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POLICY PROGRAM CONFLICT OVER NATURE CONSERVATION
AND COMMERCE: WORLD LARGEST MANGROVE IS THE
VICTIM DUE TO THE OIL SPILL



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Dedicated To...
My Beloved Friend
Sheikh Mohammad Hadiul Islam
(Rest in Peace)



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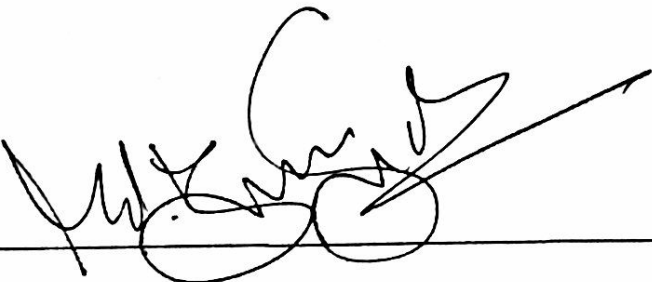
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APPROVAL

Project thesis submitted to the Forestry and Wood Technology Discipline, Khulna University, Khulna, Bangladesh in partial fulfillment of the requirements for the 4 years professional B.Sc. (Hons.) degree in Forestry. I have approved the style and format of the project thesis.



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DECLARATION

I, G. M. Masum Billah, hereby declare that this thesis paper submitted for the B.Sc. (Honors) degree in Forestry at Forestry and Wood Technology Discipline, Khulna University, Khulna, is my own work and have not previously been submitted to any other institution.

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ABSTRACT

Policy change trends are always important topics in policy analysis research. Political goals are set in accordance with the prevailing context and issues in environmental politics. Policy change claims may resonate with popular symbolic discourses. An oil spill is a challenge in Bangladesh. It is believed that mass media is a powerful channel of political communication, and hence has been a platform of different political actors in communicating their perception on certain issues. Oil spill discourse is not limited to the scientific or political sphere, but have become a popular topic for media as well in Bangladesh. In this study, media discourses from December 2014 to March 2015 from the "The Daily Prothom Alo" of Bangladesh are analyzed. A quantitative, qualitative content analysis of newspaper articles on oil spill topics was the chosen methodology. The oil spill discourses in the print media of Bangladesh were around the crisis argumentation i.e. the Sundarban forest of Bangladesh was in a crisis. Journalists are the strongest influences in the print media and primarily shape the discussion around the oil spill problems in Bangladesh. The scientist, NGO, and the international organizations only said that it has a large impact on biodiversity and others are remaining constant. Stopping the transportation system through the Sundarban the scientist, NGO, and the international organization was given statement to stop the waterway system in the forest. But the political government, BIWTA, and the commerce were strong influence of changing the policy. This study finds that the presence of center political actors like politicians and administration does not have much media standing in oil spill discourse and hence have limited influence or interest in the formulation of oil spill discourse in the Bangladeshi print media.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The Sundarbans, it is one of the largest mangrove forests in the world with an area of 6,017 sq km. It is approximately 4% of the total land area of Bangladesh. It is distributed on the Ganges River delta in the Bay of Bengal. And it is the largest tidal halophytic mangrove forest in the world. The Sundarban is a unique mangrove ecosystem, recognized as a site of national and international importance for conservation of biodiversity. This forest is a totally independent "Biom", and is rich with different bio-diversities and a great number of varieties of Flora and Fauna species specially wild life (Rahman 2009). The Sundarbans, due to the abundance of wildlife habitat, epic characteristics, unique ecosystem and largest the mangrove forest it has been declared as a World Heritage site in 1989. The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant mangrove forests, and presents an excellent example of ongoing ecological processes. There are three wildlife sanctuaries in the south cover an area of 139,700 ha and is considered core breeding areas for a number of endangered species. Situated in a unique bioclimatic zone within a typical geographical situation in the coastal region of the Bay of Bengal. Bestowed with magnificent scenic beauty and natural resources, it is internationally recognized for its high biodiversity of mangrove flora and fauna both on land and water.

The site supports exceptional biodiversity in its terrestrial, aquatic and marine habitats; ranging from micro to macro flora and fauna. The Sundarbans is of universal importance for globally endangered species, including the Royal Bengal Tiger, Ganges and Irrawaddy dolphins, estuarine crocodiles and the critically endangered endemic river terrapin (Batagur Baska).

It has good physiological and morphological adaptation process in different extreme condition, i.e. strong winds, high salinity, extreme tides, high temperature and muddy, anaerobic soils for that reason it is recovered many times in the excessive condition like SIDR, Oil Tanker Disaster in the Eastern Sundarbans.

It plays some important functions in the forest ecosystem which are associated with the nearby marine environment and helps to atmospheric carbon sequestration, nurseries and adult habitat

for shrimp and recreational fisheries, exporters of organic matter to adjacent coastal food chains, and enormous sources of valuable nutrients.

1.2 RESEARCH OBJECTIVES:

- To identify the forest policy change through media.
- To identify which role is important to change the policy.
- To identify the policy outcomes.
- To know that which waterway route has less impact on environment.
- To know how media discourse on the oil spill issues influence the society.

1.3 RESEARCH QUESTIONS:

1. What are the substantive and symbolic policy changes during the oil spill incidence?
2. How did the Bangladesh print media shape discourses on oil spill issues?
3. What are the policy outcome regarding commerce Vs. environment?
4. What are the effects on the environment because of oil spills?
5. Which speaker gives comment on which perspective?

CHAPTER TWO: THEORETICAL FRAMEWORK

Policies are the result of political processes and are affected by various social, economic and environmental factors. They are made or changed within a social context. Public policy decisions claim to respond to particular issues within the relevant social, economic and environmental contexts. However, these contexts also change with time. Practitioners of policy science perceive policy analysis as the understanding of the changes and stability of the policy process in relation to outcomes in accordance with influencing factors (Giessen 2011). Policy change is actually a large-scale social, economic and political change attributable to the interactions of people within the policy community; these interactions are based on power and interests (Hecllo 2010). Hence, communication plays a very important role in politics or political processes. In one sense, politics is communication, i.e., sending, receiving and processing of politically relevant or significant messages. Through the study of political communication it is possible to gain insight into political processes and their outcomes (Chaffe (1975))

In modern day society, media systems play a vital role in shaping the social context in which policies are made. The media act as mediators in the information exchange between policy decision-makers and people affected by the policies. The mass media always keep track of government issues and the public's reaction to those issues (Miller et al. 1979). Therefore, media discourses are important indicators of public opinion. In addition to influencing public opinion on certain issues, the media also scrutinize governmental affairs critically, acting as the "Fourth Estate" of government to ensure governmental accountability to the general public (McChesney 2003, Barker 2005). On one hand the media provide a means for everyone to express and organize their opinions so as to influence policy decisions. In this process the media provide the stage where the aggregate of stakeholders' opinion, interest, and viewpoint can be found (Kleinschmit 2012).

On the other hand, the media also control the political media discourse and regulate the flow of information, through selection or filtering, and try to exert control over issues. Which issues the media focus on most intensely often determines which issues will be the focus of policy makers (Linsky et al. 1986, Hilgartner and Bosk 1988, Berkowitz et al. 1992, Soroka 2002, Barker 2005).

As mentioned above, these media could have the ability to influence forest-climate policies. However, there is debate among scholars within this field concerning the function of the media in policy processes: some believe that the media have an insignificant role, and others, that media influence on these processes is monolithic (Barker 2005). For this reason, proper scientific research is required to identify the extent of the media's role in the oil spill impact on environment or every ecosystem.

2.1 MANGROVES IMPORTANCE

Mangroves creates a wide range of features which make them uniquely adaptable to their stressful environment (e.g., they are halophytic trees or salt tolerant species, seeds that germinate on the tree and have aerial roots for gathering oxygen). Irrespective of the wide range of species and diversification and forest types, the manifold ecological role of mangrove ecosystems is social, economic and conservation, that are highly significant. Mangroves are familiar for their high biological productivity and their attending importance to the nutrient budget of adjacent coastal waters. They export high organic matter, mainly in detritus Form (leaf litter) to the marine ecosystem, thus providing a highly nutritious food source for themselves and for the animals which found in the mangrove areas -- as well as for those in neighboring the Estuarine and marine ecosystems. Thus, they support not only local but also commercial fisheries yields (Camillee 1998).

The Sundarbans Reserve Forest of the Bangladesh, the world's largest mangrove forest which provides a variety of ecosystem services. The contribution of the Sundarbans Reserve Forest of the Bangladesh to the national economy or GDP that has not been evaluated so far. The major providing services of the Sundarbans are timber, fuel wood, and fish, thatching materials, honey and waxes. And the main culture service is tourism. The providing materials and cultural services or Ecotourism provided by the Sundarbans contributed to the revenue of the Forest Department on an average US\$ 744,000 and US\$ 42,000 per year respectively during financial year 2001–2002 to 2009–2010. The revenue collection from the Mangrove forest products and tourism sector showed an increasing trend except for the timbers (Uddin et al. 2013).

The Mangrove forest which is very rich in biodiversity and it supports ecologically by different type of species about 27 families and 53 species of pelagic fish, 49 families, 124 species of

Demersal fish, 8 species of lobster, 3 families and 7 species of crabs, 5 families and 24 species of shrimps. A total 334 plants, 13 special orchids, 165 algal, 87 monocotyledon, 17 fern and 230 dicotyledon belonging to 245 genera and 75 families are found in the Sundarban and adjacent areas. The main tree species is Sundry (*Heritiera fomes*) which covers about 73% to total areas of the Sundarban and the second tree species is Gewa (*Excoecaria agallocha*) which covers about 16% of total Sundarban forest areas. The plant species include 29 grasses, 19 sedges 35 legumes, and 18 euphorbias.

