

Stakeholders

MJ Peterson with research assistance and comments from Ilke Ercan

International Dimensions of Ethics Education in Science and Engineering
Background Reading
Version 2; June 2009

Who is a Stakeholder?

Two distinct conceptions of stakeholder have developed in recent decades. The first, existing in politics long before the word “stakeholder” became fashionable, refers to anyone likely to be affected by a decision of activity occurring within the domain ruled by a particular government – be it national, local, or municipal. Concern for the welfare of stakeholders arises whenever an activity undertaken by government agencies or private entities has sufficient impact on a whole society, everyone in a particular locality, or a sufficient number of others to make that activity a public concern. Concern might arise because the activity is regarded as inherently hazardous, as with operation of nuclear power plants or aircraft; because an activity is regarded as crucial to social cohesion, as had been the primary justification for government provision of elementary and secondary education; or because the workings of competitive markets are likely to yield undesirable social consequences, such as production of unsafe goods or toleration of hazardous conditions in workplaces. In all of these situations, the individuals, whether government officials or private sector managers and workers, making decisions about or carrying on the activity will be expected to conform those decisions and actions to laws and regulations established to protect the general public or to submit decisions and actions to public scrutiny through government-organized administrative processes. In the public realm, then, the notion of stakeholder derives from notions of government responsibility for the general safety and welfare of those within its jurisdiction.

The second conception of stakeholder, using that word and developed in business management manuals, applies in relations between a business firm (defined as the managers or owner-managers) and others those on which the firm depends for success. Business management manuals often distinguish between “stakeholders in the wider sense” who include any individual or group that affects or is affected by the firm’s success and “stakeholders in the narrow sense” who include those on whom the firm depends for survival. The first category is very broad – perhaps too broad. The second category is typically defined to include employees, financiers (lenders), shareholders (for publicly-held corporations), suppliers, customers, and local community where its facilities are located. In some formulations it also includes the government

This was created by the International Dimensions of Ethics Education in Science and Engineering (IDEESE) Project at the University of Massachusetts Amherst with support from the National Science Foundation under grant number 0734887. Any opinions, findings, conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation. More information about the IDEESE can be found at <http://www.umass.edu/sts/ethics>.

This should be cited as: M.J. Peterson. 2009. “Stakeholders.” International Dimensions of Ethics Education in Science and Engineering. Available www.umass.edu/sts/ethics.



© 2009 IDEESE Project

agencies directly regulating conduct of business in the areas of the firm's activity.¹ While much of the business management literature offers results-based reasons for paying attention to stakeholders and their concerns, some writers on firm-stakeholder relations offer ethical justifications. Some base paying attention to the full range of stakeholders on broad notions of fairness.² Others base concern for stakeholders other than shareholders on contemporary definitions of property rights as bounded by obligations to respect others' rights and to refrain from causing avoidable harm rather than as unlimited.³ Others offer arguments based on equity among those who voluntarily engage in collaborative behavior. These maintain that since firms accept benefits from their stakeholders – in the varying forms of work effort, loans, material inputs, income, and toleration of some degree of noise, traffic congestion, and other minor inconvenience created near the place of business – basic norms of fair exchange require that firms take stakeholder welfare into account.⁴

Management experts emphasize that business firms need to pay attention to other actors as well – particularly governments, journalists and social activists – but do not classify them as direct stakeholders since they stand in more distant relations to the firm. At the same time, they are aware that these more distant actors can have serious effects on the firm's business prospects and provide managers with suggestions about dealing with them.

Though it is common to define stakeholders as those whose "interests" are affected by decisions or activities, the term often encourages readers to think only of material impacts – on stakeholders' possessions, money, or physical health – of firm activity and ignore the psychological or mental impacts. The word "welfare" is used in this reading to highlight the full range of possible stakeholder concerns, not only physical safety or financial gains and losses, but also to psychological senses of well-being and moral, ethical, or cultural notions of propriety.

Two other terms in the definition – "believing" and "directly" – are also important to understanding which persons and organizations should be treated as stakeholders. The term "believing" is used for two reasons. First, it allows including those who anticipate that they will be affected as well as those who have already experienced effects. This is important whenever decisions involved in the policy process include planning a project or developing an environmental impact statement about an activity that has not yet begun. Second, it permits including those who firmly believe they are affected even if they cannot point to easily-ascertainable physical effects – such as gaining or losing employment, hearing or not hearing loud noise, catching or remaining free of a disease, smelling or not smelling foul odors – and indicate precisely

¹Though not using the term "stakeholder" the basic idea that firms operate in a web of relationships beyond owner-manager or shareholders-managers was expressed in Frank W. Brams, "Management's responsibilities in a complex world," *Harvard Business Review* 29 (3): 29-34 (May 1951). R. Edward Freeman and David L. Reed, "Stockholders and stakeholders: A new perspective on corporate governance," *California Management Review* 25 (3) 89 (spring 1983) traces use of the term "stakeholder" to memos circulated among members of the Stanford Research Institute in 1963.

²W.M. Evan and R.E. Freeman, "A stakeholder theory of the modern corporation: Kantian capitalism," in T. Beauchamp and N. Bowie, eds., *Ethical Theory and Business*, 75-93 (Englewood Cliffs, NJ: Prentice-Hall, 1988).

³This line of argument can be traced back to Ronald H. Coase, "The problem of social cost," *Journal of Law and Economics* 3 (1): 1-44 (1960).

⁴For example, Tolbert Phillips, *Stakeholder Theory and Organizational Ethics*. San Francisco: Berrett-Kohler Publishers, 2003.

how those effects were created by the situation or activity. While it might be tempting to insist that a stakeholder must be able to point to some ascertainable impact of the situation or activity, the truth or falsity of belief that one's own welfare is affected is less important politically than the tenacity with which that belief is held. Those who hold tenaciously to beliefs that they are stakeholders will exert serious effort to be included in any discussions of policy regarding that situation or activity even if it would not really affect them.

