equitable outcomes to minimise trade offs?

1. What is tenure: why tenure rather than water rights?
2. What is secure tenure? Is it different to secure rights?
3. Case study on groundwater security: Can secure tenure help to achieve more equitable outcomes?
4. Path dependencies: Legal (Water rights) vs Equitable (Water Tenure)
5. Tenure: trade offs and synergies
6. Conclusion

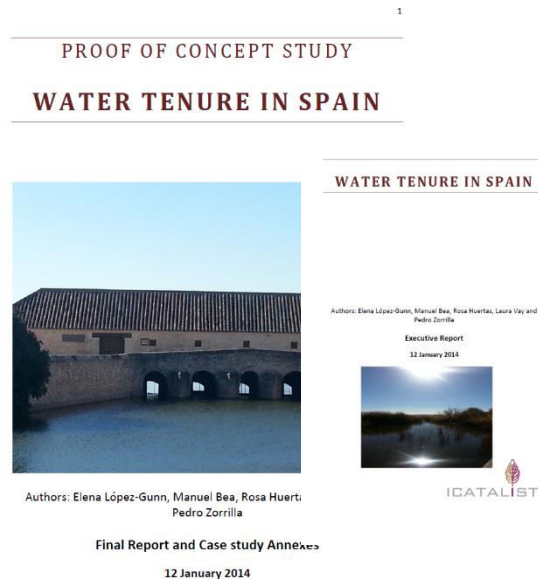


1. Defining water tenure



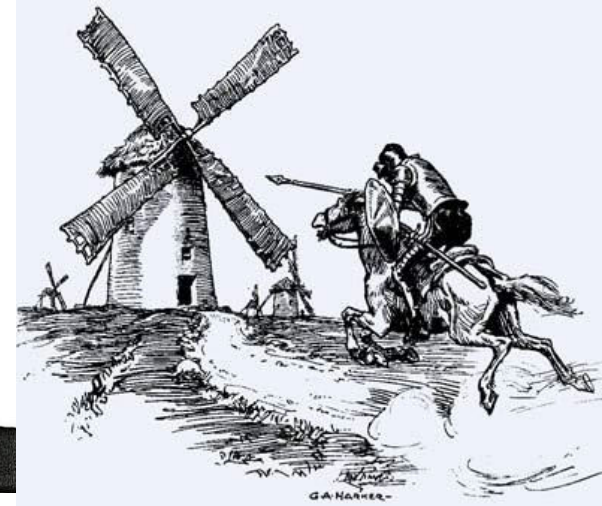
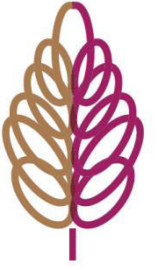
= ‘the **relationship**, whether formally or customarily defined between **people**, as individuals or groups, with respect to **water resources**’.

- ✓ reality on the ground- **bottom up approach**
- ✓ mapping the **existing relationships**
- ✓ **No a priori** normative judgements.



1. Defining water tenure (II)

ONE IMAGE IS WORTH A THOUSAND WORDS....



LEGAL WATER RIGHTS: FORMAL, RIGID, “IDEALISED”, DIFFICULT TO IMPLEMENT, MISSING REALITY? SOMETIMES “CHRYSTALLISE INEQUITIES? *El Quijote*

