

adaptation policy. It also highlights a number of challenges that will no doubt bedevil future adaptation policy and practice. One is the task of distinguishing between historical forms of official development assistance and what will become “new and additional” funding allocated through multi-lateral, bi-lateral and commercial channels. The chapters on adaptation and development provide important insights about the ways in which adaptation has been defined in relation to the UNFCCC and the Kyoto Protocol (Huq and Reid, Chapter 16; Schipper, Chapter 19). But the challenge of distinguishing between “old” development projects and “new” adaptation initiatives remains large, reflecting the strong tendency on the part of adaptation financing to follow old development habits and old development channels. Conceptually, Chapter 7 by Susanna Davies helps to grasp this nettle by suggesting that: “the problem is where to draw the line between behavior that is principally driven by food stress (coping); and that which is motivated by the need to fundamentally alter the mix of activities required for subsistence (adapting). Adaptive strategies imply that livelihood systems are moving towards a new equilibrium (or not), necessitating that external support respond to the much more basic constraints encountered in such processes (p. 110).”

A second and related challenge therefore involves the difficult and complex relationship between climate science and public policy. Although the editors are by no means naïve about the challenge of linking climate science and policy (see, for instance, Chapters 6 and 19), the Reader at times gives the impression of a science that can stand in isolation from politics and persuasion, suggesting that much of the scholarly writing about adaptation is still operating in isolation from the more critical science and technology studies (STS) literature. The Reader also shows some notable signs of age. Chapter 4 (by Barrie Pittock and Roger Jones) and Chapter 8 (By Jesse Ribot and colleagues), for instance, both draw upon data sets that are now 15 years out of date. Although the passage of time should never decide a paper’s importance or relevance, these and other examples do highlight the need for some strategic editing or at the very least some editorial commentary about how and why reference to the IPCC’s Second Assessment Report or a conference from 1992 helped to frame the (important) projections and interpretations being made in the original essays.

A third issue concerns the challenge of dealing with the strong national bias that now appears to dominate contemporary adaptation policy and practice. Like the international negotiations that gave them force, the UNFCCC and the Kyoto Protocol are products of an international system whose principal aim is to uphold the jurisdictional and territorial sovereignty of individual nation states. Correspondingly most of the adaptation programming that has so far been supported under the Kyoto Protocol and the UNFCCC has transpired on a country by country basis (Huq and Reid, Chapter 16). Although national governments should of course play a leading role in the formulation and implementation of adaptation policy, a principal concern here is that funding for *some* national governments will come at the expense of other more deserving contenders and/or it will come at the expense of populations living within the territorial confines of the nation state. The growing involvement of cities, transnational networks and

other “non-state” actors suggests that national government dominance may be coming to an end, but the institutional structure of the UN system still tends to favour programs and policies that work within a system of sovereign nation states.

Finally there is the task of theorizing and formulating adaptation for populations displaced as a result of climate change. Throughout its conceptual history, adaptation has had an ambiguous relationship with migration, reflecting concerns about the economic and human costs of engaging in distress migration and a strong tendency on the part of government programs and policies to target populations whose rights and entitlements are defined in relation to fixed territorial settings (e.g. slums, villages, etc.). Although few of the chapters in this volume are about the relationship between migration and adaptation, individual contributions from Adger et al. (Chapter 15), Ribot et al. (Chapter 8), Moench (Chapter 13) and the introductory Chapter 1 by Schipper and Burton do provide important empirical and normative insights, suggesting that migration and even relocation may under certain circumstances provide a limited means of adapting to climate change. Much however depends on the circumstances and the range of alternative livelihood options: all things being equal, the desired policy outcome would surely be one in which very poor people are not forced (or even strongly encouraged) to abandon their homes, livelihoods and communities. However, the perceived ethics and politics of relocating large numbers of people must also be weighed in relation to the risk that inaction will lead to unacceptable suffering, displacement and disaster.

Such questions highlight the wealth of information and insight that can be found in this volume. For students, researchers and policymakers, the Reader will no doubt provide an essential source in the years to come.

