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Aruna Asaf Ali Marg, New Delhi - 110 067

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Science Communication and Print Media: Discourse Analysis of Media Frames About Nuclear Energy in India

Rahul Sudhakar Mane[1]

In recent times, nuclear energy has been the topic of much debate in India and across the world due to the issues of non-proliferation, deployment of nuclear energy in developing countries for civilian use purposes, the Indo-US bilateral nuclear agreement and Fukushima disaster which accelerated the polarisation of the public opinion about the possible energy mix they could have in their national policy framework. By engaging with the literature of public understanding of science and science communication, an effort has been made to link these debates to that of the role of mass media in engaging scientific and technological issues of nuclear energy. In the second part of this study, the debates about nuclear energy in India are mapped. There is an effort to reflect on these issues in the changing context of "risk society" debates about climate change by situating them in the "media discourse" by understanding how media responds to issues of complex technologies. In conclusion, the implications of the frames for the aspects of energy policy and larger aspects of public understanding of science are discussed. Media discourse is definitely setting the norms for consolidating the debates about the acceptability and rejection of particular technological choices in society. The attempt in this study is to understand how the "perception" created through diverse frames contributes to that discussion.

Introduction: Understanding the relationship between Media, Science and Society

Mediation

Mediatisation of culture is made possible in terms of transmission of symbolic

1 Mudra Institute of Communications, Ahmedabad, [INDIA].
| email:rahulmane@micamail.in

forms (Maeseele, 2009). Maeseele describes this process as the “general process by which the transmission of symbolic forms becomes increasingly mediated by the technical and institutional apparatuses of the media industries”. Further, by referring to the theoretical analysis established in earlier literature, eg. Thompson (1995), Maeseele discusses “mediated publicness” and “mediated visibility” transformed from the non-mediated agora i.e. an open assembly. Also, aspects of “emancipatory politics” and “life politics” are useful while explaining the expert-educating a lay-person relation (Maeseele, 2009). Thus, according to Maeseele, this process of science communication based in democratic principles has the paradox of an apolitical top-down mechanism. This process helps to replace the Public Understanding of Science (PUS) with the possible “Public Engagement with Science (PES)”[1].

Mediation and construction by media

Metascientists hold a crucial position in the processes of generation, receiving, communication, regeneration, revision and interpretation by human minds (Ziman, 2000). These metascientists[2] who are different disciplinary scientists studying science, realise the unfeasibility of separating knowledge from acts of knowing as it is produced and disseminated. Ziman explains that our knowledge is closely related to the culture we are in. Van Dijck’s (2003) reflection about multicultural science communication has to be viewed from the perspectives of multicultural narratives and multicultural audiences of science and technology. The author tries to place mass media in such a place where a contemporary popular discussion of science communication misses out. Van Dijck (2003) says that “media instead of mediating between experts and laypersons perform as actors in the processes of construction and dissemination”.

The literature linking Science-Technology Studies (STS) to developments in media-communication technologies are primarily attributed to the invention of the internet. As historically established and increasingly referred to in research, STS studies are increasingly used to understand problems and issues engaged by media through the lens of effects, impacts, subjectivity, interaction, social shaping and the social constructionist approach among many such other approaches.[3] It is said that definitions of media and information technologies in STS focused more on issues of meaning, practice, and the connection of particular technological systems to a broader “landscape” of artifacts rather than technical features alone (Boczkowski & Lievrouw, 2008). Thus Boczkowski & Lievrouw emphasise that media and communication technologies are means for creating, circulating and appropriating meaning.

Relation between media and science

These categories (given by Lewenstein, 1987); can be elaborated regarding how science is communicated through different media :

- The group which is actively involved in the process of understanding (and making it understandable) established and emerging science-technological challenges to the target audience by certain method/genre of content production and dissemination. This category may include science communicators like journalists, science fiction writers, writers engaged in documenting state-of-the-art science-technology knowledge i.e. technical writers etc.
- Researchers, scientists, senior policy advisers, scientific societies, professional associations involved in science communication.
- Government and non governmental agencies involved in promotion, outreach, public relations, consultancy engaging with the public to create awareness about specific aspects of science technology developments.
- Mass media, networks and communication technologies, this group may involve ICT driven mass media, social media, electronic media etc.

In this context, it is noteworthy to point out; a European Union (EU) report (MASIS Expert Group, 2009) identifies four significant challenges in performing successful science communication. They are:

- Myth of singular public vis-à-vis multiplicity of audiences, multiplicity of reasons and multiplicity of intermediaries which needs to be investigated,
- Perception about public being large, unknown, risk averse, irrational mass and sometimes unpredictable which needs to be countered,
- Over-reliance or over-dependence on news/journalistic sources for authentic information which must be overcome,
- Conflict between science communication as a “duty” for scientist and “right” for public which needs to be put in perspective of the increasing tensions occurring between institution of science and society.

The rhetoric for imparting scientific truth to non specialist and untrained audience is employed by Locke (2002). Locke says that, "…in public understanding, activity of argumentative reasoning is needed more than focus on division between technical and public knowledge." He talks about the need to stimulate awareness of the *multiplicity of voices* within science, encouraging public wit-craft.[4] Peters et al (2008) describe how the social constructionist approach shapes the scientific debates. They opine, "constructivism is not a random malfunction but a systematic feature that the meanings of scientific messages change when they are reconstructed by journalism for the public sphere." Peters et al also narrate implications of this situation in mass media in terms of: a) an increasing focus on "visibility" rather than content quality; b) emphasis on strategic communication "defining a public image" leading towards conformity than possibilities of dissent, questioning, confronting proof-evidence; c) decay of public trust in S and T institutions and other related agencies.

It is this author's belief that the role of communication in integrating common understanding about public goals is the basic perspective through which understanding about the "relation between science, media and society" operates. But there are voices which believe that the "public space of hybrid forums" makes it impossible, rather more difficult–the process of forging consensus amidst irreducible differences prevalent in social actors, government institutions, media, social bodies and different autonomous groups of people driven by professional or personal beliefs. There has been a strong sense of realisation that the term "mass media" is misleading and therefore needs correction in the context of hybridisation and diversification of social actors. This affects mediation of culture and of course science, through a permeable seamless web where actions and impacts of media and societal institutions overlap each other's capacity to interpret and debate issues of science and technology (Ziman, 2000; Latour, 2012).

Interaction between science and society

The process of "society talking back to science" can be viewed as an extended version of a decades old argument advocating the need to improve dialogue between scientists and literary intellectuals (Snow, 1998). Also, science communication in the era of postmodernism (as cited in Dijck, 2003) is proving inadequate to study the "dissemination of scientific knowledge in the framework of gradually evolved postmodern approaches of 'multicultural science communication'"[5]. Dijk attracts attention towards the fact originally pointed out by Latour (2012) that "new hybrid disciplines emerged, subverting the implicit hierarchy within the sciences", (also see Locke, 2001). Thus, inspired from Lyotard (1984), Djik (2003) concludes that "construction and dissemination of knowledge can no longer be separated in a postmodern society, challenging the very meaning of the concept of knowledge."

This shift of realising that "construction and dissemination of knowledge are part of the same process" is the early start of the contemporary roots of science communication expressed in the framework of "contextualisation, co-evolution" given by Gibbons (1999).[6] This can also be understood by the views of Miller and Gregory (1998) who look at communication as a process of negotiation to generate new, mutually acceptable knowledge, attitudes and practices with the articulation of needs.

Public opinion and frames in the media

Tonto (2007) believes that public opinion can influence policy making when ability and potential of the media are considered. The coverage about specific issues is influenced by the process of journalism and its characteristic features of actuality, sensation, personalisation, and locality (Weingart, 1998). In fact, journalism and the scientific world pride themselves on objectivity yet they have different methodologies for approaching it because the processes, time-frames, language and even values of both the professions are not convergent beyond a limited extent.

Public opinion regarding nuclear energy seems to be positive in those countries with limited indigenous energy resources like France and Japan, and those with a rapidly growing energy demand, such as China and India. According to Grimston et al (2002), mere strengthening of a positive case for nuclear power (one of the reasons often cited being growing concern about climate change) would be insufficient to bring nuclear power back into public favour. Grimston et al further argue that "...in most developed countries there is little evidence of a high level of public concern among people not directly affected by nuclear projects." A significant observation has been made here about the relevance and dispensability of scientific and technical knowledge of nuclear power for building of opinion. In their opinion, "public understanding of the facts will not change their underlying attitudes, to the extent that attitudes stem from more fundamental psychological factors." It refers to the previous studies which suggest that there is little difference in the "knowledge" of pro and anti nuclear power groups.

The contribution of the mass media in influencing public opinion can be understood in a better way by looking at the argument of Dirix and Gelders (2008) who say that "quantity of information and type of information being used in the framing of the information plays a significant role". Originally Entman (1993) views this process of framing as, "...selecting some aspects of a perceived reality and making them more salient in a communicating text, so that to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described".

Then Entman (1993) defines four locations of the communication process i.e. communicator, text, receiver and culture. Describing the role of stereotypes Lippman (1922) said, "the problem of acquisition of meaning by things or of forming habits of simple apprehension is thus a problem of introducing: a) definiteness and distinction, b) consistency and stability of meaning into what is otherwise vague and wavering". In a sense Lippman (1922) introduces his imagination of public opinion being a "moralised and codified version of facts".

Acceptance of advanced technologies like nuclear is influenced by public policies which in turn are influenced by public attitudes shaped by media. Palfreman (2006) by reviewing the literature related to the media's coverage of scientific issues observes three distortions in the way mass media tries to shape public attitudes: a) making scientific errors, b) producing human interest stories other than scientific content, c) rigid adherence to the construct of balanced coverage. For example, Palfreman sheds light on the success story of investment in nuclear energy by France. Palfreman says that "difference between the rest of the world and French experience about nuclear energy is that even though the objective risks are similar, difference lies at the degree of perceived risks and benefits with the case of France"[7].

Social construction of scientific messages through media

When the "social construction of scientific messages" turns out to be a systemic feature of reconstruction by journalism for the public sphere, it is worth investigating whether the social perception about knowledge of nuclear energy is constructed in the sites of "mass media", rather than the sites of knowledge production (which are actually unable to communicate) in the scientific establishments. So, these "media sites of knowledge production" are actually places where expert knowledge and public knowledge are getting reflected at each other through the frames of mass media. The frames which dominate this discourse are actually holding the power to define the intensity, accuracy and reach of the discourse unleashed due to the consistent exposure about scientific, technological, social, cultural and strategic issues of nuclear energy. Therefore the study of these frames about nuclear energy being used in the media discourse became a principle function of this research study.

Statement of the problem

Media are not only communicating the scientific messages but they are also constructing those messages. It is also notable that media literate individuals bring their own histories, social interactions and psychological predispositions to the process of constructing meaning of those messages. Media is depicting, reflecting and shaping the uncertainty existing between spaces of ignorance and spaces of knowledge. They are also helping in understanding the nature of hybrid spectrum of interdisciplinary knowledges converged in the narratives of the policies, scientific developments and debate surrounding both of them (Miller & Gregory, 1998).

Increasingly, surpassing the traditional limitations of journalism in covering particular scientific issues, media is preoccupied with defining, debating, exchanging the information and opinions about how to treat particular issues related to uncertainty and risk. On the one hand, there is belief in risk being the perception of objective and subjective assessment of the probability associated with it. On the other hand – risk has been viewed as a socially constructed phenomenon. Thus, it is important to keep in mind what Beck (2006) said, “without techniques of visualisation, without symbolic forms, without mass media, etc., risks are nothing at all”.

So, acquisition of meaning, definition of gravity and urgency of a particular scientific issue – especially nuclear – is subject to consistent description of it in terms of particular frames. These frames are a central part of a culture referring to an organised set of beliefs, codes, myths, stereotypes, values, norms (Grimston & Beck, 2002; Dirikx & Gelders, 2009; Palfreman, 2006). These frames may come with associated perceptions about the utility of a particular scientific issue in the context of communication. This utility can be understood in terms of –

a) A way to learn nuclear energy through interdisciplinary understanding for education and public awareness,
b) A way to know more about issues of regulation and economic instruments related to nuclear energy, a way to know interaction between technical infrastructure and social norms,
c) A way to empower the citizens to debate the issues of nuclear energy, and a way to facilitate a informed communication between decision makers, technical experts, stakeholders and the public.

The problem identified for this research work is related to the contested role of media in shaping the public opinion about scientific issues, especially nuclear energy. When dealing with news, its role is very much limited to spreading information. While dealing with editorial policy its role is empowered to influence the opinions of the masses. But the question to be asked is – Do media have an independent role in constructing the scientific message to be originally interpreted by receiver to enhance the understanding about scientific concepts? Do editors have the potential to empower the opinion making process of an individual? Or is the role limited to act as just a channel of passing on facets of knowledge which are contextual and become controversial when it comes to scientific-technological facts and socio-political interpretations of those facts related to nuclear energy?

The inspiration for this framework of science communication is from the realisation about the knowledge deficit in the masses and equally in the media. This can be made possible by motivating readers to join the discourse of issue, moreover comprising of scientific complexities, technical jargon and disciplinary limitations. So, this study especially tries to understand how editors and senior correspondents of the newspapers and magazines face this particular challenge which is reflected in the reporting, editing of the news stories, features, op-eds and editorials of the newspaper.

This study also tries to extrapolate the significance of the practice of journalistic science communication towards the implications on the policy making by virtue of generation of public opinion. It is believed that mass media are dynamic and a vibrant index of public opinion indicating towards various events happening. This study may help to know the limitations of media in generating public opinion. Also, it may help to understand the process through which translating and transferring the nuances of scientific media content leading towards—first understanding of scientific complexity for the people in specific and all stakeholders at large. Secondly this may also help to develop an enhanced understanding of science aimed at the better implementation of the policy under consideration (Nisbet & Dietram, 2009).

Approaching Methodology

Clark and Illman (2003) carried out a content analysis of coverage of space issues in *The New York Times*[8]. They mention that their research follows the guidelines set out by T. Van Dijk (2001) who recommends:

> "... analysis of media texts includes three parts: the description of argumentative structures; the explication of presupposed (tacit) assumptions, norms and values; and an analysis of style and rhetorical features. The analysis focuses on the argumentative structures used to promote a certain perspective on events, players or agents, and policy recommendations"[9].

Izadi & Saghaye-Biria (2007) organise editorials along three schematic categories.

a) Defining the situation and giving a summary of the news event. They present an evaluation of the situation – especially of actions and actors.
b) Advancing pragmatic conclusions in the form of expectations, recommendations, advice, and warnings.
c) The achievement of the ideological roles of editorials being a function of persuasive moves, of which semantic content is the most direct form.

Teun Dijk (2003) refers to the following tenets of Critical Discourse Analysis (CDA):

a) CDA addresses social problems,
b) Power relations are discursive,
c) Discourse constitutes society and culture,
d) Discourse does ideological work,
e) Discourse is historical,
f) The link between text and society is mediated,
g) Discourse Analysis is interpretative and explanatory,
h) Discourse is a form of social action.

Dijk (2003) further says, “Since people’s minds are typically influenced by text and talk, discourse may at least indirectly control people’s actions, as we know from persuasion and manipulation. Control over structures of *text and talk* are crucial in this regard.” For this particular study, the researcher has adopted two of the above mentioned principles of discourse analysis i.e. firstly the link between text and society is mediated and secondly discourse analysis is interpretative and explanatory[10].

Data collection

This research study adopted the methodology used by O’Mahony & Schafer (2005) and method to understand frames of journalistic reporting by Nisbet & Scheufele (2009)[11]. The steps given by O’Mahony & Schafer are:

a) The dimension of discourse structure- containing time, place and reason for publication,
b) The dimension of discourse producers- concept of public recognition, hegemonic interpretations and general influence on given topic. Here journalists are discourse producers and gatekeepers,
c) The dimension of discourse content: This includes the “prism” of framing.

It was decided to opt for the methodology of discourse analysis for analysis of the media’s role in establishing communication by framing a particular scientific technological issue in the print media. Two newspapers were chosen for this study. The coverage in the form of news and editorial and op-ed articles from the newspapers *The Hindu* and *The Indian Express* were selected for this purpose. The reason for choosing these two newspapers is due to their track record in giving space to the diverse opinions from the scholarly community, scientific community and journalists who are relatively driven with a higher degree of committed professionalism to deal with issues of science and its relations with society. This is not to deny the role of other significant English and regional language news publications across the country.

Thus drawing a convenient-purposive sample of five years ranging from 2005 to 2009 editions of editorial and op-ed pages of these newspapers gave the scope for analysis of the coverage revolving around the science of nuclear energy in the contemporary scenario because these were the years in recent memory which greatly debated the civilian use of nuclear energy inside and outside the ambit of the strategic domain of nuclear energy.

According to the methodology described earlier, news reports and other editorial articles were tabulated according to their date of publication, title of published news/articles, authorship and affiliation. Further, the news reports and articles were classified according to the category of frames defined previously (borrowed from earlier work and adopted for the same).

These eight frames were applied so as to note how each frame is suitable to the tabulated news reports and editorial articles of analysis of particular issues about nuclear energy. Broadly the eight frames were:

a) Social progress,
b) Economic development/competitiveness,
c) Morality/ethics,
d) Scientific expertise/technical uncertainty,
e) Nuisance value of science-technology,
f) Public accountability and governance of science and technology,
g) Agreements, alternative solutions,
h) Conflict, strategy and power game.

The analysis, however, is actually not an effort to compare the coverage done by both newspapers related to nuclear issues. The analysis intends to understand the larger discourse about issues of nuclear energy by virtue of taking the help of two newspapers as strong representative samples.