In the world 50 true mangrove plant species recorded, and the Sundarbans alone contain 35 species among them. The comprehensive among the animals on land is Royal Bengal Tiger, Spotted deer, Ganges River Dolphin, Barking deer and Wild boars are there in abundance. Besides those Monkey, Jungle cats, Civet cat, Fishing cat, Water monitor, Bengal fox, Jackle, Monitor lizard and snakes are important faunal spp. Moreover, The abundance of the Sundarbans are Rose ringed parakeet, purple heron, pond heron, little egret, open billed stork, Brongo, cattle egret, smaller little egret, adjutant stork, Brahmini kite, Spotted dove, crow pheasant, Bee eater, Jungle myna, Tailor bird, Pide myna, Bulbul, ,Sparrow, Magpie robin, wood pecker etc. Otherwise, recorded that 5 species of mammals, 2 species of deer ,wild Buffalo, 14 species of reptiles, Javan rhinoceros extinct and presently 2 species of amphibians, and 25 species of birds are considered as endangered species (Rahman and Asaduzzaman 2013).

2.2 POLICY CHANGE AND POLICY STREAM:

The theoretical concept of policy change, a key concept of this study. Forest policy change was approached in more pragmatic way, which is focused on policy outcomes (Giessen 2011) also mentions that policy change analysis is basically the analysis of policy change outcome and its processes. Hence, the forest policy changes for this study are understood to include both substantive and symbolic change. Substantive policy change is defined as a change in policy goals and/or implementation that responds to particular issues, in this case forest issues and problems. Such changes may be made in an incremental fashion or through a radical approach (Voitleithner 2002, Krott 2005). Symbolic changes are defined as changes in the policy programme meant to accommodate new ideas or to set up new policy goals, but without adequate means for implementation. There has always been some discrepancy between publicly

announced policy goals and their implementation in almost all political systems. As Gustafsson points out, many policy decisions are announced but not meant to be implemented, meaning that the policy announced is merely symbolic (Gustafsson 1983). The analytical policy programme model is based on the theory of quality information of policy programmes by (Krott 2005) Therefore, an understanding of the concept of "policy programme" is imperative before the introduction of an analytical policy programme model. According to (Krott 2005) "*A (Forest) policy programme constitutes statements by (forest) stakeholders made in a social context concerning the utilization and/ or protection of forest.*" He explains that the boundaries of a forest policy programme include corresponding pieces of legislation, as well as administrative guidelines and concepts. He later adds components which affect the informative effectiveness of the policy programme (Krott 2005).

2.3 ANALYTICAL POLICY PROGRAMME

"Policy programme" can be empirically analysed using the following 4 criteria: issue, objective, impact and implementation. Specific issues are considered to be the starting point of a forest policy. These issues are generally supported by facts as well as by forecasting simulation, which justifies the requirement for intervention and, hence, the importance of a policy programme. When an issue has been authenticated, a programme sets its objectives and/or goals to address the problem. In policy terms, a problem can only be defined as such when it is recognized by the state with a basis in facts and with defined objectives and preconditions. A forest policy programme may have both formal and informal objectives (Krott 2005, Kingdon (2003)). Forest policy programmes in tropical countries discuss the degree to which forests should be conserved and how many trees should be planted, for example. The implementation stage clarifies the job distribution, i.e., who should do what for whom in how much time at what place. This stage establishes the responsibility and duty of different actors (stakeholders) related to the programme. The implementation stage describes explicitly the policy instruments of a given policy programme. Policy instruments are the bundle of techniques by which government authorities exercise their power to attempt to change society's behaviour to obtain the desired impact of fulfilling the policy programme objectives attached to a particular issue (Bemelmans-Videc et al. 2011) However, according to Krott, policy instruments are not only limited to public policy by

governments but also are a political means of intervention that formally influences social and economic action.

Regulatory instruments are the traditional instruments of governments that suggest norms and acceptable behaviour and limit certain activities in society (Lemaire 1998). Eventually, it is political intervention that formally influences social and economic action through binding regulation (Krott 2005) In the modern-day forest and environment sectors, regulation defines what can be done or what cannot be done in forest areas; regulation also defines the access rights and responsibilities of the involved stakeholders or actors in the forest and environmental sectors.

According to (Krott 2005), financial instruments are the means of intervention that formally influence social or economic actions through the exchanges of “economic values”; these economic values are made up of money, time, effort, services and goods.

An information instrument is the political intervention that formally influences the social and economic action solely through “information” (Krott 2005). Here, information comprises the measures undertaken to influence the target actors through the transfer of knowledge, communication of an argument, mobilization, advice, persuasion and similar actions (Van der Doelen 1998). Therefore, the presence or absence of communication strategies to fulfil policy programme goals is an indicator of information instrument change.

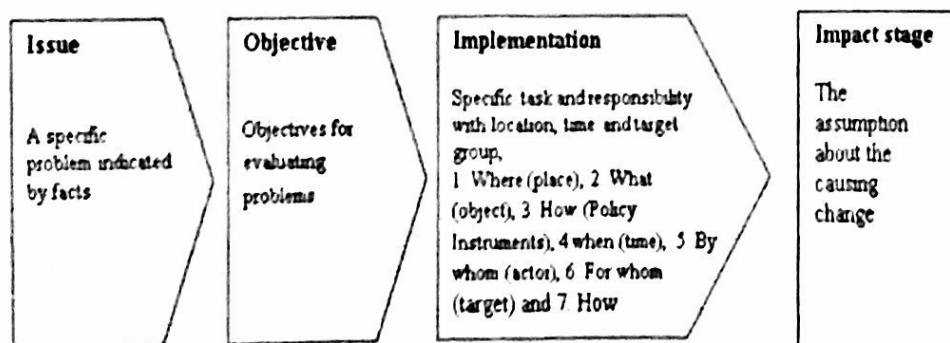


Figure 1. Analytical policy programme model (Sadath & Krott, 2012)

Implementing organizations and different actors are very important in analysing the implementation of a particular policy programme, and any changes in actor involvements and inter- and intra-organisational composition do have an impact on any programme's

implementation. The impact stage explains the assumptions of a particular programme. It includes the expected influence of instruments, target groups and their intended impact. These impacts can be characterized by object, direction and degree of changes within a certain time frame (Krott 2005). These are actually the assumptions regarding the effect of a certain set of policy-implementing tools in a specific condition. Ultimately, the analytical policy programme approach provides detailed insight into substantive policy changes. Figure 1 gives a brief but explicit picture of the analytical model of policy programme discussed above (Krott 2005).

2.4 POLICY COMMUNICATION AND MEDIA STREAM

The theory of policy communication that can be done by national and international print media. These articles use the media theory in relation to print media selection, media framing by different policy actors and the capacity of political actors to influence the media discussion.

2.5 MEDIA DISCOURSE

The term “media discourse” is a key theoretical concept of this study. Forest discourse in print media is understood as the communication on oil spill issues by different policy actors (both central and peripheral) in the national print media. Oil spill discourse in national and international print media as communication about topics and actors present in the print media that are relevant to the forest, biodiversity and mangrove ecosystem. This study conceptualizes media discourse as a social construction of reality; that is, discourse produces a specific picture of the issue on forest and climate change.

The media has been often recognized as a driving force of globalization (Sadath et al., 2012), but the literature on international or global media lacks a common definition. Many scholars refer to the international media within a technical context, e.g., new communications technologies or multi-national media industries (Held 1999). In regard to the topics on which international media reports, the definitions become more abstract, referring to the scope and composition of the audience (McQuail 2010). This study follows the definition by (Reese 2010), which states that trans- or international media are those that can obtain news from transnational sources and can address a wider audience, beyond national boundaries, such as the “International Herald Tribune” or the “Financial Times” (Reese 2010). In contrast, national media such as “The Daily Prothom

Allo” of Bangladesh is characterised by content by content that is local in language and substance, which provides the public sphere with a national perspective on Bangladesh (Rahman 2010). In recent years, the international and national media have shifted their focus from local and regional environmental issues to more global issues, such as global warming, ozone layer depletion and the extinction of species (Mazur and Lee 1993). Because of this shift in environmental reporting, it is important to question whether there is any link between the international and national media.

In relation to the policy process, different types of media have different strengths and weaknesses in fulfilling different functions. We can describe the relative effectiveness of old media as compared to new digital media in political processes. The “New” digital media is characterised by its openness for discussion and provides fragmented information (Kleinschmit 2010). The strength of the “old media”, e.g., newspapers, television, and radio, is its ability to aggregate and channel information. For this reason, these media types are still the ones opinion leaders and in particular, political decision makers, rely on when searching for indicators of public opinion (Kleinschmit and Krott 2008). However, newspapers, as well as the other “old media” are an actor with political interests of their own. Consequently, the selective function of newspapers, i.e., deciding which information becomes news and which not, follows specific rules (Kleinschmit 2012). Political actors know about these rules and adapt to them when competing for media attention. In this way, the reported reality is already a constructed reality, adapted to the media rules. Usually the idea of the media discourse is based on the concept of the nation state.

