Raising awareness on water and climate related risks - an overview

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Abstract Climate change is not an easy subject from the perspective of communications studies: it is widely regarded as a most important issue, but its global scope and the lack of consensus on its consequences can make it hard to encompass. This article aims to structure the field and set out the domains of communicative action that are involved, as well identify the actors involved and their role in the overall debate. The different modalities of communication and the dynamics in the use of media in the present time are considered, before discussion of some basic issues with regard to communication, such as the meaning of (scientific) information versus more emotional cues, the opportunities for action that can be offered to citizens/consumers, and the issue of trust in responsible agencies.

Keywords Awareness; climate change; communications

Introduction
Climate change seems to be an appealing subject for communication. It is related to weather conditions, a favourite topic of everyday conversation. It has dramatic properties: the consequences of climate change both intrigue and disturb the public. Apparently, something is wrong with the world around us, and nobody can escape from it.

However, the subject is by no means an easy one. The scope of climate change, its global dimensions, makes it difficult to locate causes and effects. And, although the idea of probably dramatic consequences is more widely accepted, it is not evident how serious these will prove to be: there is no consensus. Much research has still to be done to assess what will ultimately happen. The relationship with human behaviour, which is one of the most striking aspects of the problem, is also a troublesome one. It can give cause for hope: at least we can do something to redress the worst effects. But it can equally evoke feelings of fatalism: are we – on a global scale – equipped to deal with such an overwhelming problem? This last point poses one of the big challenges for communication studies, as I will try to show. One further question is how climate change is related to other changes that typify our world, for instance the way we address other global problems, such as terrorism, nuclear arms, AIDS and hunger.

My aim firstly is to structure the field and to set out the domains of communicative action that are involved, as well identify the actors involved and their role in the overall debate. Secondly, I would like to dwell on the different modalities of communication and the dynamics in the use of media in the present time. Lastly, I will discuss some basic issues with regard to communication, such as the meaning of (scientific) information versus more emotional cues, the opportunities for action that can be offered to citizens/consumers, and the issue of trust in responsible agencies.
The domain

Communication about climate change consists of an array of subjects that can be categorised as follows.

- Communication about the concept itself: what does it encompass? Where does it begin and end?
- Communication about causes and effects. What is the evidence? Where do we start from (more or less grounded) assumptions?
- Communication in times of crises, where risks are becoming reality, here or elsewhere.
- Communication about preventive measures. Who can do what to diminish the predicted consequences? What interventions are broadly accepted as effective, realistic and given, the responsibilities of different parties, just.

Together these four subjects form an impressive catalogue for communication scientists. For instance the first subject, the concept of climate change, leads to questions about the necessary building blocks of a popular definition: what everybody should know about it. Together with this we can question how we can teach the concept, from the very basics to higher levels of awareness. Is an ideal ‘learning path’ conceivable? What has to be the first step to increase awareness about climate change? What next?

The second subject follows from this conceptual thinking. People should be able to get a clear understanding about the main causes and effects and how this relates to their own lives. All people can be seen as both producers and victims of climate change, although the balance between these two is quite uneven between people living in different parts of the globe (of course, there can also be benefits for some of them, but this is not the big issue). The core idea is how responsibilities can be assigned to whom, and for what reasons.

The third subject rather closely resembles the field of risk communication; how to operate in times of crisis (Gutteling and Wiegman, 1996). It is about systematic planning under severe pressure, where planning failures can have disastrous consequences.

The last subject, about preventive measures, relates to issues of sustainability. Can we advance in a desirable direction and how far? What can be done practically to achieve a balanced situation? The ultimate aim here is behavioural change, of all parties involved: citizens/consumers, governments, industry, etc. Communication is not the only instrument to achieve this. But without communication nothing will happen. It is not an easy task, especially because of the indirect links between the production of damaging effects and suffering from those effects. We enter here the arena of ‘social dilemmas’ (Vlek and Steg, 2002): it is difficult to distribute the beneficial effects of philanthropic behaviour selectively, so that those people who do respond to the issues at stake reap the benefits. One of the most well known devices to overcome social dilemmas is to ‘localize’ the problem, in order to organize effective social pressure. But this is a difficult approach when it comes to climate change. We will come back to this point later on.