Limiting stakeholders to those whose welfare will be or is directly affected implies that it is possible to distinguish between direct and indirect impacts. When a situation or activity has wide ramifications, the distinction may seem somewhat artificial, but it remains relevant because the directly affected are the ones most immediately exposed to effects, most able to trace them back reliably to the situation or activity, and most likely to react. For instance, a reduction of employment in a particular area clearly has direct effects on the individuals who lose their jobs and the other members of their households. It will also have a notable, though less immediately severe, impact on local businesses if the now-unemployed cease or reduce their patronage. Similarly, emission of nasty odors will be most noticeable near the source, and diminish as the odor-filled gas mixes with air and the odor becomes less concentrated. The lack of visible remainders and faster dissipation of odors from gasoline engine exhaust promoted the initial perception of automobiles as "cleaner" forms of transportation better adapted to major cities than horse-drawn vehicles.⁵ Observers of politics have long observed the difficulty of inspiring political mobilization among those experiencing low gains or losses from a situation or activity,⁶ so those experiencing the weaker indirect effects are less likely to involve themselves in contentions with private entities or efforts to bring government in to redress imbalances among private actors than those experiencing the direct effects.

Defining Stakeholder Inclusion

The phrase "stakeholder inclusion" can denote a.) the ethical claim that including a wide range of stakeholders in decision-making and implementation review is preferable to excluding all or most of them, b.) the condition prevailing when stakeholders are involved in planning, decision-making and review processes, or c.) the methods of ensuring their involvement.

The ethical endorsement of stakeholder inclusion is rooted partly in the general notion of democracy and partly in acknowledgment that humans are social creatures. The democratic roots of stakeholder inclusion draw derive from the same beliefs that those called upon to contribute ("no taxation without representation") and/or to obey ("consent of the governed") should participate in some way in decision-making that animate demands that rulers be chosen freely by the ruled, operate according to procedures that are transparent and nonarbitrary, and be accountable to the governed for their decisions and actions. Stakeholder inclusion is thus one of several methods used in democratic politics to check the tendency of elites or small groups to consider only their own preferences and convenience. The social creature roots of stakeholder inclusion derive from acknowledgement of several facts about human life: 1.) that in both early youth and old age humans need assistance from others so cannot live by themselves, 2.) even those in the prime of life who live on their own can do so only because they have learned the skills needed for maintaining themselves from parents and other people as they grew to adulthood, and 3.) humans benefit spiritually

⁵ London c. 1900.

⁶ Mancur Olson, *The Logic of Collective Action* (Cambridge, MA: Harvard University Press, 196-); Russell Hardin, *Collective Action* (Baltimore, MD: Johns Hopkins University Press, 1982).

and intellectually as well as physically from interaction with other humans. Yet, to flourish in their groups, humans need to be mindful and considerate of others; a lesson summarized in the “golden rule” of “do unto others as you would have them do unto you.”

Descriptive treatments of stakeholder inclusion focus on whether and to what extent various stakeholders are actually included in decision, implementation, and/or activity review processes. Patterns of stakeholder involvement depend on three factors: implications of the activity, ability to organize, and cultural or legal norms regarding stakeholder involvement. Decisions or activities regarded as having minor effects do not inspire demands for stakeholder involvement; such demands arise among those who believe the impacts are or will be significant. Participation requires that stakeholders organize themselves for participation. These efforts usually begin among a few individuals who feel keenly about the matter, realize that they will not have any significant influence in the policy process on their own, and provide leadership for an effort to get larger groups of people together. The individuals who initiate organizing may be members of the stakeholder group, but they can also come from outside if members of the stakeholder group accept them as leaders. The legal or cultural norms regarding stakeholder involvement prevailing in a particular place at a particular time also influence participation by promoting or discouraging involvement, defining which stakeholder groups may be involved, and the methods by which they can secure involvement. Stakeholder groups who regard themselves as unfairly excluded may try to gain inclusion by engaging in forms of protest that defy legal norms, but protest will succeed only when prevailing cultural norms include notions of civil disobedience and those pressing for inclusion through protest avoid actions that seriously alienate others.

The joint impact of all three factors can be seen in the varying fortunes of the labor union movement. As factories and other industrial plants became the main places of employment, and most industrial workers lived in cities with only their industrial job for livelihood, wage levels and workplace conditions became central to their lives. Physical proximity – not only in the plant but also in living reasonably close by – made the logistics of organizing workers easier. Yet, how well union organizers fared and the extent of influence over business firm decisions unions secured varied considerably from country to country. Union influence on business decisions is greater in Germany, with its system of coordinated national bargaining and inclusion of union representatives on corporate boards of directors, than in the USA, where only some industries had national collective bargaining, government was less sympathetic to unions, mass labor parties with strong links to unions did not develop, and unions never covered as much of the workforce as they did in Western Europe.⁷

Demands for broad stakeholder inclusion in planning and prior impact assessment are strong in many countries. Political philosophers who advocate “strong,” “deliberative,” or “participatory” democracy provide philosophical arguments supporting these demands. They regarded democracies governed through elected representatives as woefully incomplete; they argue for taking literally Abraham Lincoln’s definition of democracy as “government of the people, by the people, and for the people”⁸ through such devices as

⁷Seymour Martin Lipset and Gary Marks, *It didn't Happen Here: Why Socialism Failed in the United States*. New York: W.W. Norton, 2000; Gary Marks, *Unions in Politics: Britain, Germany, and the United States in the Nineteenth and Early Twentieth Centuries*. Princeton, NJ: Princeton University Press 1989.

⁸ Abraham Lincoln, Gettysburg Address, 19 November 1863. Text available at http://avalon.law.yale.edu/19th_century/gettyb.asp

referendums, term limits, recall elections, and participatory deliberative processes. Enhanced stakeholder participation in planning on issues having scientific or technical components is also urged by many students of the social impacts and implications of science and technology. They believe that scientists and engineers can provide guidance on questions within their respective knowledge domains, but are too closely connected to political elite and/or too caught up in technocratic styles of reasoning to provide adequate consideration of all the values at stake in policy choices.⁹

Direct involvement in implementation requires being in a position to undertake actions that foster or hinder attainment of the desired outcome. Particular stakeholders' ability to do so varies considerably. Most of the stakeholders in a bridge or a dam project cannot contribute to the existence or the quality of the bridge or dam by their own actions because they lack the materials and skills to build it. In the early stages of an epidemic, public health and hospital or clinical personnel have the most active roles in identifying and taking measures to control the spread of disease; if – and as long as – the disease continues to spread, increasing numbers of other persons will be required to contribute by taking extra care in personal and home or workplace hygiene and obeying quarantine orders. Similarly, individual, household, and business efforts to adopt ecologically sustainable lifestyles or business plans often depend on the existence of physical infrastructure like recycling centers, bicycle paths, public transit, or electric grids capable of drawing power from as well as supplying power to customers with solar or wind generators.

