Coverage of climate change issues in Indian newspapers and policy implications

The media has a crucial role to play in the communication and public perception of scientific risks. On one hand, the media holds a key to shaping public opinion about risk and on the other, it also reflects public opinion. Thus the media is likely to influence policy decisions on science-related issues[1].

However, the nature of the relationship between science communication and public policy remains unclear and needs further studies. Climate change is a scientific issue with multidimensional implications, including scientific, socio-economic, environmental, ecological and political risks. It is also a scientific issue with studies involving the effect of temperature rise on atmospheric, oceanographic, ecological and environmental systems as well as a political issue involving negotiations between countries about the responsibility of taking action to prevent further damage.

With a burgeoning of stories on climate change in the international, national as well as regional media[2] and the simultaneous embedding of the problem in the policy space, climate change offers a green field for the study of the nature of this relationship (Figure 1).

In 2008, India launched the National Action Plan on Climate Change (NAPCC). The year was preceded by one which saw a significant surge in climate change stories not only in India, but all over the world. A cursory comparison of media over the last few years shows a rise in climate change stories in recent years. Research confirms the rise since 2006, with significant jumps in certain years like 2007 and 2009 (ref. 3) (Figure 2). The year 2009 was significant because it marked the 15th United Nations Climate Change Conference in Copenhagen, Denmark organized to establish an international climate agreement beyond 2012 when the first commitment period under the Kyoto Protocol expires. However, world leaders from 192 countries attending the conference in Copenhagen postponed the task of reaching a climate agreement, aiming instead for a less specific 'politically binding' agreement that put most controversial issues like emission reduction commitments, green climate, etc. fund to the future. The conference also saw the participation of a large number of civil society organizations and political and protest organizations[4]. These and the tough negotiations that took place were the potential cause of generation of such a lot of news. The negotiations involved pressure on developed countries from developing and least developed for binding commitments to cut down emissions and developed countries resisting the pressure.

Besides the ubiquitous NAPCC, climate change has been found to have its imprint on a large number of public policies in recent years – be it the Five-year Plans or the state policies. Twenty-eight states have so far formulated climate action plans bringing about one of the largest examples of conversation on decentralized planning for climate change action.

Climate change has also been used as the rationale behind restructuring of

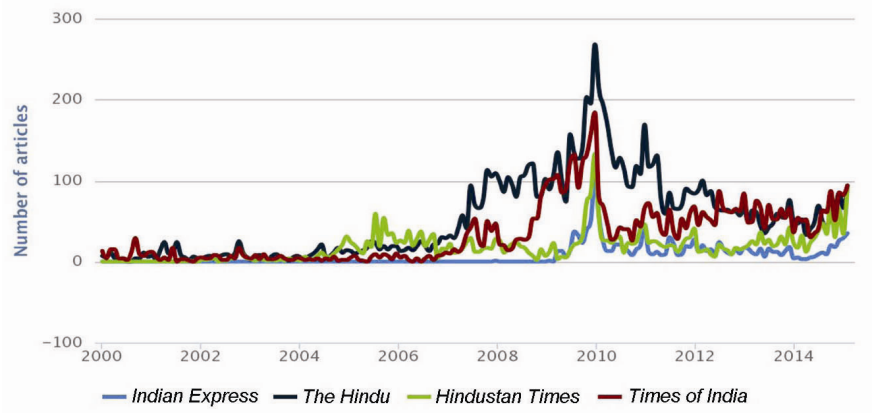

Figure 1. Indian newspaper coverage of climate change or global warming during 2000–2015 (ref. 8).

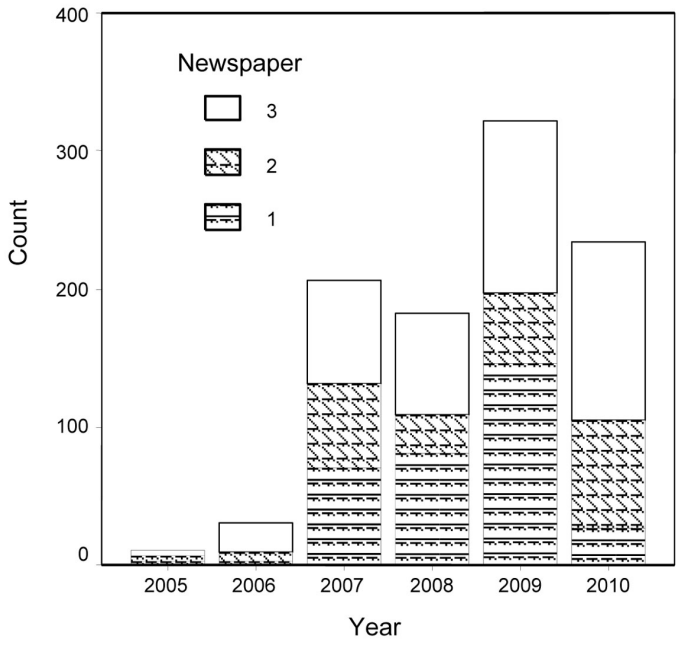

Figure 2. Year-wise climate change coverage in three newspapers: (1) *Times of India*; (2) *Indian Express*; (3) *The Hindu*.