Craig A. Johnson

Department of Political Science University of Guelph, Ontario, Canada
E-mail address: cjohns06@uoguelph.ca

Published on line 18 August 2009

1462-9011/\$ – see front matter

© 2009 Elsevier Ltd. All rights reserved.

doi:10.1016/j.envsci.2009.07.009

Thomas Dietz and Paul C. Stern (Eds.), Public Participation in Environmental Assessment and Decision Making, National Academies Press, Washington, 2008, 322pp. ISBN-10: 0-309-12398-4, Paperback \$59.00.

Much has been written in recent years on public participation in science and policy-making, most of it advocating the practice. Proponents argue that involving the public or ‘stakeholders’ (i.e., interested or affected parties) in decision-making about environmental issues leads to better quality and more acceptable decisions, and can improve relationships and trust between participants. Critics point out that the manipulation of participation may be used in the unjust and illegitimate exercise of power (Cooke and Kothari,

2001), or that involving groups of non-experts in complex, technical decisions is inappropriate, inefficient or produces less environmentally sustainable outcomes (e.g., Hajer and Kesselring, 1999).

In any case, in many countries, there are now legal mandates to incorporate some element of public participation in environmental decision-making, so that those who might be affected by a particular proposal have the right to influence that decision. Consequently, it is not possible to ignore the 'participatory turn' in environmental science and policy. So, given this need to engage with the public, the questions preoccupying many researchers and practitioners are 'how do we do it?' and 'what can it achieve?'

Until now there have been few attempts to synthesise this diverse literature and draw out conclusions and recommendations for practice. To provide such a synthesis was the objective of the US National Research Council convened Panel on Public Participation in Environmental Assessment and Decision-Making. In their book *Public Participation in Environmental Assessment and Decision-Making*, edited by Thomas Dietz and Paul Stern, the Panel present the outcomes of an extensive process of research and consultation involving a series of workshops, meetings, and working papers bringing together academic and practitioner expertise pertaining to public participation. *Public Participation* is the culmination of this process, and as such is perhaps the most comprehensive review to date of this field. It builds in part on a similar review, 'Understanding Risk' organised by the National Research Council in 1996. It also draws on a large corpus of empirical evidence of participatory processes and on relevant social science theories and concepts – from democratic governance, conflict resolution, group processes, public understanding of science, risk perception, and other fields – and as such provides a refreshing antidote to the often uncritical rhetoric of public participation and stakeholder engagement which has become so commonplace. The principles espoused by the authors are drawn from research and experience relating to a broad range of environmental issues including toxic contamination, forestry, local watershed management and climate change. (There are also literatures on public participation from other policy arenas, such as urban planning and biomedical research, which the authors state are beyond the scope of their review.)

The book is organised into nine chapters. Following an executive summary, the introductory chapter sets out the rationale, background, approach, scope, definitions and key concepts used in the book. It is worth noting that 'public' is broadly defined by the authors as 'interested or affected parties' (i.e., stakeholders), and so may encompass businesses and non-governmental organisations as well as communities. Chapter 2 then addresses the question 'why do public participation?' This reviews (and extends) familiar arguments about the rationale for and benefits of participation, while also convincingly countering arguments made by opponents of participation. For example, psychological research indicates that individuals and groups are prone to significant biases in decision-making (e.g., cognitive shortcuts and 'groupthink'); but the evidence shows that a well-organised process can overcome these shortcomings. Here the authors build on, and adapt, Daniel Fiorino's typology of normative, substantive and instrumental rationales for public participation, to argue that

ideally participation should improve the quality of assessments and decisions, enhance their legitimacy amongst those involved and potentially affected, and lead to increased understanding and decision-making capacity amongst all those involved. These three criteria of quality, legitimacy, and capacity may be used to evaluate assessment and decision-making; in particular, they suggest the following indicators of success:

- *Quality*: public concerns are addressed, more information is considered and innovative ideas generated, outputs reflect a broad view of the situation, conclusions reflect best available evidence;
- *Legitimacy*: mistrust amongst participants is reduced, participants accept the decision process as fair even if they do not agree with the recommendations for action; and
- *Capacity*: participants (including scientists) are better informed about environmental (or related) issues and gain a better understanding of each other, organisers and participants develop skills in participatory decision-making.

