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BOOK REVIEWS

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Juliet Christian-Smith and Peter H. Gleick. 2012. *A Twenty-First Century U.S. Water Policy*. Oxford University Press: New York. ISBN: 9780199859443, 334 pp., \$27.95 (hardcover).

Reviewed by *Alan R. Collins*, West Virginia University

I am not much of a fan of academic books where chapters are written by different authors. This book, however, represents an exception to my rule as it provides a well-coordinated coverage of water resource issues in the United States. Each chapter of this book is written by authors located in the western U.S., primarily from the Pacific Institute's Water Program. Thus, there are plenty of examples and descriptions of water resource issues from California and the western U.S., in general.

Book chapters have been coordinated to provide a complete coverage of water issues facing the U.S. Individual chapters address issues such as: water availability and use, legal and institutional frameworks, environmental justice and tribal issues, water quality and aquatic ecosystem issues, primary water users (agriculture, municipalities, and energy), climate change, and even international water policy (as applied to transboundary and foreign aid issues). These chapters present a good mix of physical aspects of water resources (quantity and quality) along with the social and economic aspects of water use (from water users to environmental justice and equity considerations).

I was particularly impressed with the data provided and excellent references cited in this book. Data include both qualitative descriptions and quantitative presentation on a wide range of topics related to water resources. Qualitative examples include: federal authority evolution over water resources (pp. 26–27), tribal approval of EPA water quality standards (pp. 102–103), connections between energy and water (pp. 223–224), and supply plus demand side adaptations to climate change (p. 251). Quantitative examples include: water use efficiency standards (p. 15 and 173), federal agency budgets related to water (pp. 30–33), toxic inventory releases by industry (pp. 116–117), stream quality assessment by region (p. 145), irrigation system efficiencies (p. 212), water demand intensity of transportation fuels (p. 230), and USAID water related assistance (p. 277). I will note that much of the water resource supply and use data comes

from the U.S. Geologic Service and their data is in need of updating as the most recent comes from 2005.

Like many attempts to put together a comprehensive coverage of a topic area, there are some deficiencies and inconsistencies that I found in this book, some of which need clarification. Three examples are described below.

On page 47, authors *Juliet Christian-Smith* and *Lucy Allen* imply that all river basin commissions were eliminated by executive order in 1981. In reality, six commissions were terminated by this order in some major U.S. river systems such as the Ohio, Missouri, and Upper Mississippi. However, interstate river commissions continue to exist and are active in water management issues in eastern river systems such as the Delaware, Potomac, and Susquehanna (Abdalla et al., 2010).

On page 288 of the summary and conclusions, it is noted that countries such as South Africa and Australia as well as those within the European Union have passed innovative water laws that “share a common commitment to more holistic water management.” These countries, their laws, and how these laws might apply to the U.S. are never elaborated upon in this book.

In several places in the book (examples include on p. 156, 189, and 293), the authors advocate that water users pay the full cost of water. However, the equity concerns of low-income water users under a full cost pricing mechanism are not fully developed in this book. There are suggestions of a low income water assistance program (similar to energy services) and federal requirements of a lifeline rate for low-income users. However, other authors, like Schoengold and Zilberman (2014) and Garcia-Valinas (2005), provide detailed examples of how to incorporate both efficiency and equity into water pricing decisions for residential customers.

This book identified numerous emerging challenges for water resources that the U.S. faces in the 21st century. These challenges include: a lack of coordination among federal and state agencies that manage water resources (Chapter 2 by *Juliet Christian-Smith* and *Lucy Allen*), integrating environmental justice principles into water related programs and policies (Chapter 3 by *Amy Vanderwarker*), adequate funding for enforcement of water quality violations (Chapter 5 by *Lucy Allen*), devising effective policies to combat non-point pollution (also Chapter 5), expanding federal leadership to improve the management of water resources (Chapter 6 by *Juliet Christian-Smith* and *Lucy Allen*), closing the under-investment gap that exists in both water and wastewater infrastructure (Chapter 7 by *Heather Cooley*), pricing of water to account for scarcity and the full cost of water resource use (also Chapter 7), incentivizing efficient water use by users who are currently subsidized in their use of water (Chapters 8 by *Juliet Christian-Smith* and Chapter 9 by *Heather Cooley* and *Juliet Christian-Smith*), expanding the use of “new” water supplies such as storm runoff, graywater, and reclaimed wastewater (also Chapter 8), and climate change with increased droughts and varying precipitation patterns (Chapter 10 by *Heather Cooley*).

