What people think about water: lessons for citizen communication and involvement

Ce que les gens pensent de l’eau : leçon de communication et d’implication des citoyens

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RESUME

De nombreux aspects urbanistiques liés à la gestion des eaux pluviales nécessitent un certain niveau d’implication des citoyens et donc de la communication. Cet article se base sur les résultats d’une étude de cas qualitative longitudinale effectuée en 2006 et décrit une théorie et une méthode permettant d’appréhender des perceptions de « bon sens » liées à l’eau et à sa gestion. Les résultats révèlent a) une compréhension incertaine du devenir de l’eau, b) une aliénation de l’eau dans l’environnement, et c) une dépendance à large échelle en solutions de haute technologie. Cet article traite des éventuelles barrières posées par ces perceptions et suggère en conclusion qu’une approche promouvant la négociation plutôt que l’information est plus à même de surmonter les blocages identifiés et de faciliter l’implication des citoyens dans l’urbanisme et la gestion des eaux pluviales.

ABSTRACT

Many aspects of urban design concerning storm water management (SWM) require some level of citizen involvement and therefore communication. Drawing on results from a longitudinal qualitative case study conducted in 2006, this paper describes theory and method that provides insight into ‘common sense’ perceptions of water and its management. Findings reveal a) confused understanding of what happens to water, b) alienation from water in the environment, and c) dependency on large-scale high-tech solutions. The paper discusses the possible barriers these perceptions present and concludes by suggesting that an approach promoting negotiation rather than information provision is more likely to address the barriers identified and promote citizen involvement with urban design and SWM.

KEYWORDS

Action research, negotiation, social representations
1. INTRODUCTION

Regardless of the design, urban storm water management involves communication between those implementing a project and those living with it. The quality of this communication is often identified as determining the degree to which the design is accepted, (Beck, 2005), the extent to which citizens understand themselves to be positively involved, (Sefton and Sharp, 2006), and the extent to which it achieves the desired sustainability objectives. Whilst there is increasing interest in developing more environmentally sustainable flood management it is environmental and economic aspects of ‘sustainability’ such as geography, topography, and economics which are usually the drivers for SWM with public acceptability considered retrospectively (Nowell and Bray, 2005). This often results in citizen’s involvement with SWM being sought in response to imminent or actual crises resulting in communications concerned with damage limitation. In other cases citizen participation has failed to anticipate ways in which the design takes away from the achievement of sustainability objectives, such as reduced car dependence, (Gardener, 2006). These problematic experiences with citizen participation highlight the need to revisit the premises underlying public participation in SWM.

The starting point for many projects aiming to promote citizen involvement is the provision of information on the understanding that if people are provided with the ‘right’ facts they will either accept and/or behave in accordance with the intentions of the information providers. This strategy is based on two main assumptions 1) that the facts have the same meaning to both providers and receivers 2) that once in possession of the facts the receivers will feel/perceive the situation in the same way as the information providers. However, the evidence is that Public information campaigns are limited in their effectiveness, (Fransson and Garling, 1999, Hobson, 2001). One significant contributory factor is the ‘gap’ between ‘expert’ knowledge and lay understanding, for example ‘re-naturalisation’ can have multiple meanings depending on one’s perception of ‘nature’, (Wynne, 2001, Macnaghten, 2003).

Our understanding of a phenomenon such as water management is informed by our historical and cultural beliefs, practices and social norms. This understanding is not static but constantly modified through personal experience and social interaction. The theory explaining the processes by which understanding circulates and develops into “a shared body of ‘common sense’ knowledge” is social representations theory, (SRT) (Gervais et al., 1999, p.422, Moscovici, 1981).

Insight into ‘common sense’ water-management-knowledge of residents in a neighbourhood in south east England which has not experienced recent storm water management issues provides information about 1) the assumptions and perceptions of water management and the environment, and therefore the terms of reference necessary for negotiation with this specific community about SWM 2) a theoretical framework and methodology to support citizen involvement elsewhere. The aim of the paper is to discuss what the findings from this case study tells us about this communities’ ‘common sense’ water-management-knowledge and explore what that might mean for future citizen involvement in urban design and SWM.