The last of these (enhancing capacity) might also have been labelled *learning*, since it encompasses technical or 'single-loop' learning (adaptation and error correction in respect of a fixed goal) and more fundamental, social or 'double-loop' learning (assumptions and objectives are questioned and the issue reframed; e.g., Whitmarsh et al., 2009). Categorising outcomes of participation in this way is a useful contribution of the book. Yet, it is rather frustrating to learn that there is little evidence for the ultimate *impact* of participatory decision-making in terms of environmental outcomes. This, one might contend, should be a crucial criterion on which to evaluate decision-making processes. However, in part because of the lack of longitudinal studies of participation, but also because of the methodological difficulties of trying to causally link changes in environmental conditions to particular policies or actions, such indicators are excluded from the review.

Chapter 3 reviews evidence for the effects of public participation, in effect answering the question 'what evidence is there that public participation works?' This evidence comes from practitioners' experience in dispute resolution, planning and environmental assessment traditions and from empirical studies (single and multi-case studies, experimental and quasi-experimental research) of environmental public participation processes. This literature converges on the conclusion that public participation improves decision-making along the three dimensions of quality, legitimacy and capacity. Not only this, the evidence shows that these criteria are positively correlated: processes which enhance decision quality simultaneously tend to improve legitimacy and enhance capacity. Thus, there need not be a trade-off between making 'better' and 'more acceptable' decisions; rather, the authors contend, 'you can have it all'.

Chapters 4–6 present the principles of managing and organising public participation, and for integrating science within the process. Consistent with good management practice, a well-managed participatory process is defined as having a clear purpose, adequate resources, commitment from those involved to support the process and take the results seriously, timely outputs, and a focus on learning and implementation. The process should be organised with five

key attributes in mind: breadth, intensity, openness of design, influence and integration of science. Breadth refers to the number and variety of participants involved: involving the full spectrum of interested and affected parties makes for more successful processes. Intensity refers to the length of time participants spend in the process and particularly the amount of face-to-face contact: in general, there is a positive association between intensity and desired results, but this can depend on the particular context or aims of the process. Influence and openness of design are closely related concepts, and imply collaborative problem formulation, transparency of process, and good-faith communication, all of which improve the success of decision-making processes. The adage of 'early and often' is confirmed by empirical evidence and explained by social scientific principles. Involving participants early in the process means there is shared problem formulation and option generation, and the 'frames', or lenses through which new information is interpreted, are co-constructed to reflect the broad values of all participants (not only the agency organising the process). Substantively integrating public views from the outset improves the quality of decision-making (by illuminating the problem from a range of perspectives) but also enhances its legitimacy by representing a range of interests, which in turn means the public is more likely to see the process as fair and accept its outcomes. From an instrumental perspective, early involvement tends to avoid trouble later on whereby participants seek to express their concerns outside the participation process (for example, through litigation). Finally, there should be iteration between analysis and deliberation, so that participants shape the focus of scientific analyses and are in turn able to evaluate (as in an extended peer review) and use that technical information in their decision-making. From this perspective, stakeholder engagement is not merely an add-on to scientific investigation; rather, the authors argue that integration of science and public deliberation is mutually beneficial.

Chapters 7 and 8 discuss contextual factors which may pose difficulties for public participation. These are grouped into two categories: issue-related factors and people-related factors. Here, we move from the ideals of participation to the more complex and challenging reality, and are given insights into why there is often disparity between the two. Interestingly, the volume argues that there is no evidence to suggest public participation is necessarily less appropriate or successful for some environmental issues than for others. One might imagine that public participation in decision-making about climate change may be more difficult than for local watershed management, where there are more clearly defined stakeholder groups and a clearer motivation for these affected parties to participate in decision-making. Indeed, the authors acknowledge that there are some features of environmental problems – such as scale and uncertainty – which pose particular challenges for implementing the principles of public participation good practice. Inclusive participation is harder to achieve with global scale issues, such as climate change, where *everyone* is potentially affected, or in cases where there are disparities in power or resources (including finances, time, education, and so on). Similarly, motivation to participate will be lower where a problem is intangible or invisible (again, like climate change). Likewise, scientific uncertainty and complex-