The primary thrust of this book across chapters is to advocate a “soft path” to meet these emerging challenges for water resources instead of supply driven policies that require large infrastructure construction (such as dams to store water or water diversion projects). A soft path for water resources has been advocated previously (Gleick 2003) by one of the authors of this book—*Peter H. Gleick* (Chapters 1 and 11). This path includes integration of key principles into water policies based on meeting basic human and ecosystem water needs as a top priority, matching water quality to end user needs, improving the productivity of water use, and

integrating water resource decisions across different sectors of society, including land-use planning, water demands, and flood management, by seeking meaningful public involvement in decision-making. As is noted in the conclusion in Chapter 12 by editors *Juliet Christian-Smith* and *Peter H. Gleick* on page 289, there is a “variety of obstacles to the implementation of a soft-path approach, including the disconnection between human systems and ecological systems, ineffective water-pricing structures and markets, and the segregation of agencies and policies into silos.”

The recommendations stemming from this “soft path” include: more coordination across federal water agencies, reinstatement of river basin commissions to devise watershed management plans across state boundaries, more and better data collection on water resources by the U.S. Geological Service, integration of climate change risk into the planning, design, and operations of water resource systems, charging water users the true cost of water, increasing local cost shares for federal grants, updated water quality laws to account for new contaminants and synergistic impacts of contaminants, linking water resource policies with energy and agricultural policies, increased water use efficiency standards, and expanding the use innovative new sources of water (like water recycling and rainwater harvesting).

As an academic who studies water quality issues, it is difficult to disagree with any of these recommendations. However, it is also difficult to envision the motivation to reverse the status quo for many water policies, particularly any enhancement of the federal government’s role in water resources management. Water is such a basic good and taken for granted as a resource among the general public in developed countries like the U.S. that only major supply shock episodes, like the drought in California or water contamination episodes in Charleston, West Virginia, or Toledo, Ohio, generate sufficient momentum to change how water resources are managed. The localized nature of these episodes can result in policy changes, but these changes are typically confined to the state or local levels and are often temporary in nature. When the momentum for a defining moment in federal management of water resources will emerge in the 21st century, like the Clean Water Act of 1970 from the previous century, is difficult to envision mid-way through the second decade of this century.

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Charlotta Mellander, Richard Florida, Bjorn T. Asheim, and Meric Gertler, eds. 2013. *The Creative Class Goes Global*. Routledge: Abingdon, Oxon, UK. ISBN: 9780415633611, 316 pp., \$160.00 (hardcover).

Reviewed by *William Hatcher*, Georgia Regents University

In the opening chapter of *The Creative Class Goes Global*, two of the three editors of the book, *Richard Florida* and *Charlotta Mellander* pose the question, “What *really* drives economic development?” Since the publication of Florida’s *The Rise of the Creative Class*, many working in economic development have answered this question by pointing to the economic power of communities that can attract and retain so-called creative-class jobs. Workers in creative-class occupations include practicing artisans and individuals working in occupations that deal with ideas, who need to be creative with their work and often enjoy local art-related amenities during their leisure time. According to Florida’s “3 T’s,” the economic regions practicing *tolerance*, cultivating strong labor *talent*, and developing industries that utilize *technology* will be the communities that dominate the economy of tomorrow.

Proponents of the creative-class theory present it as a universal explanation of development, one that crosses not only jurisdictions within the United States but boundary lines throughout the entire world. *The Creative Class Goes Global* examines the power of the theory as a worldwide explanation of economic growth and development by including research on multiple nations. The editors do a respectable job of accomplishing this goal.