Analysis: Stereotypes and language[12]

This research has borrowed from the framework of Nisbet and Scheufele (2009) to help operationalise news frames and its related definitions related to scientific issues of news reporting in newspapers. The framework given by Nisbet and Scheufele is being reproduced here for reference with additional comments on utility of each element of the framework which was deemed useful during the analysis of frames for this research about nuclear energy frames.

Table 1: Adoption of typology of media frames in science communication from established literature (primarily Nisbet & Scheufele, 2009)

Frame	**Definition of science-related issue**	**Researcher's observations about relevance and connection of typology of frames used earlier by Nisbet and Scheufele (2009)**
Social progress	Improving quality of life, or solution to problems. Alternative interpretation as harmony with nature instead of mastery, " sustainability"	Significant frame related to sustainable development
Economic development/ competitiveness	Economic investment, market benefits or risks; local, national, or global competitiveness	Crucial to understand the developments on a global scale, how corporate/capital influences shape energy policy and drives development priorities
Morality/ethics	In terms of right or wrong; respecting or crossing limits, thresholds, or boundaries	Important frame from the perspectives of public credibility, legal authenticity and degree of inclusive thrust driving discourse
Scientific/technical uncertainty	A matter of expert understanding; what is known vs. unknown; either invokes or undermines expert consensus, calls on the authority of " sound science, " falsifiability, or peer-review	Crucial frame to empower voice of citizens on the issues of risk, expert view, hegemonic opinions, 'established scientific facts', 'privileged knowledge systems' etc.
Pandora's box/ Frankenstein's monster/ runaway science	Call for precaution in face of possible impacts or catastrophe. Out-of-control, a Frankenstein ' s monster, or as fatalism, i.e., action is futile, path is chosen, no turning back	Important from the perspectives of knowing how fear psychosis drives our disaster management policies, how our mishandling of science and technology can contribute to global disasters and further our rational responses to threats to our existence in future
Public accountability/governance	Research in the public good or serving private interests; a matter of ownership, control, and/or patenting of research, or responsible use or abuse of science in decision-making, " politicisation "	Significant from the perspectives of open access, citizen`s participation in scientific decision making and related to debates between proprietary knowledge Vs. knowledge commons.

Frame	Definition of science-related issue	Researcher`s observations about relevance and connection of typology of frames used earlier by Nisbet and Scheufele (2009)
Middle way/alternative path	Around finding a possible compromise position, or a third way between conflicting , polarised views or options	Important from the point of view of conflict resolution in public policy and also important to understand how reconciliation between different standpoints happen.
Conflict/strategy	As a game among elites; who is ahead or behind in winning debate; battle of personalities; or groups; (usually journalist-driven interpretation.)	Important to understand the competing rhetorics of stakeholders and also how power elites drive and determine nature of policy and discourse of development through media

According to the data tabulated and classified as per the criteria mentioned above these are the following findings:

Table 2 : Mapping of frame frequency based on definitions mentioned in Table 1

Typology of Frames with definition	Appearances of Frame Frequency	
	The Hindu	**The Indian Express**
Frame A: Social Progress	17	6
Frame B: Economic Development/competitiveness	99	16
Frame C: Morality/ethics	46	4
Frame D: Scientific/technical uncertainty	51	18
Frame E: Pandora's box/Frankenstein 's monster/runaway science	14	7
Frame F: Public accountability/governance	24	10
Frame G: Middle way/alternative path	30	11
Frame H: Conflict/strategy: As a game among elites	48	5

Table 3: Dominant frames informing print media discourse of nuclear energy based on Table 1 and Table 2

Discourse Indicators	The Indian Express	The Hindu
Leading Discourse Producers	News Agency	News Agency
Frame Frequency	Most Frequent : Scientific/ Technical Developments	Most Frequent : Economic Development
Dominant Framing Themes	Scientific-technical Developments & Economic Development/competitiveness	Scientific-technical Developments, Economic Development/competitiveness, Morality, Strategic issues
Discourse Coalition	R&D Priorities of the country & Possible collaboration between private and national establishments	Strategic alliance, International treaties and Dimensions of strategy of Indian Establishment affecting the domestic politics

1) Both the newspapers heavily relied on the news agencies followed by journalists, either staff reporters or columnists who contributed to the content about the issues related to nuclear energy. It is notable that the proportion of people like scientific experts, persons who are directly studying science and mechanism of issues regarding nuclear energy is less. This proportion is more in *The Hindu* compared to *The Indian Express*.

2) In *The Indian Express*, reporting about scientific and technical developments related to nuclear energy remained predominant. In *The Hindu*, reporting about issues regarding nuclear energy in the context of economic development, investments, markets and international trade remained most pervasive.

3) The strong discourse coalitions that emerged out of *The Indian Express* are:

a) R&D priorities of the country and possible collaboration between private and national establishments;

b) Application of nuclear energy in the strategic field and controversial aspects related to the thermonuclear explosion of 1998;

c) Discussion about safety and precaution for addressing risks inherent in nuclear power plants and discussion about the role of nuclear energy in combating climate change.

Table 4: Dimensions of Science Communication in Media and discourse producers

Dimensions of Science Communication in Media	**Data**	**The Indian Express**	**The Hindu**
The Dimension of Discourse Structure- containing time, place and reason for publication	Frame Frequency	Most Frequent : Scientific/Technical Developments	Most Frequent : Economic Development
The Dimension of Discourse Producers- Concept of public recognition, hegemonic interpretations and general influence on given topic. Here journalists are discourse producers and gatekeepers	Leading Discourse Producers	News Agency: 16, Journalists: 16, Newspaper Staff Reporter: 12, Columnists/Invited Commentator: 3	News Agency: 92 Journalists: 74 Editors/Columnists: 25 Scientists/Experts: 10
The Dimension of Discourse Content: This includes ‘prism ‘of framing. “Actors communicate their distinctive ideas and viewpoints in public consciousness, to influence decision making elites and various publics. Frames reduce variation in the coverage. The concept of frame has become prominent in discourse analysis. Frames refer to stable patterns of experience and perception, which structure social reality and are central organising ideas for understanding events.”	Dominant Framing Themes	Social Progress: 6 ; Economic Development/competitiveness: 16; Scientific-technical Developments: 18; Morality/ethics: 4; Agreements & Cooperation: 11; Public Accountability & Governance: 10; Negative impacts of science and technology: 7; Conflict resolution/ Strategy/Power Game: 5	Social Progress: 17 ; Economic Development/competitiveness: 99; Scientific-technical Development : 51; Morality/ethics: 46; Agreements & Cooperation: 30; Public Accountability & Governance: 24; Negative impacts of science & technology: 14; Conflict resolution/ Strategy/Power Game: 48

The Dimension of Discourse Conditions. Dimension refers to typical discursive syndromes that combine actors and arguments. Discourse coalitions are culturally structured networks of communication. The identification of discourse coalitions reveals patterns of discourse structuration and may also reveal processes of social structuration, depending on whether a social logic characterises the interlocking roles of communicating actors	Discourse Coalition	1) R&D Priorities of the country and Possible collaboration between private and national establishments; 2) Application of Nuclear Energy in strategic field and Controvertial aspects related to thermonuclear explosion of 1998; 3) Discussion about safety and precaution about risk inherent in nuclear power plants and Discussion about role of nuclear energy in combating Climate Change	1) Strategic alliance, International treaties and Dimensions of strategy of Indian Establishment affecting the domestic politics; 2) Commercial initiatives to invest in nuclear enery and quest for sustained fuel supply with the related acqusition of nuclear technology; 3) Emphatic debate about commercial, technical feasibility of nuclear energy and Assertive positions about role of nuclear energy in energy independence of India in the future; 4) Developments in R&D in nuclear energy and preparations to raise infrastructure, human resource and expertise in this field; 5) Historical success of development in nuclear energy and Controversy related to thermonuclear explosion of nuclear energy and Assertive positions about role of nuclear energy in energy independence of India in the future;

4) The strong discourse that coalitions emerged out of *The Hindu* are:

a) Strategic alliance, international treaties and dimensions of the Indian nuclear energy establishment affecting the domestic politics;

b) Commercial initiatives to invest in nuclear energy and the quest for sustained fuel supply with the related acquisition of nuclear technology;
c) Emphatic debate about commercial, technical feasibility of nuclear energy and assertive positions about role of nuclear energy in energy independence of India in the future;
d) Developments of R&D in nuclear energy and preparations to raise infrastructure, human resource and expertise in this field;
e) Historical success of developments in nuclear energy and controversy related to the yield of thermonuclear explosion of 1998.

Broad frames within which issues related to nuclear energy were discussed (in descending order):

a) Issues about investments, economic development and competitiveness;
b) Issues of expertise and scientific and technical developments;
c) Issues about agreements, cooperation and alternative approaches;
d) Issues about public accountability, governance. morality and ethics;
e) Issues about negative impacts of science and technology;
f) Issues about social progress.

When examined in the context of the degree of importance assigned to issues of nuclear energy, it is clear that explaining the scientific aspect is not possible as an encompassing priority in all the coverage of news and reports. When the issues of nuclear energy are being debated, discussed in the discourse of news media, it can be recognised whether the limits of media infrastructure and method of presentation can really contribute to the degree of the credibility to satisfy the comprehensive criteria of successful communication and explanation of scientific and technological aspects (To deal with the conceptual possibilities beyond scientific technological aspects the framework and application to the news reports have been used in this study).

Perception is the observed information or phenomenon recorded in the format communicable in some or the other form of medium of expression (Van Gorpe, 2007). But conception is actually the image of a particular symbol, abstract idea or cognitive unit of knowledge (…and thus leading towards formation of frame). The discourse happens between these “spaces”; as Callon (2009) asserts, “there is a vast space between dismal ignorance and an impeccable knowledge of the states of possible worlds".

So, the production and reception of these messages are related to the inherent ethos of science behind nuclear energy. This ethos believes that it is not necessarily about the communication by expert knowledge associated with it. But they are being increasingly mediated by complex, transnational networks of institutional concerns as evidenced in the news coverage. This coverage of nuclear energy is actually dominated by aspects related to matters important from the perspectives of strategic collaboration, international negotiations, cooperation, regulation and surveillance.

Struggle for visibility

It may be possible that the struggle for visibility is one strong reason around which aspects of public accountability and ethical issues related to nuclear energy have gained prominence. But it is equally interesting to note that the asserting voices about the deployment of nuclear energy are also great beneficiaries of the "media logic of mediated visibility". So, every actor in the knowledge production or dissemination is somehow helped by these inherent strengths of "media logic" so as to aggressively convey the message of that particular school of thought/belief.

This interpretation signals about a clear relation of power whenever there is discussion about nuclear energy; power may be about sovereign-strategic-nationalistic or inherent in the scientific-technological establishment or in the drivers of market forces which are pushing for nuclear energy.[13] This is understandable when we analyse the diversity of frames, perceptions and conceptions being expressed in terms of news reports, articles and commentary published in the news media. Regarding nuclear energy the belief expressed by Thompson (1995) stands vindicated that scientific, technical and institutional means of production and diffusion cannot be separated from the social construction of the messages through media.

Significance of the frames

The diverse frames about nuclear energy being reported give the professional privilege to the journalists and other people who are contributing to the media content (very few scientists and experts are writing specifically about nuclear energy and science-technology-issues at large) to behave like *meta-scientists* who actually agree on the thought that knowing about nuclear energy cannot be separated from the process of production of knowledge and dissemination of it through media. Rather we should look for frames actually creating possibilities for building up the argumentative platforms where the knowledge about nuclear energy may be negotiated. This negotiation is possible by the skills and strengths of everyone communicating through these media platforms, and with the contribution of biases and prejudices rooted in everyone receiving those messages.

Diversity of frames also establishes the multiplicity of voices, reasons and audiences which are contributing to the process of science communication. It is not only about the linear or reflexive nature of dialogue between science and society but it is about recognising all those actors through the channels of mass media. It is also about emphasising the necessity of being accountable to the democratic processes by asking them to be authentic in their information and valid in their claims about knowledge they are promoting and at the same time testing the objective clarity about degree of uncertainty and risk observable in the discourse of nuclear energy in media.

The discourse in media is not only the inert process happening in the sphere of what role media plays in spreading information about all these diverse issues of nuclear energy but to empower the recipients of information to have "information literacy" to make sense of sometimes conflicting information sources, affiliations, degree of authenticity and nature of relevance present in the context of the recipient of that scientific message[14].

The elucidation about frames also indicates towards developing thinking in a way to criticise the traditional approach to divide the knowledge in the realms of technical and public domains. News reports or articles in the media may be very useful in arousing the curiosity and attention of the experts and non experts – in the scientific establishments, governments, media, industry and public life. But they would not be necessarily contributing to the actual process of knowledge development of all the groups of audiences. This assumption may require further confirmation by different studies but in the perspective of frames this issue is considered here for further deliberation. Therefore frames still may signify the need to focus on the everlasting problem in communicating scientific issues i.e.

possibility of coloring or reinforcing any scientific issue in one or other kind of frame or rule of thumb procedures or conventional shortcuts to understand the particular context of news or reports related to specific scientific or technical issues.

Discussion

Democratisation and problematisation of communication of science-technology of nuclear energy in print media

The increasing diversity of frames which are present overwhelmingly in mainstream media is actually evidence of visualising the possibilities of democratisation of science communication which is being assisted by rapid and dynamic invention of new technologies and the pervasiveness of the mass media. Media is visualised as an agent of democratisation or public sphere and thus it is expected that the multiplicity of voices may replace or may empower the spaces of discourse by proactive assertion on the norms and ethos of science. These norms are based on values of accuracy, empirical observation, procedure of confirmation, validity of claims and consensus in its method of contestation. Then an issue of science communication become subjective to these processes and of democratisation inherent in the "media logic" becomes dominated by mediated visibility.

The frames other than explaining scientific aspects of nuclear energy, are actually indicating towards the belief mentioned previously, firmly articulating the relation between media and science being a "political". This may be because media constitutes a main site for the struggle over the legitimacy of science and scientific rationality in late modern societies. This can be understood by reflecting upon the controversial nature of discussion about nuclear energy related to the terminology of risks, uncertainty, radiation, liability, fuel enrichment, waste management, climate change, weaponisation, nonproliferation, strategic assets, sustainability, green environment, energy crisis etc.

It is interesting that out of tabulated news reports and articles very few scientific terms (in the context of science communication) are driving the discussion. So, the role of integrating the democratic understanding about public goals (energy security, sustainable development) is not possible only due to *politicisation of the discourse.* It may be one significant step in that direction. But it should be driven by reconciliation between all these *hybrid forums reflected by diverse frames of* *perception and conception inherent in the messages.* This process of reconciliation may be channelised through the sustained efforts to understand the evolution of science and technology behind it vis-a-vis the current debate surrounding that possible contestation of particular scientific or technological issues of nuclear energy.

So the diversity and plurality of frames communicated through the media related to nuclear energy issues are conveyed by choosing selective aspects of science behind those issues in the context of perceived reality. This selection then makes those perceptive realities more salient in a communicating text. The whole debate about nuclear energy (all possible positions, sides) then promotes a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described related to nuclear energy.

It is not to claim or undermine that aspects related to scientific issues other than nuclear energy are less difficult to understand. However, the process of selective definition of particular aspects related to science of nuclear energy through the messages of media is quite frequent considering the kind of privileged and complex scientific and technical knowledge required to understand building blocks of nuclear energy. This indicates greater possibility about public consultation, education, communication and discourse about nuclear energy through various mass media platforms; field visits (laboratories, power plants, waste management sites, orientation workshops) for focused initiatives to organise stakeholders and initiating more and more democratic mechanisms of interaction.

Conclusion

The language used in the discourse of nuclear energy is primarily based on nuclear terminology separated by two semantic fields (Carpintero-Santamarsia, 2009). One field corresponds to the practices of nuclear engineering which is comprised of lexicology characterised by registered scientific terms, accepted and integrated in the nuclear engineering practice. This terminology is based on series of facts, events, theories and new knowledges that did not exist previously (Carpintero-Santamarsia, 2009*).* The claims are being made that this process of communication through which certain type of pragmatism is being conveyed. On the other hand language related to nuclear weapons is intrinsically restricted to limited community having polarised arguments based on strategic ideology.

The whole discussion about language and discourse about nuclear energy in the media within the context of science communication should lead towards the visualisation of the impact of this discourse on public opinion and policy making. This impact must move towards further discussion related to the issues of energy security and sustainable development envisaged by the institutions like the United Nations. The Energy Indicators for Sustainable Development developed by the UN are designed to provide the information on current trends related to energy which may help in decision making for effective policy formulation in the context of sustainable development (IAEA, 2005). These indicators are:

a) To integrate energy into socio-economic programs,
b) To combine more renewable energy, energy efficiency and advanced energy technologies to meet the growing need for energy services,
c) To increase the share of renewable energy options,
d) To reduce the flaring and venting of gas,
e) To establish domestic programs on energy efficiency,
f) To improve the functioning and transparency of information in energy markets,
g) To reduce market distortions and,
h) To assist developing countries in their domestic efforts to provide energy services to all sectors for their populations.

The broad classification of energy indicators can further be elaborated in categories of social equity (accessibility, affordability, disparity), health and safety, use and production patterns (overall use, productivity, supply efficiency, production, end use, diversification, prices), security (imports, strategic fuel stocks), atmosphere (climate change, air quality), water quality, land (soil, forest, solid waste management). The degree of diversity and frequency of frames surrounding the media discourse should be viewed in the larger debate about all these "energy indicators for sustainable development".