I will use the term ‘awareness’ as the central variable to cover these four fields. So, with ‘awareness’ I not only mean ‘having knowledge about’, but also the inclination to use this knowledge in an appropriate way. Another concept that illustrates this distinction is ‘hot cognitions’ (compared to ‘cold cognitions’); cognitions that really play a role in everyday life and are applied to the problems at hand. For us ‘awareness’ is ‘active awareness’ (Chalmers, 1996).

Who is communicating?

From a theoretical point of view one could assume a sender who might deal with the four subjects, sketched out above, vis-à-vis an imaginary receiver, an average citizen/consumer or another construction of a ‘target group’, as in educational situations
(teaching arithmetic or Spanish). This picture can be the starting point for social psychological experiments in laboratory conditions and can certainly deliver useful outcomes. But it is utterly at odds with reality. To better reflect the existing communication conditions I prefer to present a simple scheme that identifies the main actors in the field (see Figure 1).

The aim of this scheme is to show the interdependencies between a variety of actors, of whom citizens/consumers have been selected as the central group. This is done not only for communicative reasons (most of the communicative efforts regarding climate change are directed to citizens/consumers, quantitatively), but also because the activities of governments, NGOs, industry, media or even science, depend ultimately on the level of awareness that develops in the inner part of the scheme. Without a sufficient level of acceptance by consumers and citizens most measures will turn out to be ineffective.

Let us look at some of the peculiarities of these six actors.

The government
The government can use communication as an instrument to provoke desirable voluntary behavioural change, such as the use of cleaner cars, energy-saving heating-systems or responsible tourism. Another function of communication, however, is to support the acceptance and implementation of other policy instruments, such as regulation, or of financial incentives (Van Woerkum et al., 1999). Both objectives require a careful analysis of the antecedents of behaviour and a thorough examination of a viable communicative approach (Bartels and Nelissen, 2002).

Besides this, the government has the task of teaching its (young) citizens about the concept, and main causes and effects, of climate change. And - of course – governments have a special responsibility in the case of real crises.

There is a noticeable tendency these days for government to restrict its regulatory tasks and to engage in more interactive policy making with the idea that responsibilities have to be shared (‘governance’). Public-private agreements over environmental issues are one of the outcomes of this new policy style (van Woerkum et al., 2000).

Science
Science can deliver new arguments for the acceptance of climate change as a political topic of the highest priority, and can propose effective interventions. One of the issues to be considered here is the global scale and multi-dimensionality of climate change: what
does the integration of disciplinary approaches mean? This poses communication problems when different conceptual frames and disciplines (e.g. ecology, economy, politics, communication, cultural contexts) seek to collaborate.

Another specific challenge is to make scientific results understandable for larger audiences. The use of statistics (‘with a certainty of … %, the chance that the sea level will rise by … metres is … %’) deserves special attention, not only in presenting them to the public but also with other actors like the government, or the political system as a whole.

**NGOs**

Non Governmental Organizations like Greenpeace are important as agenda-setters. Their merits lay perhaps less in their scientific competence (their record in this respect is often contested) but in their trustworthiness as defenders of fragile natural resources. They can trigger the attention of the media and have strong channels with their own constituency, including many informal opinion leaders in their social environment.

NGOs can draw on the support of concerned citizens/consumers. But their main objective is to keep governments and industrial organizations on their toes. Their relations with these actors can range from discussion and dialogue to confrontation.

**Industry**

Generally speaking, industry is not a prominent advocate for redressing the effects of climate change. On the contrary, many of their messages, mainly in the form of advertisements, foster anti-social behaviour (large energy-consuming cars, the use of cheap wood from unsustainable sources, ecologically irresponsible tourism). Yet, Corporate Social Responsibility (CSR) is becoming more than a fashionable buzz-word (Cheney et al., 2004). NGOs can damage the reputation of companies by highlighting practices that exploit the environment in an irresponsible way. A company can also play on its strengths and highlight their good practices as a selling argument.

