WATER CRISIS AND WATER SCARCITY AS SOCIAL CONSTRUCTIONS.
The Case of Water Use in Almeria (Andalusia, Spain)

INTRODUCTION:
Our research considers water scarcity as a geographically and historically situated social fact (and not only a natural phenomenon linked to a deficit of water resources) and validates the hypothesis that scarcity is directly linked with uses (Aguilera-Klink et al., 2000; Anand, 2007). Scarcity is analysed as a failure of standardisation which appears as the result of a representation of water as an inexhaustible allocation resource, taken for granted. In the Almeria region, the institutionalisation of uses and rules all along History has been mainly responsible for the rarefaction of resources and for the unsustainability of the development scheme implemented. This conception of water is supported by the rhetoric of water scarcity developed to justify the expansion of hydraulic infrastructures.

FIELDWORK: Water use in the Campo de Dalias (Almeria province)
1st rank in the EU market regarding horticultural production, world’s biggest concentration of greenhouses. Semi-arid climate and 246 mm of annual rainfall over the 1976-2006 period (109 mm in 1985, 412 mm in 2008). The greenhouses surface area is 18,337 ha and the massive aquifer depletion is estimated at (at least) 40-60 Hm3/yr (Las Palmerillas, 2009; Pulido Bosch, 2005; Sanjuán Estrada, 2007).

Three-month qualitative fieldwork:
- 32 semi-directive interviews;
- information collection.

THEORETICAL BACKGROUND: Historical institutionalism
Description of water uses and their regulation over a long period.

Hypothesis: the study of water standards offers a relevant perspective to apprehend the evolution of water uses. Norms as both enabling and constraining instituted processes (“working rules”), and outcomes of compromises and tradeoffs between users. They typify the economic and political orientations proper to a given territory and population.

Theoretical tools (Billaudot, 2008a, 2008b; Commons, 2005 [1934]): articulation of social and technical norms, from values to rules.

RESULTS
WATER SCARCITY AS THE CONSEQUENCE OF “HYDRAULISTIC” STANDARDISATION
Analysis of texts and regulation plans:
- Local level: 1941-Directive of the National Institute for Colonisation (Campo de Dalías as a “national interest” area); first General Transformation Plan (1953); South River Basin Hydrological Plan (1998); 1997-2007 Plan for Infrastructures in Andalusia; Western Almeria Land-Use Development Plan (2000).

These documents present water as an input, and the development of infrastructures (without spatial and environmental considerations) is promoted: in line with the “hydraulic paradigm” (Saurí, Moral, 2001).

Almeria’s development: “economic miracle” or “ecological disaster”? Agricultural production methods in Almeria are among the most water-efficient ones. Paradoxically, technical evolutions which have led to an expansion of irrigated areas and thus, an increase of the total withdrawals.

More than half of the total greenhouses surface area in the Almeria Province is thought to be illegal (overexploitation of water and space).

A RHETORIC OF WATER SCARCITY TO JUSTIFY HYDRAULIC INFRASTRUCTURES
The 1993 and 2001 National Hydrological Plans developed a rhetoric of water scarcity:

Thanks to water transfers, the objective was to solve the problem of “structural deficits” (or “cyclical drought”) manifested in a “hydrological imbalance” between “dry Spain” and “humid Spain”

Orientation supported by the White Paper on Water in Spain, which aims at:

“determining the territorial balance of resources and needs, and identifying the possible imbalances”, and defining hydrological systems as being “structurally deficient”, “whatever the infrastructures they could be equipped with and even if water-saving policies are optimised to their theoretical maximum”. These territories can solve their current lack of resources “only thanks to water transfers from other zones”.

In the Campo de Dalías, the Western Almeria Land-use Development Plan radically defends productivist agriculture and considers water consumption as an exogenous factor which has to be satisfied.

Hydraulist standardisation promotes the idea that natural constraints can be ignored thanks to technical efficiency. It is based on a vision of water as an (illusory) abundant resource which can in no way become a limiting factor, and does not aim at adapting uses to resources but at satisfying needs which apparently cannot be reduced.

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REFERENCES:
Las Palmerillas, 2009.
LEPII-CNRS-UPMF
Grenoble, FRANCE

Evolution of the greenhouses surface area in the Almeria province (ha)

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