The subjective perceptions about sustainable development and the capabilities of raising human and physical infrastructure of different energy choices dominate these discussions. The interface of science communication active through dynamic media platforms gives a glimpse of the possibilities of negotiating the power of comprehension regarding all these lexical reflections about nuclear energy issues. These lexical reflections are influencing the evolution of social, political, environmental, scientific dimensions of discourse when the effectiveness in the practices of science communication are increasingly defined by the language, medium, the source of authorship and affiliation of the author scripting the reports and narrating about the serious issues of nuclear energy.

The other aspect of the discourse (Irwin, 2005) says that "parameters of public debate over nuclear power are now largely defined by dispute among experts regarding how best to administer and regulate these technologies rather than acknowledging risks inherent in it". These voices assert that "certainty associated with nuclear power never existed but was constructed through rationalised forms of commentary and discourse". This analysis further goes on to entangle the relationship between nuclear power and modernity by arguing that: "sense of 'nuclear rationality' is also apparent in the view of risk and the environment held within nuclear institutions (sponsoring and regulatory bodies)". Alan Irwin (2000) says that "perspectives on science and technology and risk/uncertainty/environment have been embedded in the institutional practices within which nuclear power is being developed". Eventually, he explains that in a situation where nuclear power is protected by the institutional web of social and technological practices building the institutions which actually limit the public discussion and democratic involvement in the nuclear decision making.

So, in the context of science communication where the understanding of the scientific principles is critical so as to enhance faith in the scientific institution, Irwin proposes that critics of nuclear power must communicate the "right" set of facts by focusing arguments on "nuclear rationality" rather than on technological inefficiency and economic costs by going beyond monolithic and essentialist presentation of nuclear technology. Irwin (2000) suggests new possibilities of "working with technology" which can be understood as:

> "Recent research among critics of nuclear power suggests that rather than an anti-technology backlash or wholesale rejection of science there is an attempt to develop more 'appropriate' technological forms which reflect new patterns of living and working."

As Ziman (2000) has explained previously the epistemology of science is inseparable from our natural faculty of cognition. So communication of science is possible in terms of Habermas's assertion of communication to be comprehensible. Communication of science is also enabling comprehension by visualising the role of media as an influential agent of network of scientific technological institutions and establishment which actually celebrates explanation of the natural world through its consistent efforts to unlock and disseminate the knowledge through discoveries and inventions. The diverse frames through which the discourse is being played in the open space of the "public sphere" is actually the location where all the actors in the hybrid network of scientific establishments and society are negotiating for the criteria to define the set of vocabularies related to the nuclear or any issue related to energy security and sustainable development.

Notes

1 House of Lords, UK through Bodmer Report originally put forth idea of public engagement with S&T and public understanding of science. It advocated that "public engagement with science and technology implies a conversation about science between scientists and the public, where both sides learn about the other's perspective. Our preference for dialogue recognises that the public in tandem with any technical comprehension of a scientific topic, also relies on both trust and social values in forming an opinion." For better perspective about how this term evolved, please visit: http://www.csicop.org/specialarticles/show/the_multiple_meanings_of_public_understanding/

2 Apart from scientists, Ziman also point out Philosophers, Sociologists, Political Scientists, Economists, Anthropologists and other scholars as metascientists.

3 The handbook of science and technology studies, 949.

4 Constructivism depends on context and situatedness of any concept in real life world with reference to its socio-cultural, political, organisational, historical and normative contexts. So to understand constructivism in this context having awareness about multiplicity of voices is important.

5 Reference: Lyotard, Jean Francois. The Postmodern Condition-A Report on Knowledge, 1984 as explained in Stanford Encyclopedia of Philosophy.

6 This is important to understand as STS link to communication often talks about creation, circulation and appropriation of meaning in socio-technical and historical contexts.

7 Palfreman cites three reasons for differences in perception; first being French citizens, trusting more in the engineering capability than citizens of other countries in their respective technical human resources, secondly the French possess no indigenous sources of fossil fuel and thirdly, the authorities have worked hard to communicate with the public rather than leaving the field to anti-nuclear groups.

8 Wimmer and Dominick (2005) noted different definitions of content analysis:

a) "…procedure devised to examine the content of recorded information";

b) "A research technique for making replicable and valid references from data to their context";

c) "…a method of analysing communication in a systematic, objective and

quantitative manner for purpose of measuring variables".

According to them, content to be analysed is selected according to explicit and consistently applied rules. Each item must have equal chance of being included in the analysis. It is objective and researcher`s personal bias should not enter into findings. Content analysis is a representation quantitative process and it is accurate of a body of messages.

9 Clark and Illman also refer to Van Dijk who believes that: "The study of numerous argumentative fallacies has shown that powerful arguers may manipulate their audiences by making self-serving arguments more explicit and prominent, whereas other arguments may be left implicit". Because of the style and rhetorical features of editorials, arguments and themes form two more elements that make up the findings."

10 From method point of view, Dicourse Analysis offers more possibilities than content analysis because ".... discourse not just a particular collection of words, but a constitutive set of structures and practices, that do not merely reflect thoughts or realities, but rather structure and constitute them—and the second is causal" (for further insights about this please refer to Herrera, Y. M., & Braumoeller, B. F. (2004). Symposium: Discourse and content analysis. Qualitative Methods, 2(1), 15-19. Dijk concludes by saying that "Current communication models of the media suggest that the construction of an issue is open to multiple influences which form specific 'issue cultures': public beliefs, issue cycles, journalists' and media orientations, the interests and resources of societal actors, wider processes of intermedia and inter-textual knowledge production"

11 O'Mahony, P., & Schäfer, M. S. (2005). The 'Book of Life' in the Press Comparing German and Irish Media Discourse on Human Genome Research. Social studies of science, 35(1), 99-130.

12 According to Fowler (1991), when he describes the evolution of stereotypes of news reporting: "The news is a practice, a discourse which, far from naturally reflecting social reality and empirical facts, intervenes in social construction of reality and news values are intersubjetcive mental categories: frame, stereotypes, paradigms, schemata and general propositions. Formation of news events and the formation of news values is a

reciprocal, dialectic process in which stereotypes are currencies of negotiation."

13 See Morera (1990) Power here should be understood here in all its manifestations of centralisation, concentration of resources, subscribing or promoting monolithic truth and largely exercising hegemony through consensus and common sense.

14 The dependence of the content related to scientific issues observable in the collected data was not necessarily dependent on the study or reference to peer reviewed journals. In fact, very few news reports/articles actually cited any significant scholarly works to validate their points. Still, in the context of nuclear energy it remains to be examined in what degree the science communication efforts rely on the published scholarly literature.

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32

Governance and Mobiles: Some Indian Initiatives

Sunetra Sen Narayan[1] & Shalini Narayanan[2]

Among the various ways in which technology has impacted our social fabric is in the field of governance. Mobile telephony can play a crucial role in this process with its ease of access and low-cost availability. The virtual public sphere and the use of new media were illustrated in the "Arab Spring" that affected countries such as Tunisia, Egypt, Yemen and others. What is equally interesting is the state's use of the same technologies to impact governance in a positive way and consolidate its own long term interests. The Anna Hazare movement in India and the "Indian Spring" in 2013 centred on civil society initiatives to fight against corruption. The central research question here is how can the state use mobiles to impact governance in a positive way, aiding the development process. More specifically this study explores how the Indian government has utilised new media and specifically mobiles in the fight against corruption and provision of services to its citizenry, using some case studies. It is thus conjectured that the state in India may be seeking to accommodate and consolidate its own interests in the long run, by allowing participatory processes in governance. Since the participatory paradigm of development also incorporates aspects of good governance and grass-roots initiatives, these efforts on the part of the Indian State are a move in the right direction.

Introduction

Mobile telephony is well established in India with a high growth trajectory with over 600 million connections being added in the six years between March,

1 Indian Institute of Mass Communication, New Delhi [INDIA].
2 Centre for Digital Financial Inclusion, New Delhi [INDIA].
| email: sunetran@gmail.com [Corresponding Author]

2008 and March, 2013 (TRAI, 2013). As of 30th September 2015, India had approximately 996 million mobiles, currently second only to China (TRAI, 2015). The rapid growth of mobiles in India has in part been a result of liberalisation policies adopted by the state in the telecommunications sector. Since mobiles have a high penetration in India, the state has been examining the possibility of using this form of communications as part of its development agenda, whether in the field of education, health, administration or governance. This study intends to critically examine mobile communication as a vital tool of governance, and as an aspect of participatory development, taking into account the various initiatives taken by the Central and some provincial governments in India.

A recent initiative taken by the state government of Kerala has used the mobile phone for not only service delivery, information about government conducted exams, audio guide for tourism purposes but also for conducting an Interactive Voice Response (IVR)-based survey for the State Planning Board (Vijayakumar, Sabarish, & Krishnan, 2010). The study also takes into account initiatives by other states such as Karnataka as also initiatives taken by the Central Government in India as pertain to the income tax department, and the Central Vigilance Commission wherein citizens are invited to actively participate in reducing corruption through the use of mobile telephones. It seeks to study aspects of mobile communication in the context of governance and explores the various initiatives underway, examining the possibility of harnessing mobile communication as a tool of community mobilisation and ultimately of governance and participatory development.

Telecommunications in India

The telecommunications revolution in India followed liberalisation in the economy post 1990 and robust economic growth in the subsequent decades. Prior to 1990, the telecommunications sector consisted of a state owned monopoly Post and Telecommunications service provider. The decade of the nineties, saw liberalisation, not only across the economy, but more specifically in the telecom sector, with private players being allowed entry. In the last two decades, the sector has changed the way Indians communicate and interact. In the eighties, it took an average of about six months to get a landline telephone connection and poor network connectivity meant waiting for trunk dialling and shouting across the instrument to make oneself heard to the other party. Call-through rates were dismal and call drop rates were phenomenal in that era. When mobile/wireless phones were introduced in India they did not seem to be of much significance to the masses initially as not only were the handsets priced beyond their reach, one had to pay for incoming calls too while outgoing calls were prohibitively expensive. The handsets themselves were clunky and huge but soon became status symbols for the elite.

Only after the economic liberalisation of the early nineties and consequent competition and increase in network coverage did the mobile phone become accessible to the lower income consumers. Today, one can get a smart phone for about Rs. 2500 (around US$ 42 at current exchange rates) and call rates can be as little as Rs. 0.01 per second or less than a rupee a minute. In this scenario, the growth in mobile telephony has been phenomenal, placing India at world number two in terms of number of subscribers, next only to China. With a Compound Annual Growth Rate, (CAGR) of 50 percent in terms of subscribers and 15 percent in terms of gross revenue in the decade 2002 to 2012 (Investment Information and Credit Rating Agency-ICRA, 2012), though growth rates have come down since then owing to weeding out of inactive accounts and other factors (TRAI, 2013). According to the Telecom Regulatory Authority of India, (TRAI) the number of wireless (mobile) telephone subscribers stood at over 893 million as on January 2014, with over 772 million or about 87 percent active subscribers (TRAI, 2014). Overall wireless or mobile tele-density stood at slightly more than 72 percent and positive growth is recorded in urban as well as rural tele-density in January 2014 as against December 2013. In September 2015, the mobile subscribers stood at 996 million with a tele-density which was 80.98 percent at this point (TRAI, 2015).

TRAI figures also indicate that broadband subscription figures stand at slightly over 14.5 million during January 2014 as against December 2013. However, the growth in broadband access through mobile devices (phones and dongles) in January 2014 has been remarkable standing at 4.2 percent as compared to December 2013 (with >512 kbps download). In terms of numbers, there were 41.95 million broadband subscribers on mobile devices in January 2014, as against 40.26 million in December 2013 (with >512 kbps download). This is in line with ICRA's forecast that with voice services stagnating, the future growth in the case of mobile telephony would be driven by data services (ICRA, 2012). Wired broadband subscribers were about 15.39 percent compared to over 79 percent of wireless data subscribers in January, 2015 (TRAI, 2015). With data services, the mobile phone becomes an even better tool of communication as the full range of multi-modality comes into play. The ease of access and personalised delivery of messages also make mobiles an ideal platform for service delivery and information dissemination, vital for participatory governance (OECD/ITU, 2011).

Development, governance and mobile telephony

Paradigms of development

For developing countries the crucial question that remains is how best development can be brought about in the country. The answer to this question is often a function of time. During the peak period of the dominant paradigm of development in the Post World War II era, up to the late 1960's, development meant industrialisation via capital intensive projects, with an emphasis on economic growth, Gross Domestic Product and other macroeconomic indicators (Rogers, 1976).

Disillusionment with this model of growth and development paved the way for the dependency and participatory paradigms of development. The latter is more eclectic and takes cognizance of development as a process with humans as partners in progress, rather than as targets of development. Wider notions of human progress are emphasised, beyond mere economic growth (Rogers, 1976). Broader notions of development beyond wealth incorporating dimensions of human life such as health, education, happiness, sustainability have gained in currency. In terms of communications, strategies of communications for development have expanded beyond mass media in the 50's and 60's to include telecommunications and new media in the current era.

There have been some major paradigms of development in the post-World War II period. By paradigm here is implied a shared world-view or a common set of assumptions. The understanding of a paradigm and paradigm-shift is informed by Thomas Kuhn's (1962) formulation in his seminal work, *The Structure of Scientific Revolutions*. There is general agreement that there have been three major paradigms of development in the period following the Second World War. These are the Dominant, Dependency and Participatory paradigms. In the period 1945-1965 the dominant paradigm held sway. During 1965-75 it was dependency. From the 1970's onwards it has been the participatory paradigm of development. These are approximate dates. In an exploration of the term development, historically it has been associated with terms such as westernisation, liberalisation, emancipation, growth, progress, social change and many others (Mowlana & Wilson, 1990).

The history of development indicates that the concept has existed from times immemorial. In the early stages of man's existence, the term possibly meant improved techniques for hunting, gathering and agriculture. In the late Middle Ages, it came to be synonymous with progress. Beginning with the 17th century and into the 19th and 20th century, European philosophers and social thinkers thought of development as social transformation. The sociologists such as Emile Durkheim and Ferdinand Tonnies understood development to be a change from folk or traditional society to modern society (Melkote & Steeves, 2009). According to these sociologists, development was thought to be a transformation from a rural, communal, agrarian society to an urban, rational, industrial state system. It is important to note that the backdrop for their writing was the Industrial Revolution in Europe. The modern notion of the term development came to be established on the international agenda in the period following the Second World War. It entered popular discourse and became a buzz-word.

The participatory paradigm emerged from a mixture of theoretical perspectives by the 1970s. It has emerged out of diverse view-points such as the environmental movement, feminism and others. This paradigm incorporates ideas of cultural pluralism, indigenous knowledge etc. The participatory paradigm seeks to remedy the top-down approach of the dominant paradigm (Servaes, 1996). Theorists such as Paolo Freire (1973) have been influential in the formulation of this paradigm. Unlike the other two paradigms, this puts people at the centre of the development process. It makes them partners, rather than targets of development strategies. The emphasis is on empowerment and emancipation or liberation of the people.

Participation could be at the level of decision-making, program implementation, evaluation, monitoring and benefits. The role of media in this paradigm is somewhat different from the other two. The flow of communication is envisaged to be top-down, reverse as well as in other directions. The new media and information communication technologies (ICTs) etc which are inherently interactive have an important role to play within this paradigm.

The State and New Communications Technologies

Globalisation is intimately connected with telecommunications networks. Telecommunications have been described as both a cause and a consequence of globalisation.

It has been suggested that globalisation has impacted the nation-state from above, while localisation has simultaneously attacked the nation state from below (Rosenau, 1990; Narayan, 2013). Thus the nation state has been re-conceptualised as the post-modern state with more fuzzy boundaries and spheres of action as compared to earlier (Buzan & Segal, 1996.). Non state actors including new communications technologies which have empowered the individual have been increasing in importance over the last two decades (Rosenau 1990, 1992, 1997).

New communications technologies such as mobile telephones and the Internet have helped in establishing interest groups and communities based on interest and common issues rather than geography. Thus new media have impacted the functions and the frontiers of the state. While at times the impact may be adversarial to the interests of the established state – witness the "Arab Spring", at other times, the new media can be harnessed by the state to partner with citizens in governance functions. Political theorists such as Skocpol (1985), Evans (1985) and Rudolph and Rudolph (1987) suggest that the state is a third actor which has accommodation, consolidation and survival interests of its own. An implication of this line of reasoning is that the state could use new media as a tool in pursuing its own interests. In democratic regimes such as India, new media could be used to assist in governance and in delivery of services to the public.

The classical notion of the public sphere as theorised by Jurgen Habermas (1989) envisages the tea shops and coffee houses to be the vital fora for discussions on politics and other issues by an engaged citizenry. Today, the fora for debate and discussions have extended to the virtual public sphere via the Internet and mobile telephones. The virtual public sphere and the use of new media were illustrated in the "Arab Spring". What is equally interesting is the state's use of the same technologies to impact governance in a positive way and in fact consolidate its own long term interests.

The power of new media including mobile telephones to multiply the voice of the citizenry against perceived poor governance on the part of the state was revealed in the "Arab Spring" of 2011 where new media became prominent as channels for the people to express themselves in a collective manner against their governments in countries such as Tunisia, Egypt, Yemen and others (Scharr, 2011). While these may be termed pro-democracy social movements facilitated by Facebook, Twitter and mobile phones, the role of mobiles in inciting mobs is somewhat disturbing. The power of the mobile phone was used to this effect in the riots that lashed Britain in 2011. "The Blackberry riots" as they are being termed, were triggered by using "(the) BlackBerry Messenger feature, which allows users to send free messages to individuals or to all their contacts all at once. It was used to summon mobs to particular venues" (The Economist, 2011). According to this source, BlackBerry had 37 percent of the teenage mobile market. The study opines that the digital revolution allows people to organise against the authorities – not just in the Middle East, but also in Britain, referring to the "Arab Spring" bringing down governments in the Middle East through revolutions aided by new technology.