2.6 MEDIA AND POLICY

We assume that the dynamics of oil spill discourse in the print media are a good indicator of the media attention on forest issues over time. That can then be compared with forest policy changes over time to ascertain the relationship between the two. Forest policies are related to social, economic and environmental factors at a given time. These factors also change with time, which may create demand for new policy. As a result, both symbolic and substantive policy changes are evident. These theoretical assumptions are complementary to the other policy studies by (Hecllo (1974)), (Giessen 2011), (Sotirov and Memmler 2012). (Sadath and . (2012).) public opinion plays a key role in policy decision-making because the government requires public support and acceptance to legitimize their decisions and to show that they attach importance to

public concerns. If we take the media to be a mirror that reflects the public opinion, then the media play a vital role in presenting the general perception on any issue or event, particularly a crisis event. The public discourses on crisis events in environment and forest issues that are supported by the media do have chance to influence policy decisions. (Kleinschmit 2012) makes similar arguments. In addition, communication is imperative in politics or in political processes. Sending, receiving and processing politically relevant or significant messages is vital in policy processes (Chaffe (1975)). In such a process, the media become the providers of a public sphere (Habermas (1998)) wherein the aggregate of stakeholders' opinions, interests, and viewpoints are found ((Kleinschmit 2012). The media also perform critical scrutiny of governmental affairs: that is, they act as the "Fourth Estate" of government to ensure governmental accountability to the general public as mentioned by (McChesney 2003), (Miller et al. 1979). The media have their own selective mechanism to decide which aspects of a certain issue will be reported and which will not. In this instance the media are selective in reporting forest issues in Bangladesh according to their selection criteria, which, according to the media theory, is called "newsworthiness" and is dependent on several news factors (Weingart 1998).

The oil spill media discourse for this study is understood to be the communication about topics and actors present in print media that are relevant to forest issues. These forest issues and discussions are selectively presented and sometimes framed in the print media in Bangladesh. It is clear that the media provide a constructed reality. This perceived reality provided by the media has some power over the political process. In particular, the print and television media have very broad reach and can influence public opinion on certain issues. In this scenario, the media are a factor in policy decision making, as the centre actors of a political system need to legitimize their decisions publicly, as observed by Krott and Kleinschmit (2008). However, the extent of media influence over policy process is still debatable. Robinson (2000) devised the "policy-media interaction model" to determine the media's power over policy process. According to Robinson, when the government has a clear and well-articulated policy objective, the media have no influence over policy, rather, the government tends to set the news agenda and shape the media discourse. But when there is uncertainty in policy objective definition, the media do have influence over the policy process. In absence of clear, well-articulated policy lines the government is vulnerable to extensive media attention to an issue, and tries to respond to carefully framed media discourse (Robinson, 2000). In addition, heightened media attention on a certain

issue, like deforestation or wildlife conservation, sometimes may prompt policy attention/intervention/change (Yanovitzky, 2002) . Based on this theory, (Sadath & Krott 2012b) poses the final hypothesis of the study: "*media discourses on certain forest issues will initiate forest policy change in Bangladesh*". This will in turn determine whether media is a driver for forest policy change or not.

2.7 CONFLICT BETWEEN FOREST CONSERVATION AND COMMERCE

Decision makers need updated, scientifically sound and relevant information to implement appropriate policy measures and create innovative commitments to halt biodiversity loss and improve socio economic and human well-being (Sarukhán et al. 2015). The conservation community increasingly views that the corporate sector as a positive force for conservation. Collaborations between corporations, nongovernmental conservation organizations (NGOs), Political parties and the Commerce's seek to mitigate the negative effects that corporate the activities and augment positive conservation outcomes (Robinson 2012). The conservationist gives higher priority on biodiversity but the commerce they can't give priority they only think the economic perspective. The commerce peoples can easily change the policy to their own interest.

CHAPTER THREE: METHODOLOGY

Content analysis can be defined as the method of elevating social reality, with both a manifest text and a non-manifest context. According to (Krippendorff 2012), it is the research technique for making valid, explicative inferences from data about their context. In addition, content analysis is the appropriate method used to objectively reveal the significant text, word, or symbol within a large volume of newspaper text (Neuman (2006).). As this study tries to analyses the political communication regarding oil spill issues in the media discourse, content analysis was chosen as method. To analyze how oil spill impact on biodiversity in forest has been discussed in the national media discourses, one reputable daily newspaper “The Daily Prothom Alo” was selected. The Daily Prothom Alo is selected because of its popularity in society and its ability to reach political elites and decision-makers.

In addition The Daily Prothom Alo publish articles with a broader range of issues and subjects including environment, politics, culture and sports (Ahmed 2009). Relevant articles from The Daily Prothom Alo was collected manually using the national library archive of Bangladesh. The search was limited to the years December 2014 to March 2015. The database search for relevant articles was performed using the keywords ‘Oil spill in Sundarban’. The found articles were then screened for obtaining the relevant articles for analysis. The articles must have at least one paragraph that deals with oil spill issues of Bangladesh to be considered as a sample article for analysis. As a result “The Daily Prothom Alo” of Bangladesh yielded 91 articles and 32 statement.

Quantitative-qualitative content analysis was then performed on these newspaper articles to determine their general impression regarding the oil spill issues of Bangladesh and participation of different political actors (both central and peripheral) in those media discussions. A coding system was developed for this content analysis. In terms of validity and reliability of content analysis coding system and coding procedure is very important. The codes should be mutually exclusive and well defined. For this study a latent coding system has been adopted (Neuman (2006).).

To ensure the equivalence reliability of the data, multiple content coders were ensured with consistency of coding. This coding system used two units of analysis: the article and the statement. A statement refers to, what has been spoken by an analysis: the article and the statement. A statement refers to, what has been spoken by a certain political actor (speaker) on the selected this issue. First, the articles were coded according to date, media, sources, news factors, event, and newspaper section. Second, at the statement level, each speaker was placed in one of the following categories: politicians, civil administration, forest and environment administration, scientist, journalist, forest enterprise, forest and non-forest non-governmental (NGO), local people, Non-government Politician, and BIWTA.

3.1 SELECTIVITY OF THE PRINT MEDIA

The print media is very selective in the processing of news. The selective function of newspapers decides which information becomes news and which not, following specific rules. It emphasize that the media's selection process influences oil spill discourse in the print media. These selection criteria are often considered to be the "newsworthiness" of certain issues. This study considers that events, proximity, controversy and balance regarding forest related issues are the major selection criteria for print media in reporting such kind of issues. Sometimes the inclusion of prominent figures also plays a factor in the selection process. The types of event reported play a particularly vital role in news formation. Political actors are well aware of the selectivity of print media and therefore adopt the types of argument that will ensure their presence in the media discussion to then shape the media discourse to favor their interests. Based on this discourse theory oil spill plays as a print media system.

3.2 SPEAKERS AND MEDIA FRAMING

The study of oil spill discourse in relation to forest policy is not complete unless proper consideration has been given to the speakers/actors who shape the oil spill discourse in the media. It define that speakers as different actors/stakeholders whose views are expressed in the print media. The presence of a certain actor in the media as a speaker is called media standing and is a very good indicator of his/her capacity to influence the media discourse. The increased presence of particular actors in the media provides them with a greater opportunity to shape discourse.

Similarly, a study by (Feindt and Kleinschmit 2011) stressed that the media standing of different actors is important in shaping politically motivated discourse. Both the public and private stakeholders like to have a better standing in the media to legitimize their standpoint on this issues. In policy science terms, public stakeholders, like politicians, the judiciary and the administration (both forest and civil) are considered to be central actors. In contrast, journalists, NGOs, scientists, social activists and social groups are considered to be peripheral actors in a political system. This definition of central and peripheral actors is based upon the work of (Peters 1993), (Habermas (1998)), (Park 2009), (Kleinschmit and Krott 2008). As the Bangladesh forest sector is dominated by the public sector, poses the hypothesis that *“the centre actors shape the forest discourses in Bangladesh print media”*.

Therefore, to make framing work, one must select specific “aspects of a perceived reality and make them more salient in a communication text, in such a way as to promote a particular problem definition, casual interpretation, moral evaluation, and/or treatment recommendation for the item described” (Entman 1993). Framing highlights particular pieces of information about the subject, thereby assigning more importance to those pieces than to others (Prittwitz 1990, Entman 1993). The framing of forest climate issue by different actors in the print media at the national and international political levels may be different, as the problem’s definition, perception and interest for a single state that is heavily affected by oil spill impacts might be different from an international perspective. This theoretical assumption of complements studies by (Takahashi 2008) and (Kingdon (2003)) in which they suggest that public opinion on the same issue may differ with location. In addition, the audience of the global media is different from that of the national media, and every media outlet is very careful to satisfy their audience or readership; thus, the framing of similar issues (Gerhards 1994); (Boykoff and Boykoff 2004) may be different in the print media at the international level when compared to the national print media. *“[...] the media actively frames oil spill and its impact issues. Therefore, how the issue is presented depends on the media; hence, the framing of national media is different than that of international media”*.

We assume that this strategic media framing is influenced by the strengths of the actors, which are not only limited to their status and resources but also depends on how much value they bring to forest and climate issues. By combining these three factors, the standing of a certain actor or

a group of actors is determined in the media discourse, i.e., the strength of a certain actor or group of actors having a voice in the media in comparison to others (Feindt and Kleinschmit 2011). In this study, we used speakers as political actors. The frequency of the appearance of a certain actor in the media as a speaker on a certain topic or field is a good indicator of media standing. The higher standing of a certain actor in forest and climate media discourse provides that speaker with more opportunities to shape and/or frame the discourse in accordance with his or her interests or viewpoint (Sadath et al., 2012). In depicting certain events, the speaker stresses some aspects of a situation and downplays other aspects (Schäfer 2008), which in turn has implications for how the speaker might benefit from specific frames (Sadath et al., 2012). Based on this strategic framing theory, this study's last hypothesis is as follows: *"Topics and framing within the media are influenced by the actors that speak in the media. Therefore, strong actors and their interests can explain the content and the timing of frames in both the national and international media."*

3.3 PRINT MEDIA SELECTION

A reputable daily newspaper, "The daily Prothom Alo", was selected to represent the national print media of Bangladesh. "The daily Prothom Alo" covers a broad range of issues and subjects, including the environment, politics, culture and sports. The newspaper has a very long history and always been the first choice for the general people. 4th November, 1998 was a very lucky date for prothom-alo most Popular Bangla Newspaper. This is a day of redefining the newspaper industry of Bangladesh. Prothom-alo was started their journey as a local daily newspaper but now they are number one major daily newspaper in Bangladesh. Now it is considered as most popular newspaper in Bangladesh.

