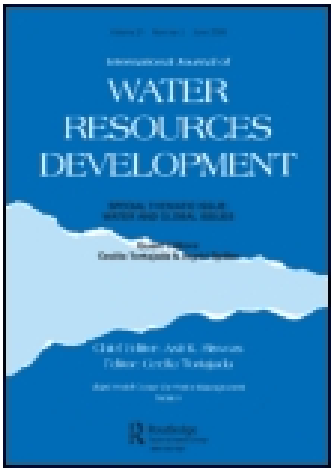

International Journal of Water Resources Development

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/cijw20

Economics of Water Resources, 2 vols

Bhanoji Rao [a]

[a] Lee Kuan Yew School of Public Policy, National University of Singapore , © 2009, Bhanoji Rao

Published online: 22 Jan 2010.

To cite this article: Bhanoji Rao (2010) Economics of Water Resources, 2 vols, International Journal of Water Resources Development, 26:1, 125-128, DOI: 10.1080/07900620903462100

To link to this article: http://dx.doi.org/10.1080/07900620903462100

Water Resources Development,
Vol. 26, No. 1, 125–128, March 2010

Routledge
Taylor & Francis Group

Book Review

Economics of Water Resources, 2 vols
Elgar Reference Collection (No. 234 in the International Library of Critical Writings in Economics)
Edited by R. Quentin Grafton
Cheltenham, Edward Elgar, 2009, xxvi + 597 pp. (Vol. I) and xiv + 709 pp. (Vol. II)

How does one attempt to review a magnum opus of two volumes comprising a total of 95 selections from the ocean of scholarly articles? Pretentious—as if one has read all the articles in a short time span for a book review—will hardly help. I decided, therefore, to present in this review: (1) a few salient points to set the context for the volumes, (2) a profile of the 95 included articles, and (3) a few general comments on the work.

Water is a Scarce Resource

Going by the United Nations *World Water Development Report 3*, released in March 2009, demand for water will increase at a fast pace due to population growth and mobility, industrialization of the developing nations, rising living standards, changes in food consumption, and increased energy production, especially biofuels. All these will be superimposed on a rapidly growing population—the present 6.6 billion increasing annually by about 80 million. The *Report* notes that demand for freshwater is increasing by 64 billion m^3/year. This, however, masks the fact that 90% of the additional population of 3 billion by 2050 will be in developing countries, of which several are currently suffering from water scarcity.

It is important now more than ever before to recognize that water is a scarce resource with its economics occupying a prime place in the discourses on the provision of water for alternative uses. Just as most people have historically assumed water to be a free good, the international community too has begun to emphasize the economic angle relatively recently. For instance, it was only in the 1992 *Dublin Statement on Water and Sustainable Development* that there was among the guiding principles the one that says: 'Water has an economic value in all its competing uses and should be recognized as an economic good.'

A good or service that has absolutely no scarcity attached to it and is freely available is of no interest to economic analysts. The scarcity attribute in respect of water is likely to go up over time.

> Increasing population, higher temperatures, salt-water intrusion in coastal areas, and drying trends in some arid areas will place increasing strains on freshwater

0790-0627 Print/1360-0648 Online/10/010125-4 © 2010 Taylor & Francis
DOI: 10.1080/07900620903462100

> resources. Without a fundamental change in how water is managed scarcity problems will be made much worse. (Volume I, p. xxii)

Dealing with scarcity is not difficult if markets exist for the good in question and if the markets are efficient. That is not the situation with water across the board.

> Ground water is a classic example of a common-pool resource … in the absence of effective collective action, an aquifer can easily be overexploited such that total withdrawals exceed recharge … overexploitation of large aquifers occurs in many places of the world. (p. xxii)

Scarcity is poised to go up and not down given the uneconomic practices.

Integrated water resources management calls for the trilogy of economic efficiency, equity, and environmental sustainability to be applied to the water sector. It is difficult to ensure efficiency in the absence of water prices reflecting the value of water use and full cost of supply. In fact, even while ensuring equity, it is essential not to sacrifice efficiency. Safeguarding efficiency would in fact help sustainability and even equity in the longer term. '… Higher per unit charges of water will encourage water conservation and efficiency and also investment to increase and improve existing supplies' (p. xxiv).

Profile of the 95 Articles

Coverage of Subject Areas

The 95 articles in the two volumes are arranged by subject areas, as indicated in Table 1. Given that there are eleven subjects and the average number of articles per subject works out to a little over 8.6, the range of six to ten articles included per subject seems fair; thus, there is no particular bias in favour of one or the other subject area.