Demands for stakeholder inclusion in activity review – whether prospectively, as in planning and prior impact assessment, or retrospectively, as in compliance monitoring, performance evaluation, and outcome assessment – frequently arise because of mismatches between ability to shape activity and exposure to its effects. Corporate CEOs have the final word in decisions about how their factories, plants, or other production facilities are built, even if they rely on subordinate executives and engineers for the details, but generally work and live far enough away that they are not affected by anything that occurs at the plant.¹⁰ Thus, a decision to use a process involving high-volume storage of toxic chemicals may save the corporation some money, but can mean death or severe injury to workers or neighbors if there is an explosion or a large gas leak, as in the December 1984 Bhopal Disaster. Similarly, unless they use it themselves, they may not be exposed the risks created by an unsafe product the firm produces.¹¹

Maintaining the involvement of multiple stakeholder groups in review stages is also a way to counter the tendency of human social life towards oligarchy. Adam Smith argued that “People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against

⁹ Good discussions of designs for inclusive deliberation on issues having technical components include Daniel Kleinmann, ed. *Science, Technology and Democracy*. Albany: State University of New York Press, 2000; John Durant, “Participatory Technology Assessment and the Democratic Model of the Public Understanding of Science,” *Science and Public Policy* 26 (5): 313–319 (1999); Frank Fischer, *Reframing Public Policy: Discursive Politics and Deliberative Practices* Oxford and New York: Oxford University Press, 2003.

¹⁰ Physical separation was less prevalent in the 19th century. Alexis Du Pont (1816-1857) and Lamot Du Pont (1831-1884) died in explosions at their family's gunpowder works.

¹¹ In a discussion of Ford Motor Company's stubborn unwillingness to admit that designers were aware of the risks involved in placement of the gas tank in the Pinto model, Robert Hoyk and Paul Hersey *The Ethical Executive* (Stanford, CA: Stanford University Press, 2009), p. wonder whether the attitude of top executives would have been the same if the owners killed in fiery crashes were their spouses and children rather than strangers.

the public, or in some contrivance to raise prices."¹² Robert Michels argued that every sort of human associations is subject to an "iron law of oligarchy" by which a small group takes over leadership and acts for the whole.¹³ More recent students of public administration in the USA have noted the development of "iron triangles" of mutually-supporting members of Congress, regulatory agency officials, and leaders of firms in the regulated industry¹⁴ and identified many instances of "regulatory capture" in which the private entities being regulated gain effective control over the government agency's activities through political connections with legislators or top political leaders.¹⁵

The third usage of the term "stakeholder inclusion" focuses attention on the processes and mechanisms for assuring their inclusion. Awareness of these processes and mechanisms highlights the difference between formal inclusion and actual inclusion. Formal inclusion – the procedures established in laws, administrative regulations, or general practices for securing and considering stakeholder views – is necessary for, but is no guarantee of, actual inclusion. The procedures need to be accessible and timely if stakeholder input is to have any impact on decision or implementation review. A process that requires individual, household, or small organization stakeholders to travel to a distant city for presenting their concerns or allows such a short period for public comment that it is over before many of the stakeholders knew it was open limits actual inclusion to those who have the money and time off to travel or have constant access to information sources indicating when comment periods open and close. A process of including stakeholders in decision-making that starts only after the basic features of a decision have been worked out among the politically well-connected also limits actual inclusion by confining stakeholders to flat-out opposition or suggestion of marginal changes.

Contentions over Stakeholder Inclusion

A particular stakeholder's desire for inclusion is easy to understand. In practical terms it offers an opportunity to protect one's own welfare; in normative terms it is consistent with notions of being a citizen in a democracy. The intensity of desire for inclusion will vary from situation to situation or time to time, and is likely to be more intense when the stakeholder believes the impact of decisions on its welfare will be high or when past disappointments suggest a need to pay more attention to policy ideas before they get adopted as decisions.

The reactions of decision-makers, administrative agencies involved in implementing or enforcing decisions, and other stakeholders whose interests are not entirely parallel are more complicated. Two broad approaches to decision-making coexist, each with articulate adherents. The first emphasizes the greater efficiency and effectiveness of centralizing decision-making and ensuring implementation or enforcement through hierarchical organizations with commands going down from the top decision-makers and

¹² Adam Smith, *The Wealth of Nations* (1776) Book I, chapter X, part II, 28th paragraph.

¹³ Robert Michels, *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*. (German, 1911) trans. Seymour Martin Lipset. New York: Free Press 1966

¹⁴ Hugh Heclo, "Issue networks and the executive establishment," in Anthony King, ed., *The New American Political System*, pp. 87-124. Washington DC: American Enterprise Institute, 1978.

¹⁵ One of the first expressions was George J. Stigler, "The Theory of Economic Regulation." *Bell Journal of Economics and Management Science*, 2 (3): 3-18. (1971)

information flowing back up to them. Adherents of this “central processing” model believe that only those at the top of the organization have enough distance from details to see the full picture, make the best decisions, and adjust implementation most effectively. Though central processing models suffered considerable eclipse in the late 1980s and early 1990s with the failures of Soviet and Chinese central planning, the current global financial and economic crisis has revived belief that a degree of central control is needed to avoid various forms of market failure.