The case study is part of a multidisciplinary research consortium concerned with sustainable water management in new developments (WaND), funded by multiple stakeholders and the UK EPSRC (Engineering & Physical Science Research Council). The specific research aims were 1) to identify whether and how public perceptions are factors inhibiting and/or promoting implementation of sustainable water management in the UK 2) to make recommendations concerning communication about awareness raising strategies for implementing sustainable water management in the UK.
2. METHOD

2.1 Design: In order to reflect the dynamic and complex nature involved in social representations the methodology was longitudinal and qualitative. Data collection comprised of two in-depth interviews (between one and three hours) with eight households, (fifteen participants age range 8 – 70+) over six to eight months.

2.2 Ethics: Ethical guidelines as stipulated by the British Psychological Society were followed whereby anonymity, confidentiality and the right to withdraw were assured. In respect to the participatory nature of this type of research those taking part are referred to as participants. The investigation design sought to minimise the usual power differential between researcher as ‘expert’ and participant as ‘lay person’.

2.3 Procedure – first interview: Households were contacted by letter and telephone and their participation in interviews was negotiated. In order to equalise the relationship between participant and researcher, interviews were conducted in participant’s own homes including those members of the family (and in one case friend of family) who were interested. Whilst an interview schedule was employed, it was intended to direct and inspire informal conversation about the research focus rather than standardise between interviews. The idea was to encourage participants to express themselves as freely as possible about all aspects of water management with respect to their lifestyles and experience. Another technique intended to engender relaxation and equality within the interview was word association, whereby participants were invited to respond to a list of selected words and terms with the first word that came to them. Word association enabled all family members to take part, and also provided a means of analysing what participants did not know – an aspect not usually gleaned through conventional interview methods, (Gervais et al., 1999).

2.4 Procedure – second interview: Participants were contacted by post and telephone and a second interview organised. In order to validate data collection from first batch of interviews and provide stimulus for discussing potential changes in participant opinions / experience, participants were presented with a synopsis of their first interview and invited to change anything they were not completely in agreement with. As with the first interviews, participants were then encouraged to discuss any experience, which they considered might have changed their understanding of water management and what type of information might do so in the future.

2.5 Analysis: Full transcriptions (600 pages) of interviews were thematically analysed both for base line understanding and changes occurring between and within interviews. Matters of particular concern for this paper included: understandings of water, both in the home and the wider environment; ideas about responsibility with respect to the environment; and ideas about vulnerability to flooding. Counter instances and contradictions were deliberately sought and identified in analysis.

3. RESULTS

3.1 Expressing the meaning of water through absence: Initially participants found it hard to talk about water because it was below awareness. However, this was not because it had no meaning for them, rather that water’s meaning was so integrated into lifestyle and everyday practices that like breathing it was beyond notice:

“It’s just the first time I have had a conversation about water [] it’s just thinking about it I suppose, because I do live my life and I don’t think about it” [1stGOR]

The strategy participants employed to convey the importance of water was to invoke its absence. The terms by which absence was expressed could be absolute…:

“You can’t live without water” [1st BayM]

or more usually participants described water scarce countries – usually Africa:
"It's only when you think of sort of countries that don't have any water, do you think how do they do things because I don't know how you'd cope without it" [1st EllM]

This indicates that water only appears salient for discussion within a crisis context.