On the other hand, in Uganda, the government, in partnership with UNICEF and WHO has launched mTrac, a tool utilising mobile telephones for governance. The mTrac experiment in the health sector has helped health authorities to monitor better the performance of health services delivery (Ugandan Ministry for Health, 2012). With the help of Short Message Services (SMSes), health workers are able to report in real time the obstacles they face in delivery of services. A facility for health services users to report anonymously any malpractices has also found much favour with the public. The service has not only improved service delivery but has also brought in accountability on the part of the government. Similar tools such as EduTrac and UTrac in education and social monitoring fields have also been welcomed by the public. While EduTrac monitors the education delivery system, UTrac is a platform to report on community issues. Information and Communications Technologies (ICTs) are now being utilised across the spectrum in developing countries – be it in education, health, empowerment of marginalised groups or delivery of various services by the government (OECD/ITU, 2011, p 30).

ICTs and governance

For a more participatory approach to governance, the crossing of private-public boundaries is an important factor as collective action is required. With the entry of new information and communications technologies such as the internet, mobile phones etc, traditional theories of collective action have needed modification. From the pre-industrial era which exhibited comparatively porous private-public boundaries to the industrial age which tended to create and strengthen private-public boundaries, "we are now in an age where the spread of digital technologies is now weakening them" (Bimber, Flanagin & Stohl, 2005). The dynamics of collective action have been modified with the advent of these ICTs. Though the internet or e-governance mechanisms have been a transforming force in the field of collective action, they are limited by some factors such as availability, lack of literacy or lack of knowledge of English, the cost of computing, inadequate power, lack of awareness etc. (Assocham Summit on e-Governance, 2011, p. 9). The mobile phone scores in this respect due to the following factors: penetration, relative low cost of entry into mobile connectivity, convergence of wired internet and telecommunication networks and shift towards higher data transfer rates and 3G services. In the words of Miard (2008), “three important factors, mobility, personalisation and multimodality….can potentially turn mobile phones into indispensable tactical and organisational tools for any group or organisation that wishes to mobilise people around a common cause” (p. 11).

Governance and mobile telephony

Among the various ways in which technology has impacted our social fabric is in the field of governance. As contrasted with “government”, governance is a more participatory process as “the essence of governance is its focus on mechanisms that do not rest on recourse to the authority and sanctions of the government” (Stoker, 1998). Governance networks, in Stoker’s terms, “involve not just influencing government policy, but taking over the business of government” (1998, p.23). According to Merrien (1998, p.58) good governance is the process when the state retrenches, becomes less powerful, assumes a lower profile and operates with private interests and groups as a partner on par with the others.

In the current participatory paradigm of development, as the name suggests, the emphasis is on participation and taking feedback from the citizens, thus new media which are interactive can be employed by the state. Platforms such as websites, e-governance initiatives such as social media networks and mobile networks have all been pressed into service to aid in governance. The advantage of using mobile telephones as compared to Internet related initiatives is that they are a lower cost option as well as enjoy high levels of penetration in developing countries, especially where the marginalised and disadvantaged sections of the populace are concerned.

In Miard’s (2008) opinion, mobile phones are instrumental in shaping this form of activism by bringing to the forefront three important factors: mobility, personalisation and multimodality. Mobility enhances the spontaneity factor, giving freedom to react instantly and emotionally while the person-to-person contact across hierarchies enables personalised communication. With capabilities to transmit voice and data too, the mobile becomes a multi-modal instrument. Given that the hallmark of good governance is transparency, accountability and participation, as well as "efficient and effective in the economic and financial management of resources so as to lead nations to prosperity and development", the mobile can become an instrument of change, enabling a one-on-one interaction between those governing and the governed (Banerjee, 2007).

Mobile telephony and governance: India

India's policy on m-governance is part of a wider policy on e-governance. The Department of Electronics and Information Technology (DeitY) and Department of Administrative Reforms and Public Grievances (DARPG) were involved in formulating a national e-governance plan (NeGP) for India which was accepted by the Union Government in 2006. The NeGP had proposed 27 Mission Mode Projects and 10 components. The objective of the NeGP was to improve delivery of government services to citizens and to business. Mission Mode Projects emphasised particular aspects of e-governance such as pensions, income tax and others.

The Narendra Modi lead government has emphasised the need to connect India via its Digital India initiative. This intends to expand the reach of the Internet to many villages via the Optical Fibre Network, as well as provide free Wi-fi at many railway stations. It is envisaged that m-governance will help in bridging the digital divide in India.

In an example closer home of what has been dubbed the "Indian Spring", Anna Hazare's hunger fast on the issue of the Lokpal/Jan Lokpal Bill (anti-corruption Bill) captured the public's imagination. Organisers of the India Against Corruption, (IAC) movement spearheaded by Anna Hazare for a stronger anti-corruption Bill had made extensive use of new information communication technologies to engage the youth. Apart from employing social media such as Facebook and Twitter, the mobile was also used extensively as a tool to reach out to youngsters. The Facebook portal of IAC was flooded with responses, growing from 0.5 million to a staggering 1.2 million in two days (Mail Today, 7 April, 2011). The organisation had sent group Short Message Services (SMSes) to the public, asking them to give a missed call at a particular number to express their solidarity and was surprised to find more than 0.7 million missed calls made to that number (Mail Today, 7 April, 2011, pg 11).

The Anna Hazare movement and the "Indian Spring" centred on civil society initiatives to fight against corruption via many platforms, including the new media. However the Indian government has also utilised new media and specifically mobiles in service delivery to its citizens. Some of the mobile applications for governance currently are for grievances, weather alerts, tax alerts, health alerts, exam results, utility payments, tax payments and many more.

National policy on m-Governance

Recognising the potential of the use of mobile telephony in governance, the Government of India has brought out a comprehensive Framework for Mobile Governance (Department of Electronics and Information Technology, DeitY, 2012). The stated objective of the Framework is to utilise the massive reach of mobile phones and harness the potential of mobile applications to enable easy and round-the-clock access to public services, especially in the rural areas. The Department of Electronics and Information Technology, (DeitY), Government of India has also developed a Mobile Seva Project on a national scale to leverage the exponential growth in wireless technology and its far-reaching acceptability in the country. The Project aims to provide a one-stop solution to all the central and state government departments for their mobile service delivery needs through various mobile channels such as Short Message Service (SMS), Interactive Voice Response, (Voice/IVR) Unstructured Supplementary Service Data (USSD), and through mobile-applications (m-apps). A Mid-term Evaluation of Mobile Seva in July 2013 has cited lack of awareness as one of the barriers for usage of the service but has said nearly 70 % of users reported "significant improvement"in the Government to Citizen (G2C) communication (Aggarwal et al, 2013).

Some other initiatives relating to m-Governance in India are listed below:

- ✓ The Income-tax department's campaign for creating awareness among tax-payers about information regarding their tax-return like the last date for filing, the place of submitting returns or the option of e-filing etc through SMS.

- ✓ The Indian Railways has already taken a step in this direction, allowing citizens to not only book their tickets via the mobile phone but also sending an SMS on booking which would do away with the need to print a ticket altogether. The unreserved ticket through mobile applications has been started from 27th December, 2014 from the Mumbai suburban area. It is currently also available in the Chennai suburban and Delhi to Palwal routes (www.indianrail.gov.in/mobile ticketing.html). The implications for the provision of tickets via mobile in the future are that there will be a rising trend of mobile tickets in the future.
- ✓ The Agromet initiative of the Central government where some 2.5 million farmers get SMS weather updates to help them plan agricultural activities
- ✓ The National Disaster Management Authority has also utilised SMS-service to alert citizens on being safe during natural or other calamities.
- ✓ The Ministry of Information and Broadcasting has been pro-active in setting up a social media wing, to reach out to citizens via Facebook and Twitter. This Ministry sent bulk SMS to citizens on August 15th 2013 to wish them a Happy Independence Day. The Ministry has been active in using this service to inform citizens about digitisation and consequent installation of Set Top Boxes in some cities in India. Even information relating to the holding of a retrospective on prominent filmmaker Rituparno Ghosh by the Directorate of Film Festivals under the Ministry, found its way to inboxes in Delhi on the 1st of August 2013.
- ✓ The Ministry of Health and Family Welfare at the Centre has also been using mobile bulk SMS services to alert citizens about health issues.
- ✓ The Delhi government launched an app in late 2015, encouraging citizens to help in a cleanliness drive by uploading pictures of garbage in Delhi, which would then be cleaned up by government agencies.

M-Governance in the states

The state government of Kerala has devised a short code or special phone number 537252, corresponding to KERALA on a non-Qwerty keypad to which an SMS/MMS can be sent. This short code brings the entire government services under a single umbrella. Users can avail services relating to transport, exam results, complaint registration, agriculture, tourism, electoral offices, lotteries etc by sending an SMS in the specified format to this number (Department of Information Technology, Government of Kerala, 2012). In fact, the state government also utilised mobile telephony to conduct an IVR-based survey for the *Sampoorna Oorja Suraksha Mission* with the IVR being done in the regional language with a ten-digit number, advertised in local daily newspapers. About 25,000 people responded to the survey, which continued for about a month.

Another initiative of the state government of Kerala was the Mobile Crime and Accident Reporting platform through the mobile. This service saw popularity in Cochin city where more than 20,000 photographs were uploaded in a year. The Audio and WAP Guide for tourism is another service provided by the state government which is also IVR-based. Users could call in and listen to the IVR menu about the historical information as well as important contact information about tourist places in their preferred language (Vijayakumar, Sabarish, & Krishnan, 2010).

In Karnataka, farmers are being given updates on land transactions on their mobiles, integrating with the *Bhoomi* online project. The Delhi government has started an anti-pollution drive, where citizens can send SMS to complain against smoke-belching public buses etc as well as the facility to send an SMS for water tanker delivery services. The Delhi police's anti-obscene call helpline where those harassed can send an SMS has also proved popular.

M-Governance and anti-corruption: Case study of Project Vigeye and the Delhi government's anti-corruption helpline

Corruption has been a big roadblock in the path to good governance, affecting transparency and fairness as well as the efficiency of a government. M-governance, in conjunction with e-governance can play a vital role in not only pushing the subject on to the national agenda, but also in mobilising the public to act against it. New media not only help put corruption on the agenda of the public in the case of India, they can also help initiate action against corruption.

One such early initiative was Project Vigeye, a project undertaken by the Central Vigilance Commission (CVC) of the Indian government where e-governance and m-governance enabled the citizens to take up complaints against corruption without fear. In keeping with the characteristics of mobile communication, viz., personalisation, mobility and multi-modality, the mobile allows an individual to make complaints against corrupt government functionaries in complete privacy, from any location and facilitates evidence in audio or video format to be sent for the same.

Project Vigeye was launched in December, 2010 by the Central Vigilance Commission with the objective of empowering citizens to combat corruption through whistle-blowing. The occasion coincided with the International Anti-Corruption Day held every year. Any citizen can participate in Project Vigeye by sending a blank SMS or VIGEYE to a specified number. A registration link is then sent to the mobile wherein a citizen has to fill in details. The CVC does not entertain anonymous complaints, hence the need for registration. Any citizen can then upload their complaint, along with supporting audio and video materials, from anywhere in India. The advantage of this method is evident; not only does one not need to go physically to any office to give one's complaint but even additional data on the subject can be uploaded in complete privacy.

As per details on the Project Vigeye website, the total number of Vigeyes or complainants registered on the website stands at 9429 as of 15th December, 2015. The number of complaints filed so far is 1560 out of which 636 were filed through mobile phones while the remaining 924 were filed on the net (www.vigeye.org). An analysis done by the CVC on the Project upto January, 2011 (Central Vigilance Commission, 2011) showed that in a matter of two months, seventeen actionable complaints were received in Category A, i.e. relating to service-delivery, seven of which were dealt with within 48 hours. Among the illustrative cases quoted by the CVC website are the following:

- ✓ One where an Inspector of the Municipal Corporation of Delhi had confiscated the generators in a commercial complex and returned them only to those who paid a bribe. Thanks to Project Vigeye, the complaint was acted on and the Inspector was transferred.
- ✓ In another instance, the Bharat Gas Agency was alleged to be giving gas connections only to those who were willing to buy their appliances in Mallapuram, Kerala. This malpractice was also curbed and the complainant was able to procure a gas connection without buying an appliance from the Agency.
- ✓ A villager in Alwar district of Rajasthan complained that the Oriental Bank of Commerce was not willing to sanction an education loan of Rs 50,000/-

for his wife and was interested only if the amount was Rs 0.7 or 0.8 million. The complaint was resolved within 48 hours.

✓ Another case was one where a group of farmers complained about corrupt practices in grant of subsidy. The list of cases just goes on to show how the distance between the government and those governed can be narrowed down with the use of new media.

In a similar initiative in January 2014, the Chief Minister of Delhi, Arvind Kejriwal announced the setting up of an anti-corruption helpline and exhorted the citizenry to share audio/video content obtained through sting operations to trap the corrupt. The helpline saw massive call traffic, registering as many as 11, 952 calls on Day 3 and helping nab two Delhi police constables on charges of extortion from a vendor (Times of India, Jan 2014). The helpline number 011-27357169 remained functional from 8 am to 10 pm.

The Chief Minister Kejriwal, who had come to power riding on the anti-corruption plank inspired citizens to act against corrupt practices so that even a student of junior high school recorded on his mobile phone malpractices and bribery at a ration shop (grocery store selling subsidised food) and presented the recording to the Anti-Corruption Bureau (Millennium Post, Jan 2014). Though the anti-corruption helpline is still active, after the exit of Arvind Kejriwal as Delhi Chief Minister in his first innings, it had lost prominence. The Indian Express reported on February 25, 2014 that immediately after the resignation of the Chief Minister on 15th February, the helpline staff was asked to surrender their handsets and articles relating to the helpline (Narayan, 2014).

The newspaper quotes sources to indicate that though the helpline received around 0.12 million calls in a span of about a month, only 4,000 of the calls were related to graft complaints and only 300 out of them had evidence to back them. However, in the absence of the helpline, those 300 citizens would not have had recourse to remedial action and thus the number represents a serious attempt by the state of reigning in corruption.

In his second stint as Delhi Chief Minister Arvind Kejriwal re-launched the anti-corruption helpline in April 2015 with 1031 as the number to which anyone could send complaints. The Aam Aadmi Party government in Delhi claimed that the helpline received 125,000 calls a month (Anti-corruption helpline, 2015). This claim was disputed by the Anti-Corruption Bureau which went as far as launching their own helpline numbers (Delhi ACB, 2015). The Bureau has been having a political tussle with the government at the helm in Delhi triggered by the Centre-State supremacy debate. However, in November, 2015, the Delhi police said 18 police personnel every week this year have come under the vigilance department's scanner for corrupt practices, with complaints being received mostly through WhatsApp on the anti-corruption helpline (Press Trust of India, 2015). Quoting a senior police officer, the newspaper article says "this year the number of complaints is less but instances of enquiries initiated have gone up, suggesting more accuracy among common people reporting corruption" (Press Trust of India, 2015).

Conclusions

In trying to understand the contribution of mobile telephony to governance and development in the Indian context, it is clear that such applications can have a large impact. Given the high penetration of mobiles in the country and the low costs of usage, this represents an important medium for provision of information and services by the state.

The next level of engagement is where a pro-active citizenry actually indulges in information – seeking behaviour and also actively intervenes in the process of governance. This is represented by the anti-corruption project Vigeye – a scheme which appears to have enjoyed success in India, albeit in a limited fashion in 2011. However, some bottle-necks to usage remain. Cultural and linguistic factors may pose a barrier to the adoption of m-governance. Complexity of mobile applications may also hinder adoption. Age is another factor which has a bearing on adoption of mobiles (OECD/ITU, 2011, p.54)

The adoption of m-governance for access to public service under one umbrella initiated by the Government of Kerala is a case in point for greater transparency and accountability as well as participation by the citizenry. Given that Kerala has more mobile phone penetration than most other states of India, the initiative, started as a pilot project, is bound to grow. The launch of *Mobile Seva* by the Government of India also promises to improve public service delivery.

Project Vigeye initiated by a government department in India as well as the move to introduce anti-corruption helplines using WhatsApp to send audio/visual proof, indicates the state is pro-actively using the new media to partner with its citizens in the reduction of corruption, which is vital in governance and development. Thus the State in India may be seeking to accommodate and consolidate its own interests in the long run, by allowing participatory processes in governance. In doing so, it may be ensuring its survival by avoiding or mitigating the negative impacts of an "Arab Spring" or an "Indian Spring".

With mobile penetration and literacy trends showing an upward expansion, it can be conjectured that these governance initiatives such as Mobile Seva and Vigeye are set to expand substantially in the future. So the "information society" may well come to pass as a "mobile society" in India.