The other model emphasizes the superiority of multiple, independent decision-makers whose actions taken together aggregate into a society-wide choice. Adherents of this “parallel distributed processing” model believe there are many situations in which matters are sufficiently unclear or complex that no one set of decision-makers can be sure of making the best choice. In such situations, they maintain, human societies are better served by permitting simultaneous experiments and letting experience with them suggest which choices should or should not be adopted more widely. In their view, decentralized decision and implementation do not occur in a social vacuum, rather, similar individual desires, shared social meanings, and physical realities produce contexts that enable spontaneous coordination as actors watch what each other are doing. At the same time, the most thoughtful adherents of parallel distributed processing views acknowledge that stronger or wealthier actors can use decentralization as well as centralization to their own benefit.

The debate between centralizers and decentralizers acquired an additional dimension after 1850 as scientific and technical expertise became more important for decision-making. Centralizers are apt to insist that “experts” – or at least those senior enough in their profession to be cognizant of the full dimensions of the project on which they are working¹⁶ – know more so can make better decisions and design more effective implementation than “laypeople.” In their view, the general public should let them do their job. Many decentralizers argue that experts only see the technical and immediate aspects of situations and problems, resulting in a tunnel vision that blinds them to longer-term or wider implications of situations, problems, and efforts to deal with them. In their view this blindness can only be corrected from outside the community of experts. Advocates of wider participation in deliberations also argue that experts will discount or fail to understand the effects of their activities whenever they do not experience those effects themselves. A non-smoking medical researcher may not understand why a habitual smoker warned against smoking when using a personal oxygen tank would light up anyway; an engineer designing in-flight navigation systems is not the person who uses them under the stress of storms, mechanical failures, or fatigue.

Opinions about who should participate in decision-making processes are also affected by certain basic human impulses. Both individually and as members of closely-knit groups humans combine self-centered impulses, which incline them to prefer having their own opinions or desires prevail, with sufficient social impulses that they can discuss, compromise and share with others. The self-centered impulses lead stakeholders to prefer that they themselves and others like themselves have a say; the latter lead them to acknowledge that others different than themselves also deserve a place in the process. The tensions between the self-centered and the socially-grounded impulses create the ground for disagreements among

¹⁶ The mid 20th century emergence of “big science” and “big technology” projects in which large numbers of scientists and engineers are engaged has produced a division between principal investigators or senior engineers aware of the whole project and junior scientists or engineers who may be working only on a very small part without much understanding of how their part fits into the larger project.

stakeholders or groups of stakeholders regarding who should be included in deliberative and review processes. Advocates of global civil society typically compensate for what they regard as the strong influence of “business” (or, among leftists, “capitalists”) in national and local politics by counterposing non-profit community or issue-oriented associations to both governments and profit-making corporations. Particularly in countries following European “corporatist” models of business-labor-government consultation, firm executives are accustomed to working with labor union leaders; in most countries business executives are still getting used to sharing deliberative space with a wider range of stakeholders. Debates about the proper place of business are not simply debates between centralizers and decentralizers because allowing firms to make their own choices can be either a centralizing or a decentralizing step. It is centralizing if compared to the visions of broadly-based community dialogue in which a wide variety of social actors have real influence on decisions favored by many anti-globalization activists. It is decentralizing if compared to government management of a centrally-planned economy in which every productive enterprise does as instructed by the central planners.

Many stakeholders remain skeptical of business willingness to pay real attention to others’ concerns. Thus, there was significant unease in the NGO community when UN Secretary-General Kofi Annan moved forward in 1999-2000 with creation of the Global Compact, a UN initiative recruiting multinational and other corporations into a network for developing and advancing corporate social responsibility. In 2005-06 its structure was altered to increase input from the “other stakeholders” – labor unions, academic institutes, NGOs – involved.¹⁷ These changes have not altered the perceptions of those who most strongly believe that the Global Compact serves only as a screen for continued corporate wrongdoing¹⁸.

Even when business is not involved and business interests not directly affected, rival clusters of stakeholder organizations can engage in heated competition for opportunities to present their views and participate in pre-decision consultations or post-decision review. In the 1990s UN Conferences on Population and Women became venues for heated competition to influence the agenda and the content of programmatic statements pitting feminist and family planning organizations against traditionalist and anti-abortion organizations on the other.¹⁹

Stakeholders and Policy-Related Science or Technical Expertise

Three developments – “big science” requiring government funding for the most significant projects, increased public skepticism about the value of scientific knowledge, and emergence of environmental problems requiring analysis of global-scale interconnected ecosystems on which there is incomplete knowledge and hence high uncertainty about likely developments²⁰ have increased demands that a wider

¹⁷ Changes noted on the Global Compact’s website, www.unglobalcompact.org (accessed 14 January 2009).

¹⁸ Various groups’ expression of this view can be found on www.globalcompactcritics.net (accessed 14 January 2009).

¹⁹J.H. Thompson and W. Turnbull, “The women’s conference: where aspirations and realities met,” *Family Planning Perspectives* 27(6):254-8 (Nov-Dec 1995)

²⁰ Many commentators point out the special challenges of developing ecological knowledge that will be useful in the policy process. Ulrich Beck. 1992. *Risk Society: Towards a New Modernity*. London: Sage Publications and Barbara Adam, Ulrich Beck and Jost van Loon, eds., *The Risk Society and Beyond. Critical Issues for Social Theory*. London/Thousand Oaks/New Delhi: Sage Publications., go further to argue that rising environmental concern has triggered a transition from “industrial society” in which hazards have local impact and are analyzable in separable, linear chains of events to “risk society” in which hazards

range of voices be heard not only on decisions that involve application of scientific or technical expertise to policy choices.²¹

Advocates of greater stakeholder participation in the development and use of scientific and technical expertise often present their visions under the name "civic science." However, there is little agreement on what this term means. One observer of developments in policy-related uses of scientific knowledge distinguishes three versions: "thin," "stronger," and "democratizing."²²

