

The Tale of three Rivers: The Jucar, Blue Nile, and Mekong

Ariel Dinar, School of Public Policy, University of California, Riverside, USA.

LMPPI, Ho Chi Minh City, Viet Nam, December 13, 2016

*Prof. Dinar is a world-leading scholar on **water economics and policy**. He is currently a Professor of Environmental Economics and Policy at the School of Public Policy, University of California Riverside. Prof. Dinar is also an International Fellow of the Center for Agricultural Economic Research of the Hebrew University of Jerusalem, Israel. He was named the 2015 Fellow of the American Agricultural and Applied Economics Association.*

Prof. Dinar authored and co-authored nearly 150 peer reviewed papers and edited 24 books and textbooks. He founded two academic journals (Strategic Behavior and the Environment, and Water Economics and Policy) for which he serves as the Editor-in-Chief.

Abstract

It is well known that management of domestic water resources is a complicated task, involving competing objectives and challenging physical relationships of various supply and demand nodes. It is also known that managing trans-boundary water resources is equally complicated. It is subject to inter-state political challenges, in addition to the issues mentioned above. What is less well known, or appreciated, is the fact that management of trans-boundary water resources can benefit from experience gained in management of domestic water resources.

This presentation will highlight features that constitute the challenges faced by a 'social planner' in the Jucar River Basin in Spain and in the Blue Nile Basin that is shared by Egypt, Ethiopia, and Sudan. Then the features highlighted in the Jucar and in the Blue Nile will be contrasted to the Mekong River Basin.

One characteristic all three river basins (in addition to several other features) is their "cross border" geography. That is, the river runs, more or less, crossing the borders between jurisdictional regions (counties, states). Therefore, what happens in one jurisdiction affects the following ones. Another characteristic of the 3 basins is the importance and fragility of water-related ecological services, such as environmental amenities, fishery resources, and top soil resources. Therefore, actions taken by one group of users in utilizing water from the river affect the benefits that other groups may obtain—we call it externalities.

In this presentation I will build on recent work that I have been doing with my graduate students, post docs, and visiting colleagues in the Jucar River Basin and in the Blue Nile Basin. I will focus especially on the issues that are relevant to the Mekong and will set the stage for a discussion with the seminar participants on possible future research program in the Mekong that could be built on and expands the ideas applied in the Jucar and in the Blue Nile.

The issues addressed in the Jucar include: (1) Modeling water scarcity and drought severity for policy adaptation to climate change; (2) Packaging and sequencing of policy interventions for sustainable groundwater management; (3) Stability of collective/cooperative groundwater institutions in the presence of environmental externalities; (4) Cooperative arrangements for water management and ecosystem protection; and (5) Effect of the type of ecosystem on the optimal water management strategy in the case of groundwater-dependent ecosystems.

The issues addressed in the Blue Nile include: (1) Intra-basin water trade as a mechanism that could alleviate water scarcity and reduce tension among riparian states in an international basin; (2) Mechanisms to internalize uni-directional environmental externalities such as soil erosion; and (3) Impact of regional agreement over water management in an international basin on the welfare distribution between the riparian states and its impact on the stability of the agreement.

These eight issues have direct implications to the contemporary situation in the Mekong. Much work has already been performed in the past, but still there is more room for extension and expansion that will be referred to in our discussion.