"The daily Prothom Alo" was selected because of the newspaper's popularity in Bangladesh and its ability to reach Bangladeshi political elites and decision-makers (Sadath et al, 2012). The print media selection for international media is critical, as the definition of global media is not very clear among scholars (Park, 2009) (Park 2009). To analyse the differences in how the print media frames the oil spill impact in the national and international media discussions.

3.4 COLLECTION OF ARTICLES

Relevant articles from “The daily Prothom Alo” was collected manually using the Prothom Alo Archive of Bangladesh through online. The search was limited to the years between December 2014 to March 2015 because the oil spill of Sundarban was occurred on 9 December, 2014. And this issue had been gaining momentum in international and national environmental discussions and subsequently, international negotiation had begun. For the oil spill discourse study, the database search for relevant articles was performed using the keywords ‘the oil spill in Sundarban’. The resulting articles were then screened to obtain the relevant articles with the screening criterion being the presence of at least one paragraph within the article linking the oil spill issues. As a result, “The daily Prothom Alo” yielded 91 articles with 52 statements. For the oil spill discourse study in Bangladesh the sample articles for the media discourse study were obtained from the “The daily Prothom Alo”, using the search key word “Oil spill Bangladesh”. Then the resulting articles were screened using as the criterion the presence of at least one paragraph within the article that would deal with this issues in Bangladesh.

3.5 CATEGORY SYSTEM

For content analysis, a category system is imperative. The categories are developed based upon relevant theory in order to answer the research question of the study. Each category should be precise and unique. One category should not overlap another, i.e., the categories should be mutually exclusive (Diekmann (1998)). According to (Neuman (2006).), researchers usually use two kinds of coding in content analysis for media study. The first is manifest coding, where researchers count the number of times a certain word or topic appears in a text. The second type is called latent coding, where thematic coding of text or statements on a certain topic is done. For this research a coding book was developed with many categories using the latent coding system. The first part of the categories describes the formal aspect of each article (print media, date, section of the newspaper, style, overall issues, event, balance, etc), the second part of the coding book deals with statements made by each of the political actors speaking in the article (speakers, victim, causer, helper, suggested policy instrument, and used frames). We are selected both categories for the analysis.

3.6 MEDIA ANALYSIS:

We use media content analysis as a methodology. The media analysis was also a part of the methodological study. The analysis deals with media discourse, the content of the print media, i.e., newspapers, is analyzed. The use of print media, considering the popularity of new media, like the Internet. Different types of media have different strength and weaknesses in fulfilling different functions. "New" digital media is characterized by its openness for discussion on the one hand and by its fragmented information on the other (Kleinschmit 2010). In comparison, aggregating and channelling information is the strength of the "old media", like newspapers, television or radio. For this reason these media types are still the ones opinion leaders and, in particular, political decision makers rely on when searching for indicators of the public opinion (Kleinschmit and Krott 2008). In addition, the selective function of newspapers, deciding which information becomes news and which not, follows specific rules (Kleinschmit 2012). Given this particular role of the print media, it is assumed that newspapers are better for a policy communication study as compare to new digital media. Therefore, this study analyses the content of nationally and internationally recognizable newspaper "The daily Prothom Alo" Bangladesh which are distributed globally.

3.7 CONTENT ANALYSIS

A qualitative approach of content analysis has been chosen, with relevant issues, objectives, implementation and assumed impact of policy programme as the four categories of analysis. Legislative, financial, and informational instruments and involved actors were the subcategories for the implementation category. Obtaining the relevant documents was the biggest methodological challenge in this study. The articles were coded according to date, media, sources, news factors, event, and newspaper section. Second, at the statement level, each speaker was placed in one of the following categories; politicians, civil administration, forest and environment administration, scientist, journalist, forest enterprise, forest and non-forest non-governmental (NGO), local people, Non-government Politician, and BIWTA.

The 91 articles and 52 statement which gives issues, impact on biodiversity, reducing the problems at minor level and the implementation technique. Only the Scientist, environmentalist, forest administration and the NGO's people gives statement that it has a negative impact on biodiversity. And the damage or loss cannot eradicate in a one day. And the politician and the commerce people they are telling it has no impact on biodiversity. These data ultimately provide the results that answer the research problem.

3.8 QUESTIONNAIRE ANALYSIS

During the oil spill incidence the policy was changed substantive and symbolic. And how the policy change in this sector? How the print media figure out this issues in their media coverage. How the the media reporters revealed oil spill the issue through the society. The oil spills effect on environment and how much it was affected. The policies outcome regarding commerce vs environment. We analyze this type of all questions.

CHAPTER FOUR: CASE DESCRIPTION

4.1 CATASTROPHIC EVENT OIL TANKER DISASTER IN SRF

A tanker (OT Southern Star) carrying a reported 357,664 liters of heavy fuel oil collided on 9 December, 2014, at around 5:00 am local time, with another vessel and partly sank in the Shela River situated within the Sundarbans mangrove region in Bangladesh. A major breach was made in the hull, causing oil to spill into the river and adjacent side channels and creeks. By the afternoon of the next day the oil had spread at least 20 km upstream to Mongolia and at least 20 km downstream to Horintana. The accident caused widespread concern for the Sundarbans ecosystem, which is the world's largest mangrove forest and has been a Ramsar site since 1992 and part of which is a UNESCO World Heritage site since 1997. Due to its richness of biological diversity the entire Sundarbans (6,017 square kilometres) is under some form of state protection. Furthermore, millions of Bangladeshis depend upon the Sundarbans for food, livelihoods and shelter. The oil spill took place within the Chandpai Wildlife Sanctuary which was recently established to protect important dolphin habitat. The location of the spill is shown in Figure

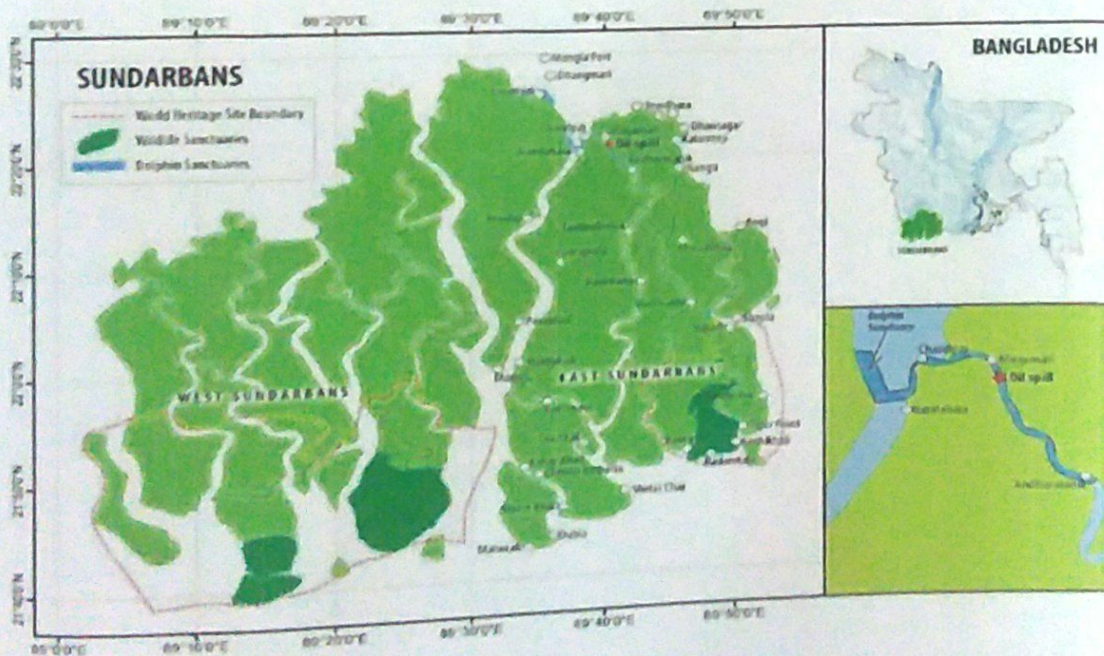


Figure 2. Oil Spill affected area

4.2 ECONOMOIC ANALYSIS OF ALTERNATIVE ROUTES:

We all know that there are mainly two route channels through the Sundarban for water transportation way. One of them is Ghasiakhali channel and another is a Shela River channel. Shela river channel is important because of wildlife sanctuary. There have been two wildlife sanctuary which is Chadpai and Dudmukhi among three wildlife sanctuaries. There are numerous number of wildlife and aquatic fauna. So this channel is important to conserve the biodiversity as well as the ecosystem. On the Shela river channel, there have occurred many co-incident like oil spill disaster, fertilizer ship sinking, coal ship sinking etc. It was affected the Mangrove environment and heavy loss of biodiversity. The Ghasiakhali channel, it has no effect on biodiversity like Shela River channel. The Shela river channel is the shortest waterway transportation route than the Ghasiakhali river channel to reach Mongla. If any co-incident will occur in the next time in the Shela River channel, it will destroy the mangrove ecosystem as well as biodiversity. So the policy should be changed for the conservation perspective.