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Metamorphosis of Antithetical Notions: Emergence of Literary Adaptations in Cinema as an Inclusive Canon

Riya Raj[1] & Om Prakash[1]

Literature and cinema are two different arts of narration having different effects on the audience. As media of entertainment, they seem inseparable. The two film adaptations that constitute our area of study are "Mother of 1084" which is an English translation of Mahasweta Devi's Bangla novel "Hajar Chaurashir Ma" and "Parineeta" another Bangla novel by Sharat Chandra Chattopadhyay. Through this study we intend to delve deep into the reasons that make literature and cinema so essential for each other. According to Heidi Rika and Maria Pauwels (2007), literature and cinema are believed to be two antithetical notions. Stam (2005), talks about the reasons related to the prejudice regarding literature and films. One of such notion is that literature is considered superior to films because many adaptations based on novels turn out to be mediocre. All the criticism related to adaptation, says Stam (2005) is based on moralistic grounds. One can easily see terms like "infidelity", "betrayal", "deformation", "violation" etc. when it comes to the criticism of film adaptations. However this relationship between literature and cinema is fuelling the emergence of an inclusive canon. Looking into the available theoretical constructs, this study attempts to underline this very fact that the literary adaptations of films as an outcome of metamorphosis of the two domains. This implies that literary adaptations cannot be viewed as a separate entity detached from the source of its adaptation.

1 School of Humanities and Social Sciences, Gautam Buddha University, Uttar Pradesh [INDIA] | email: professorom@gmail.com [Corresponding Author]

Introduction

The debate about the relationship between film and literature dates back to the beginning of the cinematic medium itself. Smith (1996) opines that the existence of cinema as a form of art and as technology is only a hundred years old. Countries like United States, France, Germany and Great Britain started using the early cinematic devices in the 1890's. The journey of cinema began in silence. Movies were created without any sound as the technology of sound was not available at that time. Cinema remained silent for the first few years until sound technology was developed. According to Hanson (1998), most people believed that movies with sound in them were not invented until the year 1928 when Warner's *The Jazz Singer* released. Hanson also mentioned that this was the first notable film that used the sound technique but also talked about some successful ventures of film and sound combination before 1928. All these years, researchers have been talking about the pros and cons of various cinematic adaptations of literary texts. A difference of opinion exists about the advantages and disadvantages of various screen adaptations. The fidelity issue becomes the main point of criticism when it comes to movie adaptations. McFarlane (1996), says "fidelity criticism depends on a notion of the text as having and rendering up to the (intelligent) reader a single, correct 'meaning' which the filmmaker has either adhered to or in some sense violated or tampered with. There will often be a distinction between being faithful to the 'letter' an approach which the more sophisticated writer may suggest is no way to ensure a 'successful' adaptation, and to the 'spirit' or 'essence' of the work".

Literature review

Welsh (2007) opines that movies have changed technically as well as stylistically but even after a hundred years, the mainstream cinema is still telling and retelling stories. Most of these stories are still being appropriated from literary and dramatic sources as much as 85 percent by some calculations says Welsh (2007), in the introduction of the book *The Literature/Film Reader: Issues of Adaptation*. Adaptation has always been central to the process of filmmaking from almost the beginning. Bluestone (1957), who was one of the first critics to study film adaptations of literature, considered a filmmaker to be an independent artist, "not a translator for an established author, but a new author in his own right". If this is the case, why cannot people accept it as it is? Countless films have been made so far that are screen adaptations of books but somehow they still seem to be subject to close scrutiny.

The dominant view that the critics have toward the cinematic adaptations of literary texts needs to be examined. Marciniak (2007) in *The Appeal of Literature-To-Film Adaptations,* says that the debate on screen adaptations has always been dominated by the questions of fidelity to the source. Most of the critics view adaptations as "minor", "subsidiary" or "secondary" products, lacking the symbolic richness of the book and also missing their "spirit".

This criticism can be countered by providing the following argument. The point that is going to be brought into attention may not go down very well with the fidelity-seeking critics. It is a fact that for a good part of the audience, the adapted film is not in any way different from other films as they are not even aware of its literary source. So for such an audience, the film is as good as a fresh one. They cannot compare them to the source texts and hence the issue of fidelity does not come into the picture in the majority of the cases with the mass audience.

Another ground of criticism by the critics, according to Marciniak (2007), is that each act of visualisation narrows down the open-ended characters, objects or landscapes, created by the book and reconstructs in the reader's imagination concrete and definite images. He indicates that in order to be seen as a good adaptation, a film is supposed to come to terms with what is considered to be the "spirit" of the book. When we talk about the "spirit" of the book, who could vouch for the fact that the image of the work that a particular reader has created in his or her mind was better than somebody else's? Who could exactly locate the element that formed the spirit of a particular book?

Such criticisms become very sharp when we refer to films based on books that are very popular. Marciniak (2007), reasons that this is probably due to the fact that people tend to internalise their favourite books to such an extent that they become an integral part of our imagination. An adaptation that does not go hand in hand with the audiences personal vision of the book is viewed as an attack on its integrity.

The authors try to look for reasons as to what actually gives rise to such an attitude towards the adapted films. According to McFarlane (1996), a major part of dissatisfaction that arises regarding film adaptations comes from perceptions of "tampering", "interference" and even "violation". The usage of these words gives the entire process of adaptation an air of encroachment. This happens when the characters and events do not turn out as per the expectations. A lack of understanding is responsible for the above mentioned phenomenon. The working of a narrative is different in the two media and this difference cannot be done away with. There can be certain things which can be transferred from novels to films while others which cannot be transferred.

However things have been changing since the last few years and now the critics have started to believe that the filmmakers need to be seen as readers with their own rights, and each adaptation as a result of an individual reading process. Some people have argued in favour of the fact that adapting from a literary source is not merely imitation. De Witt Bodeen[1], co-author of the screenplay for *Peter Ustinov's Billy Budd* (1962), claimed that "adapting literary works to films is, without a doubt, a creative undertaking, but the task requires a kind of selective interpretation, along with the ability to recreate and sustain an established mood". This implies that the person who is adapting should see herself or himself as owing allegiance to the source work.

Due to so much of emphasis on the issue of fidelity, a lot of other factors remain unexplored. According to McFarlane (1996), the reason why the issue of fidelity comes into existence can partly be ascribed to the fact that the novel comes into existence before the film. Also the belief that literature is viewed with greater respect as compared to film contributes to such an attitude.

Regarding filmmakers, a question that is salient is why do film makers use adaptations knowing perfectly well in advance, that they might face severe criticism if found guilty of infidelity to the source. According to Huteheon (2006) this question can be answered only if we think of adaptation in terms of pleasure. The pleasure can be derived from the combination of the known with the unknown. She says, "the appeal of adaptations lies in the mixture of repetition and difference, of familiarity and novelty…". She has also compared it to the child's delight in hearing the same nursery rhymes or reading the same books again and again. The repetition however, must be accompanied by creation.

According to McFarlane (1996), the literary works are held in high esteem by film makers. This may also be one of the reasons why they take inspiration from literature. The filmmakers expect that the popularity of that particular literary piece would continue in another medium as well, that is after its conversion into a film.

Raphael[2] opines that filmmakers consider a famous literary work to be a very lucrative property. Raphael says “like known quantities…they would sooner buy the rights of an expensive book than develop an original subject”. Hence the popularity of the books attracts filmmakers and they set their hearts upon a book for giving them a chance of blockbuster film.

Heidi Rika and Maria Pauwels in *Indian Literature and Popular Cinema: Recasting Classics* (2007), say that film and literature are viewed as two mutually exclusive, even antithetical institutional fields. This is why it is difficult for people to accept the fact that these two fields can actually be complimentary to each other. Another reason according to them, due to which scholars are not willing to bring insights of literature studies to bear on popular cinema, is the myth of the unsophisticated audience. It is often asserted that popular movies are intended for the masses that are overwhelmingly illiterate and thus are imagined not to have access to the classics. This is a false notion because being illiterate in the sense of not being able to read does not necessarily mean that the person would not be discerning about their own literature. A large portion of the audience is well-versed in the vernacular versions of the epics and devotional literature via oral transmission.

Film adaptations are also downgraded because of the common assumption that literary texts are richer and more sophisticated as compared to cinema. According to Leitch (2003), though sitting through a film is less time consuming as compared to reading a novel usually, it is still believed by many that a film can contain a lot of details just like a novel. If a film fails to achieve the intricacy through its story, it can probably do so through the behavioral traits and background details. Leitch (2003) is also of the opinion that during the more limited running time of the films, they are capable of getting closer attention from a mass audience. Another positive element about films is the fact that they would generally be comprehensible even to the viewers who are less attentive. In most of the cases, this may not hold true for a literary text.

Now-a-days adaptation has also found its way into the education system. According to Ellis (1982), showing television serials or a film to students is considered as a way to encourage them to read the original literature. It can thus be inferred that adaptation actually helped in transmitting the values of the original. A similar attitude reflected towards David Lean's films of Dickens in some areas of British secondary education. John Ellis (1982) further says that literary adaptation has now been taken up in American education as a serious question because it combines elements of a general education with an induction into middle-brow culture for a conveniently large group of students. Morris Beja in his introduction to *Film and Literature* (Longmans, 1979):

> "The focus is neither on film nor on written literature, but on understanding and appreciating each form on its own and in relation to the other. The premise behind the entire book- like that of most of the courses for which it is intended- is that there is a great value in looking at the two genres [sic] together; such a pairing enables us to get a sense of all that they share, to be sure, but also of all the traits that they do not, so that one may grasp as well what is unique about each form…At such times the 'book addict' or the 'movie fan' – either one a fine thing to be- becomes as well a student of literature, or of film, or of both. Surely at least as fine a thing to be.'

Case Studies : Parineeta and Mother of 1084

This paper intends to delve deep into the mechanism of literary adaptations and issues related to them. Two different texts that have been converted into films have been selected for this purpose.The first text is a Bangla novel by Sharat Chandra Chattopadhyay[3] called *Parineeta* published in 1914. This has been translated into English by Malobika Chaudhari. At least five different screen versions have been made of this well-known story of a Hindu Bengali woman. The film that will be taken into account for this study is the one directed by Pradeep Sarkar which was released in 2005. The main caste of the film included lead actors Vidya Balan, Saif Ali Khan and Sanjay Dutt. The film recived a lot of critical acclaim and also won the

Indian Film Fare Award. The director received the national award in the category of the best debut film. The film was also screened at prominent international film festivals.

The second novel is *Mother of 1084* by Mahasweta Devi[4]. This novel is an English translation of the Bangla novel *Hajar Chaurashir Ma* by Samik Bandhopadhyay. The first draft of the novel was published in the *Sharodia Prasad* (Maitra, 2012). Initially it was a story on the generation gap. Mahasweta Devi made a lot of changes in the later stage. According to Maitra (2012), the story was eventually developed as a proclamation regarding the life and death of some individuals who were the Naxalites during the 70's. The writer did not express grief over the defeat of the uprising. She rather tried to discover the cause of the unrest among the youth who were contributing to the Naxalite movement. This novel was made into a Hindi film called "Hazar Chaurasi ki Maa" directed by Govind Nihalani and was released in 1998. The cast of the film include actors like Jaya Bachchan, Anupam Kher, Seema Biswas, Nandita Das and Milind Gunaji. It also received the National Film Award for Best Feature Film in Hindi.

Synopsis of Parineeta, the Novel

The story of *Parineeta* is set in the early twentieth century in Kolkata. The protagonist, Lalita is a child-woman and the entire story revolves around her relationship with Shekhar, the love of her life. Lalita is an orphan, who had come to live with her maternal uncle after the death of her parents. Since childhood, Lalita felt as if she was bequeathed to Shekhar. She thought it was her duty to ask for Shekhar's consent before she did anything and the idea of questioning this authority did not even occur to her. With the passage of time, they grew fond of each other and were almost inseparable. However nobody ever thought Lalita could actually take the place of Shekhar's wife. Neither Shekhar nor Lalita ever thought that their fondness for each other would result in marriage. When Lalita garlands Shekhar and Shekhar reciprocates her gesture, it was an unplanned thing. However when Lalita realises, what she has done, she braves all the odds and refuses to marry Girin, her benefactor and suitor. A lot of misunderstandings and problems surround their lives. However in the end, when Shekhar realises his folly, he accepts Lalita as his wife.

This novel begins with the mounting anxiety of Gurucharan which reaches its peak when he is told that his wife had delivered their fifth girl child. After that the readers are made aware that he worked as a bank clerk and his palatial house that was his ancestral place, had also been mortgaged during the marriage of his second daughter. Lalita is introduced to us as a thirteen-year-old girl who is no less than a woman as she is adept at all household chores. She is also intelligent and wise enough to look after the family. Shekhar is a handsome young man, twenty-five years of age, and had been teaching after the completion of his Master degree. A year ago he had also qualified as an attorney. Lalita had been under his guidance since she was eight years of age. They were immensely fond of each other.

Parineeta: The Film Vs the Book

Before discussing the film, it would be a good idea to acquaint ourselves with some of the main characters. Shekhar; the son of a rich businessman and Lalita; his childhood sweetheart are the main characters of the story. Gurucharan; Lalita's father is a poor man overburdened with the responsibility of getting his daughters married. Gayatri is the daughter of another rich business man and Shekhar's father; Nabin Roy wants Shekhar to get married to her for furthering his business ties. Girish, who was an outsider in the beginning, falls for Lalita and helps the family during testing times.

The film *Parineeta* starts with the scene where Shekhar; is about to marry Gayatri who was the daughter of a wealthy businessman. However it is clearly visible from his expressions that he was not at all happy with the impending marriage. After that he goes to meet Gurucharan's wife who talks about the demise of her husband and how Girish who has been referred to as Girin in the novel, had taken care of the family. Lalita also tries to talk to him, but he rebukes her for being a woman without any virtues. After that the film goes into a flashback mode and the audience come to know of the various instances that had happened in the lives of Shekhar and Lalita.

There are a few cosmetic changes that are found in the film, when compared to the novel. According to the novel, Nabin Roy had lent money to Gurucharan during the marriage of his second daughter whereas in the film, Gurucharan while talking to one of his friends admits that Nabin had helped him with money when he had a heart attack and he had to mortgage the house when the interest kept accumulating. According to the novel, Nabin Roy had two sons. Shekhar was the younger son while Abinash was the name of the elder son. He was an attorney. In the film however, Shekhar is shown to be the only son and heir of his father's huge property. In the novel, Nabin Roy had earned his fortune through the jaggery trade and later focused on his money-lending business. However in the film he has been shown to have a huge construction business.

A few names have been tampered with in the film. Lalita's younger sister, i.e the daughter of Gurucharan was named Annakali in the novel which became Koel in the film. Manorama, Charubala's mother has been named Sunita in the film. According to the novel, when the exchange of garlands took place between Lalita and Shekhar, Lalita was about fourteen years of age whereas Shekhar was about twenty six-year-old. However in the film, they almost belong to the same age group. During the exchange of garlands between Lalita and Shekhar, there was another wedding that took place simultaneously. In the film, the wedding of Charubala, who is Lalita's best friend and neighbor next door takes place whereas in the novel, it is Annakalli's doll whose wedding was about to take place the same day.

Girin, who was Girish in the film, had come from London, looking for a managing partner for one of his projects, as he was the owner of many steel plants and also to solemnise Charu's wedding. It is different in the novel as Girin comes from Munger to study for his graduation. These differences can easily be accounted for, as there is a huge time gap between the novel and the film. The novel was first published in 1914 whereas the film was made in 2005. If the director wanted to make it synchronise with the present time, it was not possible to replicate the story entirely. Marriage at the age of fourteen is not something that would be easily accepted in today's world. On the contrary, things were different at the time when this novel was published. Child marriage was a norm when Sharat Chandra Chattpopadhyay thought of *Parineeta*. It did not even attract any kind of penalty from the authorities during those days. This was something that could not have been shown in a movie set in the current time.

According to the novel, Girin and his family belonged to the Brahmo[5] creed whereas Nabin Roy was a staunch Hindu. Not finding a solution to marry off his daughters, Gurucharan converts to the Brahmo sect as it did not have the concept of dowry. This step of Gurucharan was loathed by Nabin Roy and he could not even bear his presence at his house. This does not find any mention in the film as the director might not have considered it relevant in the present socio-political environment. We do not see Lalita earning in the novel but in the screen adaptation, Lalita works under Nabin Roy.

There are other minute details that have been changed while making the film. In one of the instances, when Lalita lost a game of cards against Girin, she had to take all of them to the theatre. In the film however, they were supposed to go to a night club.

In the novel, while Shekhar was still away from Kolkata with his mother, Nabin Roy constructed a massive wall between the two adjoining houses so as to block easy access. He did this out of anger as Gurucharan was out of his clutches and so was his ancestral house. He also could not tolerate the fact that they had turned to the Brahmo creed. In the film too, while Shekhar is away to finalise a deal, Nabin Roy got a wall built between the two houses. He even provokes Shekhar against Lalita. After his return, Shekhar realises that his father was not interested in having any contact with Gurucharan's family. After some time, Gurucharan's health started failing and they all decide to go to Munger. In the film, they go to London for better medical assistance. After going to Munger, Gurucharan still could not recover from his illness and died after a year.

Another shocking incident took place in Shekhar's family as his father passed away. His mother left for Benaras giving the responsibility of the household to her daughter-in-law. It had been three years since Gurucharan's family had left that place. At the time of Shekhar's marriage which had been arranged by his father, he got ready to bring back his mother from Benaras. He was informed that Gurucharan's family had come to their place and when he went to meet Gurucharan's wife, she told him that they wanted to sell the house to them and shift to Munger. Shekhar assured that he would do the needful. A few days later, Girin came to Shekhar and while conversing about selling the house, Shekhar got to know that Girin had actually married Annakali, as Lalita refused to marry him, accepting that she was already married to somebody else. Realising his mistake, Shekhar went to his mother and refused to marry Gayatri. He accepted that he was married to Lalita four years ago. This made her mother very happy as she had always loved Lalita as her daughter.