3.2 Relating to water in the environment: Whilst participants were very positive about water in their immediate domestic environment, few identified positively with local unmanaged water and enjoying water away from home was described as something one does on holiday – usually abroad:

R – When you talk about the beach and the sea what is it about that that you enjoy?
E – Oh, I don’t know where to start - sounds, paddling, just the smell, just being outdoors, [ ] all that the whole thing isn’t it. Especially the beach in Greece, yeah [laugh] I’m not thinking Southend-On-Sea [local sea-side resort] here [laugh]"[1st ELL]

Naturally occurring bodies of water within the local environment were described either as ornamental scenery e.g. “a nice picture” or as potentially threatening e.g. ‘dirty rivers’. Indeed in the word association section of interviews there were as many negative responses to ‘river’ as positive including references to burst banks and flooding incidents. In contrast, the local reservoir (managed water) elicited positive responses from most participants.

3.3 Dislocated 'water stories': Participant understanding of the water cycle, the way in which water in the environment becomes replenished and how water professionals interact with those processes was dislocated:

"I didn’t know that we need the rain to get our water" [1stBayW].

Table 1 shows responses to the term ‘water cycle’ indicating that while participants acknowledge that such a thing exists, their understanding is mainly abstract.

<table>
<thead>
<tr>
<th>Diagram – evaporation, clouds, little arrows</th>
<th>Plant Seasonal thing</th>
<th>Clouds</th>
<th>How you make water (child’s response)</th>
<th>Weather</th>
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<td>3 x non response</td>
<td>Beach (child)</td>
<td>Teaching - school</td>
<td>Season</td>
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Common sense ‘water stories’ that emerged throughout interviews centred on drains:

"I get annoyed with people who [ ] put the sprinklers on and leave them all day, I get really annoyed because I think that water is going nowhere, it’s going back into the ground, if it was going back into a drain or a sewer then, then it could be recycled then that’s great, but actually seeing it when it’s going back into the ground I think it’s a dreadful, dreadful waste, I really do" [1stBayW]

This participant’s passionate concern with preventing wastage is coupled with what most engineers would consider to be an inappropriate faith in the efficiency of the water treatment and re-supply processes.

3.4 Environmental responsibility and dependency: While participants expressed deep concern for environmental issues, individual action was considered largely futile:

"I think it’s down to everybody as a as a race, you can’t … one little tiny group of people are not gonna make a difference" [1stCha]

… and collective action improbable:

"So it seems pointless doing it [adhere to Kyoto agreement], if we all don’t do it then it’s pointless" [1st BayH]

This expressed lack of self and collective efficacy (Bandura, 1982,) with respect to environmental concern permeated most interviews and usually preceded calls for top
down technical or policy interventions. However, while participants expected “Them to do something” there was also lack of confidence in what ‘They’ would do:

P – [ ] water management, large scale has got to be sort of government concern, you know planning and deciding what they're going to do long term.

C - And do you think they are doing that?

P - Um, you don’t see any signs of it. One would hope that they are because you know there like an awful lot of other issues they don’t actually make the news, so you would hope, you know you hope that there is some long term strategy that they're working on it [1st PRI]

3.6 Changes in perceptions between and within interviews: 2nd batch interviews revealed changes in participant knowledge/awareness resulting from media reports of hurricane Katrina in New Orleans, (which had occurred during the interim between interviews) and taking part in the research. Participants reported that while they didn't feel they had fundamentally changed their opinion about water management they did consider that they were more aware and had a greater interest. For example one participant expressed in their 1st batch interview:

“we don't really give a damn about it [water] to be honest with you, as long as it's there and we can use it” [1stBayW]

However, by the second interview she exclaimed:

“I didn’t realise how I felt, what can I say, how important water is to us all [...]. You know it [water] is [important] but it’s not until you sit and talk to someone that you sort of think Cool! that is that important to us” [2ndBayW]

This extract demonstrates the power of conversation and indicates the process by which ‘common sense’ is made. Like the research, (and perhaps partly because of the research sensitising participant’s awareness) media reports about hurricane Katrina inspired a national conversation about flooding. Whilst in 1st batch interviews, flooding was mainly referred to as inconvenient, and not really regarded an issue:

“[…] because obviously with the ozone layer the weather is getting warmer, we’re not getting, I mean they say we’re gonna have floods don’t they, you know, we’re gonna get this torrential rain, but I wouldn’t have thought it’s gonna go like that” [1stBAYW]

Hurricane Katrina provoked some participants to contemplate their proximity to the river Thames and their personal preparedness for local flooding.