energy, water and transport policies. In 2007, the report of the Steering Committee on Water Resources for the 11th Five-year Plan mentioned climate threat as an established fact and underlined the necessity of assessing what climate change means in terms of water availability. The National Transport Policy 2014 mentioned climate change as one of the crucial concerns that the policy attempts to address. This is perhaps one of the issues which despite the uncertainty surrounding the subject, caught the imagination of both the public as well as the policymakers.

Just like the public, policymakers read newspapers and effective communication in the media influences their thinking, which in turn reflects in their decision-making. Studies show the influence of newspaper reporting on public policy[5]. In the US, newspaper reporting has helped shape policies on climate change[6]. With India formulating several policies to address the issue, the connection between newspaper reports and policies on climate change in India needs to be examined.

Being a controversial issue that involves decisions to change energy policies, industrial production methods and even basic lifestyle of the people, the very existence of climate change and the reasons behind it have been hotly debated the world over[7]. Climate change has perhaps been one of the most uncertain sciences communicated to the public. This is not the fault of the subject, or that of experts. Uncertainty exists because of the very nature of the subject. However, the argument of uncertainty was used as a means to create doubts in the minds of the public about the veracity of the science. So much so that communicators have been persuaded to think about how to communicate to the public that every scientific finding has a certain level of uncertainty, and that decisions and actions need to be taken despite this.

In spite of the uncertainty and the debate, this is a scientific issue that has seen large media coverage and simultaneously witnessed an escalation of policies, both national and regional. One needs to study whether there is a relationship between the two. The answers may help future strategies of communication on many scientific issues.

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Does *Prosopis juliflora* negatively impact upon the nesting success of heronry birds? A critique of a report in *Current Science*

The fact that *Prosopis juliflora*, a plant native to South and Central America and introduced in India to meet fuel requirements and restore degraded lands, poses a serious threat to native biodiversity is well known. Chandrasekaran *et al.*[1] have attempted to show, at Vettangudi Bird Sanctuary in South India, that heronry birds (of different species) which build nests on *P. juliflora* tend to suffer greater nest losses compared to those utilizing a native tree like *Acacia nilotica* as a nesting substrate. The authors suspect that differences in branching patterns of the two trees might have a role to play. The branching angle in *A. nilotica* is 40–130°, while in the case of *P. juliflora* it is mostly between 165° and 190°. This, according to the authors, may result in 'greater sliding of eggs and chicks from nests' in the case of the latter.

We feel that the authors have been hasty in concluding that 'invasive tree *P. juliflora* poses significant threat to the nesting success of wetland birds', because both the evidence and analysis provided are inadequate. They do not mention the species whose eggs and nestlings were found fallen on the ground, but from the list of bird species recorded at the site (provided in table 1 of their paper), one assumes it is mostly smaller species like heron, egret, cormorant, etc., which build their nests in the interior parts of the tree. According to the authors, the number of eggs and chicks fallen on the ground per tree is indicative of the suitability of the tree as a nesting substrate. The number of fallen eggs and chicks under *P. juliflora* was significantly higher than those under *A. nilotica* (mean 1.3 as against 0.25 respectively). It is interesting to note that significantly more nests per tree were recorded on *P. juliflora* compared to *A. nilotica* (mean 50.7 as against 20.8 respectively). This means that if a certain number of eggs or chicks is bound to roll off or fall down, then more of such cases will be recorded in the case of *P. juliflora*, since it has more nests. The author do not provide either any experimental or observational evidence, mechanical understanding or reference to relevant published reports which reinforce the idea that angle of tree branches is a significant factor in the placement of nests.

There exists an enormous variety in the shape of *P. juliflora* canopies. Generally, the merged canopies of several trees growing close together tend to assume the shape of a cone, a tent or an umbrella, and different species of heronry birds utilize these merged canopies for placing their nests. While smaller species build nests in the interior parts, larger species like stork, ibis and spoonbill place their platform nests on the outer surface of the substrate. Thus, in the case