Coverage by Year of Publication

The 95 articles are distributed as follows by decade: 1960s: two; 1970s: four; 1980s: 23; 1990s: 49; and 2000–2008: 17. It is safe to say that the emphasis has been on the last quarter-century of research. Given the attention given to water issues since the late 1970s, starting with the call given for data assembling at the UN Conference on Water, Mar del Plata, it is right to have the bulk of the papers from 1980 onwards.

Table 1. Number of articles by subject in the two volumes

Volume I	*n*	Volume II	*n*
Environmental and in-stream flows	10	Residential and non-residential water use	8
Environmental valuation	7	Rights, ownership and efficiency	9
Water pollution	6	Water demand and supply studies	9
Irrigation	9	Water pricing and management	10
Ground water use and management	10	Water scarcity and reliability	10
		Water supply and demand in poor countries	7

Journal Coverage

The 95 articles selected for the two volumes come from a whopping 36 journals. Two-thirds (the vast majority) of the articles are from five 'fairly high-impact' journals (Table 2), two papers each from four journals,[1] and just one each from as many as 27 journals.[2]

For those used to reading mainstream economics and development economics, it comes as a stark revelation that top-ranking economic journals such as *American Economic Review* and *Journal of Political Economy* have 'contributed' just one paper each for the two volumes. The same comment applies for the highly read *World Development*, with just one paper included. Should this be taken to mean that the mainstream does not care about the criticality of water resources to development in general and human well-being in particular?

General Comments

In the Introduction (p xiii), Professor Grafton places the cautionary statement: 'The volumes do not purport to be complete set of articles on the economics of water resources as there are thousands of published papers ....'[3] It would have helped the reader immensely if the Editor had informed us about the criteria used for the selection of the articles.

Investing in Water

The UN *World Water Development Report 3* calls for investments in the water sector in both rich and poor nations and notes that investing in water can pay off in several ways. The *Report* has numbers such as each 'dollar invested in improved access to safe water ... will produce an estimated return of US$3 ...'. It is regrettable that one needs monetary labels for investment in water for drinking. What is needed is a change in mind sets in all the major world capitals that will lead to action plans to ensure that not one soul dies or falls sick for want of safe drinking water. This should be over and above a massive research-and-development effort to reduce water demand by each and every productive sector.

Despite the need to ensure minimum drinking water for every human being at a low or no price, it is indisputable that the time is now to take cognisance of the fact that water is indeed a scarce and precious resource and the economics of water should take centre stage. To assist in such an endeavour, the volumes under review are a welcome instrument.

Table 2. Sixty papers from five journals

Journal	Impact factor (year)[a]	Number of papers
Journal of Agricultural and Resource Economics	0.380 (2007)	4
American Journal of Agricultural Economics	1.034 (2007)	9
Journal of Environmental Economics and Management	1.730 (2008)	10
Land Economics	1.042 (2007)	15
Water Resources Research	1.894 (2006)	22

Note: [a] Based on an Internet search.

Some may think that the value addition from the volumes is relatively limited in these days when one can download electronic journals immediately; but one should not underestimate the value of having a collection to hand to read, refer, and then decide on what to download if any. Of especial note are the several survey articles that are also in the volumes. Thank you to Professor Grafton and Edward Elgar for a great set of papers and an elegant publication.

Notes

1. *Ecological Economics, International Journal of Water Resources Research, Review of Economics and Statistics*, and *Water Policy*.
2. The assortment comprises the following: *Applied Economics, American Economic Review, Australian Journal of Agricultural and Resource Economics, Agricultural and Resource Economics Review, Contemporary Economic Policy, Canadian Journal of Agricultural Economics, Canadian Journal of Economics, Canadian Water Resources Journal, Environmental Economics and Policy Studies, Economic Record, Environmental and Resource Economics, International Journal of Development Planning Literature, Journal of the American Water Resources Association, Journal of the American Water Works Association, Journal of Environmental Management, Journal of Economic Surveys, Journal of Law and Economics, Journal of Political Economy, Journal of Socio-Economics, Natural Resources Forum, Natural Resources Journal, Review of Agricultural Economics, Rivers, University of Colorado Law Review, World Bank Research Observer, World Development*, and *Western Journal of Agricultural Economics*.
3. The Introduction occupies a mere thirteen-and-a-half pages, of which five are taken up by one table. For a book of 1,300 pages, one would have liked to see a slightly longer introduction.

Reference

United Nations (2009) *World Water Development Report 3*, March (New York, NY: United Nations).

Bhanoji Rao
Lee Kuan Yew School of Public Policy, National University of Singapore