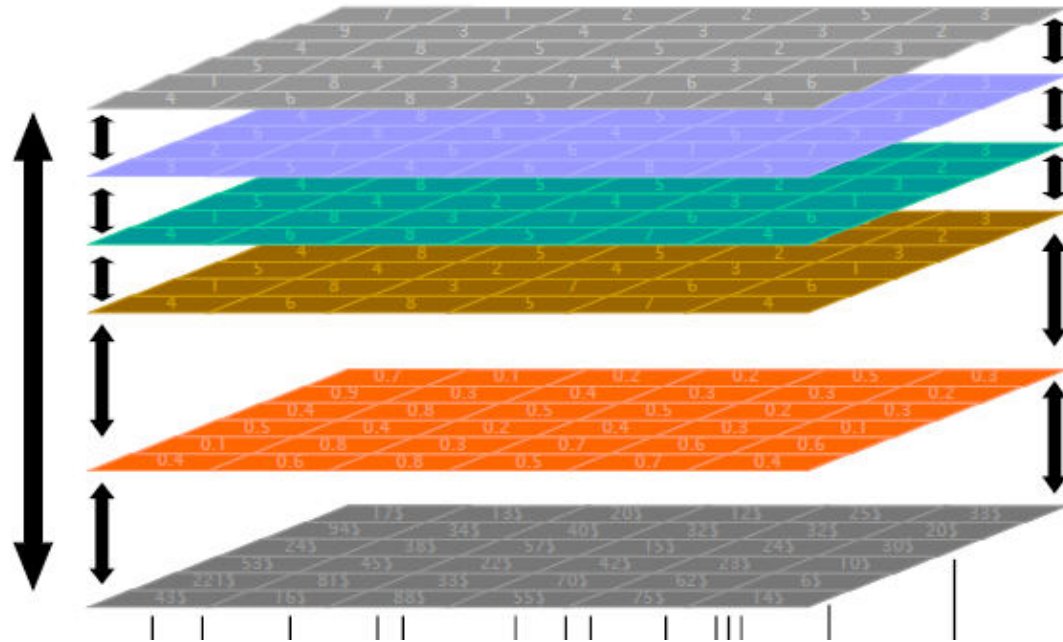
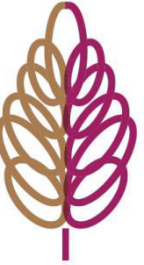
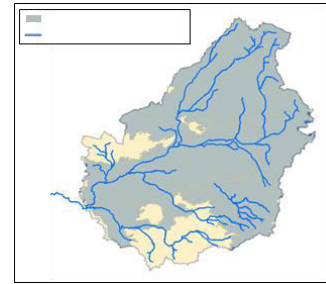
EQUITABLE WATER TENURE: PRACTICAL, WORKABLE, GROUNDED ON (MESSY) REALITY
Sancho Panza



3. Case study on Groundwater security



Can secure tenure help to achieve more equitable outcomes?



Forest

(normally no water rights-
except Australia?)

Dryland agriculture
(no water rights)

Illegal irrigated agriculture
(no formal water rights)

Wetland
(often no formal water rights)

Canoeing
(no water rights)

Fishing
(no water rights)

*International Water
Security Network*

Layers of green and blue water uses- tenure relationships

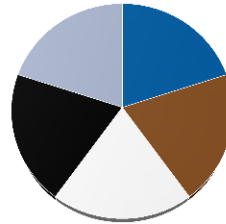
3. Case study on groundwater security (II): What is secure tenure? Is it the same as secure water rights?



Secure Water Tenure

“the **secure relationship**, whether formally or customarily defined between **people**, as individuals or groups, with respect to **water resources for livelihoods** while **safeguarding ecosystem services**”

GROUNDWATER SECURITY



- Human Water Security
- Security from water hazards
- Environmental water security
- Political water security
- Productive water security