The Creative Class Goes Global is a typical reader, organized around sections and chapters that explore the creative class throughout the world. The editors divide the book into parts based on research that has been conducted in the following regions: (1) the United States and Canada; (2) Scandinavia, the Nordic countries, and Europe; and (3) Australia and Asia. A number of the book’s chapters are taken from articles previously published in other academic outlets.

In Part I, the editors include two chapters on the United States and Canada. The choice for the United States (Chapter 2) is an article by *Richard Florida*, *Charlotta Mellander*, and *Kevin Stolarick* entitled “Inside the Black Box of Regional Development,” which was originally published in the *Journal of Economic Geography* and is one of the seminal articles in the creative-class literature. For someone who may be new to this literature, this article is a great first read. It does an excellent job of presenting the theory, addressing criticisms of it, and testing key creative-class hypotheses with robust data analysis. The authors present data to show how the creative-class definition is superior to the standard human capital measurement of the workforce’s educational levels in a community—although, they find that human capital and the creative class complement one another in regional development. The book’s chapter on Canada (Chapter 3), by the same authors as in Chapter 2, examines that nation’s concentration of the “3 T’s.” The analysis of the Canadian data is similar to the one conducted by the authors on the data from the U.S., and the authors find related results. One interesting finding, though, is that (p. 78) “the educational human capital measure has a significant effect on technology, while the creative class does not.” It appears that in the Canadian context, the creative-class measure is not superior to the traditional human capital one. To many familiar with the creative-class literature, the chapters on the U.S. and Canada will not provide much novelty, but they are a nice introduction to those readers who may be new to the literature.

In Part II, the book includes chapters on nations in Europe. The section is organized around chapters on Scandinavia, Nordic nations, and other European countries. The chapters on nations in Europe offer some interesting contributions to the creative-class literature. For one, they demonstrate the importance of context. Chapter 7 by *Gerard Marlet* and *Clemens van Woerkens* shows how, in The Netherlands, tolerance is not a strong predictor of creative-class concentrations. The creative class seems to group around amenities, job opportunities, and aesthetic qualities of cities (historical buildings). In other words, the cities with a high concentration of historical buildings are more likely to have more creative-class workers than the cities that practice a great deal of tolerance—a very interesting finding.

Another important contribution from the chapters on nations in Europe is that they are critical of the creative class. The critical analyses present findings that ultimately help strengthen our understanding of the creative class and help build it as a descriptive theory. In Chapter 8, which is also on The Netherlands, *Irina van Aalst*, *Oedzge Atzema*, *Ron Boschma*, and *Frank van Oort* find a weak relationship between the creative class and economic growth in Dutch cities. The research on the United Kingdom and Germany mirrors the findings from the creative-class literature on the United States. *Nick Clifton* (Chapter 9) shows that the creative class is not evenly distributed throughout cities in the United Kingdom. A finding that is very similar to research conducted on the location of the creative class within cities in the United States, in particular the unequal distribution of the creative class. *Michael Fritsch* and *Michael Stuetzer* (Chapter 10) also find the creative class unequally distributed in Germany. Section II concludes with Chapter 11, which is a study of seven European nations. In it, authors *Ron Boschma* and *Michael Fritsch* find that the creative class is unequally distributed throughout the continent.

In Part III, the book examines Australia, Japan, and China. Chapter 13 on Australia reveals little evidence that the creative class produces economic growth in the nation. Due to a lack of data, *Hans Westlund* and *Frederica Calidoni* report that they were unable to test the full effect of creativity in Japan. Lastly, in one of the most important chapters in the book (Chapter 14), *Richard Florida*, *Charlotta Mellander*, and *Haifeng Quian* apply the “3 T’s” approach to find that universities in China play a key role in the distribution of the creative class. However, technology is not as important an indicator as in other advanced nations. It appears that universities are playing more of a role in promoting the creative class than in other economies.