The film more or less moves on the same track. Unlike the novel, Nabin Roy does not die in the film. When Girish went to Shekhar in the film, he had the papers of Gurucharan's house. Lalita had given him the house as she wanted to pay back for all the things that Shekhar did for her. After realising what he had done, Shekhar refuses to marry Gayatri and against the will of his father, brings Lalita and accepts her as his lawfully wedded wife. As a symbol of defiance towards his father, he also broke the wall that his father built a few years ago. There is no such sequence in the novel, but the film has it. This was probably done to heighten the effect of the reunion between Lalita and Shekhar. There are also a few additions in the movie. One of them is Shekhar's interest in music. All through the movie, Shekhar is seen composing music and Lalita helping him with the lyrics. However, Sharat Chandra has not portrayed him as a musician.

This analysis helps us to conclude that the core of the film has not been tampered with. Though we notice a lot of changes in the adaptation, almost all of them can be attributed to the huge time gap between the publication of the novel and the release of the film. The name of Shekhar's mother has been changed from Bhuvaneshwari in the novel to Rajeshwari in the film. This does not have a lot of significance except for the fact that the makers of the film wanted the name to sound more contemporary. Lalita is portrayed as a working woman in the film unlike the novel which has obvious reasons. The idea of a working girl during 1914 was probably very unrealistic while it was easier to digest for the audience of the film in the present time. As mentioned earlier, Shekhar's father does not die in the film like he did in the novel. He also slaps Shekhar on the day he decides to bring back Lalita and accept her as his wife. This could be seen as another attempt to highten the emotional tension in the movie between father and the son. A few other changes like the one of breaking the wall during the climax brings melodrama and a lot of effect to the film. As far as Shekhar's interest in music is concerned, it has commercial implications and adding good music to a film does in no way decrease its soberness.

Synopsis of *Hazar Chaurasi Ki Maa*, the novel

The story of *Hazar Chaurasi Ki Maa* (Mother of 1084) is about the turmoil of a mother trying to come to terms with the death of her youngest and dearest son Brati. Sujata, after the death of her son sets out on a journey to know him better, to know his ideology and also to find out the reasons that led to his brutal end. She did so as it was extremely difficult for her to live with the guilt that she did not know anything about her son's revolutionary ideas which ultimately led to his death. Maitra (2012) describes this novel as a documentation of the Naxalite movement during the 70s. This movement was an important part of the political climate of West Bengal. At that time, the upper strata of the society was very indifferent and ignorant towards the movement. However the socialist ideology of this movement was very popular among the young men belonging to the higher as well as the lower strata of the society and they thronged to participate in the movement. Brati, the son of Sujata and Dibyanath Chatterjee, a bright young man also became a part of this revolutionary movement. Due to the betrayal of one of his friends, he got killed and was reduced to a corpse numbered 1084, hence Sujata-The Mother of 1084.

The novel, *Mother of 1084* has been divided into four sections, which are Dawn, Afternoon, Evening and Night respectively. The entire action that takes place in the novel is spread through a single day. The rest of the details are conveyed to the readers through flashback technique. The opening scene of the novel, *Mother of 1084*, has a dream sequence where Sujata dreamt of the morning twenty-two years ago, when she was getting ready to go to the hospital to deliver her fourth child Brati. She did it all by herself as her husband never cared to stay by her side while she went through such hard times. During the same dream sequence, the novel has some other details about Sujata's mother-in-law being unhappy every time Sujata had a child. This was because she had only one son as her husband had died soon after that. These details have been omitted in the screen adaptation of the novel. According to the novel, Sujata was not even allowed to buy a sari of her choice while her mother-in-law lived. This was the reason she had insisted upon working in a bank so that she could have a life of her own. These things do not find a detailed description in the film probably due to the limitation of time however it is conveyed to the audience that Sujata works for a bank.

Hazar Chaurasi Ki Maa: The Film vs the Book

Before moving on to the discussion of the novel and film, it would be relevant to know about some major characters in them. The main story revolves around Sujata who works at a bank and lives with her husband Dibyanath Chatterjee and her children. The name of their youngest son is Brati who is later reduced to corpse number 1084 hence Sujata; the protagonist, mother of 1084. Tuli is Sujata's daughter and Jyoti is her eldest son. Dibyanath's family is an influential one and Brati was a complete misfit in the family because of his ideology. Nandini worked with Brati and was his girlfriend.

The film begins with Jaya Bachchan playing Sujata going somewhere all alone. When she reaches her destination, the audience learns that she had gone to a maternity clinic all by herself. Soon after a new born is heard crying in the background and it becomes apparent that she had delivered the baby. The very fact that nobody accompanied her to the clinic while she had gone to deliver the baby speaks volumes about the attitude of Sujata's family towards her. The novel has a vivid description of her irresponsible husband and jealous mother-in-law while the film omits the details in the beginning and leaves everything to the imagination of the audience.

After suffering from the pain of labor for almost a day, Sujata brought Brati into the world on the 17th of January. The story as it unravels for the readers, swings back and forth in time. After the dream, Sujata felt a searing pain and went to take her medicine. After that she is reminded of the same day, i.e. the 17th of January, two years ago when the telephone had rung early in the morning and she had picked it up in a half dazed state. She was asked to come to Kantapukur to identify her son, Brati. In the novel, she had fainted after hearing what had been said to her. However in the film, failing to understand what the call from Kantapukur meant, she informed the others in the family. Sujata has been characterised in the film as an apolitical woman who has a shadowy existence due to the dominance of her mother-in-law and her husband. Failing to understand what a call from Kantapukur meant, Nihalani reemphasises Sujata's ignorance about the then situation of Bengal, and her son's association with the Naxalites. This news brought her husband and Jyoti, the eldest son into quick action. They had sensed that Brati was no more and she was called to identify his body. Dibyanath and Jyoti pulled all strings to hush the matter up. They did not want to be associated with the revolutionary ideologies of Brati. This left Sujata utterly shocked as the reaction of her husband and eldest son Jyoti was almost incomprehensible for her. How could they not go to Kantapukur morgue immediately to see Brati, was all she kept asking herself.

One of the most important changes that Govind Nihalani has made in the screen adaptation appears towards the end. In Mahasweta Devi's version, Sujata while going through the ceremony of Tuli's engagement succumbs to her appendicitis. On the other hand, the film takes the story to a different level. Sujata not only survives her appendicitis but also works actively at a Human Rights Documentation Center. The movie takes a time leap of about twenty three years. Dibyanath Chatterjee, Sujata's husband is also a changed man in the film after the time leap. They also meet Nandini once again. Nandini was incessantly fighting for a good cause. She was working with the tribal people and also fighting a case against Saroj Pal, the inspector who had tortured her during her imprisonment. Another mishap takes place in front of Sujata with the murder of her fellow worker Professor Neetu. Neetu is shot dead by some criminals. Sujata somehow manages to get hold of one of the two criminals until other people intervene and help her. Even after this incident, she did not lose heart as she was a transformed person. She had realised that it was not an easy struggle. As she worked for the ideologies of Brati and so many others who felt for the cause, she knew Brati must be watching his mother silently with a sense of pride in his eyes. After she collapsed with the pain of appendicitis at Tuli's engagement, Nihalani seems to have given her a new birth with new ideologies. This is evident to the audience, when she admits to Nandini that earlier, she viewed 17th January as the day of Brati's birth and also his death which made her sad but after she started working for the society, she only remembered it as his birthday.

The film very beautifully captures the nuances of Devi's novel. To be honest, it goes a step ahead to keep the ray of hope from diminishing in the hearts and minds of people. Unlike Devi's Sujata, the lead of Nihlani's film emerges as a stronger woman who does not succumb to her weaknesses, instead wages a fight against the odds of the society and also keeps the memories of her son alive by working for the society.

Analysis & Findings

Through the analysis of both the films some generalisations can be made. Both the films have certain additions and deletions. However on a closer look it appears that the themes of both the films are in keeping with the novel. Despite a few changes due to certain limitations of the medium, the films were critical successes. On a closer look it appears that that the film *Parineeta* had more changes in it as compared to the *Mother of 1084*. One of the probable reasons that could be cited for this difference could be the time gap between the novels and their respective adaptations. *Parineeta* was published in 1914 while the movie released in 2005. *Mother of 1084* was written in early 1974 and the movie released in 1998. The gap in this case is comparatively smaller.

As analysed, the two adaptations to films as described above, except for certain changes, the films move along with the theme of their original source. Little alterations may be attributed to the existential demands of the commercial and socio-political environment in which these films are made. Also the fact that these adaptations should not be seen as replica of the source as the two modes of creative expressions vary widely in terms of time, space and technology is important. Regarding the opposition related to the increasing contact between literature and cinema, the following discussion is relevant.

It is true that films affect the interpretation of literature they are based on. Some parts of the film are fore grounded while some others are cut out or are substantially edited. There is a certain way in which the movie deals with the breaking points and contradictions in literature. This needs a very close study of the film as well as the literature it is based on. The people who play the characters of the source texts also play a pivotal role in conveying proper messages to the audience. In this case, the actors of both films did full justice to the roles they enacted, so much so that it felt the actors could not have had better substitutes. The filmmakers have incorporated certain changes in both the films that are visible, when compared to the original text. If the film ends on a positive note, it should not perturb the audience that throngs the theatres, as they likes it when things end positively, even if it is a narrow beam of hope. Optimistic closing of films is not a detriment in any way to the original work as the number of people reading books is generally less as compared to people who watch the screen adaptations of the same. As films are made for a larger audience, some changes become necessary and unavoidable. This holds true for the film *Hazar Chaurasi ki Maa* which ends on a very different note from that of the original text. The filmmakers might have done so, thinking that the audience might like it more with a positive ending. They certainly cannot be blamed for this because the commercial aspect of film making cannot be ignored and the film is meant to fetch some revenue for its makers. It is this aspect which makes it essential for the makers to incorporate certain changes in the film.

The accompaniment of music to these screen adaptations is often criticised and looked down upon. Marciniak (2007) is of the view that the sensual force of the spoken word is undoubtedly intensified by the music used in the film. The audience can derive a lot of pleasure by listening to the music that heighten emotions provoked by the story and also from analysing the ways the music reinforces the symbolic richness of the literary work. It is also a common practice among a few people to label a film as non-serious and trivial if it has songs ruling the popularity charts. There is no way that songs could harm the seriousness of content of a film. If the songs are chosen according to the requirement of the film and do not appear out of the blue, they can actually go a long way in making the adaptation a success. Marciniak (2007) opines that it has become a matter of habit with the masses to judge the works of art. Passing judgments on films and authors gives the audience some pleasure even if the remarks that are made about them are negative. This is so because the audience tries to justify their reading skills through this, perhaps thinking themselves to be better than the film makers.

Conclusions

While watching the screen adaptation of a particular novel, people tend to scrutinise it for instances of deviation and crucify the filmmaker at the slightest hint of it. Instead of resorting to such things, screen adaptations should be viewed with a different perspective. They do not tell untold stories and so some amount of variation becomes necessary to keep the interest of the audience alive in the film. It is definitely within the right of everybody to interpret a text or any other written source according to his or her own will. The screen adaptations should also be considered to be an output of such a process. Instead of treating the two domains as antithetical, they should be treated as the beginning of an inclusive canon that opens new avenues of study and serious intellectual engagement.

Notes

1 De Witt Bodeen, ‘The Adapting Art’, Films in Review, 14/6 (June-July 1963), 349 as given in Novel to Film by Brian Mcfarlane. P.7.

2 Frederic Raphael, ‘Introduction’, Two for the Road (Jonathan Cape: London, 1967) as given in Novel to Film by Brian McFarlane. P.7.

3 Sarat Chandra Chattopadhyay was a Bengali novelist and short story writer born on 15th

September 1876 in West Bengal. He started writing in his early teens.His best known novels include Palli Samaj (1916), Devdas (1917), Srikanta, Griha Daha (1920), Sesh Prasna (1929) and Sesher Parichay published posthumously in1939. Parineeta (1914) is also among his most famous works.

4 Mahasweta Devi, a leading contemporary writer is the author of more than a hundred books, including novels, plays and collections of short stories. She was born on 14th January 1926 in Dhaka, Bangladesh. She has also been honoured with many prestigious awards like Sahitya Akademi Award (Bengali) in 1979 for her novel Aranyer Adhikar. Padma Shri in 1986, Padma Vibhushan in the year 2006 etc. Some of her famous works include The Queen of Jhansi (a biography which was later translated in English), Agnigarbha (Womb of Fire, 1978, Rudali (1979) etc.

5 According to Lillingston, 1901 the origin of Brahmo Samaj can be traced back to the efforts of Raja Ram Mohan Roy (1772-1833). It was started in Calcutta on 20th August 1828. Brahmo Samaj was a reflection of Raja Ram Mohan Roy's concept of universal worship. It is also regarded as one of the most powerful religious movements in modern India. Brahmo Samaj does not discriminate between caste, creed or religion.

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Impact of Social Network on Relationship between Public and Government: A Case Study of President Hassan Rouhani's Twitter

Maryam Vaziri[1], Masoumeh Esmaili[2] & Nafiseh Zare Kohan[2]

Social Networks are going to reshape individuals, social and public relationships; it is an opportunity for people to express their ideas about different matters. As of the third quarter of 2015, Facebook had 1.55 billion monthly active users whereas Twitter had more than 307 million monthly active users worldwide (www.statista.com). This large amount of users can give a perspective of public opinion. While Facebook is the most popular network among Persian language users, Iranian politicians are more active on Twitter. In Iran, President Hassan Rouhani is one of the most active politicians on Twitter. He has joined this social network when he stepped into office in August 2013. He has two twitter accounts in English and Persian. This study will analyse the interactions of the President and public via twitter in his first 100 days of presidency; for this purpose the qualitative content analysis method will be used. It is important to mention that this subject is new to investigation.

Introduction

Since the Internet has created a public sphere to bring the global village theory (McLuhan, 1962) into the reality, it has helped to make access easy to people, institutions and the government. One of these ways are blogs, wikis, social networks, news websites and social media which can connect people to the online world which has a population that is growing fast. Over 23 million of Iran's 78

1 Department of Mass Communication and Journalism, University of Mysore, Karnataka [INDIA].
2 Science and Research Branch, Islamic Azad University, Tehran [IRAN].
| email: mrym.vzr@gmail.com [Corresponding Author]

million people are smart phone users and more than 20 million are using Telegram, a messaging and content sharing application (Niayesh, 2015).

In India, also as an example, as of November 2015, 136 million were active on Facebook (www.internetworldstats.com) and more than 56% of the internet users in India use WhatsApp every day (Choudhary, 2015). It seems it has shaped a structure of how the people connect to the world. Social media with quick notifications, announcements, news reports and marketing can help in this way. Each of the different social media have their own features, in addition to connecting people to an elite, elite to people, to the government and all the people to each other.

In this way, the old definitions of communication and the relationship between citizens and the nation-state have changed. Today world famous politicians like Barack Obama and Narendra Modi are active on Twitter that has its own characteristics: Twitter is an online social networking service that enables users to send and read short 140-character messages called "tweets". Registered users can read and post tweets, but those who are unregistered can only read them.

Young people are more interested and more involved with social media. Twitter with all these unique features has averaged at 307 million monthly active users (as of the third quarter of 2015, www.statista.com) with the shortest possible way to broadcast news in the world. Politicians and their parties want to enter this space to obtain information from surveys, polls and attract people by advertising.

By the advent of the Internet and the interaction between government and people, hiding the facts are much more difficult than before. Governments are now answerable to other people, intellectuals and politicians of the other countries. Famous users of the new media are celebrities which can affect the society. Direct connection gives an opportunity to declare the views of celebrities and the views of experts to examine and contribute to the progression of democracy in the world. Using social media in Iran, in particular, is related to the events of the 2009 election. At the same time some revolution took place in the world named the "Arab Spring", and Facebook in Egypt was the easiest way to inform people about the government.

The seventh President of Iran, Dr. Hassan Rouhani who assumed office in

August 2013, has used social media for advertising during the elections and has the approval of the people and the elites. The first Iranian politicians who are active on Twitter are Dr. Javad Zarif (Minister of Foreign Affairs, Iran) and Dr. Hassan Rouhani. People were informed about their joint statement, first released via Twitter official page of Dr Zarif about Iran's talks with P5+1[1].

Social media in India, by considering its large population, has brought about awareness and activism in different issues. Various celebrities are publishing about their activities, private life and so on. One of the most visible trends in India was about a girl who had died after being raped in Delhi in 2013. Anna Hazare's anti-corruption issue was also raised in 2011 via social media as Jan Lokpal bill. Modi's campaign and its success in Lok Sabha elections were also partly dependent on social media.

In this study, the question of what people know about the power of the social media is explored. What is their aim in using these media? How has this relationship helped democracy? How can change be brought for people? How can the globalisation flow be accelerated? How many people leave comments related to Dr. Rouhani's tweets? How do they follow his tweets? How much do they trust the government? How much criticism or support do they show to Dr. Rouhani's views? And what do they say about his Tweets?

The issue of how the government and people were connected through the social media is also considered. The tweets of Dr. Rouhani in the first hundred days of his presidency were analysed to see what he has posted and what has been received. This study claims to be the first in the political issues related to social media and of President Rouhani in Iran.

Social media are familiar for most of the people in developed countries today. The online population visits social media almost every day. By their potential to promote political engagement, social media is the subject of scholarly attention (Castells, 2007). Mobile phones also are a reason for the increasing usage of social media. Social networking transforms personal, social and public relationships; it is an opportunity for people to express their ideas about different issues.