“B – like regarding, regarding global warming yeah it’s funny coz they always said about the Crouch [river] not half a mile down the road but if the Thames ever flooded they would shut the barriers and the water would come round up the creek

B2 – it would come along here

B – [...] and you kind of think well you know we’re a good way up here [but] suppose it did; and then of course all what’s happened in New Orleans but when it was going on you’re thinking suddenly if it was a real major flood regarding the creek down the road here [...] how would you get all the stuff out [...] what would you take out first?! [2nd Bay]

Other participants’ responses to the Orleans flood again revealed a fundamental reliance on those in charge to manage potential disaster:

“What my feelings were was that they’d known for a long time that the Mississippi will probably flood and why have they not done anything? I thought why were there no defences up if they’d known that this is a likely thing to happen why didn’t they do anything [...]” [2nd Ell]

The understanding that ‘They’ (government and/or water professionals) should do something and that individuals were powerless was expressed repeatedly throughout
interviews. At the same time there seemed little confidence that ‘they’ could or would do what was necessary:

“R - When you say ‘They don’t think’ is that the government or the scientists or the engineers, who?
L - I mean the engineers must have some idea because I mean otherwise they shouldn’t be doing the job to start with as I say the one in Camby I can’t understand at all because [] all along the sea front you’ve got this wall then around the sides you haven’t, there’s no dikes or locks that I’m aware of. I mean if it’s high tide you can definitely tell by the water as you [] travel along the road you can see at the sides it does come up quite a way []” [2nd LUX]

4. DISCUSSION

That participants did not really have a language for discussing water in normal circumstances is not really surprising. The history of water management in the UK has rendered water management largely invisible. Literally water has been sunk underground along with the awareness of where water comes from and goes to. It is therefore also not surprising that participants appear to experience domestic water as separate from environmental water – the bit connecting the two is missing from the public arena. Moreover, people’s lack of contact with ‘unmanaged water’ has led to ambivalence, and associations of dirt and danger. Therefore, appeals to ‘re-naturalise’ urban design are likely to be met with at the very least trepidation and more probably suspicion.

Participant expressions of dependency on government and water professionals demonstrate low self and collective efficacy to address environmental issues. However, participant’s response to the reports of management failure in New Orleans leading to concerns about possible mismanagement of the Thames demonstrate that they are no longer secure (if they ever were) in their dependency but have little idea how else these issues can be addressed.

This is perhaps the point at which the information campaigner might be called upon to inspire citizen involvement through providing alternative water management ideas. Just as the UK water industry welcome ‘drought’ as the opportunity to engage the public in water demand issues, so floods could be used to involve people in SWM. For example, the significance of drains could be drawn upon to make sense of how the systems for managing water fit into the natural water cycle. When an issue becomes salient, discussion occurs ‘stories are told’, common sense is made and the opportunity for changed understanding exists.

However, there are dangers in relying on disasters, proxy or actual, to generate salience. As findings with respect to New Orleans indicate, if the issues becoming salient are crises the stories told can be those of fear and mistrust. Indeed, the prevalence of world-wide news resulting in us all ‘experiencing’ to some degree the potential effects of mismanaged water, is more likely to engender lower efficacy, (Uzzell, 2000) than increased openness to new ideas. For whilst global news provides us with ‘water stories’ of what can go wrong, there is little coverage of what is going right, and as findings above indicate, little personal experience, either. In these respects, the findings highlight the enormous challenge which professionals seeking to engage the public in processes of re-naturalising the urban environment through storm water management: people do not think much about the management of water in their local environment, and insofar as they do, they consider it in terms of risks rather than pleasure.