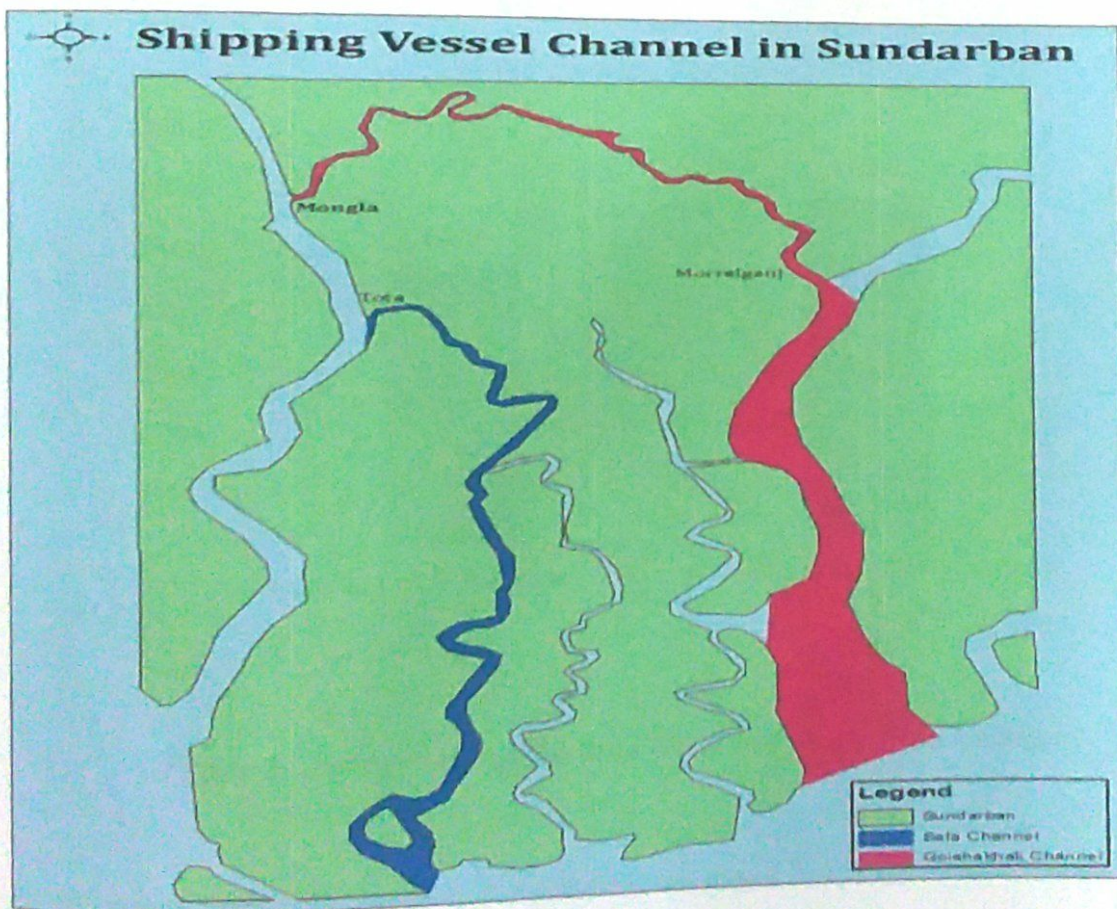


Figure 3. Vessel Transportation Route through the Sundarban

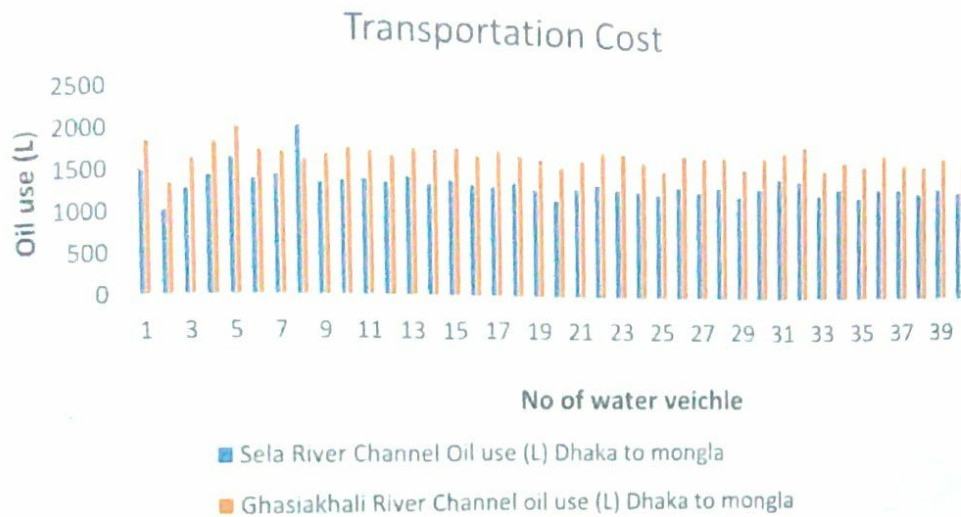


Figure 4. Oil Transportation cost between Shela River and Ghasiakhali River Channel

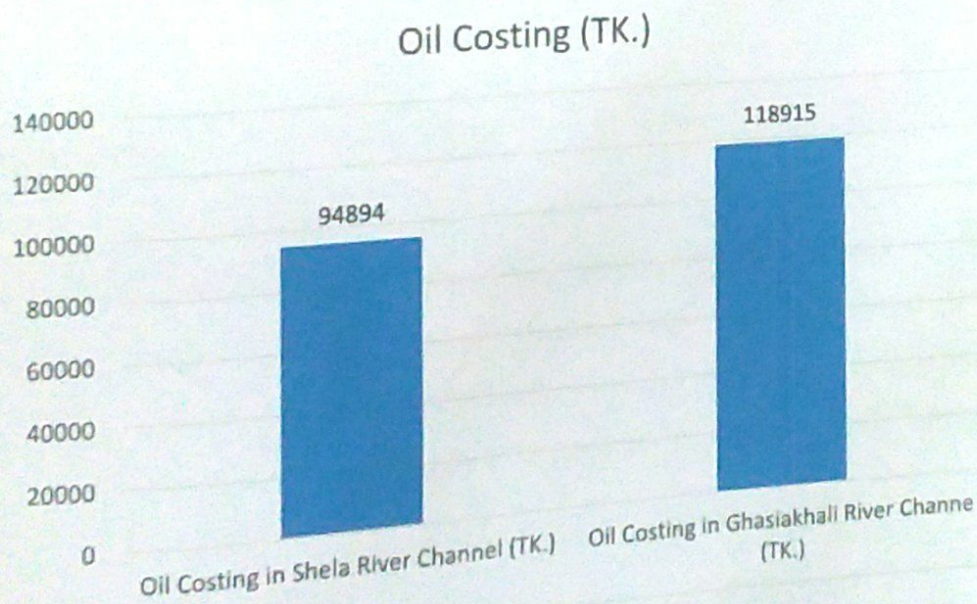


Figure 5. Average costing Between Shela and Ghasiakhali Channel

From the Vessel transportation oil costing survey, we found that Shela River Channel is shortest water way to reach or come anywhere than the Ghasiakhali River Channel. We also notice that the average oil costing through the Shela River channel is approximately 94894 tk and

Ghasiakhali River Channels are approximately 118915 tk. which saves them about 24021 tk. And from this study we also found that they can save 5-6 hours from their travelling. That's why they choose Shela River Channel for their travelling.

4.3 EMPIRICAL ANALYTICAL APPROACH

Table 1. Oil Spill Catastrophic Event

Date	Event
09 December at 5:00 am	Oil tanker accident in the Chandpai Wildlife Sanctuary of the Bangladesh Sundarbans results in release of approximately 358,000 litres of heavy fuel oil. UNDP submits proposal to respond to oil spill to MoEF
10 December	MoEF, Department of Forest and Department of Environment begin response MoEF forms an expert committee which includes relevant Government stakeholders and academia to assess the environmental damage due to the oil spill and to put forward suggestions for reducing such damage in the future Transportation stops through Shela river
11 December	Transportation stops through Shela river
11 December	Bangladesh Petroleum Corporation starts buying collected oil from community Vessel salvaged and towed to Joymoni

	Department of Environment of MoEF begins collection and analysis of water samples from the oil-affected area, continuing until 26 December
12-13 December	MoEF 13-person assessment team visits accident site
15 December	GoB convenes and creates interministerial body headed by the Ministry of Shipping to address the spill
16 December	UNDP proposal to respond to the spill approved by Ministry of Finance, Economic Relations Division
18-20 December	UN-led team of experts arrives in Dhaka from France, Japan, Switzerland, USA and from across Bangladesh
20 December	Vessel towed to Mongla
21 December	Oil collection stops; BPC reported purchasing a total of 68,200 litres of oil
	MoEF assessment team submits its report
22 – 27 December	Assessment team conducts field work in and around spill site
31 December	Assessment team presents preliminary conclusions and recommendations to GoB.
7 January	Limited Transportation started again
1 – 15 January	Assessment team incorporates feedback from key stakeholders and submits final report to GoB

week	Policy actors	Stand point	Policy response
1-2	MoEF and Forest department	Projection of negative biodiversity impact Immediate close down of shela river for transportation Starts collection of oil	Closers of shela river channel MoEF forms an expert committee which includes relevant Government stakeholders and academia to assess the environmental damage due to the oil spill GoB convenes and creates interministerial body headed by the Ministry of Shipping to address the spill
	Ministry shipping	Neutral on biodiversity and Put emphasis on investigation on event	
	Academia	Projection of negative biodiversity impact Immediate close down of shela river for transportation	
	NGOs	Projection of negative biodiversity impact Immediate close down of shela river for transportation	
	Opposition	Projection of negative biodiversity impact Immediate close down of shela river for transportation	
	Civil society	Projection of negative biodiversity impact Immediate close down of shela river for transportation	
2-3	MoEF and Forest department	Potential negative impact on forest ecosystem. Forecast long term cornice impact also.	FD undertook assessment project