**The media**

The media are very important in their role of selecting news and framing the issues. Climate change, for instance, can be framed as a battlefield of competing scientific groups or even governments. But they can also frame it as one of the most serious issues that societies are currently faced with. The media are important in all the four fields we discussed: making the concept of climate change clear, eliciting causes and effects, acting in times of crises and showing what can be done. Generally speaking they are more inclined to look at problems instead of solutions, and the role of ‘mobilizing information’ (Lemert and Ashman, 1983) to help citizens act in a more enlightened way is quite limited. Yet, their potential to increase active awareness about climate change should not be overrated.

**Consumers/citizens**

Here we find the most important group, both because it is among this group that the effects of the other actors matter most and also because, in a quantitative sense, the total amount of communicative exchanges relating to climate change between citizens and consumers greatly outnumbers all the others.

This obvious fact is overlooked easily by institutional actors. If NGOs or governmental organizations talk about ‘environmental communication’ they often implicitly refer to ‘their communication’. However, the effects of ‘their communication’ are strongly influenced by informal communication between people, how they discuss big cars, tourism in fragile natural areas or the use of tropical hardwood.
Increasingly social scientists/communication researchers tend to look at the public not as an aggregation of individuals with certain predispositions (knowledge, attitudes, interests) but as a body of acting communities, in which discussions about relevant topics play a key role in helping them define their identities. In these discussions, themes (relating in this case to concerns over climate change) are framed in a certain way, either positively or negatively. Information from external sources is labelled as ‘alien’ or ‘close to’ their own way of talking, and using a vocabulary that belongs to the culture of the group. Together, these discussions form the most apparent manifestations of active awareness (van Woerkum, 2002).

An important and growing area of research is the way in which people link problems with one another. Tullock and Lupton (2003) found in their study of risk perceptions by the public a tendency to relate them to the ‘government and its politics, positioning it as the structural cause of risks facing their country’ (ibid. p. 39), mentioning the breakdown of the welfare system, unemployment, racism and crime. This perception of ‘institutional risks’ in dealing with, for instance, climate change, cannot be overlooked.

So, promoting awareness about climate change means familiarizing oneself with how these discussions progress and where they are presently, in order to be able to find common ground with them. The question is how to do this?

Communication modalities
Many of us are accustomed to think about communication in terms of the classical communication model: a sender sends a message via a medium to a receiver in order to get an effect, which can be noticed as feedback. This ‘sending-model’ is much contested nowadays. People do not really ‘receive’. They add their own associations and visualizations to what they perceive. Signals that are not meant but ‘given off’ are probably more influential than intended messages. And lastly: this model neglects the activities of receivers themselves in discussing messages and/or signals (see above). Nevertheless, this model, adapted to acknowledge the active role of the ‘receiver’, still has its merits, although it is not the only model.

A strong, competing, alternative is a communicative model in which the initiative for a communicative event shifts from a sender to a user, who orientates him/herself or seeks the answer to a question. This model has attracted more attention due to the rise of the internet, with which the classical role-division of active senders and dependent receivers has become blurred. When considering the issue of climate change related risks one wonders how users can orient themselves and find information via the internet or other sources. Where are the appropriate sites? Are they provided by NGOs, government, industry, media or science? Do people know about these sites? How would they find them? Do they trust them? Moreover: are there online discussions between citizens/consumers concerning climate change related risks that illustrate their active awareness and their specific framing activities?

Lastly, the view of communication as transaction or interaction has recently received renewed official attention. In the Netherlands an official committee, established by the government, has proposed that citizens not only have a right to be informed but also the right to communicate their concerns interactively with governmental agencies (Report of the Committee about the Future of Governmental Communication, 2001). This way of thinking about communication is in line with attempts to make policy processes, from inception to implementation, interactive (van Woerkum, 2002). We also see comparable tendencies (‘interactive marketing’, constructive technology assessment’, etc.) in the
realms of industry and business. Communication is increasingly recognized as an exchange, not a one-way affair.

**Issues to be addressed**

Three issues deserve more attention. The first is the way that awareness about climate change related risks is shaped by information or by ‘peripheral cues’, such as ‘images’ or ‘emotion’. The second is the problem of levels, the causes and effects are located at different places but also on different scales: from local to global. Equally the institutions that can be held responsible for providing an adequate response to climate change related risks are situated on different levels. The third is the often problematic issue in terms of generating appropriate responses: it hampers active awareness as it involves sharing responsibility with governments, which are not always trusted.