The main contribution of this book is in how the chapters stress the importance of national context when examining the creative class. The unique economic and governmental features of a nation will influence the concentration of its creative-class workers. Having a better contextual understanding of the creative class contributes to the development of the creative-class theory as a descriptive explanation of what drives economies.

The book does have some flaws. First, beside the chapter on China, the book does not address the creative class in the context of the developing world. Also, the chapters in the book fail to address how the creative class impacts development in rural contexts. Yes, the world is (and has been for a while) becoming an urban environment, but large parts, even large sections in the United States, are still very rural. In the past, my colleagues and I (Hatcher, Oyer, and Gallardo 2012) have worried about the efficacy of the creative class in rural environments. McGranahan, Wojan, and Lambert (2010) have conducted useful research on the creative class in the rural parts of the United States. The authors show that the creative class, coupled with amenities and business support, can be a powerful “trifecta” influencing economic growth in

rural communities. Future readers on the creative class should include some focus on the literature examining the theory in rural environments.

Lastly, as a professor who teaches public administration, another critique of mine is that the creative-class literature often fails to include a role for local governments in its normative discussions and empirical research. Looking at the authors' affiliation of the book, one sees mostly economists and geographers. In future work, this concern can be addressed by having works like *The Creative Class Goes Global* include authors from additional fields, in particular political science and public administration.

Nevertheless, *The Creative Class Goes Global* is a book that researchers, economic developers, and students need to have on their bookshelves. *The Creative Class Goes Global* adds to the scholarly literature on the creative class by serving as a collection of relevant research on the theory in multiple nations. The book is perhaps most useful as a handy reader for instructors teaching students who are fairly new to the creative-class literature. However, the book also serves as a convenient reference for experienced researchers looking to have creative-class research organized based on the world regions.

Still, more research needs to be conducted to truly state that the creative class is global. In my opinion, this research needs to include questions about rural development, the creative class in developing contexts, and the role of government in developing the creative class.

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Antoine Halff, Benjamin K. Sovacool, and Jon Rozhon, eds. 2015. *Energy Poverty: Global Challenges and Local Solutions*. Oxford University Press: USA, ISBN: 9780199682362, 472 pp., \$110.00 (hardcover).

Reviewed by *Nyakundi M. Michieka*, California State University, Bakersfield

In 1962, as many as 20 percent of Parisian apartments lacked access to electricity. A generation ago, 0.5 billion Chinese had no access to electricity. The world has made strides over the last three decades in extending energy services, even though one fourth of humanity is still mired in energy poverty. Today, there are 1.3 billion people who lack electricity and 2.7 billion who lack clean cooking fuels. Ninety-five percent of these live in Sub Saharan Africa and South Asia. The provision of universal energy access as a policy issue is one that has gained momentum due to the realization that energy access is a necessary condition for economic development.

The United Nations Development Programme (UNDP) defines energy poverty as "the inability to cook with modern cooking fuels and the lack of a bare minimum of electric lighting to read or for other household and productive activities at sunset." Energy is a critical enabler for all forms of development. It influences health, education, standards of living, technology, and the environment. In many countries, energy poverty is caused by poor governance, weak institutions,

lack of integrated policy framework, misdirected subsidy regimes, and resource constraints. This book examines these hypotheses in the context of case and country studies. For example, although Africa is endowed with energy resources, a significant amount of the population suffers from energy poverty. Accessing these abundant energy resources has proved to be a challenge due to ongoing conflicts in the region as seen in Uganda and Nigeria. A similar scenario exists in Yemen, which is located in an energy rich region of the world, but a combination of income poverty, geography, custom, and political conflict have exacerbated energy poverty.

The second part of the book explains lessons learned in eradicating energy poverty. Tackling energy poverty is an initiative that requires action from governments, industry, the private sector, and financial institutions. It encompasses the installation of grids, micro grids, isolated units, improved cook stoves, solar home systems, solar lanterns, biogas digesters, and micro hydrodams. Case and country studies have shown that political will, target setting, involvement of the private sector, use of appropriate technology, implementation of the right policies, strong institutional support, and the implementation of efficient subsidies would help provide energy access.

