A Synopsis of Prof. Hanke’s Activities in the Water Resource Field: Selected Publications and Brief Comments

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The purpose of this selected bibliography is to frame my work in the water resource field. It is intended to put some order into a sphere of my activity that has evolved since 1967, the year that I published my first article in the *Journal American Water Works Association*.

Since my days as a graduate student at the University of Colorado, I have operated at the interface between economics and engineering in the water field. Indeed, my Ph.D. dissertation advisers were Morris E. Garnsey, a Professor of Economics, and J. Ernest Flack, a Professor of Civil Engineering. Although my Ph.D. was awarded in economics, my dissertation was published at the University of Colorado’s Center for Urban Engineering Studies. After completing my graduate studies, I accepted an invitation to join The Johns Hopkins University, where I hold joint appointments in the Department of Geography and Environmental Engineering and the Department of Economics. Over the years, I have been an economic adviser to a number of engineering firms, most notably Binnie & Partners in London and the Snowy Mountain Engineering Corporation in Australia. I have also served as an adviser to many water companies, most notably Lyonnaise des Eaux and Compagnie Générale des Eaux in Paris. These collaborations have afforded me the good fortune of working with some of the world’s most important engineers in the water field, including Prof. John C. Geyer at Johns Hopkins and Messrs. M.J. Tixeront and M.F. Valiron in Paris. And when I mention Paris, I cannot do so without mentioning my work at the great École Nationale des Ponts et Chaussées. There were also other countries, in addition to the U.S. and France, where I worked on water research and infrastructure projects: Australia, Austria, Israel, and Sweden. To finish this introduction of my work at the interface of economics and engineering, allow me to mention the following interdisciplinary water journals in which I have had editorial responsibilities: *Water Resources Research*, *Water Resources Bulletin*, and *Water Engineering and Management*.

A concise overview of my work in the urban water resources field is contained in an interview I had with David B. Preston, the Executive Director of the American Water Works Association. It was published in “Face to Face”, *Journal American Water Works Association*, Vol. 15, May 1983. A more in-depth overview of my work is contained in a monograph I wrote in 1981, *Studies in Water and Wastewater Economics*, which was published by the Department of Water Resource Engineering at the University of Lund in Sweden. Unfortunately, that publication is out of print and hard to find.

For items that are accessible and render a clear picture of my work in water resources, I have selected a few items from some 150 of my publications in water economics and engineering. They are grouped under five headings. I offer brief remarks to introduce each section below.
1. Water Demand

My contributions in water demand include the first sophisticated time-series study of the effect of water meter installation on water use. I also conducted one of the first pooled time-series, cross-section studies in which urban water demand, income, and price elasticities were estimated. Finally, I developed the only sophisticated method that, to my knowledge, has addressed the problem of how to properly design a sample for the collection of water use data.


2. Water Conservation

My work on water conservation represents some of the early quantitative analysis of the effects of various conservation measures on water use. These results were used to design optimal conservation strategies for urban water systems.


3. Water-Wastewater Costing (System Design)

My work on water and wastewater costing has withstood the test of time. Indeed, some of the design criteria I developed for sizing wastewater interceptors are still in use.


4. Project Evaluation (Benefit-Cost Analysis)

A great deal of my work has focused on the theory and application of benefit-cost analysis. It has left me deeply skeptical about the possibility of implementing theoretically correct investment standards for public water projects. In short, one must proceed with caution.


5. White House Water Policy

I served as a Senior Economist on President Reagan’s Council of Economic Advisers. In that capacity, I had an opportunity to put my scholarly work on water into practice. I was a member of what were, in those days, called White House cabinet councils, where I was
responsible for the water resources and privatization portfolios. For an overview of how President Reagan and I were working on these matters, see my article in the August 2007 issue of Globe Asia, “Reagan the Intellectual”.

One of my early initiatives on water was the advocacy of the private provision of urban water. Many of the Reagan administration’s initiatives in this sphere were based on my work which dealt with the French methods for organizing the provision of water. The initial public announcement of our program was a piece I wrote for The Wall Street Journal. It launched a revival of the private provision of water in the U.S. and elsewhere.

My other White House activities in the water field revolved around benefit-cost analysis. President Reagan knew my research showed that the so-called “Federal Principles and Standards”, which are used to evaluate water projects, were flawed and biased towards overinvestment. In consequence, I represented the White House in its effort to revise the “Federal Principles and Standards”. In addition, and at a more operational level, the President tasked me with a reevaluation of all the water resource projects proposed by the Department of the Interior. Those projects needed to follow normal valuation and budgeting guidelines, and they also had to be examined by me, prior to approval. On my watch, no projects were approved.


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