**Information or…**

A strong tradition in social psychological attitude research stems from the Elaboration Likelihood Model, which takes as its fundamental starting point that thinking about information and arguments leads to a more reasoned and durable attitude, one from which behaviour can be better predicted, and one that is less vulnerable to counter-information (Petty and Cacioppo, 1986). This has been called the ‘central route’. However, we know that people, especially when they are not very engaged with an issue do not spend much time in processing information and arguments and are more inclined to respond to cues they get via the ‘peripheral route’, such as images, emotions or statements from people they like (without necessarily dwelling precisely on what they say). The attitude gained in this way is less stable, has less influence on behaviour and is more prone to change if other ideas are presented.

We know that the informational story around climate related change, given via the central route, is a complex one: in times of crisis direct personal involvement can be very strong. But in ‘times of peace’ many people do not bother too much. In this situation the wealth of available images, emotions and one-liners are the main sources of ‘information’. The communication challenge then is to create images that appeal to the emotions, that can produce involvement and that can be linked easily to readily available and comprehensible information. Through this method an effective ‘learning path’ can be created, along which people can develop their awareness about climate change related risks. A well known and trusted internet site could be an example.

A good example of such a combination can be found in the communication about acid rain. Emotional disturbing images of dying trees were coupled with arguments about the causes and with human behaviour, such as the emission of NO₂ by cars.

In my view such emblems of the risks of climate change are readily available and could readily be linked with a structured and clearly defined informational content.

**The level problem**

An international empirical study (Uzzell, 2004) shows that people perceive their own individual responsibility most of all at the neighbourhood level and that this decreases as the area level becomes greater and more remote. However many environmental problems (and particularly global warming) are discussed and presented at these higher spatial levels, rather than on the local level. This can lead to feelings of powerlessness and apathy. The problems are seen as existing at a different level to the one where people feel that they can exert influence or assume some responsibility. There are however hopeful examples that run against this pattern, such as fair trade communities in the UK, where communities identify and build solidarity with those in less fortunate parts of the world.
The challenge here is to counterbalance the institutional upscaling, from state to continent (Europe), or higher still (WTO, Kyoto, etc.), where governing bodies become increasingly impersonal and abstract. While global problems may seem to call for global-level solutions, scaling down is equally necessary to bringing the issue into the area of responsibilities felt by consumers and citizens. This relates to the next issue.

The action perspective

A well known principle is that people perceive problems in terms of solutions. This is also the base for the protection-motivation theory which holds that the reactions to a (health) threat are influenced by a process of threat appraisal and a process of coping appraisal (Rogers, 1983). Without a clear, concrete idea about what one can do and whether such actions will be effective, realistic in the situation at hand and just, compared to what others have to contribute, people tend to suppress the problematic part.

In the case of climate change the route for action must be a joint affair. People do not perceive their philanthropic behaviour as effective (or just) if others are doing nothing. Here, there is a role for government, for many important decisions have to be made at this level. And the way that a government ‘governs’ offers a strong communication signal.

However, the reputation of governments in dealing with large scale problems is far from exemplary. According to Gutteling and Wiegman (1996) the overall level of confidence in institutional sources has declined since the 1960s. ‘Europe’ or higher strata of policy and decision making, so needed with respect to global problems such as climate change, do not increase this confidence. One way or another, the confidence gap between government and citizens has to be closed, to create any viable hope of instigating shared action.

Here, I can only point to this theme. The risks of climate change are one thing. The institutional risks of dealing with them is another (see also: Taylor-Gooby and Zinn, 2006).

Conclusion

I have sketched the field of climate related risks, the issues, the actions involved, the modalities of communication and the burning questions that need solving.

Perhaps a crisis will enhance the level of awareness on all levels and create a new context for action. But by then much will already have been lost. The only thing we can do now is to make the problem as clear as possible, using facts and images, downscaling the realm of action as much as possible, working on building trustworthy sources of information, and by engaging in policy making structures and styles that foster trust. By using only ‘smart messages’ the awareness about climate change related risks cannot be increased.

References