Microblogging is a type of blogging that allows users to post news in less than a second. Active control (voluntary action directly influences the user), two-way communication (reciprocal communication between users), and synchronisation (responses the users receive simultaneously for their activities that quickly is processed and supplied information by the website) are characteristics of the social media (www.onlinelibrary.wiley.com). Twitter can provide the information of what users write, read and think in the global village. In this situation political institutions also try to use this opportunity too as the internet and social media can be useful for democracy today.

Features of pluralism theory (Reynolds, 1996) that elections ensure accountability and legitimacy of the state and a strong civil society is a key to the flexibility and efficiency of a democracy. The direct democracy (Mautner, 2000) suggests that democracy works best when people are involved directly in policy debates, actions and decisions. Political connections help to increase diversity and provide a cross comparative national methodology about the role of Twitter in the political discourse.

Through the social media, citizens have greater access to information which was previously restricted by organisations and re-engaging citizens released through the use of new technologies. It shows e-democracy can “overcome the limitations of space and time in public participation, as well as those associated with differences in status, such as age, gender, ethnicity, and wealth” (Scott, 2006, p. 344).

Political Internet activity can happens on social media via the Internet and online expression. Young people are more interested in attending political campaigns to express their opinions, discuss issues, and share information through the social media. Youth use these sites to communicate with public figures, to find out about and respond to events in the news, and share their views on a range of topics. Politicians and political parties at both ends of the ideological spectrum have begun using them to organise and communicate with their supporters and the general public.

Politicians use social media because they understand Facebook and Twitter are the most effective way of interaction rather than traditional media. Twitter can create transparency in the political system. Gerardine De Sanctis' and Marshall Scott Poole (1994) theorised the importance of influential social exchange of information between politicians and users on social networking sites as Adaptive Structuration Theory (AST).

AST's core premise is the idea that advanced technology, like social networking sites, enable multi-party and organisational activities through the exchange of complex information management (De Sanctis & Poole, 1994). The Pew research study (2012) announced that nearly 45% of Indian web users connect on social media to discuss politics. Internet and social media played an important role in Anna Hazare's anti-corruption movement in 2011 (Anwar & Shriniwasan, 2012).

Review of Literature

Theoretical framework

Jürgen Habermas' (1984) theory of communicative action is the basis of mutual deliberation and reasoning. The focus is on the foundations of democracy established in this work to study the theory of communicative action in further democratisation and reducing the barriers to participation in public discourse.

The popularity of computer-mediated communication (CMC) as a means of task-oriented and community-based interactions is to have the ability of CMC to fulfill many of the same functions as traditional forms of interaction, especially face-to-face (FTF) interaction. Social information processing (SIP) theory by Joseph Walther (1992), discusses how people get to know each other online, without non-verbal cues, and how they develop and manage relationships in the computer-mediated environment.

Social influence occurs when feelings, opinions, and behaviour affect others. Social influence takes many forms and can adapt to social, peer pressure, obedience, leadership, persuasion, sales and marketing. In 1958, Harvard psychologist Herbert Coleman said that there are three varieties of social influence. He accepted that people seem to agree with others, but in fact keep private their dissenting opinions.

People identify with the one who is loved and respected, like a famous celebrity. Social model deindividuation effects (toxicity) by Reicher, Brittany, and Postmes (1995) explains that anonymity and identifiability effects on group behavior, referring to computer-mediated communication.

Social exchange theory (Homans, 1958) shows that we choose to communicate through a bed of rewards and costs. This theory argues that human relationships are made by using subjective and comparative cost-benefit analysis of alternatives. Social scientists' concept of "social networking" since the early 20th century has used implicit references to a complex set of relationships between social systems at all scales from individual to international.

Social information processing explains that the nature of online interaction is a field of study that has both negative and positive media environment experience. Various explanations for the differences between the theory of electronic media, computer-mediated communication (CMC) and face-to-face communication exist including social theories. Media richness theory (MRT) by Daft and Lengel (1986) provides a framework for describing a communication medium's ability to reproduce the information sent over it without loss or distortion.

Social presence theory (Short, Williams, & Christie, 1976) suggests that in CMC the user is disadvantaged in the sense that another person is engaged; the user ends up feeling like no one is there and their relationship are impersonal, individualistic and task-oriented.

In more recent theories increasingly optimistic views of online communication have developed, explaining how people who interact online are greatly able to create and preserve the outcome and communicate with others online.

Previous studies

Aaron Smith (2011) in a study entitled *22% of Online Americans Used Social Networking or Twitter for Politics in 2010 Campaign Republicans Catch-up to Democrats in Social Media Use for Politics*, found political social media users stand out for their overall use of the technology. They are significantly more likely than other Internet users to go online wirelessly from a mobile phone or laptop. Social media users are somewhat younger and more educated than other Internet users.

Chong Sup Park (2013) had analysed on the subject *Does Twitter Motivate Involvement in Politics? Tweets, Opinion Leaders and Political Participation,* found that opinion leaders on Twitter are different from the traditional views of leadership. The results pointed to three main themes for how leadership works on Twitter in the political process and how it differs from the traditional counterpart. The leadership in stimulating thoughts on Twitter had a significant role of social control that motivated them to actively use Twitter. Opinion leaders on Twitter were also found to successfully predict how often people use Twitter.

Sung Wook Hwang's (2013) research on *The Effect of Twitter Use on Politicians' Credibility and Attitudes toward Politicians* examined how young people understand the use of Twitter by politicians. The reliability, and self-assessment by politicians on Twitter are somewhat positive, but almost neutral. Given the relatively short history, politicians use Twitter to make better picture of the likely outcome in the near future.

The use of social media by politicians alone cannot create a good reputation. It is essential that politicians and policy reform work together. Julian Ausserhofer and Axel Maireder (2013) in a study titled *National Politics on Twitter: Structures and Topics of a Networked Public Sphere*, clarified how in general, famous journalists, politicians, experts and key players in the political Twitter sphere in Austria shape, and influence in the broader area.

Regarding Twitter to facilitate communication between the political center and the citizens, the "normal" citizens have more chances to participate in the political discourse. Myunggoon Choi (2014) did a study on *Exploring Political Discussions by Korean Twitter Users*. The results showed that political views of opinion leaders on Twitter may deviate from a certain political position without necessarily representing the public, which can be detrimental to the democratic process.

Antti Timonen (2013) in his article *Digital Democracy in the EU* says that, in the context of Europe, digital media is widely used to allow politicians and government officials to get more close to citizens.

Daniel J. Power et al (2011) study titled *Impact of Social Media and Web 2.0 on Decision-Making* suggests that the impact of social media on personal and managerial decisions can be extensive. It can change their opinions and influence decisions that affect choices of consumers and business management decisions.

Øystein Sæbø (2011) studied *Twitter Use among Parliament Representatives*. In his opinion, there is a need to expand a democratic perspective, including other areas of the consultative approach and include different stakeholders' views. The e-democracy model represents a means for technology and the development of society as a phenomenon of interdependence. This analysis of Twitter use in the light of the genre of communication perspective and e-democracy models addresses these issues: the need to discuss societal values and ambitions in connection with the development and use of a particular technology in a particular democratic context instead of seeing technology – let alone democracy – as a generic "black box".

Gohar Feroz Khan et al (2014) in a study titled *Social Media Communication Strategies of Government Agencies: Twitter Use in Korea and the USA*, found that the Korean ministry engaged in collective cooperation and retweeted common content to strengthen their collective plans, regardless of their original administrative functions. The US government on the other hand were more individual than collective, and retweeted those messages specifically to fit the purpose of each section.

Suk Kyoung Kim's (2015) study on the *Effect of the Government's Use of Social Media on the Reliability of the Government*, showed that Twitter differs from other conventional channels not only in form but also in substance. Therefore, transparency, participation, and communication of a relationship look better for the government and are used to the maximum.

Panagiotopoulos et al (2014) study on *Citizen–Government Collaboration on*

Social Media: The Case of Twitter in the 2011 Riots in England, examined the dynamic aspects of cooperation in the 2011 riots in the UK. Re-tweets are driven by the content value of a tweet, while mentions are driven by the name value of the user. It found that influence is not gained spontaneously or accidentally, but through concerted effort.

In order to gain and maintain influence, users need to keep great personal involvement. Cristian Vaccari et al (2013) in their study *Social Media and Political Communication: A survey of Twitter Users During the 2013 Italian General Election*, showed that many Italians who talk about politics on Twitter were dissatisfied with the performance of the system, but their level of interest and frequency of political talk showed that they were willing to respond to the perceived crisis of legitimacy through expression instead of leaving or blind loyalty. The "Berlusconi" keyword search occurred among those who were the most tweeted. Results showed that what happened online did not stay online, but moved offline and affected people's face to face conversations.

Hisham M. Abdelsalam's study (2013) on *Social Media in Egyptian Government Websites: Presence, Usage, and Effectiveness*, examined the use and effectiveness of social media in the Egyptian government. The results of this study showed that the presence of social media in government in Egypt as a two-way interaction with citizens is very limited.

John T. Snead (2012) studied the *Social Media Use in the U.S. Executive Branch* and found that media use is a useful indicator of public participation. It counts the number of general persons plus a number of other interest groups, such as personnel and other personnel agencies of the government. A large number of counts suggest that people actively engage with organisations through the use of social media.

Sounman Hong et al (2012) study was about *Which Candidates do the Public Discuss Online in an Election Campaign?* Their study included the use of social media by 2012 presidential candidates and its impact on candidate salience have strong evidence of a positive relationship between the number of times that a popular politician is mentioned by traditional media with the number which he mentioned on Twitter.

Sounman Hong (2013), in a study on *Who Benefits from Twitter?*, claimed new media such as the Internet, is still significantly increasing a "selected" audience as opposed to "inadvertent" in the prime time of the network's audience. The findings showed that significantly increased financial assistance and social media adopted by the politicians.

Rajput (2014) claimed as the Internet is proliferating among the masses, no politician can undermine the power of social media. As India went into the general elections in 2014, the importance of social media increased many times. After some initial skepticism and opposition, social media is parallel to the mainstream media.

In particular, the left is not active in social media so far. Julia Caplan (2013) in her study titled *Social Media and Politics: Twitter Use in the Second Congressional District of Virginia*, found that Rigell and Hirschbiel, 2012 candidates of United States House of Representative, used Twitter as a means of attracting voters in a social structure. Content analysis shows that Republican candidate Scott Rigell had internal and external communication by sending more direct Tweets than Democrat Paul Hirschbiel. While Rigell used direct communication to target his followers, Paul Hirschbiel candidate took a business-oriented non-formal approach with personal messages about their daily routine, personal feelings, and updates about family.

Methodology

While Facebook is the most popular network among Persian language users, Iranian politicians are more active on the Twitter. The seventh Iranian President Dr. Hassan Rouhani is one of the most active politicians on Twitter. He has joined this social network when he stepped into office in August 2013. He has two twitter accounts in English and Persian. This paper has studied the interactions of the President and public via Twitter in the first 100 days of his presidency; for this purpose the qualitative content analysis method has been used. It is important to mention that this subject had never been studied before.

Research Questions

Research questions about the content of the study are as follows:

1. What is the subject of user's comments on a Tweet?
2. What is the relation of user's comments to a Tweet?
3. What is the user's comments orientation to a Tweet?
4. What is the willingness of users to Tweet?
5. Which keywords are repeated in the user comments?

Objective

The influence of social networks in everyday life is undeniable in many countries, and the politicians are aware of their influence. Dr. Hassan Rouhani, who received his doctorate in law from the University of Glasgow is said to speak English with a Scottish accent and is fluent in this language. The Iranian president that is against internet restriction since his campaign and activity in the virtual space is very active on Twitter after the election and posts tweets in Persian and English. He writes on topics ranging from football to women's rights, censorship on Twitter and Nuclear negotiations.

@HassanRouhani, is the Twitter page, which is attributed to Rouhani and actually is a window into his thoughts and how he wants the world see him. Although Twitter is filtered in Iran mostly, but Dr. Rouhani has another page: @ rouhani92, where he is in communication with his audience in Persian language.

Reports indicate that the Twitter page of Dr. Rouhani was activated on May 5th 2013. He has more than 4,17,000 followers as on 30th Dec 2015 and sends an average of 50 tweets daily (https://twitter.com/HassanRouhani). In general, from the victory of Rouhani in the election, the activities on his Twitter page have risen. On the other hand, in a country where it is difficult to access the Western media, on Rouhani's Twitter page the articles in the American media, Wall Street Journal and CNN, have been shown.

His tweets are divided into following categories:

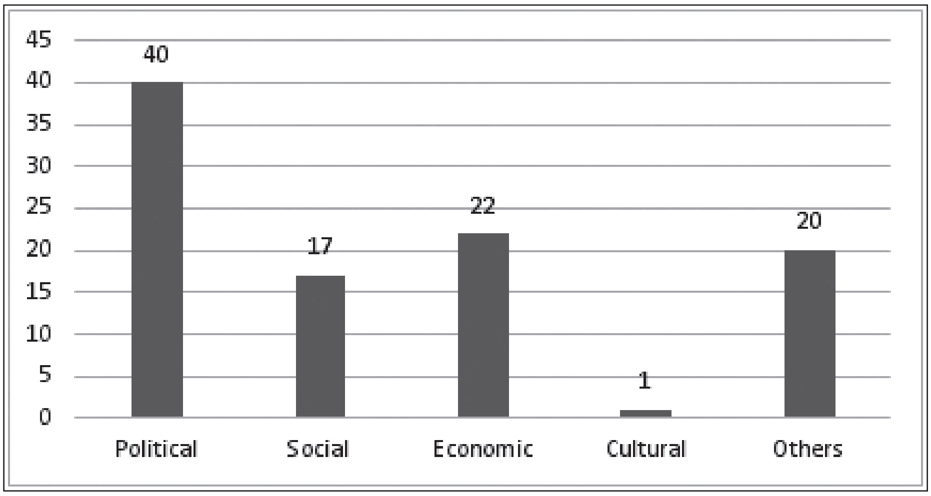
- Economic tweets
- Women's rights Tweets
- Tweet on individual rights and censorship
- Nuclear Tweets
- Sports Tweets

Method

This study examines the qualitative and quantitative content analysis on Farsi tweets of Mr. Rouhani's Twitter account in his first hundred days of government. Out of the 1,402 tweets, 302 tweets have been selected randomly by using the Cochran sample[2] And the number of comments that users have sent for these 302 tweets was 120. All of them have been evaluated in the subject of comments (political, economic, social, cultural, etc.), relation with the topic of Tweet (unrelated and related to the subject), comments tendency (in favour of the government - criticised the government) and attitude and orientation towards the subject (approved, rejected, mocking, demands and neutral).

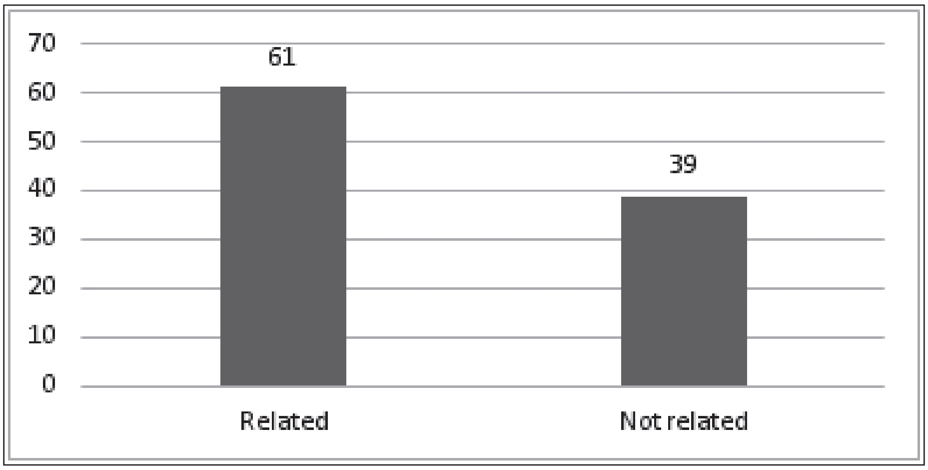
Findings

Fig 1: Subjects of the Tweets



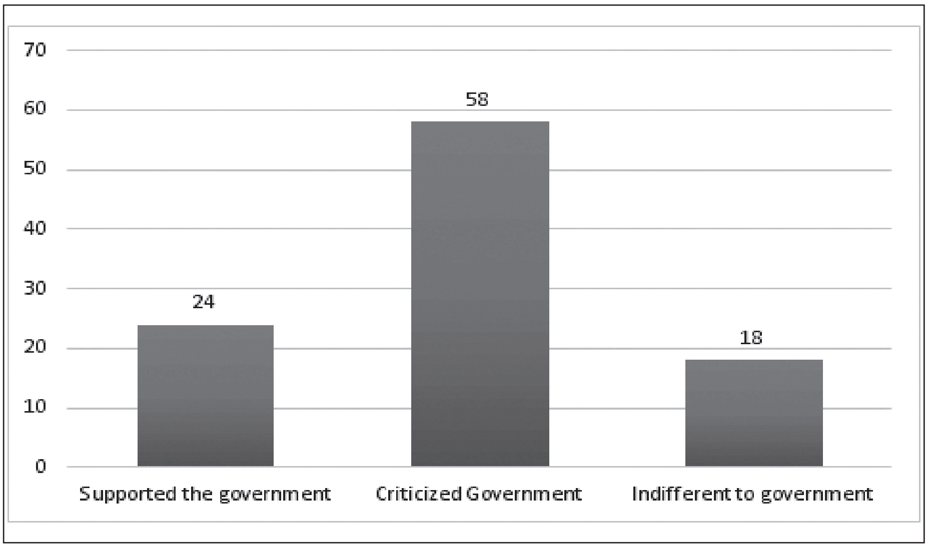
The findings (Fig-1) show that out of 302 surveyed on Twitter, 40 % of the tweets were on the subject of Politics, 22% Economic, 20% Miscellaneous, 17% on Social issues and only 1% of the audience feedback has been on a cultural issue.

