

**Review on PhD. thesis**

**Assessment of Policy Changes of the Impacts of Urbanization,  
Economic Growth and Decentralization of Water Services with  
Regard to Water Quality in Mexico**

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The submitted Ph.D. thesis is written on present problems of water quantity and water quality management and nation's policy in Mexico, especially in its most inhabited and economically developed regions with high level of water scarcity. An emphasis is given on investigating and comparing the environmental performance in the era of rather centralized planning and in the following period, for which economic liberalization and decentralization is typical.

The thesis consists of about 140 norm pages, 17 figures, and 16 tables. The work is divided into four chapters plus introduction and conclusions. The introduction starts with a brief explanation of the overall situation as related to water sector problems in Mexico, and its developments and transformations over time. It is followed with formulations of hypotheses and research objectives. The research methods applied in the thesis are described rather briefly in the introduction. The author combines quantitative methods, particularly statistical analyses, and relevant qualitative methodology. The methods are described in more detail in the relevant chapters. This is especially true for the quantitative analyses methodology performed in Chapter 4. In all relevant stages of the work the author presents quality literature review and proves very good knowledge of the state of arts in the given area.

In the first chapter definitions of key concepts are presented. Particular attention is paid to the theories and concepts of institutions and natural resources management and policies, to the concept of sustainable development and how this concept could be operationalized through the principles of weak sustainability and strong sustainability. Finally, some thoughts are presented about whether the water should be considered as economic or social goods, and what are the consequences of each option for the management and policy.

In the second chapter the evolution of water management in Mexico is analysed. The changes in policy, institutions and legal framework linked to water management are addressed in the transition from a centralized administration to a

decentralization system framework. The chapter also provides a picture of the regional differences and relevant physical limitations to access water resources in Mexico.

In the third chapter the author investigates specific problems of water management in urbanized territories and tries to explain how increasing urbanization and population growth became a major source of water pollution. It is argued that the current decentralized approach to the water management has not been able to successfully allow the water services companies to fulfil the goals of the rational use of water and of the provision of their efficient services.

The analysis presented in chapter four consists of three regression models that correspond to three (selected) comparable Hydrological-Administrative Regions (HARs) in Mexico. The models include several variables acknowledged in the literature as factors that affect water quality for each region. The author compared results of his statistical analysis/modelling with results presented in existing relevant literature. He also did an attempt to discuss these findings using results of his qualitative research.

I suggest following questions to be discussed by applicant when defending his thesis:

- a) Is it possible to consider the relation between the dynamics in exploitation of water resources and the dynamics in economic growth in Mexico as a phenomena known as Environmental Kuznets Curve?
- b) Is Mexican policy related to water resources somehow specific when comparing to the policies in other developing countries in Latin America?

It is possible to conclude that the thesis formulate concrete and understandable analytical goals and hypotheses in the investigated area. The research methods are selected adequately. It is possible to recognize the author's contribution who also has shown good knowledge of the state of arts in the given area. The thesis has a logic structure. The specified goals were achieved. I believe that the new pieces of knowledge could be particularly useful in discussion about designs of Mexican environmental policy in the water management area.

I recommend the thesis written by René Fernando Lara Cervantes for the defence at the commission.

Prague, July 25, 2016

Doc. Ing. Antonín Dvořák, CSc.