3. Case study- the Upper Guadiana basin (iii)



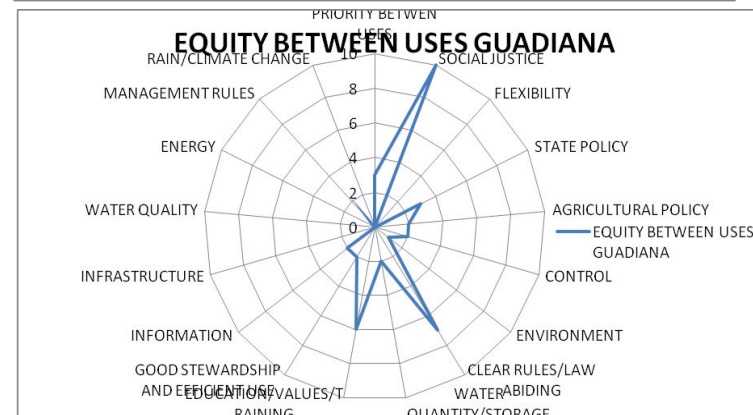
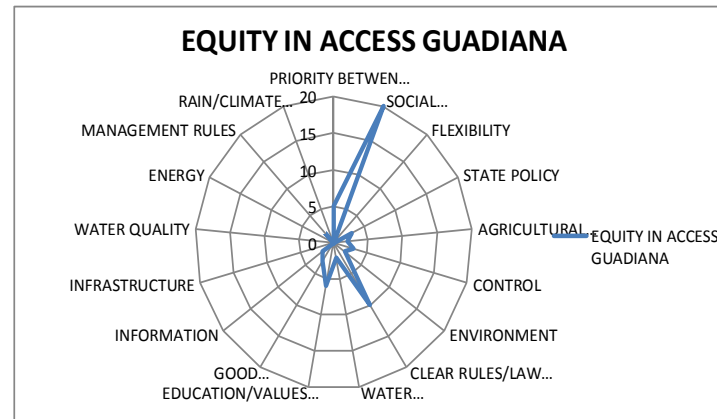
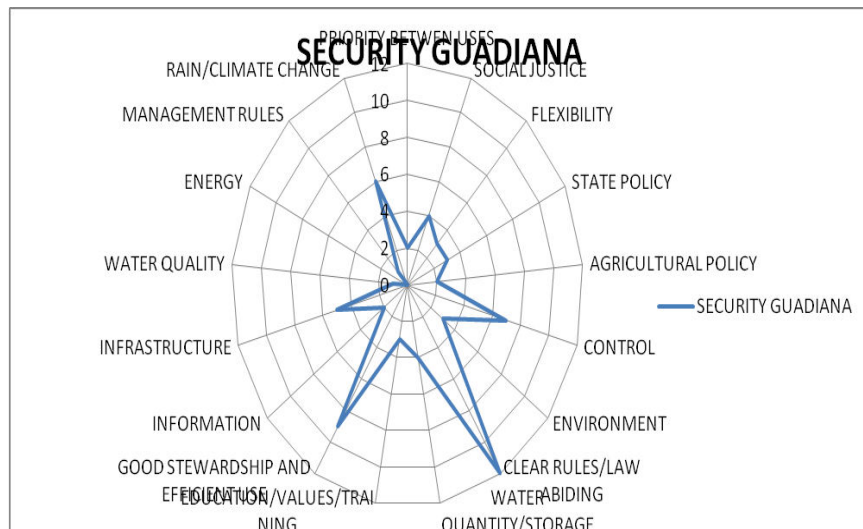
BENCHMARKING TENURE: The farmers view from the ground up...

SECURITY

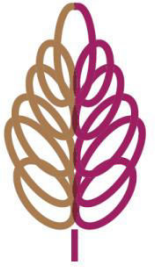
- 1ST = clear rules
- 2ND
 - good stewardship
 - rainfall
 - control

EQUITY IN ACCESS AND USES

1ST = social justice



4. Path dependencies: Legal (Water rights) vs Equitable (Water Tenure)



Bundled rights- water tied to land (*Roman principle of accession*).

Different types of rights:

- *private waters and Section B are linked to land*
- **“40 years ago they gave the water to the owners of the land, so now small farmers have to “rent” the water”**
(*Farmer Village Western Mancha aquifer*).
- *i.e.* land owners (often absentee/large plots) obtained the water rights thanks to the small renter farmers that had rented the land to irrigate.

“It is not possible that some have water rights for 200 ha and some for zero”.

Vs

“large percentage of the water rights, and land with water rights, which often do not irrigate (sleeper rights)”



4. Breaking path dependencies (ii)



Looking at relationships (water tenure) opens a door on understanding the social dynamics with the resource...

Water rights and Equity

Initial allocation of rights to land
owners

bundled water rights + closure resource + power)

=

Legal *NOT* equitable

*set a chain reaction in the future
for informal use....*

Water Tenure and Equity

Brings all uses on the table – non-
judgmental/normative

New space to discuss equitable flow
of benefits from the resource
(including the environment?)



5. Tenure, trade offs and synergies:

Water Use, Water Rights and Water Demand

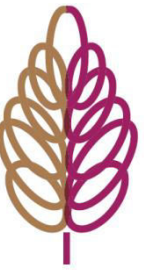
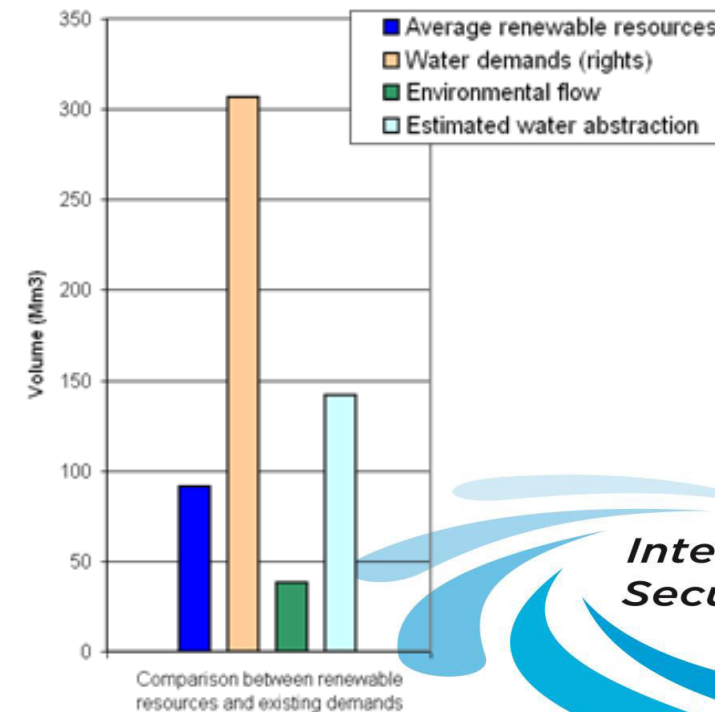