Ministry shipping	Down play impact on forest ecosystem. Starts debating over the importance of the navigation for the economy	Interministrial committee continues to work and assess the problem Government agrees to an UN fact findings mission Manual collection of furnace oil continues BP starts buying the collected oils from the local people.
Academia	Published reports on the already caused degradation over forest ecosystem and forecast cornice impact for long run.	
NGOs	Maintain the earlier position with facts	
Opposition	Agrees with the with academia and maintain their earlier position, additionally start showing concern over fisheries and livelihood disruption of local people.	
Civil society	Advocating conservation of SRF and ask for closedown the forest for transportation. And continues to organize seminars and demonstration	
Business communities	Start debating to re open the channel as their vessels are stuck	
3-4	MoEF and Forest department	Manual collection of furnace oil continues BP starts buying the collected oils from the local people.
	FD stand to it earlier positions And in favor of close down of shela river for transportation	
Ministry shipping	Take strong position to reopen the shela river temporarily and promising to maintain ghushiakhali. They want immediate reopening until ghushiakhali is ready	UN team starts working

	Academia	In favor of not using shela for transportation. Punished more fact of ecosystem degradation. However 2 to 3 scientist who are members of government fact finding committee stars argue that the damage is very limited and forest can cope it .	
	NGOs	Advocating conservation of SRF and ask for closedown the forest for transportation. And continues to organize seminars and demonstration	
	Opposition	Maintain earlier position and form their own fact finding committee	
	Civil society	Advocating conservation of SRF and ask for closedown the forest for transportation. And continues to organize seminars and demonstration	
	Business communities	Starts demonstration in the street to reopen the shela river	
4-6	MoEF and Forest department	Shows concern over forest ecosystem but says damages are not as much as predicted, however needs long term observation. Strongly behind closedown of shela river.	Shela river reopen for transportation
	Ministry shipping	Reopen the river for day time transportation	
	Academia	Continues research for long term observation	
	NGOs	Advocating conservation of SRF and ask for closedown the forest for transportation. And	

		continues to organize seminars and demonstration	
	Opposition	Maintain earlier position and demand for Sundarban friendly development policy for the region	
	Civil society	Advocating conservation of SRF and ask for closedown the forest for transportation. And continues to organize seminars and demonstration	
	Business communities		

CHAPTER FIVE: RESULT AND DISCUSSION

5.1 OIL SPILL ISSUES IN THE PRINT MEDIA:

The study found that the oil spill discourse in the print media plays an important role to change the policy. The tanker was sunk on 9 December, 2014, at around 5:00 am in the Shela River. From this day the print media was enrolled the oil spill topics in different sections of their paper. After one or two days later, the news was broken out all over the world. The number of articles was published increasingly after two weeks. But it was decreasing over time to time. During the disaster of the oil spill time the no of the article was hugged.



Figure 6. Article published in the Media (weekly)

We found 91 articles in the 'The Prothom Alo' newspaper in this topics. Among those articles 55 articles was found in the first week in December 09-15. 21 articles was found in the second weeks in December 16-22. 4 articles was found in the third weeks in December 23-29. Another 4 articles was found fourth weeks in December 30-January 05. And from the next week the articles was diminished at high rate. "Deputy Minister for environment and forest Abdullah Al Islam directly blamed BIWTA for the accident. He said, the accident had occurred because BIWTA continued to allow vessels to use this route despite being told not to. He feels that this accident has brought irreparable damage to the Sundarbans, He said that firm measures would be taken to stop this route from being used. Chief Forest Conservator was agreed with the minister about closing down the river route" (The Daily Prothom Alo, Dec 11, 2014). And another speaker Reza Khan, wildlife specialist and wildlife advisor to Dubai City Corporation, told Prothom Alo, "I

5.3 WHO SHAPES THE OIL SPILL DISCOURSES IN THE BANGLADESHI PRINT MEDIA?

The study focuses on actors in the media discourses through speakers, who speak about oil spill issues. And thus tries to understand the construction of the media discourses in respect of actors standing in the media i.e. who is shaping the media discourse on oil spill in the Bangladeshi print media.

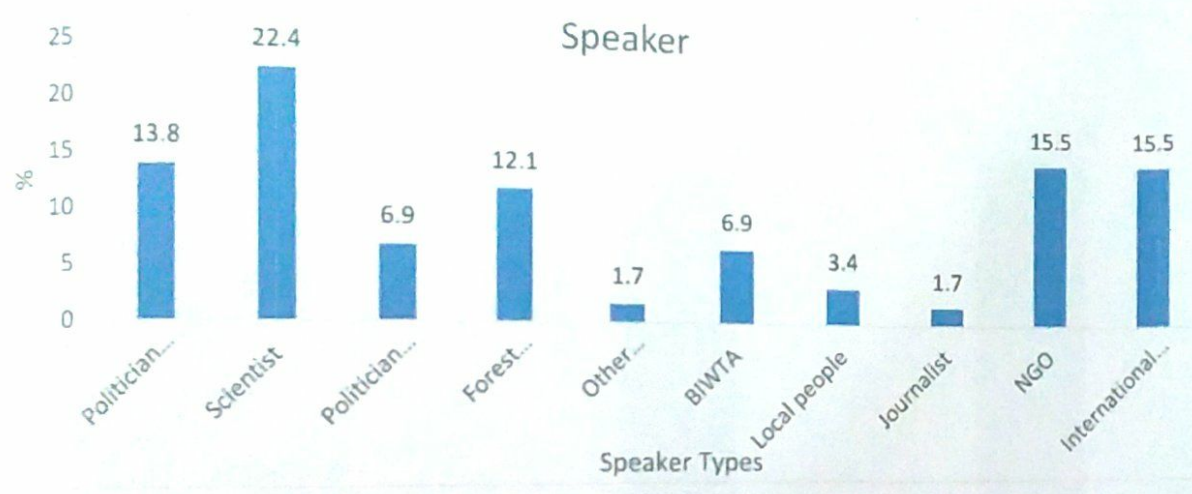


Figure 8. Speaker type in the Media Statement

The center actor's presence in the media is comparatively high (55.2%). Politicians, scientist, politician non-govt, and the forest administration are only having 13.8%, 22.4%, and 6.9% and 12.1% representation as speaker in the print media. However, peripheral actors dominated the media standing (44.8%) in oil spill discourse. The analysis found that the oil spill discourses are mostly shaped by the scientist in the Bangladeshi media (22.4%). Among the other peripheral actors other non-govt organization, BIWTA, local people, journalist, NGO, and international organization are the most prominent with 1.7%, 6.9%, 3.4%, 1.7%, 15.5% and 15.5% representations. Whereas, non-govt organization, BIWTA, local people, journalist, NGO, and international organization have very limited representation. These empirical findings showed that the forest discourses in the Bangladeshi print media is shaped by the center actors. Therefore this study does not support the 2nd hypothesis that the peripheral actor of the political system shape the oil spill discourses in Bangladesh.

5.4 OIL SPILL SPREAD STOPPING POSSIBILITY:

The tanker was carrying a 357,664 litres of heavy fuel oil which totally submerged into water. But 68,200 oil was collected by the local people. The remaining oil was mixed with water, plant body and the debris. Approximately 2% commenters tells that more or less possible to stop the oil spill spread. 48% of the commenters are not telling about that topics. And 50% commenters tells that it has not possible to stop the oil spill spread.

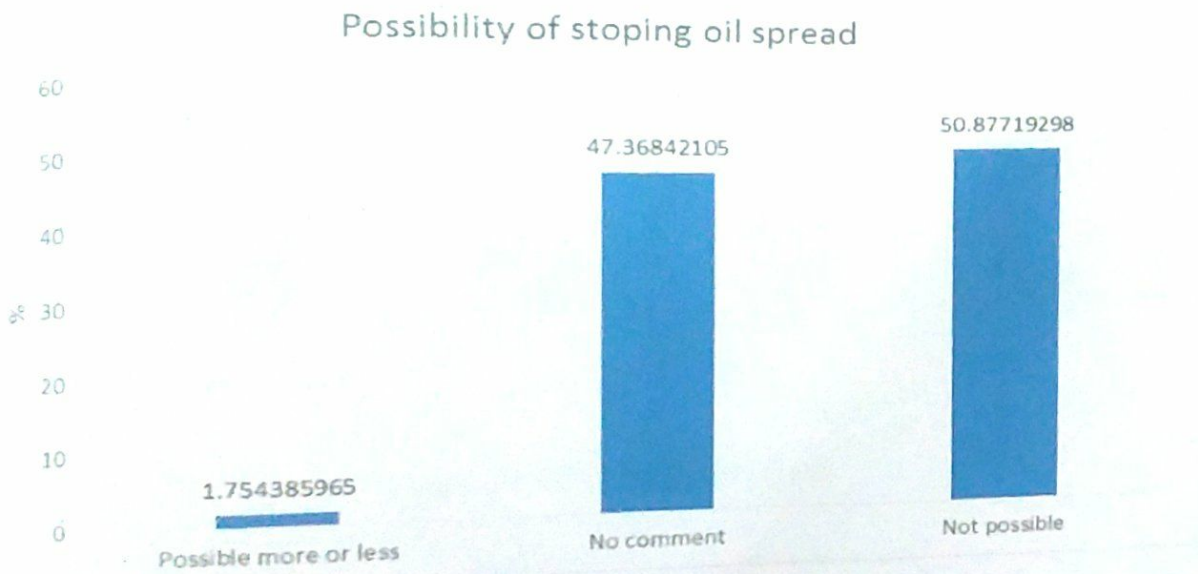


Figure 9. Oil spill spreading possibily to stop the Veichle

5.5 OIL SPILL IMPACT:

In the 91 commenter about 62.07% are showing that it has highly affected, 12.07% showing affected, 17.24% showing not affected and the 8.62% showing not recognizable impact.