China, Brazil, and Senegal combined the aforementioned instruments in providing electricity to rural areas and encouraging use of cleaner fuels. China improved its rural grid network and used renewable energy sources to provide electricity in counties that were inaccessible to the main grid. It also established programs that were specifically aimed at developing the rural West. Brazil encouraged transition from fuelwood to liquefied petroleum gas (LPG) by creating infrastructure that aided in distributing LPG cylinders. The government then employed subsidies to make LPG affordable and enabled those that had adopted solar PV to generate income by selling excess electricity to the grid. Morocco and Jordan also financed energy access through subsidies. The Senegalese government hiked wood cutting license fees and increased the price of charcoal to deter residents from using charcoal. Overall, the rate of success is directly dependent on the government's commitment to create an enabling environment, which includes having a clear-cut policy framework and milestones along with systems for defining and enforcing appropriate technical standards. Furthermore, the energy plus approach – which is a method that incorporates productive uses of energy – provides users with an opportunity to generate a stream of income. This revenue enables consumers to pay for energy services after installation. The approach is intuitive because conventional projects for energy access transform people from being poor *without* energy access to being poor *with* energy access.

The provision of electricity access is done by small and medium-sized enterprises (SME), non-governmental organizations (NGO), and community based organizations which struggle with providing technical skills, accessing supply chains, financing, and organizational skills needed to expand. They operate in rural areas where it is hard to interact with other organizations to hear experiences from which they can learn. By joining the Practitioner Network, members can network with groups sharing common areas of interest and offer recommendations on issues. The network currently has 1,700 practitioners and 980 organizations in 191 countries. Most members in the network focus on solar and energy efficiency while membership in geothermal energy has the fewest participants.

Between 2007 and 2011, energy subsidies amounted to \$3.5 trillion (U.S.) while in 2011, an estimated USD 839 billion was awarded in subsidies. Energy subsidies have come under criticism because they sometimes do not work well. They distort prices, over exploit fuels, and make consumers reluctant on conservation. They also benefit higher income households rather

than lower income households and encourage formation of black markets. Ultimately, subsidies are hard to remove because they are engrained in the politics of the country. Getting out of the “subsidy trap” requires a series of steps which include compensation of recipients whose benefits are withdrawn. The authors do a good job of providing ways to get out of the “subsidy trap” in the second section of the book.

The process of eradicating energy poverty requires financing. The International Energy Administration estimated that \$1 trillion (U.S.) will be needed to achieve universal access to energy by 2030. This amounts to \$49 billion (U.S.) per year from 2011 to 2030. Of this amount, 90 percent will be used for electricity generation, transport, distribution, provision of grid, mini-grid, isolated off-grid, and LPG, while the remaining 10 percent will be allocated towards cooking. Further research indicates that an added \$57 trillion (U.S.) will be needed to finance the supporting infrastructure. Unlocking these resources may prove a challenge because energy projects have high risks and low returns on investment. Thus, smart subsidies, output based aid, carbon financing, and public-private partnerships are some of the innovative financial mechanisms which can be used to generate these resources.

Arguably, the greatest contribution of the book is chapter seven, which introduces gender into the energy poverty discussion. Another contribution that may have been unintended is looking at the monetary cost of providing universal energy access. Although studies found that electrification will cost between \$5 and \$40 (U.S.) per capita per annum, gaps still exist in the literature on the exact figure. Chapter 13 of the book provides a scope and depth of energy poverty in Yemen, which lies in the energy rich Middle East—an area that has been understandably overlooked in the energy poverty literature. One area that may have required more attention, though mentioned in passing, is the environmental benefits and costs of providing energy access. Although the effect of providing access on climate change is mentioned, regional analyses would complement the material given the attention that climate change has been receiving lately. Nonetheless, this book provides a resource by documenting aspects of energy poverty and offers a reference tool for energy entrepreneurs, policymakers, NGOs, economists, and students interested in the field.