Table 1. Imbalance in water supply/demand

Demands (Mm ³)	Public supply	Livestock	Industry	Environment	Irrigation	Overall demand
	7.52	0.09	4.11	10.0	129.8	151.52
Supply [available renewable resources - according to RBMP] (Mm ³)						91.20
Imbalances in water supply/demand (Mm ³)						60.32

Table 2. Summary of existing water rights in Western Mancha aquifer. Source: Guadiana WA

Use	Water rights (m ³)	Percentage
Domestic	2.91	0.42%
Industrial	3.75	0.54%
Irrigation	678.51	97.12%
Livestock	1.63	0.23%
Other uses	0.82	0.12%
Public supply	10.18	1.46%
Recreational	0.16	0.02%
Unknown	0.70	0.10%



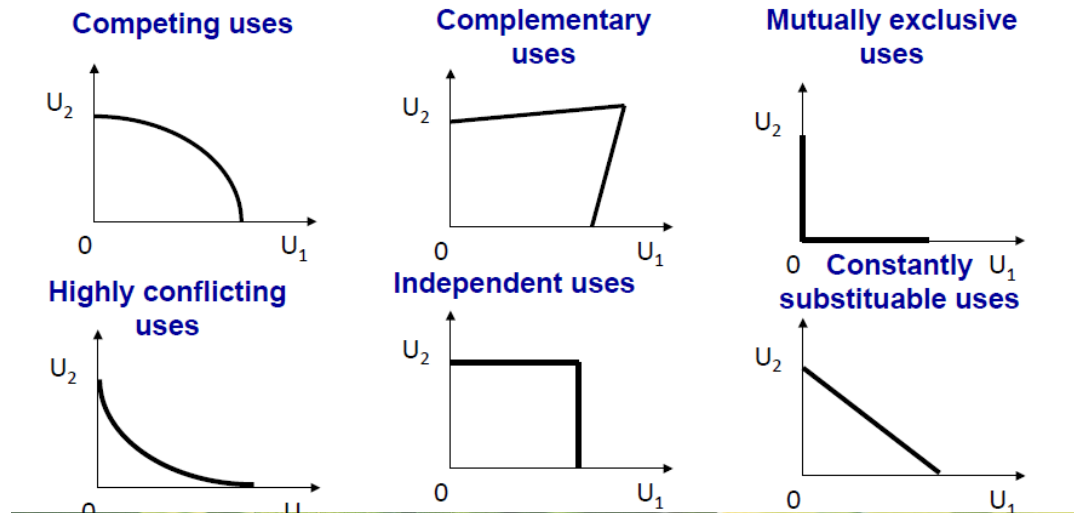
International Water Security Network



5. Tenure, trade offs and synergies (ii):

SECURITY – **TENURE** – **EQUITY**
 (Clear rules) (Social relationships) (Social Justice)

Interdependences between different uses



Informal Groundwater economy (Novo et al, 2015)

- **water use** (66% vines/ 47% vegetables/ 25% cereals)
60% of gross revenue and 57% of jobs in the area.

Intra sectoral equity, intersectoral equity, intergenerational equity....



Conclusion



Step 1: Define tenure as distinct to water rights

Step 2: Define security of tenure (varies per location?)

Step 3: Define equity (as social justice in socio-ecological frame?)

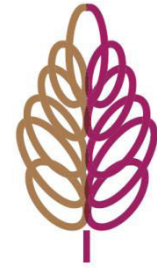
Step 4: Link tenure + security + equity

Step 5: Space to explore trade-off and synergies for equitable outcomes

Relationships with clear rules for social justice



Thank You! *Gracias*



www.watersecuritynetwork.org

www.twitter.com/water_network

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