ity may make decisions more difficult. Yet, these challenges are not insurmountable, the authors argue. For example, online participation or workshops in multiple locations may help achieve representation of geographically dispersed publics; assistance grants and collaborative design may help address structural inequalities between participants; formally characterising uncertainty and communicating in plain language may help when the scientific evidence is uncertain or complex; and so on. In short, the authors conclude there are no environmental issues for which assessment and decision-making would not be improved by public participation.

One issue which is perhaps not adequately addressed at this point, however, is the cultural dimension of public participation. In many developed countries, political apathy is rife and the public often feel their opinions are irrelevant to policy-makers (e.g., Macnaghten and Jacobs, 1997). In the UK, for example, less than one-third of people believe that 'when people like me get involved in politics, they can really change the way the country is run' (Hansard, 2008). This political disenfranchisement poses significant challenges to engaging publics in decision-making about environmental issues (and particularly for intangible ones, such as climate change, for which motivation to participate is already low). In part, this omission may stem from the (relatively) culturally heterogeneous authorship of the book. Naturally, given the funders' remit, the review focuses on the US political, legal and environmental context and does not consider well-documented national differences in risk and environmental governance and institutional relationships (e.g., Jasanoff, 2004). Although the book draws on international literature and its insights span national boundaries, this is one contextual challenge for public participation which I feel the book should have addressed.

Finally, Chapter 9 presents a concise summary and broad recommendations for practice, as well as questions and methods for future research. Here, the need for formal experiments and modelling is particularly advocated. Indeed, a central theme in the volume is the need for more rigorous, experimental research on participation. The authors are clearly frustrated by the predominance of case study and non-experimental research in public participation, and the deficit of broader comparative or experimental studies. Ultimately, the authors are seeking to establish a 'science of public participation' in order to improve confidence in recommendations for organising effective participation. This seems an admirable ambition for this relatively young field. Yet, given the traditions from which this field emerges, it appears to be strangely uncritical of concepts of scientific evidence or method. In contrast to academics like Brian Wynne, whose work seeks to deconstruct taken-for-granted notions of scientific expertise and to challenge scientific hegemony, this volume sees a central role for science within both the practice and study of public participation. Wynne's seminal research on sheep farmers in Cumbria – whose context-specific knowledge about farming and local ecology was ignored by government scientists to the detriment of decision-making about radiation hazards – is cited as an example of how participation can improve the quality of decision-making. But the more critical implications of this work are not explicitly considered by the authors, who are more interested in convergence than in divergence in the participation literatures.

Crucially, the focus in this volume is on the *principles* of organising and conducting public participation. The authors are at pains to remind readers that they do not, and cannot, provide a simple, prescriptive message on how to do public participation; there is no single approach or method which is best, or even best for particular issue contexts. Thus, readers seeking a best practice guide on public participation may be disappointed by *Public Participation*. On the other hand, there are already a myriad of handbooks which offer such practical advice about the advantages and disadvantages of different tools and methods. Where *Public Participation* adds value is in offering an evidence-based perspective on the general characteristics of successful participatory processes.

The book is largely well-structured and coherent: although there is some repetition of ideas and arguments between chapters, this may be an advantage for anyone using the volume as a resource to dip into. This duplication also serves to reiterate the key message that well-organised public participation is worthwhile. On the other hand, the absence of an index makes such selective use difficult, and is an unfortunate omission from a reference book.

Public Participation is a timely, comprehensive and exceptionally well-referenced review of the state-of-the-art. Readers from outside the US may be frustrated by the national focus of the volume. Yet, it does draw on international literatures on (and relevant to) participation, and the authors argue that the general principles and conclusions they draw will be broadly relevant to non-US contexts. I would tend to agree that this volume will be beneficial to those interested in public participation in a range of national and issue contexts, with the caveat that some cultural differences (e.g., in public trust and interest in political processes) which may be significant to effective participation are underplayed in the book. Nevertheless, I would recommend the volume to scholars in this field, and at around £30 would suggest it represents good value for money.

