



Nuclear Power Development Impact on Climate Change Discourse in India

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Abstract

As nuclear power emits less CO₂ compared to other major sources of energy, the nuclear power theme ought to have played an important role in the formation of the climate change discourse in some countries. This paper focuses on the representation of the nuclear power in Indian climate change discourse, the country that depends heavily on coal for energy production. How climate change has been depicted in national press is important as discourse form values, impacts perception and may impact future policies toward climate change mitigation. Through analysis of *The Hindu* newspaper articles collected from 2013 through 2015, this study found that even though nuclear power is one of the ways to achieve carbon-free energy futures in India, the representation of nuclear power developments in the articles regarding climate change is rare. The study concluded that Indian climate change discourse is framed rather by the country's climate change policies than by government interest to promote nuclear power.

Introduction

Climate change has important consequences for life on the planet. Analysis of climate change discourse is important as such discourse crystallizes norms and values, impacts public perception, policies, and future action toward climate change mitigation (Demeritt, 2006; Luke, 2012). The discourse influences mass media and vice versa. According to Fairclough (2003) there is cause and effect connection between text (written or spoken) and social structures, practices, and events those are affecting and affected by text. The relation between text and society is a complex phenomenon that has received a lot of attention in social studies.

Notably, Western media has been particularly analysed with respect to depiction of climate change in newspapers, and its relation to society. For example, Trumbo (1996)

analysed climate change in the US press through social problems theory that suggests understanding the discourse in the context of social claims, which frame rise and fall of public attention to the issue. The study found that scientists generally frame the issue as a chain of causes and effects, while politicians frame climate change discourse as a problem that needs solution. Carvalho and Burgess (2005) found that climate change news is socially constructed. The study analysed UK newspapers and found that climate change news promote particular political figures and dominant country ideology. Shaping of climate change discourse in Australian press had been detected by McManus (2000). The author found that information regarding climate change effects was separated from information about climate change cause. This distinction lessened the interest of people toward climate change. By comparing the US, the UK, Germany, and France newspapers Grundmann and Krishnamurthy (2010) found differences in news of climate change due to difference in climate change policies in these countries.

Climate change discourse is produced and reproduced within particular country context and mass media is a key actor of these processes. The mentioned studies show from different angles the connection between climate change news/text and the context like dominant ideologies, policies, and country specific attributes. In India, climate change shaped the importance of energy deficiency and nuclear power development (Bhardwaj, 2013). India suffers from energy deficiency due to scarcity of energy sources, fast economic growth, and huge population. Energy deficit is partly covered by import (Knox-Hayes, *et al.* 2013), but mainly energy production depends on coal (Franco, and Diaz, 2009). India has a strong possibility to be one of the world biggest CO₂ emitter (Thaker, *et al.* 2014), as energy production dependency on coal will only increase (Pachauri, *et al.* 2008).

Many authors found that emphasizing the potential of nuclear power in solving several ecological issues, and highlighting the importance of nuclear power regarding climate change mitigation have been used in order to regain the support of the people for nuclear power (Gordienko, *et al.* 2012; Lee, 2012). Moreover Doyle (2011) analyzing the UK governmental discourse on nuclear power found that the priority of solving climate change problem has labeled nuclear power as less risky than the risk of intensifying climate change. To date, not much information is available on the impact of energy policies on climate change discourse in India. However, nuclear power development impacts on climate change discourse should be a subject of special interest as Indian government considers that the large-scale power generation like nuclear power is the most appropriate way to achieve the long-term sustainable development of India (Grover, 2013). Therefore nuclear power development may play an important role in climate change discourse formation in India. This paper investigates how nuclear power development impacted climate change discourse in India. In an attempt to find the answer this paper probes climate change discourse in India through analysis of the print media.

Print media in India

Media is one of the major factors for people's perception (Gamson, and Modigliani, 1989). Therefore it plays an important role in a country's development as it

not only reflects realities, but plays an important role in the country's policies (Burgess, 1990; Sovacool, 2010). The liberalization of Indian media in 1991 dramatically increased its coverage, the range of issues it covers, and consequently this increased its influence on Indian society (Bhushan, 2013). The press in India is one of the primary sources of information on climate change (Billett, 2010). Indian press covers both international and national issues in different languages.

The three dailies with the highest readership, *Dainik Jagran*, *Hindustan*, and *Dainik Bhaskar* are published in Hindi language. Ranking fourth and fifth are dailies published in Malayalam and Tamil. The English-language newspaper *The Times of India* holds only seventh position (IndiaStat, 2007). However, English-language newspapers have better distribution around the country (Billett, 2010). Among them, *The Hindu* is printed at 20 locations across the country and therefore has the best coverage. It has the largest base of circulation in Kerala and Tamil Nadu (Venkatasubramanian, 2014). Its readers average about 22.58 lakh (Indian PR Forum, 2012). *The Hindu* plays a stabilizing role in national politics by promoting national integration, avoiding extremes, and sticking to the middle path (Sonwalkar, 2002). Billett (2010) identified *The Hindu* as a rich and influential data source for contemporary climate change discourse analysis. Also, English-language newspapers are recognized as leading changes in journalistic and business practices in India. Particularly, *The Hindu* newspaper is one of the first newspapers that started online edition. This extended accessibility to *The Hindu* materials by the readers makes its audience larger. At the same time, it makes research process more feasible.