Whilst the prevalent themes reported above do not indicate positive ‘water stories’, two ‘counter incidents’ demonstrate that positive experiences of managed water
enable discussion of how water within urban environments is possible. The first incident is one participant’s response to questions about water communication. She told the story of how developers used the term ‘riverside country town’ in advertisements to promote the town’s expansion. She went on to explain that the river was largely inaccessible but that she could see it being a very positive move on the local town council’s part to ‘develop’ the river into a walk way. By making the river available local people would be reacquainted with a local water environment, making water salient in a non-crisis context.

The second incident occurred after a participant asked what ‘swale’ meant (a term used during word association). On being told what a swale was she exclaimed:

“E – They had some of those in them fields in France […] I was quite impressed with that; we went through France and I couldn’t understand /it was such a sensible idea, why didn’t we do it”[1stEll].

Whilst this participant’s experience of SWM in France is more rural than urban (indicated by the term field), there is positive acceptance of the principle of functional, visible water storage as a positive means of managing water. As Geldof puts it:

“The friend and enemy faces of water are interconnected. By making appreciated water in the living surrounding, more storage space becomes available for reducing negative effects in heavy rain events”, (Geldof, 2006, p.12).

However, while positive experiences of water in the urban environment may well be the answer to citizen involvement with SWM, it still leaves the question of how these positive experiences are to be achieved. We cannot send all the UK population to France, and developing a river through a town requires citizen involvement in the first place; a chicken and egg situation.

The answer, we suggest, lies not in the causes of change but in the process of change itself, i.e. conversation, story telling and sense making, (Dervin and Frenette, 2001). As reported participants said that talking about water management had “made us think”, and when asked what would be an information campaign participants often suggested the type of discussion that had occurred during the interview.

Rather than attempting to promote citizen involvement through provision of information, especially when salience of water management is likely to occur within a negative ‘crisis’ context, involvement could be promoted through generating negotiation processes, thereby utilising the usual way ‘common sense’ comes about. Involving citizens in SWM through ‘action research’ would achieve this end.

Action research means that: “The social interactions of the research process are built into the research design”, (Hayes, 2000, p. 196). By adopting this approach citizen involvement is the process not the object of the ‘research’ requiring SWM designers to negotiate citizen understandings and preferences thereby achieving urban design which is socially, as well as environmentally sustainable. Moreover, the collaborative nature of this approach ensures participants are more likely to be informed and have control over their participation and SWM design. Conducting action research means acknowledging the participant as actively making sense of whatever the research is about, which is highly compatible with the constructionist nature of SRT.

By negotiating with people as opposed to communicating to people the dependency on top down high tech solutions to SWM can be addressed; by embracing the idea that “human thought is not reducible to isolated logic, but is instead a constantly constructive and discursive act”, (Hobson, 2001, p.202), shared responsibility becomes more likely. Furthermore, embracing negotiation as the means by which citizens are involved means that SWM designers are less likely: “to overlook unwittingly possible negative campaign effects”, (Dervin and Frenette, 2001, p.72)
Geldof’s ‘adaptive approach’, (Geldof, 2006) embraces the need to constantly re-negotiate plans as learning occurs and circumstances change. For citizens to be involved in this process there needs to be a means by which negotiation is possible between those with ‘expert’ understanding of what water does and those with ‘expert’ understanding of how they live within the urban environment.

5. CONCLUSION
People’s perceptions of water management in a small town in Essex highlight the barriers to achieving citizen involvement in SWM: links between the natural and managed water cycles are little understood; natural water in the local environment is perceived in a negative light; and there appears to be a wide ‘gap’ between lay and expert opinions. In this paper we have suggested that action research and SRT provide a methodological and theoretical approach to overcoming some of these barriers. By approaching citizen involvement as a process of negotiation, embracing the usual way in which ‘common sense’ comes about in everyday living, lay and expert understanding can conjoin in developing urban design and SWM which is socially as well as environmentally sustainable.

LIST OF REFERENCES