The thin conception focuses primarily on the erosion of public trust in the reliability of scientific knowledge and in the integrity of scientists as unbiased searchers for truth (or the best understandings of physical phenomena available with current theories, methods, and observational tools). Advocates of the thin conception present "civil science" as a method of restoring trust by fostering greater public understanding of science and better communication of scientific method and findings to non-expert audiences. Advocates of the stronger and democratizing definitions of "civic science" regard it as insufficient for two reasons. First, it maintains the traditional "top-down" conception of scientist-public relations in which experts have knowledge and non-experts should defer to it.²³ Second, it fails to the impact of spreading beliefs that scientific and technical knowledge is just as clouded by unacknowledged biases as any other form of knowledge used in the policy realm.²⁴ Feminists, postmoderns, and adherents of the "strong programme" in the sociology of science have succeeded in significantly eroding belief in the "objectivity" of science – that any scientist however or wherever situated who applied the best scientific methods would come to the same conclusions about physical phenomena. They have had more effect because scientists and philosophers of science acknowledge that there are multiple points at which the observer's mental activity affects the knowledge developed: choosing a phenomenon to be studied, identifying the basic contours of the phenomenon, designing the experiments or other observational activities to be undertaken, interpreting results of observation to create the data, and interpreting the data to develop the claims about composition, dynamics, and effects of the phenomenon presented as the research results. Where they diverge from the most thorough relativists is in views about how far the social position of scientists and the workings of power affect the results. The most thoroughgoing relativists ascribe to power a far more pervasive and inescapable impact on the conduct and results of scientific research than the others believe exists. Efforts to link the shape of research results to the researcher's social place cause considerable nervousness; to

have widespread, even global, impact and can only be analyzed with more demanding holistic, non-linear models of interconnected developments.

²¹ For example, Sheila Jasanoff, *Designs on Nature; Science and Democracy in Europe and the United States*. Princeton: Princeton University Press). Rowe and Frewer "Evaluating public participation exercises," *Science, Technology and Human Values* 29 (4): 512-517.

²² Karen Bäckstrand, "Civic Science for sustainability," *Global Environmental Politics* 4(3): 24-xx.

²³ E.g., Lynn Frewer and Brian Salter. 2002. Public Attitudes, Scientific Advice and the Politics of Regulatory Policy: The Case of BSE. *Science and Public Policy* 29 (2): 137–145.

²⁴ International Council for Science. ICSU Series on Science for Sustainable Development No. 4: Science, Traditional Knowledge and Sustainable Development. ICSU and Frank Biermann. 2002. "Institutions for Scientific Advice: Global Environmental Assessments and their Influence in Developing Countries." *Global Governance* 8: 195–219 argue the need for more participation by scientists from developing countries.

many these seem uncomfortably similar to Nazi claims for superiority of “Aryan” over “non-Aryan” science or Stalinist claims for superiority of “proletarian” over “bourgeois” science.

A “stronger” conception of civic science rests on arguments that the task is not to rebuild public trust in scientists but to rearrange scientific practice so that the pursuit and the presentation of scientific knowledge will become more responsive to the needs of stakeholders and the general public. Greater responsiveness in pursuit of scientific knowledge includes greater consideration beforehand of the potential misuses of knowledge, more thorough application of the precautionary principle when the natural environment would be affected by activity, greater attention to subjects with broad public relevance, and enlisting the informed voluntary cooperation of holders of local knowledge relevant to the subject at hand. Greater responsiveness in the presentation of scientific knowledge involves including stakeholders and the general public in deliberation, not merely over how to use scientific knowledge but in selection of the scientific knowledge to use. The bolder versions of this argument rest on a claim that in the big environmental questions where large scale and complexity, considerable uncertainty, and high stakes involved, “quality control” over knowledge claims must go beyond peer review by other scientists to “extended peer communities” incorporating NGOs, the public, industry, and the media to make the knowledge fully effective. Advocates of the “stronger” conception do not claim that public and stakeholder views are necessarily more correct than expert views, but do believe that incorporating them increases the number of viewpoints taken into account and thereby increases the likelihood of making good policy decisions.

Visions of democratizing science stem from beliefs that citizens and stakeholders should be directly involved in every stage of developing and using scientific knowledge because science is a social process that occurs inside rather than outside politics. Thus the norms, institutions and procedures for developing scientific knowledge need to be redefined in accordance with democratic principles. Since participation in deliberations on issues that affect citizens’ everyday lives is considered a central feature of democracy, and many science and technology decisions have wide ramifications for the public at large, citizens generally or more identifiable clusters of stakeholders most directly affected should have a say.²⁵ In the vision of democratizing science, citizens and stakeholders would also be included in producing scientific knowledge where local knowledge (as in biodiversity or pollution impact studies) or the experiences and perspectives of distinct communities (as in medical research into the causes and courses of diseases or congenital conditions) are important to understanding the phenomena.

The strongest versions of the democratizing science argument maintain that there is no fundamental difference between types of knowledge because scientific knowledge, like all other kinds of knowledge, is the contingent product of social processes.²⁶ This means, in particular, that the development of scientific knowledge is also limited and channeled by exercises of social power to restrict the questions asked and by entrenched discourses to restrict what is thought and said. A few combine this with variations of radicals’ claim that members of marginalized and oppressed groups have deeper knowledge of society than do

²⁵Fischer, Frank. 2000. *Citizens, Experts and the Environment. The Politics of Local Knowledge*. Durham and London: Duke University Press;

²⁶ Daniel Sarewitz. 2000. “Human Well-being and Federal Science. What’s the Connection?” in *Science, Technology and Democracy*, edited by Daniel Kleinmann, p. 92. Albany: State University of New York Press; Clark A. Miller and Paul N. Edwards. 2001. “Challenges in the Application of Science to Global Affairs: Contingency, Trust and Moral Order.” in *Changing the Atmosphere. Expert Knowledge and Environmental Governance*. Cambridge, MA: MIT Press.

members of dominant groups because the latter know only what the society claims to believe while the former know both the professed beliefs and the very different actual conduct. Their possession of this wider knowledge makes including the marginalized and oppressed in deliberations essential to unmasking and undoing the distorting effects of social power and discourses. Others argue that this mix of social constructionist views of science and radical epistemology presses too far; that even in a fully democratic and inclusive society there will be differences between scientific and other forms of knowledge and between expert and lay knowledge.