The study analyses climate change discourse context in India. Frequencies and content of *The Hindu* articles concerning climate change have been analysed.

Materials and Methods

The proposed study employed Critical Discourse Analysis (CDA). The CDA is a commonly used method in social science (Sahragard, *et al.* 2010). It provides text as well as context analyses (Caldas-Coulthard 2012). The context analysis was based on material regarding contemporary Indian society, economy, national energy and environmental policies. The text analysis was based on the content analysis of *The Hindu* newspaper articles collected from 2013 through 2015. The dataset was accessed from *The Hindu* archives using the key phrases 'global warming' 'greenhouse gases', 'climate change' and 'Intergovernmental Panel on Climate Change', in the article headlines. The use of these search phrases is common in climate change research methodology (Antilla, 2005). In all, 141 articles were collected. Differences between the percentage of the articles with and without nuclear power theme were identified and compared.

Coverage of the climate change articles

India is a country with a fast growing economy, where high living standard is proportionally increasing with energy consumption. Indian Ministry of Power reported (2015) that the number of the people who have access to electricity is increasing, but the

quality of electricity supply service is decreasing, and the country is facing energy shortages. Limited oil resources and shortage of energy (Planning Commission, 2006) results in India being insecure in energy needs and dependent on coal (Franco and Diaz, 2009). Nevertheless, India has vast reserves of thorium that could be used as nuclear fuels for energy production (Kakodkar, 2001). The idea of utilizing thorium was formulated in 1950s. Since then, India's interest in nuclear power is continuously rising (Bhardwaj, 2013). In contemporary India, nuclear power development is one of the main hopes of the Indian government to reduce CO₂ emission (Bhardwaj, 2013). However, content analysis of the selected articles on climate change issue published from 2013 through 2014 in *The Hindu* newspaper shows that the Indian government has not framed climate change discourse in order to promote nuclear power development. The articles on climate change those contain nuclear power theme get only 6% from total number of the collected articles.

The articles that discuss both nuclear power and climate change themes are very different in narrative. Some of them support nuclear power development and some oppose it. The articles that oppose nuclear power development emphasize that after Japanese nuclear disaster that took place in 2011 nuclear power technology discredited itself and became recognized as unsafe. The articles that support nuclear power are centered on the idea that renewable technology is not yet advanced enough and if nuclear power were to be phased-out, the result could be more consumption of fossil fuel and even fossil fuel options that are less harmful to environment, like gas, are not the 'panacea' to solving climate change problems. In order to explain how the phase-out of nuclear power could be negative for climate change, some articles used as an example, the Japanese decision to dial back target of emission cut. Nevertheless, in articles that suggest nuclear power as one of the possible solution to climate change, nuclear power is mentioned among other renewable sources of energy.

Content analysis results suggest that the articles regarding nuclear power are depicted in classic neutral way. Moreover, the articles are so neutral that is difficult to draw the proposal of nuclear power as an answer for climate change mitigation. It was found that 94% of the articles regarding climate change were neutral towards the energy policy of the country. Since only 6% of the articles contain both keywords 'nuclear power' and 'climate change', we found very little information on the relationship of nuclear power theme with climate change theme. It could be assumed that nuclear power issue is not of significance in climate change debates.

Context of the climate change discourse in India

One of the reasons why Indian government does not frame climate change discourse in order to promote nuclear power could be specifics of the country political structure and India's climate change policies. Multi-cultural, multi-religious and multi-lingual India is the mother of democratic principles, where freedom of thought and speech is of high importance. Contemporary India is the world's largest democracy (Lijphart, 1996). Though Fukushima had less impact on India's long-term nuclear power policy (Grover 2011) and Indian government continued to consider nuclear power as

irreplaceable for climate change mitigation, yet Fukushima accident had tremendous impact on Indian public. India is facing several anti-nuclear protests (Mishra, 2012). The neutral manner of climate change narration could be explained by desire of the commercial newspapers to relax the situation around nuclear power issues after Fukushima NPP accident, and protect the newspaper from critics who oppose nuclear power as well as give to the readers freedom to choose their own answer to climate change mitigation.

The main vector of the country's climate change policies is directed toward international responsibility, and especially developed countries' responsibility for global warming and consequent climate change. Billett (2010) analysed climate change discourse in India. Billett (2010) argued that unlike western media that depicted climate change along risk responsibility axes, Indian media was found to be nationalistic, reframing climate change along economic and postcolonial axes. Billett (2010) argued that Indian climate change discourse is shaped in order to format national position regarding historic responsibility of developed countries for global warming on the planet. The Indian government through climate change discourse promotes the idea that the per capita CO₂ emission in India is one of the friendliest for environment. This can add to understanding of the reasons why nuclear power is not promoted through climate change discourse in India as it is promoted in developed countries having strong nuclear power sector. Content analysis of *The Hindu* newspaper from 2013 through 2014 showed that nuclear power was not promoted through climate change discourse. The context analysis revealed that nuclear power in India is promoted based on its role in overcoming energy deficit rather than the role it can play in reducing CO₂ emission. It could be assumed that nuclear power in India is not of high significance in climate change debates.

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