Fig-2: Topic Related Comments



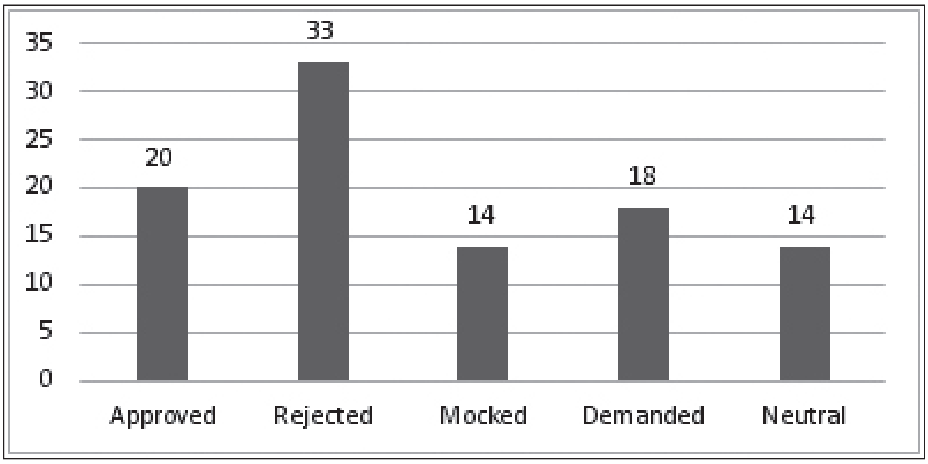
The Fig-2 shows that out of 302 surveyed Twitter accounts, 61% of the audience comments were related to the topic of tweets and 39% of comments were not.

Fig-3: Tendency of Content of Comments



The findings (Fig-3) show that out of 302 surveyed Twitter accounts, 58% of the audience comments criticized the government and only 24% of comments were in support of the government and 18% were indifferent to the government's comments.

Fig-4: Frequency of Content of Comments



The findings (Fig-4) show that out of 302 surveyed Twitter accounts; the content of 33% of audience comments was in opposition to the tweet, 20% approved and 18% comments were indifferent to the government.

Table 1: Frequency of words

Priority	Frequency of words
1	Lifting the siege and release of political prisoners
2	Employment problems
3	Appreciating the government
4	Protesting against the Acid attacks
5	Economic conditions
6	Protest against condition of the Iranian's Orange Children Band
7	Iranian soldiers execution by Jaish ul Adl

The findings (Table-1) show that out of 302 surveyed Twitter accounts, most repeated words were for lifting the siege and release of political prisoners, then the employment problems, appreciating the government, protesting against the acid attacks, economic conditions, protest against condition of the Orange Children Band, nuclear deal and sanctions in order; and the least or repeated word was about Iranian soldiers execution.

Conclusions

Based on these results we can conclude that firstly, social media played an important role in shaping the movements and thoughts of the public. Mobile Internet can be considered to bring more comfortable and simple way of using social media, in this way they are helpful for people to share ideas with the public.

If the government takes into account the views of the people and use the talents of the younger generation, they can increase the activity of the political sphere. Making ease of use, improving bandwidth, removing the filtering and allowing people to use this space can even help government to use people's views as well as gather them for other issues. It can be a better way to easier persuasion for political participation and various events to increase the trust of the government.

Based on the results of this study, the Iranian people are still hopeful but waiting for open space and permission for greater participation. Increasing the Internet access, changing political space, jobs and marriage are among first hopes raised from Dr. Rouhani that has not yet come true, that is why people do not still completely trust, and have some negative views on politicians using social media in Iran.

Future studies could analyse the presence of other politicians on Twitter, such as Dr. Javad Zarif's (Minister of Foreign Affairs, Iran) communication with the world. Further studies could also compare the statistics of this study with presidency of Dr. Rouhani after two years or the relationship between the nation and the other social media. At least electronic democracy can succeed in dealing with the demands of the people, as the democracy is claiming.

Notes

1 The P5+1 is a group of world powers who have been negotiating with Iran since 2006 with the goal of limiting Iran's capacity to manufacture a nuclear weapon in exchange for relief from certain economic sanctions and the ability to pursue a civilian nuclear energy program. The P5+1 is composed of the five permanent members (P5) of the UNSecurity Council (the U.S., China, Russia, France and the United Kingdom) and Germany (+1).

2 WILLIAM G COCHRAN, The Johns Hopkins University, March, 1953, http://www-history.mcs.st-andrews.ac.uk/Extras/Cochran_sampling_intro.html. One difference between sample survey theory and the older theory of sampling is that the population with which we have to deal in survey work contain a finite number of units. The methods used to prove theorems are different, and the results are slightly more complicated, when sampling is from a finite instead of an infinite population. For practical purposes these differences in results for finite and infinite populations are seldom important. Whenever the size of the sample is small relative to the size of the population, as happens in the great majority of applications, results derived from an infinite population are fully adequate.

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Book Review

Media at work in China and India: Discovering and Dissecting

Edited by: Robin Jeffrey and Ronojoy Sen
Publication: Sage Publications (2015);
Pages: 347, Price: Rs.995/-

Arijit Das[1]

Dissected and discovered. Well, this can be the equation after going through all the sections of the book. This volume has precisely described the changing state of media in India and China, portrayed each other's approaches in reporting, Western media's sneakiness, enlightened the hypocritical media techniques, focused on too much of nationalistic diplomacy in the bilateral relations. The book has illuminated the murky journalism in and between these two big Asian giants. It has sincerely asked for noble ways to maintain harmony and prosperity.

It is published at a crucial time, edited by Robin Jeffrey-Visiting Research Professor and Ronojoy Sen- Senior Research Fellow, both currently at the National University of Singapore. The book is a sum of the writings by current and former journalists from India, China as well as the Western world.

The two editors of the book have penned the introductory part, where some similarities and differences between the media in India and China are outlined. In similarities comes vastness of the news manufacturers, dependence on advertising, experiences of the daily news gatherers, 'fog of distrust' among the Chinese and Indian media. Differences are patterns of language, control and regulation system of media, responsibilities and duties of the media professionals in the two countries. While talking about the responsibilities of the media it has been cited that 'to promote development and harmony', 'to search for truth or to keep politicians honest' is the general response Chinese and Indian media gives respectively. Here it is laid out how to overcome shortcomings in the media coverage, which can boost the relation between these two neighbours.

1 Indian Institute of Mass Communication, Delhi [INDIA]. | email: arijit.das047@gmail.com

The book is divided into four parts viz. Structures, Reporters, Practices, Dissections. In the section 'Development and Communication: The Evolution of Chinese Media', Li Yang has given details about the state of media from 1949 till the present. It is mentioned that earlier media in China were mainly used for mobilizing the people to contribute to socialist construction. However, after the downfall of the 'Gang of Four' with Deng Xiaoping gaining power, development in media and other fields started happening. Since then the growth rate of Chinese has been unprecedented with drastic transformation in media's attributes, journalism concepts, ownership structure, functions and daily operations. Media enterprises focused on the interests of the audience in order to gain financially and this commercialized approach changed the nature of Chinese media. The upliftment of media as a 'tool of class struggle' to 'tool of public opinion' has been discussed broadly mentioning that now in China, media has a two-way function viz. educational and watchdog function. Media in China is seeing the paradigm shift from 'all State-owned' to business investors-owned. It is also shown how the media landscape has changed with the addition of 'New Media' and how the Chinese media is approaching towards its mission 'Go Global'. Overall, this part states how Chinese government encouraged constructive communications within the society. The writer believes that media is playing and will play a huge role in giving China its unclaimed glories.

In the next two sections of the 'Structures' part , Robin Jeffrey and Nalin Mehta talk about the patterns of Television and Newspaper organizations in India. Jeffrey draws a very interesting comparison. It says in China, a single writing system unites communities whose spoken language may have been unintelligible but in India different scripts divides public whose spoken languages may have been fairly similar. The ownership pattern, circulation, readership, the technological uptake, advertorial space in newspaper organizations is discussed with statistical charts. 'Paid News','Emergency' period,'Regulations' are the areas which are covered. He has also highlighted the hypocrisy of the news organizations. 'India's journalists were overwhelmingly upper-caste Hindus', states the fact. He points to a very fascinating fact that till 2014 there appeared to be no Dalit or Adivasi, in any top editorial position on any major dailies nor in Indian newsrooms as well. The discrimination is very clear even in the fourth pillar of our Constitution. It has been strongly said that Indian dailies have a future but limited.

Mehta speaks about the Indian Television system. He has shown logically and statistically, television as an emerging 'preeminent cultural force' in India and says it is believed that corporate India is purchasing Indian television but digital media has made the ownership quite irrelevant. Here, the two models of India television are designed. First is highlighted that Indian TV is characterized by intense competition and fluctuating fortunes. The other one is the complete network dominance in Andhra Pradesh, Karnataka and Tamil Nadu where Sun has held exceptional power. But to have a true picture one must look into the news television sector also. The tendencies in the news TV business are particularly different in comparison to the larger entertainment industry. Political involvement and influences in the news industry is common like any other country. The writer has profoundly mentioned that in the last decade generally three types of people invested in news television such as politicians, real estate, chit fund and money market companies and large corporations. Mehta has made a witty remark saying much like the political honchos, people invest in the news market as they see it as an instrument for fostering their other interests. An apt quote by Mao has been put which says 'Let a hundred flowers bloom, let a hundred schools of thought contend'.

Ying Zhu in the fourth section of part one has written on 'China's cultural war against the West'. This chapter has focused on the China's culture war against the Western cultural and entertainment products. This has also turned into a battle between the privately owned new media and the state-controlled broadcast media both competing for preferential policies from the state. It states that the real war is between the mandate of a cultural tradition and political system with motives of maintaining morality, political control and profit maximization.

Part 2 named 'Reporters', where John Zhou and Anshuman Tiwari have presented the portrait of a Chinese journalist and an Indian journalist respectively. Tang Lu and Ananth Krishnan have broadly discussed the mediated misunderstandings, misperceptions in Indo-China relations in this part. In this whole segment the significant factors to improve the Sino-India relationship has been the matter of discussion. A genuine problem is pointed out that the consumers of the news fully accept negative news about China or India appearing in their media. In addition to that, the public diplomacy efforts from both the countries are very inadequate relating to the response of any wrong reports. This fact is very true which one can easily see quite often. This part highlights the lack of proper reporting and too much aggressive media reporting of India and China against each other has made the things worse. Thus, it is very important to understand the nature of media in both the countries for public, government and media professionals, mentioned repeatedly in this portion.

Practices section has started with ‘China in Times of India’ by Ronojoy Sen. In this chapter Sen has examined how China has been covered from the opium trade to the Communist revolution, the rise and fall of Indo-Chinese relationship by Times of India (TOI). It has documented the way of reporting on China by the world’s highest circulated English daily.

Srinjoy Chowdhury has nicely explained the differences in the functions of media in the land of the Mandarins and the land of the Mughals under the heading ‘The view from an Indian television newsroom: What makes us different?’.

Danny Geevarghese , Chief News Editor at CCTV News in Beijing has unraveled the idea of India in the Chinese editorial spectrum. The Depsang incident of 2013 has been discussed highlighting each other’s take on the issue. ‘We don’t care about India’ attitude at CCTV has been enlightened with the statement like India ‘not an editorial priority’. The instruments of soft power of India and China are also in the discussion.

John Jirik has talked about the relationship between CCTV and Reuters. Here the author has examined the history, actuality and implications of the CCTV-Reuters relationship. The content analysis of CCTV news content and Reuters’ stories about China has been done. Overall, hard and soft news was 48 and 52 per cent respectively. Reuters’ story on China was primarily hard. Overall 67 per cent of stories were hard and 60 per cent of domestic news was hard. Though, the belief is that both sides benefited from the relationship. He says Reuters has become an agent of China’s soft power and has reflected reality. He has also firmly mentioned Reuters as a propaganda tool of the CPC and Chinese government. The risk for Reuters is that CCTV wants to be a global power in its own right and compete as a news wholesaler. CCTV must take measured steps towards that, the author warns.

Subhomoy Bhattacharjee has spoken about the Indian newspapers’ business reporting since independence and handling of the China story related to trade and commerce. He believes that the dominant theme in the business coverage of both the countries will be the race for minerals. The media needs to handle it very carefully prioritizing the solid economic issues rather than mere political ones.

The last part is ‘Dissections’. Ming Xia has presented a case study on ‘Sichuan Earthquake’ in the first segment of the last part highlighting how the media empowered the weak and marginalized protestors. He has given a dynamic model to illustrate a complex competition between the protestors and the government. This chapter has explained how the media has quickly switched from being the traditional helpmate of the government into an ally of protestors against the government interests during an unexpected crisis in China.

In the next part, Anup Kumar has accounted the response to the Uttarakhand floods in 2013. He has shown how the media and officials literally failed to handle such a crisis. An understanding of the ‘anatomy of disaster’ is given. The author laments still nothing has changed; there has been no shift in hegemonic developmentalism .

Jonathan Benney and Nimmi Rangaswamy have given an interesting comparison of social media in China and India. In this chapter, the authors have explored two corresponding case studies –weibo in China and SMSGupShup in India. Here, they have tried to answer two important questions: Whether social media can function as a means of democratization in China and in India, whether it can act as a tool for development.Although, it is understandable that social media is not enough to make substantial changes in both the countries.

Simon Long has ended the last section under an interesting heading ‘Shooting the Messengers’. This chapter has examined the common preconceptions about media’s role in Indo-China relations. Simon has charged all three sets of press outlets-Chinese, Indian and Western for creating distrust and tension between the two countries. Mistakes, inaccuracy, one-sided reporting are the major reasons for such a relationship, the writer believes.

This book will surely come of help for the researchers, journalists, diplomats and public who really want to seek knowledge about the mediated society and media culture in India and China.

Communicator 2014- Abstracts

Behaviour Change Communication: A Social Marketing Framework for Sustainable *Swachh Bharat*

P H Rao & P Prathyusha

The economic cost of poor sanitation and hygiene in India is enormous. Previous sanitation interventions had limited success due to the main thrust on constructing toilets. People are willing to invest their own resources in building toilets, which also is an important factor in using them and maintaining them. Interpersonal communication is the most effective strategy in changing behaviour be it use of individual household/community/public toilets, washing hands or segregating solid waste. Lessons, behaviour change-social marketing framework, present and desired behaviour of different stakeholder groups and capacity building requirements for making the Swachh Bharat Mission a success analysed in this study.

Democratisation of Communication for Social Development: A Case Study of the Communist Movement in Kerala

M S Priyamol

The present study examines the specific features of the communication practice and propaganda techniques of the Communist Movement in Kerala and its significance in development communication studies. As an alien, Western and atheist concept, communism was totally unfamiliar to a caste oriented feudalistic society like Kerala. Within a short time it was disseminated throughout the society ranging from the illiterate villagers to the urban elite. Though an alien concept, this ideology was successfully propagated among the public in an effective manner. The communists utilised all media resources like theatre, press, publications, art forms and word of mouth to reach each and every sector of society. The most striking feature of their communication practice is that they successfully exploited and manipulated all available channels of communication in service of their propaganda. The findings of this study suggests that by the effective utilisation of all available media in society they successfully democratised the process of communication and ensured public participation in the social reformation process.

The Role of Media in Pre-Cyclone Preparedness and Post-Cyclone Recovery in South Odisha: An Exploratory Study

Manoj Deori & Neena Baruah

In 2013, when the India Meteorological Department (IMD) announced the arrival of super cyclone "Phailin" that was to make its landfall at Gopalpur, Southern Odisha, the state begun preparations with the target of achieving zero casualties. Since the alert was given well ahead of time, it perhaps helped save many lives since the state government took immediate steps to evacuate and make necessary arrangements to scale down the magnitude of the damage caused by the super cyclone. Approximately 900,000 residents were evacuated to shelters in schools, colleges, universities and government offices. Authorities also moved food, water and medicine close to the affected areas before the storm. Phailin being the strongest tropical storm to hit Odisha in more than a decade, such preparedness contributed in bringing down the number of casualties in 2013 as compared to that of the last super cyclone which hit coastal Odisha in 1999, leaving 10,000 people dead and causing huge loss to property. After the super cyclone Phailin, the authors conducted a post disaster study to find out how the natural disaster affected the residents who were directly impacted. The survey was then reviewed to determine the usefulness and role of media during such an event. The authors also studied the media's role in helping the residents in pre-disaster preparedness and post disaster recovery which perhaps helped reduce the devastation and destruction that Cyclone Phailin could otherwise have caused. The authors also stressed upon the importance of establishing an effective relationship between government and non-government disaster mitigation groups and the scientific community and with the media to reduce risk during such disasters.

Indian Culture as Represented in Current Persian Travelogues

Maryam Papi

In the cyber era, almost every traveller has a chance to share the experience of travelling with others. Despite the altered form of those new emerging travelogues, the purpose of writing remains the same. This study attempts to achieve a social analysis of the modern travelogues (texts) which are written on India by Iranian journalists. The main purpose of this research is to realise the mindset of Iranian journalists (as the representatives of Iranians) about Indian society. This study helps us to know how the two cultures are close and able to communicate with each other.

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