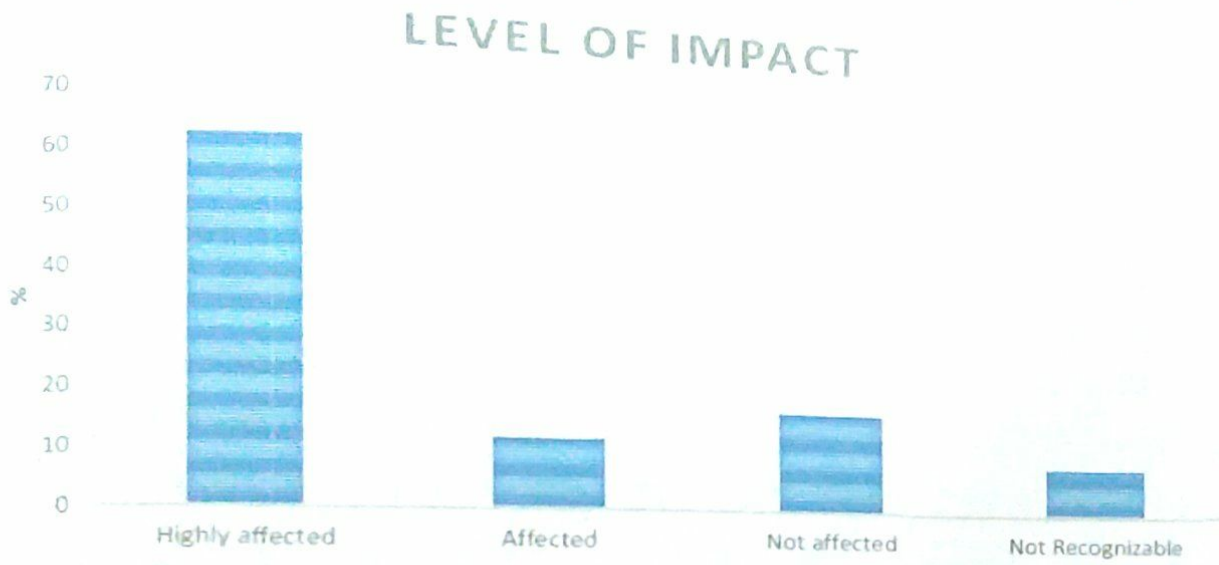


Figure 10. Oil Spill Impact Level

5.6 IMPACT ON BIODIVERSITY:

The oil spill was impacted heavily on biodiversity. The politician Govt commenter said that 54.54% negative impact on biodiversity, 18.18% neutral impact on biodiversity and 27.27% was no impact on biodiversity. The scientist commenter said that about 86.67% negative impact on biodiversity and 13.33% no impact on biodiversity. Politician no-govt said that 66.67% negative impact on biodiversity and 33.33% neutral impact on biodiversity. Ministry of environment and forest and forest administration also said that 81.82% negative impact on biodiversity and 18.18% neutral impact on biodiversity. And the other organization said 100% neutral impact, Ministry of environmental science said 57.14% neutral impact and 42.85% no impact on biodiversity, local people said 55.55% negative impact and 44.45% neutral impact, journalist said 100% negative impact, NGO said 100% negative impact and international organization also commenters said that 88.89% negative impact and 11.11% neutral impact on biodiversity.

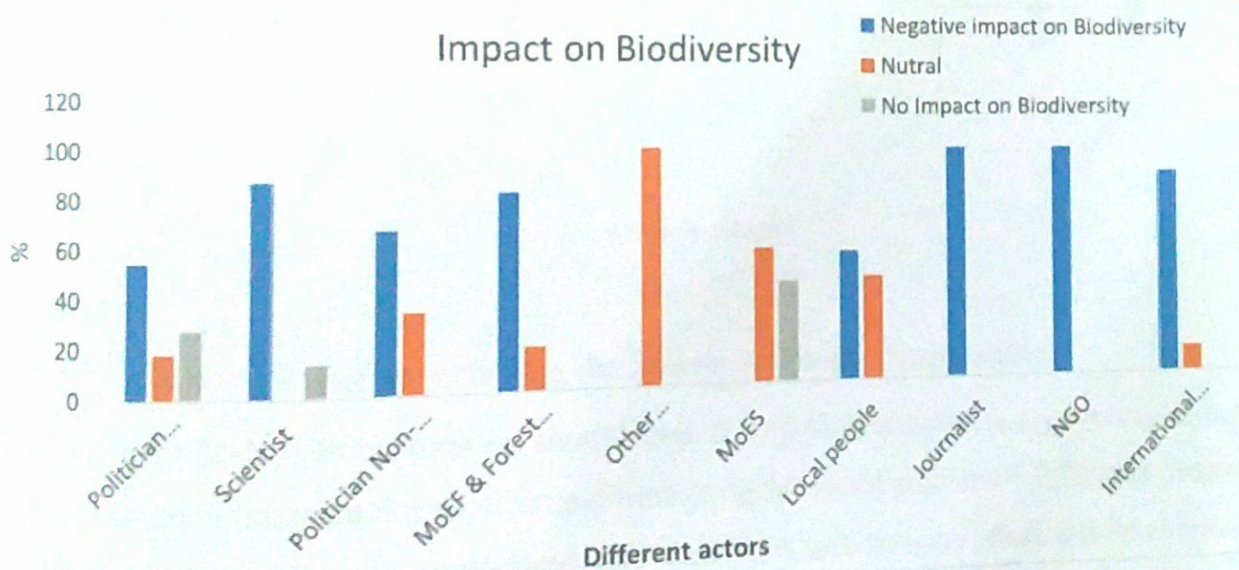


Figure 11. Oil Spills Impact on Biodiversity

5.7 OIL TRANSPORTATION VEHICLE SHOULD STOPPED IN THE SUNDARBAN:

Through the Sundarban the waterway system should stop. If it is possible to stop all kinds of ongoing vessel into the Sundarban, the accident will not occur again. 6.89% the politician govt said oil transportation should close down and 6.89% transportation should continue.

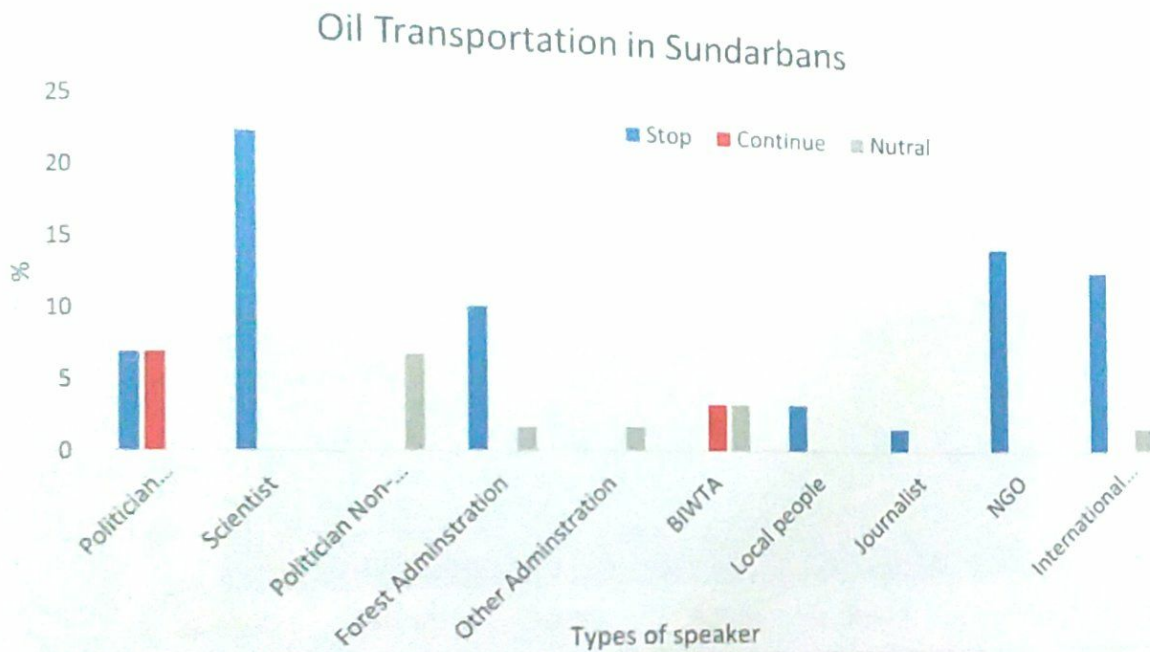


Figure 12. Argument among the speakers on Vessel Transportation

The scientist said 22.41% transportation should stop. 6.90% the politician non-govt was neutral in this issue. 10.34% forest administration said transportation should stop and 1.72% was neutral. 1.72% Other administration was neutral and 3.48% BIWTA said transportation should continue and same percentage was neutral on that topics. And local people, journalist, NGO and international organization also said respectively 3.48%, 1.72%, 15.51% and 13.79% transportation should stop. If we failure to stop the transportation through the Sundarban, the accident will occur next time and it will destroy the mangrove ecosystem and the biodiversity.

5.8 RELATIVE POSITION IN THE COMPETING DISCOURSE IN THE POLICY DEBATE:

The oil spill issue in sundarban was vanished from the national issues after some months. When the issue is occurred, it was taken the most priority issues in the all kinds of media. In this policy discourse debate pro-conservation persons were given the most priority on the biodiversity conservation as well as ecosystem. But the pro-commercial persons were given priority based on economic development perspective.

