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Poisons, pragmatic governance and deliberative democracy: The arsenic crisis in Bangladesh

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Abstract

The paper applies some of the principles of pragmatism to the environmental health crisis of arsenic pollution in the groundwater of Bangladesh. This hazard affects between 28 and 57 million people and it has been called "the largest mass poisoning of a population in history". Such hyperbole aside, the authors consider the dysfunctional nature of central and local government in Bangladesh, which at all levels can be said to have failed water consumers. This leads to a discussion of the nature of governance generally, particularly with regard to two principles derived from the pragmatism of John Dewey: first, an orientation to political action through local, community-based experimentation; and, second, a conviction that participatory democracy draws its strength from the beliefs and attitudes distributed in social networks. The paper then assesses a number of interventions, for instance the World Bank's large-scale Bangladesh Arsenic Mitigation Water Supply Project which has faced administrative problems since its inception in 1997 and was very slow to find its feet. NGOs with a stake in arsenic mitigation are also highlighted, particularly for their role in the so-called franchise state. It is argued that a number of conditions of inertia and resistance explain the sluggish response to the arsenic hazard. Indeterminacy about the science and technology of arsenic is one factor, and another is the distribution of power at the local level. The paper argues that future policies and projects would do well to consider deliberative democracy in guises appropriate to rural Bangladesh. This must include better information availability and opportunities for participation at the village level, for instance in civic science. The overall conclusion is that pragmatic principles are helpful in promoting community-focused mitigation measures but that accountability is essential if policies are to avoid problems of local power, patronage and clientelism.

Keywords: Arsenic; Water; Environmental health; South Asia; Bangladesh; Governance; Pragmatism

1. Introduction

> "Arsenic is a metalloid whose name conjures up images of murder" (Oremland and Stolz, 2003, p. 93)

With its vast, intersecting problems of poverty and environmental vulnerability, and a limited administrative capacity, the government of Bangladesh has struggled to formulate and implement a national water policy. This failure has been so comprehensive that Geof Wood (1999, p. 734) has commented acidly that "policy towards water is too important to be left only to those traditionally in charge of it". The legitimacy of the elected government itself is perhaps questionable when there is such neglect of both the national interest and the interests of water users and consumers, but some argue that the recent reshaping of environmental sovereignty in Bangladesh into a new form shared between local politicians, NGOs and the aid industry means that we must reassess governance in terms of an ethics of distributed responsibility (Wood, 1997).

Water is a well-known hazard in Bangladesh, with riverine floods causing annual disruption and death, but this paper will investigate a different aspect of water policy and

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practice. Pollution by one of the trace elements in the groundwater has caused a major environmental health emergency. This started in a low-key fashion.

> "About six or seven years ago blisters developed on my whole body and there was a lot of itching. A few months later, these blisters turned into black spots on my hands and legs. They itched and there was some pain. A few years later, these black spots became hard and rough. Now they have turned into sores" (In-depth interview, Basiapara village, 2001).

The experience of this patient is now a common one across Bangladesh, due to chronic arsenic poisoning. So far, 38,380 people have been diagnosed as having arsenicosis (BAMWSP, 2004a) but the expectation is that the figure will rise to two million as patients present with a complex variety of symptoms, including internal cancers (Yu et al., 2003). Estimates of the total number at risk vary from 28 to 57 million (BGS and DPHE, 2001) of the 100 million who drink water from tubewells, spread across most districts except for the eastern hills.[1] A national screening programme, mainly undertaken by the Bangladesh Arsenic Mitigation Water Supply Project (BAMWSP), but with inputs also from UNICEF, DANIDA, WorldVision, the Watsan Partnership Project, and the Asia Arsenic Network, in 270 thanas, has found that water in 29.12% of the 4.9 million tubewells tested was polluted to unsafe levels. The most challenged district is Chandpur, near the mouth of the Ganges, which has serious pollution of 93.00% of its tubewells, with some thanas up to 98.62%.

This poisoning is the result of complex geochemical interactions in the Holocene sediments that comprise much of the surface layers of the deltas of the Ganges, Brahmaputra, Meghna and other rivers, and therefore West Bengal is affected as well as Bangladesh. Generally speaking, the aquifers to a depth of 100 m are more polluted than those at depths greater than 200 m, by an order of magnitude. Drinking water is extracted through small diameter metal or PVC pipes and the concentration of arsenic depends upon this depth but also upon horizontal variations in space. As we have noted, there is a regional component to this, but there are also micro-scale differences, sometimes between tubewells sunk within metres of each other.

It is important to mention that the conjoined deltas of the Bay of Bengal are not alone in exhibiting this environmental health emergency. The arsenic poisoning of groundwater is also a serious issue in other parts of South Asia, and also in Taiwan, Argentina, Chile, western China and even the United States. What is exceptional in Bangladesh is the weak response of its hollowed out and inefficient state. Other countries also have problems with corruption and dysfunctional governance but it is interesting to note that West Bengal, with a very similar set of geochemical groundwater conditions, has managed to mount a more effective response due to the committed stance of its state government.

As we will see, the weight of indeterminacy in the science and technology surrounding the arsenic pollution in Bangladesh is significant (Atkins et al., 2006a). Reaching agreement about an appropriate framework of policy has, as a result, proved to be difficult, exacerbated by political and bureaucratic problems with delivery. We propose a mode of enquiry that owes much to the pragmatism of John Dewey (1859–1952) and to the recent turn to "environmental pragmatism" initiated in the path-breaking book of Light and Katz (1996). Pragmatism, divided by some into the palaeo-pragmatism of Dewey, Peirce and James, and the recent, neo-pragmatism of Rorty, is a vast and complex enterprise.[2] For our purposes, it yields two practical principles that will inform our discussion.

First, there is the primacy of action and practice. The process of knowing is seen by Dewey as a transaction (Sleeper, 1986); "truth" is constituted in social procedure and theory is collapsed into practice. The judgment of progress is thus only meaningful as a review of practical "experimentation", which may take various forms, including activities as diverse as science and democracy. According to William James, "the significance of an idea is in the way it directs new observation and new experience" (Barbalet, 2004, p. 338)). Experimentation leads to a balanced sensitivity to both hope and failure, without the bitterness, guilt or violent anger that has accompanied the assessment of negative outcomes in some ideologies.

Pragmatism has a keen sensitivity to context, as one would expect with a philosophy that has a relational ontology. Lived experience is prioritized over idealism and this leads to a refreshed view of empiricism, not as naive positivism but as a goal-orientated radical project seeking to engage with the world. Valuable though they are, pragmatism is not content with investigations of the conflicting interests at stake in a situation such as the arsenic poisoning in Bangladesh, nor with representational or discursive analytical strategies (Baert, 2003). There is an urge for practical engagement: for instance, the profound influence that Dewey has had upon American educational theory. William James, in particular, spoke of the 'cash value' of theories in terms of their practical consequences.

Second, concerns for conflict resolution and for community values make pragmatism a natural contributor to environmental debates (Rosenthal and Buchholz, 1996). The aim is not to develop universal ethical principles but to find a situationist and interactionist approach, even though this rarely yields certainties or argumentative closure (Bénatouïl, 1999). Because knowledge is active and agency is conceived as a network of beliefs and attitudes, the associated politics are likely to be participatory. Deliberative democ-

[1] The size of these estimates depends on which safety threshold is considered appropriate, the Bangladeshi or the World Health Organization limit.

[2] As yet, there is no comprehensive account of the implications of pragmatism in geography, but see Proctor (1998).