Critics have pointed out that the arguments in favor of democratizing science are stronger when focused on applying scientific knowledge than on developing it. Opening deliberations to define and assess risk to include those who will bear the consequences if things go wrong has strong justification in notions of tempering the enthusiasm of those wishing to forge ahead with some activity with the voices of those concerned about potential harms. Unless all forms of knowledge are the same and the expert-lay distinction is irrelevant, there is no equally weighty argument for including other social groups or members of the general public in deliberations about which of two or more competing conceptions or explanations best summarizes some physical phenomenon. Current procedures for peer review have limitations which have been canvassed at length among scientists,²⁷ but conceptualizations of how "more democratic" procedures of reviewing conclusions and verifying knowledge claims would proceed remain vague. In particular, advocates of democratizing the acquisition of scientific knowledge need to address two concerns. The first, suggested by recent instances of media hype for "advances" in cloning and cold fusion that turned out nonexistent, is what non-experts' involvement would contribute to improving the process. Journalists with weak backgrounds in science believed and eagerly publicized the claims; it required the inability of other scientists to replicate the claimed results in their own labs to reveal the deception. The second, suggested in efforts by well-organized social groups to control dissemination of scientific knowledge because it contradicts their strongly-held political or ethical positions, is that wider involvement may not have the effect of diluting the impact of social power and dominant discourses by making them more transparent. Unless the sharper forms of political contestation are kept from swamping deliberation, the process might end up becoming another venue for exerting control over what others can think or know.

The objections that inclusive processes take more time are far less serious than objections that most citizens will not participate. Theorists of "elite democracy" typically argue that low participation is not a problem because science and technology issues are beyond the comprehension of less-educated segments of the population. Yet, strong democrats are correct in maintaining that all citizens have perspectives to contribute. However, they are prone to overestimate most individual's willingness to engage in continuous participation. Yet, there are moments when stakeholders or the citizenry at large demand a say. A democracy that has institutionalized channels for public expression of views in place before those moments arise will be able to respond more effectively than one that has to improvise deliberative procedures.

²⁷ A recent discussion inspired by revelations of data fabrication in stem cell research included "From the blogosphere: peer review for cloning and stem cell research," *Nature* 447 (#7147), p. xv(1) (21 June 2007); Editorial, "Who is accountable? How the responsibilities of co-authors for a scientific paper's integrity could be made more explicit." *Nature* 450 (#7166), p.1 (1 Nov. 2007); and L. Bornmann, I. Nast, and H. D. Daniel, "Do editors and referees look for signs of scientific misconduct when reviewing manuscripts? A quantitative content analysis of studies that examined review criteria and reasons for accepting and rejecting manuscripts for publication" *Scientometrics*, 77 (3): 415-432 (December 2008).

Discussions of global-level problems raise a third concern: that of mis-match between the geographic scale of the global problems and the geographic scale of areas covered by inclusive national consultation processes. National-level processes can define a single government's approach, but unless multiple national-level processes yield similar results, there is plenty of room for uncoordinated policy. A considerable part of the impulse inspiring complaints about the "democratic deficits" of intergovernmental organizations and multilateral conferences stems from the lack of obvious connection between citizen or stakeholder views and international decision-making processes. Transnational advocacy coalitions, transnational social movements, and international nongovernmental organizations seek to aggregate stakeholder views, but their access to IGOs and multilateral negotiations remain uneven.

Mechanisms for Stakeholder Inclusion in Decision-Making

National Mechanisms. Several types of national procedures for securing stakeholder commentary on proposed decisions exist around the world.

1. Public hearings before legislative committees providing opportunities for leaders or members of stakeholder groups to comment on draft versions of pending legislation or on the progress of programs authorized under earlier legislation.
2. Public juries, integrated assessment focus groups,²⁸ consultations, and municipal level hearings by zoning boards and other permit-granting bodies provide possibilities for broad participation in formulation of alternate issue definitions, identifying possible means of addressing issues, and sorting through relative net benefit of each means.
3. Advisory bodies formed by administrative agencies that include members drawn from stakeholder groups provide recommendations regarding particular programs. One example is the US Department of Agriculture's National Advisory Committee on Meat and Poultry Inspection (NACMPI), created in 1971. It includes members from industry (including processors, exporters and importers of meat and poultry), academic research institutes, state and local governments, public health organizations, and consumer organizations who provide recommendations to the U.S. Secretary of Agriculture on meat and poultry inspection programs.²⁹ While giving administrative agencies external input, such committees are not regarded highly by advocates of deliberative democracy who see them as too easily dominated by the wealthier or more powerful groups.
4. Administrative rule-making procedures including opportunities for public comment on proposed regulations. The notice of proposed rulemaking procedures included in the US Administrative Procedures Act of 1946, require federal agencies to publish proposed regulations and provide 60 days for submission of initial comments and another 30 days for "reply comments" from any interested person before proceeding to rulemaking. When first adopted, this meant publishing

²⁸Gregor Durrenburger, Hans Kastenholtz, and Jeanette Bearinger. 1999. "Integrated Assessment Focus Groups: Bridging the Gap between Science and Policy." *Science and Public Policy* 26 (5): 342.

²⁹ Information from a call for nominations posted at www.usda.gov/ (accessed 28 December 2008).

the proposed regulation in the *Federal Register*, today it means posting to the agency's website and the on-line version of the *Federal Register*. The European Aviation Safety Agency uses a similar process. An alternate procedure for "negotiated rulemaking" involves agency convening of committees consisting of persons representing all interests affected to work out the rule.³⁰

5. Public-private partnerships involve government agencies and certain stakeholder groups in particular projects. European traditions of corporatism, in which government, national employer associations, and national labor union federations together establish wage levels, workplace safety standards, rules about layoffs, and broad understandings about the proper conduct of management-labor relations, involve public-private collaboration, but go beyond the usual definition of public-private partnership. Though some observers treat government contracting with private firms to perform particular services, such as build roads or run child care centers, as public-private partnerships, others are skeptical on grounds "contracting out" is often used to reduce the apparent size of government or to reduce workers' salaries, benefits, and job security.

