

## Book Review

**Water Resource Economics: The Analysis of Scarcity, Policies, and Projects. Ronald C. Griffin. The MIT Press, Cambridge, Massachusetts, USA (2006). 402 pp., \$50.00 (Hardback), ISBN: 0 262 07267-X**

Water resource economics has been largely directed at arid areas, but rapid urbanization, environmental considerations, declining infrastructure and competing uses for water in humid regions has made this an equally compelling topic for non-arid areas. Griffin's book can make a substantial contribution to a wide array of water issues ranging from greater understanding of water controversies to operational efficiency-increasing and cost-effective strategies. Only a few decades in the past, water resource analysis focused on supply development. With the rivers of the US and many developed countries largely impounded, the possibility of increasing water availability has turned more to demand and management considerations. The latter are likely to lean more heavily on resource economic concepts and methods.

*Water resource economics* is one of the first comprehensive economics texts to target water resources; Griffin has definitely made an excellent contribution to the material available to students and instructors interested in this topic. The intended audience is multi-disciplinary, targeting "graduate students of many disciplines, water planning professionals with baccalaureates, and upper-level undergraduates possessing solid math backgrounds". As intended it appears to be stronger for multi-disciplinary students and readers than economists. More specifically, it most effectively targets engineering as opposed to some other disciplines that are often collaborators with economists in facing water resource problems – forestry, fisheries, political science, ecology and biology. Its use for a disciplinary economics course seems most likely to be as a secondary text to complement one of the standard comprehensive resource economics texts.

Although the book represents an excellent, thorough treatment of relevant topics to economic analysis of water allocation and management, it is much better suited to the study of water quantity than water quality problems. The treatment of externalities, common property, public goods and property rights is rather brief. In addition, Griffin briefly covers non-market valuation associated with water-based amenities. The principal approach of the book leans more toward economic engineering than forest, fisheries, ecological or environmental economics.

The greatest contribution of this book is the material in Chapters 7–11. The author's passion and experience clearly are communicated in his presentation of the material in these chapters that focus on markets and supply–demand modeling. The material covered in the first six chapters can be found in many resource economics texts; these chapters are essentially the background for the later chapters. An instructor might choose to use Chapters 7–11 as a complement to a standard commonly used resource economics text. These chapters are the heart and soul of the unique message Griffin can deliver based on his experience with economic modeling of water resources.

On a very practical level, the challenge to the instructor of any multi-disciplinary course, for both the selection of the text and the use of class time, is how much disciplinary conceptual and methodological background is appropriate. If too much course time and text material is devoted to this background, the students and instructor are diverted away from the central topic of the course. If there is too little background, students can be confused for the rest of the course.

In summary, if the students in the course represent a wide array of majors, I would recommend selecting a commonly used intermediate economic principles text to supplement the first few chapters, due to my concern that Chapters 2–3 may not provide sufficient background. The alternative to a supplementary economic principles text would be more prerequisite courses; however, this alternative may greatly limit students' ability to take the course within the constraints of their overall plan of study. The latter is especially true if the non-majors have engineering backgrounds. None of these constraints are particularly relevant for use by water planning professionals. For a multi-disciplinary course with a substantial segment of forestry, fisheries and other largely applied biology majors, this book may not be an appropriate selection for the principal text. Also, in the case of a course directed at economics majors, Chapters 7–11 could be used as a complement to a comprehensive resource economics text.

Griffin has made a contribution to material available in water resource economics, particularly water-related marketing, pricing, and supply–demand modeling. I would recommend that anyone interested in this topic give it high consideration.

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