REFERENCES

- Cooke, B., Kothari, U. (Eds.), 2001. *Participation: The New Tyranny?* Zed Books, London.
- Hajer, M., Kesselring, S., 1999. Democracy in the risk society? Learning from the new politics of mobility in Munich. *Environmental Politics* 8, 1–23.
- Hansard, 2008. Audit of Political Engagement—Parliament and Government. Available from: http://www.hansardsociety.org.uk/blogs/parliament_and_government/pages/Audit-of-Political-Engagement.aspx.
- Jasanoff, S. (Ed.), 2004. *States of Knowledge: The Co-Production of Science and Social Order*. Routledge.
- Macnaghten, P., Jacobs, M., 1997. Public identification with sustainable development: investigating cultural barriers to participation. *Global Environmental Change* 7, 5–24.
- Whitmarsh, L., Swartling, Å., Jäger, J., 2009. Participation of experts and non-experts in a sustainability assessment of mobility. *Environmental Policy & Governance* 19, 232–250.

Lorraine Whitmarsh*

School of Psychology, Cardiff University, Tower Building,
Park Place, Cardiff CF10 3AT, United Kingdom
Tyndall Centre for Climate Change Research, United Kingdom

*Tel.: +44 029 208 76972; fax: +44 029 208 74858

*E-mail address: WhitmarshLE@cardiff.ac.uk
(Lorraine Whitmarsh)

Published on line 4 September 2009

1462-9011/\$ – see front matter

© 2009 Elsevier Ltd. All rights reserved.

doi:10.1016/j.envsci.2009.07.014

Gustave Speth James, *The Bridge at the Edge of the World: Capitalism, the Environment and Crossing from Crisis to Sustainability*, Yale University Press, New Haven (2008)., 336 p, \$28.00, ISBN-10: 0300136110 ISBN-13: 978-0300136111

For someone who TIME magazine described as “the ultimate insider”, James Gustave Speth in his latest book is highly critical of the environment establishment to which he has devoted his career. The governments, corporations and NGOs with whom he has worked so closely throughout his prolific life as one of the world’s greatest environmental thinkers are at the forefront of this wide-ranging critique of environmentalism’s response to contemporary capitalism. Co-founder of the Natural Resources Defense Council, Yale University dean, and former White House advisor, James Gustave Speth has been a leader in the environmental movement for more than 30 years. This depth of experience and commitment is skillfully brought to bear on the contemporary challenges facing the environmental movement and, indeed, the world as a whole.

He pulls no punches in providing an engaging critique of the nature of the ecological crisis which goes way beyond the comfort zone of many of his colleagues in the liberal environmental movement by questioning economic growth, consumerism and the very constitution of the modern firm. The book provides a veritable *tour de force* of research and writing on global environmental issues over the last 30 years which of itself will be invaluable to environmental students.

The early sections of the book make for depressing reading; a breathless commentary on the state of the world which reveals evidence of widespread plunder of the resource base that sustains human life on the planet, an examination of modern capitalism ‘out of control’ and a critique of the failure of environmentalists to deal with the big environmental questions amid a preference for elite lobbying and legal activism. The second part of the book explores the means by which markets might be managed in ways that re-orient them to the twin goals of delivering social equity and sustainability. From here, the discussion broadens to the very nature of growth and how we measure progress. Ideas about consumerism and its association with worth and happiness in contemporary capitalist society are interrogated and ultimately found lacking. The chapter on corporations proposes a series of concrete reforms that include revoking the charters of firms that fail to contribute to broader societal goals, removing the limited liability that protects the investors in firms from the consequences of their investment choices and strengthening the legal responsibilities of individual firm directors for their firm’s conduct.

The final part of the book makes a case for re-invigorating democracy in its deliberative and participatory forms, building from below rather than seeking to direct change from above. To