International Mechanisms. Intergovernmental organizations provide a number of mechanisms for stakeholder input. These are less elaborate than the mechanisms found in industrial democracies, but are more elaborate than in many developing countries. Their extent reflects the efforts of NGOs and other non-state actors to secure inclusion, the attitudes of IGO secretariats, and the ability of the more receptive member states to persuade the less receptive to accept the mechanisms.

1. The UN occasionally establishes commissions of eminent persons to advise on global issues; examples include the World Commission on Environment and Development (Brundtland Commission) and the High Level Panel on Threats, Challenges and Change. Both of these commissions convened a series of meetings in various parts of the world where interested NGOs and others could present their views on the questions the commission was asked to study. The World Bank-sponsored World Commission on Dams consulted local stakeholders affected by dam construction in the process of developing policy guidelines on such aspects of dam construction as environmental and social impact assessment and resettlement assistance.³¹
2. The periodic UN global conferences on population, women, environment, racism, and urban areas include "parallel forums" for NGOs where leaders or other representatives of groups interested in the issue or issues under discussion meet and talk with one another, seek to develop common positions for presentation to the conference, and issue statements commenting on the official conference proceedings. The practice that the forums should provide opportunities for direct contacts between forum participants and national delegations at

³⁰ *United States Code*, Title 5, Chapter 5, section 553 (comment period) and 561-570 (negotiated rulemaking).

³¹ More and less positive assessments of stakeholder inclusion in the World Commission on Dams are made by Navrok K. Dubash, Mairi Dupar, Smitu Kothari, and Tundu Lissu, *A Watershed in Global Governance? An Independent Assessment of the World Commission on Dams* (New Delhi: World Resources Institute, Lokayan, and LEAT, 2001) and Klaus Dingworth, "The democratic legitimacy of public-private rule-making," *Global Governance*, 11 (1): 65-83 (2005).

- the conference was so strong by 1995 that the Chinese government's decision to hold the NGO forum in Huairou, about 90 kilometers from the conference itself, and its efforts to limit the number of NGO representatives allowed into the country were severely criticized.³²
3. The annual meetings of the World Bank and IMF Boards of Governors, World Trade Organization Ministerial Meetings, and Group of 8 or Group of 20 summits have been made into occasions for public protest by individuals, members of antiglobalization social movements, and members of NGOs. World Bank-IMF annual meetings are held in Washington DC, a locale accessible to demonstrators. WTO Ministerial Meetings and G-8 or G-20 summits are held in different places, and since the 1999 "battle in Seattle" these have often been selected for remoteness.
 4. Public-private partnerships at the international level include IGOs and national governments participating in joint initiatives with private organizations. Typical of many such partnerships is the World Economic Forum-sponsored Jordan Education Initiative, which includes six sets of partners:³³



Others include cooperation between the Office of the UN High Commissioner for Refugees and major private humanitarian organizations like Oxfam and Médecins sans Frontières. These have somewhat different dynamics because local groups do not participate directly.

Mechanisms for stakeholder inclusion in Monitoring Compliance

Policy analysts often distinguish between "police patrol" and "fire alarm" systems for monitoring the activities of actors whose behavior is covered by a policy.³⁴ In "police patrol" systems government officials monitor activity by site visits to factories, shops, and other places of relevant activity; in "fire alarm" systems

³² Carol Ann Traut, "Policy implementation in an international setting: A case study of China and the 1995 United Nations Conference on Women," *International Journal of Public Administration* 22 (2): (1999).

³³ World Economic Forum Jordan Education Initiative, 2003 diagrammed in Geoffrey Allen Pigman, *The World Economic Forum* London: Routledge, 2007, p.10.

³⁴ Matthew D. McCubbins and Thomas Schwartz. 1984. "Congressional oversight overlooked: Police patrols versus fire alarms." *American Journal of Political Science* 28 (1): 16-79.

government officials act after complaints by private persons harmed by another's activity. Stakeholders have no formal role in "police patrol" systems (though their complaints may inspire a site visit); officials undertake all the monitoring and pressing for correction when it is needed. Stakeholders have a formal role as direct providers of information on which officials base their actions in "fire alarm" systems. As the analogies suggest, "fire alarm" systems work best when stakeholders are motivated to provide timely information – they understand immediately that they are being harmed, they are not intimidated into non-reporting, and they are not worried about attracting official attention to themselves by reporting because they have nothing to hide regarding their own conduct.

National-level mechanisms

1. Government complaint procedures, whether communication with administrative agencies or lawsuits, give persons and organizations scope for calling attention to actions or inactions by other persons or organizations. Lawsuits typically require the complainer to show that it is suffering harm, though in some countries (including the USA and India) it is possible to file a lawsuit intended to secure a judgment that some government official has failed to perform a duty and must now perform it. That duty might involve such things as factory inspections, emissions monitoring, or completion of a stalled project. Rights to complain to an administrative agency may or may be tied to direct harm.
2. "Whistle-blowing" – reporting on action or inaction that appears likely to hinder reaching policy goals by persons within the delinquent organization – is quite different. Here the person raising the complaint is probably not being harmed by the action or inaction, but regards it as sufficiently bad, and the prospects of getting the organization to self-correct as sufficiently slim, to communicate concerns to government officials, journalists, or, with private companies, to the shareholders. Whistle-blowers are caught between their roles; as employees or members of the organization they owe it certain duties, but as a residential neighbor, a citizen, or a professional they have obligations to the rest of the community.
3. A very distinct form of stakeholder monitoring arises when the set of stakeholders most directly involved in some activity establish stakeholder community self-monitoring. Such systems of mutual monitoring are common among co-users of irrigation systems, grazing lands, or near-shore fishing areas, and are usually linked to systems under which the members of the user community make decisions about the rate withdrawing resources from the shared resource pool.³⁵

International-level mechanisms

1. An international-level analog to stakeholder self-monitoring can be found in the systems of implementation review established in global or regional multilateral agreements, particularly in

³⁵ E.g., Elinor Ostrom, *Governing the commons: the evolution of institutions for collective action*. Cambridge: Cambridge University Press, 1990.; Clark C. Gibson, Margaret A. McKean, and Elinor Ostrom, eds. *People and Forests Communities, Institutions, and Governance*. Cambridge, Mass.: MIT Press, 2000.