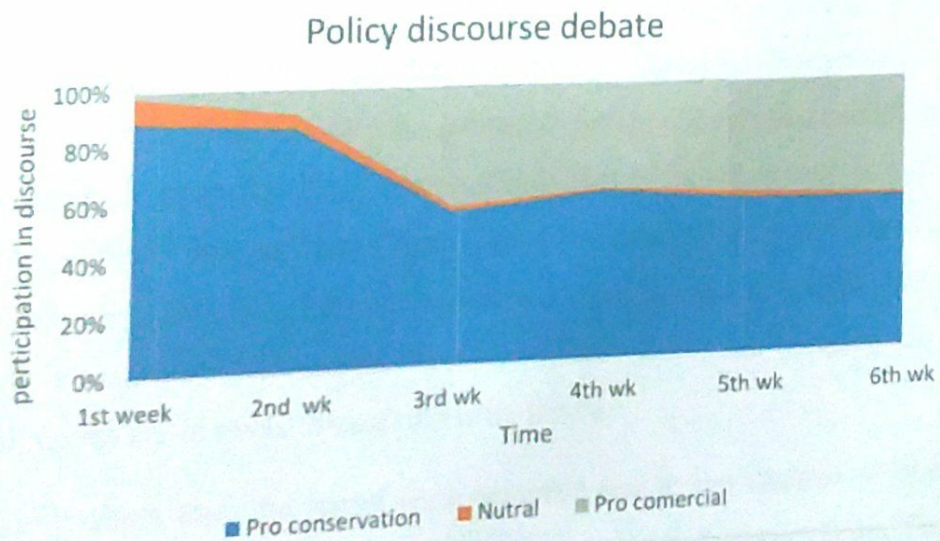


Figure 13. Comparative Policy Discourse with the Time

CHAPTER SIX: CONCLUSION

The analysis revealed that Oil Spill issue was more Burning question in that time. Only this issue was broken out far and wide through the media. And the print media reported mostly the genuine events like habitat destruction of wildlife, effects on biodiversity, wildlife dead body found in that time and it became more conflict in the society. And therefore the articles signaled the problems of forest policy of Bangladesh. Hence the Oil Spill discourses in the Bangladeshi print media is formed around "Mangroves are in crisis" through the argumentation. Therefor the first hypothesis is supported, which states that due to the Oil Spill Mangroves ecosystem in Bangladesh are in desperate situation. The second hypothesis is rejected, which states that the foil spill discourses in the Bangladeshi print media is shaped by the center actor of the political system. Journalist, NGO, International Organization, and other civil society actors are dominant compare to politician, BIWTA, Non-government politician, administration and judiciary as speakers in the Bangladesh print media. These peripheral actors are bringing the problematic issue and Mangroves are in crisis through the print media.

The analyses also show that, the issues ware occurred due to the mistake of BIWTA policy. Because they are given more priority economic development that conservation. These supports by the media on oil spill issues have the potential to influence forest and BIWTA policy agenda of Bangladesh. However, media discourses' influence on the public dominated forest and BIWTA policy of Bangladesh is still yet to be studied. Our media analysis allows for further research on whether the media discourse reflects and supports the forest snd BIWTA policies in Bangladesh.

RECOMMENDATION

Decision makers need to update, scientifically sound and relevant information to implement appropriate policy measures and create innovative commitments to halt biodiversity loss and as well as improve socio-economic and human well-being. The conservation community increasingly views that the corporate sector as a positive force for conservation. Collaborations between corporations, nongovernmental conservation organizations (NGOs), Political parties and the Commerce's seek to mitigate the negative effects that corporate the activities and augment positive conservation outcomes.

“Participation along the issue discourse the share of different actors changes over time according to their interest. “ And Environmental catastrophic event induced window is short. A short, catastrophic window cannot be used by environmental actors to reshape the policy decision. Long term catastrophe may leave the window open for long. A personal crime discourse used to avoid policy responsibility of the government.

If it is possible to stop the Shela River Channel for Vessel Transportation, the biodiversity will not lose and there will not occur such type of accidents. The Mangrove forest will safe from all kinds of Vessel destruction.

REFERENCES

- Ahmed, A. M. 2009. Media, politics and the emergence of democracy in Bangladesh. *Canadian Journal of Media Studies* 5:50-69.
- Barker, M. 2005. Manufacturing policies: the media's role in the policy making process.
- Bemelmans-Videc, M.-L., R. C. Rist, and E. O. Vedung. 2011. Carrots, sticks, and sermons: Policy instruments and their evaluation. Transaction Publishers.
- Berkowitz, D., J. D. Kenamer, and D. Pritchard. 1992. Public Opinion, The Press, and Public Policy. Westport, CT: Praeger Publishers.
- Boykoff, M. T., and J. M. Boykoff. 2004. Balance as bias: global warming and the US prestige press. *Global environmental change* 14:125-136.
- Chaffe, S. H. (1975). Political communication: issues and strategies for research. Beverly Hills and London: SAGE.
- Diekmann, A. (1998). Empirische Sozialforschung: Grundlagen, Methoden und Anwendungen. Reinbek bei Hamburg: Rowohlt-Taschenbuch-verlag.
- Entman, R. M. 1993. Framing: Toward clarification of a fractured paradigm. *Journal of communication* 43:51-58.
- Feindt, P. H., and D. Kleinschmit. 2011. The BSE crisis in German newspapers: Reframing responsibility. *Science as Culture* 20:183-208.
- Gerhards, J. 1994. Politische Öffentlichkeit. Ein system-und akteurstheoretischer Bestimmungsversuch. *Öffentlichkeit, öffentliche Meinung, soziale Bewegungen* 34:1994.
- Giessen, L. 2011. Reviewing empirical explanations of policy change: Options for its analysis and future fields of research. *Allgemeine Forst-und Jagdzeitung* 182:248-259.
- Gustafsson, G. 1983. Symbolic and pseudo policies as responses to diffusion of power. *Policy Sciences* 15:269-287.
- Habermas, J. (1998). Between facts and norms : contribution to a discourse theory of law and democracy. Cambridge : the MIT Press.
- Hecl, H. 2010. Modern social politics in Britain and Sweden. ECPR Press.
- Hecl, H. (1974). Social Policy in Britain and Sweden. New Haven: Yale Univ. press.

- Held, D. 1999. *Global transformations: Politics, economics and culture*. Stanford University Press.
- Hilgartner, S., and C. L. Bosk. 1988. The rise and fall of social problems: A public arenas model. *American journal of Sociology*:53-78.
- Kingdon, J. W. (2003). *Agendas, Alternatives and Public Policies*. New York: Addison- Wesley Educational Publishers Inc.
- Kleinschmit, D. 2010. Die Bedeutung der Öffentlichkeit durch Print-und Onlinemedien für eine demokratische Politik. Eine Ernährungspolitische Perspektive. *Die Ernährungswirtschaft im Scheinwerferlicht*:27-39.
- Kleinschmit, D. 2012. Confronting the demands of a deliberative public sphere with media constraints. *Forest Policy and Economics* 16:71-80.
- Kleinschmit, D., and M. Krott. 2008. The media in forestry: government, governance and social visibility. *Public and private in natural resource governance: a false dichotomy*.
- Krippendorff, K. 2012. *Content analysis: An introduction to its methodology*. Sage.
- Krott, M. 2005. *Forest policy analysis*. Springer Science & Business Media.
- Lemaire, D. 1998. *The stick: Regulation as a tool of government*. Transaction Publishers: London, UK.
- Linsky, M., W. O'Donnell, and J. Moore. 1986. *Impact: How the press affects federal policymaking*. WW Norton New York.
- Mazur, A., and J. Lee. 1993. Sounding the global alarm: Environmental issues in the US national news. *Social Studies of Science* 23:681-720.
- McChesney, R. W. 2003. Theses on media deregulation. *Media, Culture & Society* 25:125-133.
- McQuail, D. 2010. *McQuail's mass communication theory*. Sage publications.
- Miller, A. H., E. N. Goldenberg, and L. Erbring. 1979. Type-set politics: Impact of newspapers on public confidence. *American Political Science Review* 73:67-84.
- Neuman, W. L. (2006). *Social Research Methods Qualitative and Quantitative Approach*.
- Park, M. S. 2009. *Media discourse in forest communication: the issue of forest conservation in the Korean and global media*. Cuvillier.
- Peters, B. 1993. *Die Integration moderner Gesellschaften*. Frankfurt/Main: Suhrkamp.
- Prittwitz, V. 1990. *Das Katastrophenparadox: Elemente einer Theorie der Umweltpolitik*. Leske+ Budrich Opladen.

- Rahman, M. 2010. Climate change coverage on the mass media of Bangladesh. *Global Media Journal Pakistan* edition 3.
- Rahman, M. S. 2009. Ecology and management of Sundarban: A Rich Biodiversity of the World's Largest Mangrove Ecosystem. URL: <http://docs.google.com/viewer>.
- Reese, S. D. 2010. Journalism and globalization. *Sociology Compass* 4:344-353.
- Robinson, J. G. 2012. Common and conflicting interests in the engagements between conservation organizations and corporations. *Conservation Biology* 26:967-977.
- Sadath, M. N., & Krott, M. ., and . (2012). Print media discourse as driver of forest policy change in Bangladesh. *Journal of Sustainable Development*, submitted.
- Sarukhán, J., T. Urquiza-Haas, P. Koleff, J. Carabias, R. Dirzo, E. Ezcurra, S. Cerdeira-Estrada, and J. Soberón. 2015. Strategic actions to value, conserve, and restore the natural capital of megadiversity countries: the case of Mexico. *BioScience* 65:164-173.
- Schäfer, M. S. 2008. Medialisierung der Wissenschaft? Empirische Untersuchung eines wissenschaftssoziologischen Konzepts/" Medialization" of Science? Empirical Assessment of a Sociological Concept. *Zeitschrift für Soziologie*:206-225.
- Soroka, S. N. 2002. *Agenda-setting dynamics in Canada*. UBC Press.
- Sotirov, M., and M. Memmler. 2012. The Advocacy Coalition Framework in natural resource policy studies—Recent experiences and further prospects. *Forest Policy and Economics* 16:51-64.
- Takahashi, B. 2008. Framing climate change: A comparative analysis of a US and a Canadian newspaper. *International Journal of Sustainability Communication* 3:152-170.
- Van der Doelen, F. C. 1998. The sermon: Information programs in the public policy process: Choice, effects and evaluation.
- Voitleithner, J. 2002. The National Forest Programme in the light of Austria's law and political culture. *Forest Policy and Economics* 4:313-322.
- Weingart, P. 1998. Science and the media. *Research policy* 27:869-879.