- areas of human rights and environmental protection.³⁶ In these systems, each government reports about its own or its citizens' performance of obligations to a central secretariat, then the reports are discussed with the reporting government by a committee charged with reviewing and commenting on the information provided. At their best, these systems provide effective peer pressure among governments.
2. Non-state entities are allowed to comment on government reports in the monitoring systems established under some international human rights treaties. The International Labor Organization's system for monitoring government compliance with international labor conventions begins with the government submitting a report that is sent simultaneously to the labor union and employer associations of that country. Their representatives then file comments with the ILO secretariat that become part of the ILO review of the country's record.³⁷ The UN Human Rights Council (which replaced the UN Human Rights Commission 2005) and the "treaty-based committees" that monitor compliance with the International Covenants on Human Rights, the Convention on Elimination of Racial Discrimination, and the Convention on Elimination of Discrimination against Women all receive communications from individuals complaining about violations of their rights, and can use them to determine where there is a pattern of violations in a particular country that requires attention.
 3. Systems of individual complaint leading to taking up a particular human rights violation with the government involved are most completely institutionalized in the European and Inter-American human rights systems. In the Inter-American system individuals first contact the Inter-American Human Rights Commission. If the Commission believes there has been a violation of rights protected by the regional treaty, it first tries to mediate a settlement between the government and the complaining individual or individuals. If that fails, the commission can refer the matter to the regional Human Rights Court for a ruling.³⁸ In the European system, individuals who believe their rights have been violated can apply directly to the European Court.³⁹ The UN-sponsored human rights treaties include "optional clauses" under which governments can also agree to let the committee deal with the merits of individual complaints.⁴⁰

Questions for discussion

³⁶ Elements of effective environmental review systems are analyzed in David G. Victor, Kal Raustiala, and Eugene B. Skolnikoff, eds., *Systems of Implementation Review*. Cambridge, MA: MIT Press, 1998.

³⁷ Government reports, labor and employer communications about the reports, and ILO committee comments are available at <http://www.ilo.org/ilolex/english/index.htm> (accessed 30 July 2009).

³⁸ More information about the Inter-American Commission is available on its website <http://www.cidh.oas.org/defaulte.htm> (accessed 30 July 2009).

³⁹ The European Court of Human Rights is run by the Council of Europe, a different IGO than the European Union. More information about the court can be found on its website, http://www.echr.coe.int/echr/Homepage_EN (accessed 30 July 2009).

⁴⁰ Julie Mertus, *The United Nations and Human Rights*. London: Routledge, 2005.

1. Who is a stakeholder?
2. How can stakeholders be identified?
3. What are the arguments in favor of including stakeholders in decision-making processes? What are the arguments against?
4. How might stakeholders be included in national-level decision-making processes? In international or transnational decision-making processes?
5. How might stakeholders get involved in monitoring compliance?

Table 1: Moments and Forms of Stakeholder or Public Group Involvement

Moment of Involvement	Form of Involvement
Demand Formulation	group formation, issue or problem framing, develop group position
Agenda-Setting	disseminate group position, recruit support from other stakeholders/ public/ government officials
Prior Impact Assessment	assemble information, data analysis, participation in hearings or meetings
Deliberation	present group positions in deliberative forums, provide information and arguments in response to others' criticisms of position, modify group positions as needed to avoid least favorable outcomes,
Decision	present information and views to legislators or officials, counter unfavorable information and views presented by competing groups
Implementation	comply with rules addressed to members of group, assist in carrying out policy, provide information about incomplete implementation by officials, providing information about noncompliance with rules
Review	information gathering and dissemination, judgment of policy's impact on outcomes
Experimentation and Innovation	develop own or endorse other's ideas for innovations, assemble information about successful and unsuccessful experiments elsewhere, disseminate proposals for innovations or experiments, recruit support from other stakeholders/public/government officials

Table 2: Examples of Methods used to Select Participants for Consultative Processes

Process	Selection Method
<p>Ministerial Regional Consultative Forum Queensland, Australia</p> <p>Patrick Bishop, "Developing capacity: The reasonable conversation of democratic politics," <i>Building Trust through Civic Engagement</i> United Nations Publication ST/ESA/PAD/SER.E/120 (2008), p. 81</p>	<p>Participants at initial conferences were asked to name five "undisputed community leaders." Those leaders were asked to nominate persons from 11 specified sectors. Membership was chosen from those persons with attention to including residents of a variety of places. They meet periodically with Queensland State ministers.</p>
<p>Parity Commissions Austria</p> <p>Andreas Henkel, "The Austrian Example," <i>Building Trust through Civic Engagement</i> United Nations Publication ST/ESA/PAD/SER.E/120 (2008), pp. 99-100</p>	<p>Government officials and leaders of four major social organizations: Trade Union Federation, Federal Economic Chamber, Federal Chamber of Labor, and Chamber of Agriculture (the last 3 being organizations employers, workers, and farmers are required to join)</p>
<p>Naga City Empowerment Ordinance Naga City, Philippines</p> <p>Jesse Manalastas Robredo, "Civic engagement in policy development at the local government level" <i>Building Trust through Civic Engagement</i> United Nations Publication ST/ESA/PAD/SER.E/120 (2008), p. 106-07</p>	<p>City government gives the Naga City People's Council, the federation of city- accredited civil society organizations active in Naga, power to name at least 25% of members of all city government standing committees and city-established special bodies</p>
<p>Sector Consultations Rwanda 1996-97 (first stage of national consultations on the future of the country)</p> <p>Protais Musoni, "Rebuilding trust in post-conflict situation through civic engagement," <i>Building Trust through Civic Engagement</i> United Nations Publication ST/ESA/PAD/SER.E/120 (2008), p. 117</p>	<p>Consultation groups drawn from the population of Cells in the country's 1545 Sectors consist of 10 members, 2 elected by each of five primary identity groups: Tutsi survivors of genocide, recently returned long-term Tutsi refugees, recently returned Hutu refugees, Hutu who remained in Rwanda after the genocide, Hutu elites</p>

<end>