

**Thesis Submitted**

**D-Phil**

**US Stakeholders Responses to Environmental Disasters: A Case Study of 2010  
Gulf of Mexico Oil Spill**



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**DECLARATION**

I declare that the thesis entitled "US Stake Holders Responses to Environmental Disasters: A Case Study of 2010 Gulf of Mexico Oil Spill" submitted by me for the award of the degree of Doctor of Philosophy is my own work. The thesis has not been submitted for any other degree or to any other university.

  
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**CERTIFICATE**

We recommend that this thesis be placed before the examiners for evaluation.



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## **Abbreviations**

BAST:	Best Available and Safest Technology
BOEMRE:	Bureau of Ocean Energy Management, Regulation and Enforcement
BOP:	Blowout Preventer
BP:	British Petroleum
CEQ:	Council on Environmental Quality
CWA:	Clean Water Act
DHSG:	Deep Horizon Study Group
DOI:	Department of Interior
EDS:	Emergency Disconnect System
EPA:	Environmental Protection Agency
EIS:	Environmental Impact Statements
FC:	Fund Convention
FEMA:	Federal Management Emergency Agency
FWPCA:	Federal Water Pollution Control Act 1948/72
GAO:	General Accounting Office
GOM:	Gulf of Mexico
MMS:	Minerals Management Service
MSRC:	Marine Spill Response Corporation
MSU:	Marine Safety Unit
MOU:	Memorandum of Understanding
NCP:	National Contingency Plan
NEA:	National Energy Act 1978
NEPA:	National Environmental Protection Act 1970
NOAA:	National Oceanic and Atmospheric Administration
NRT:	National Response Team
OCS:	Outer Continental Shelf
OPA:	Oil Pollution Act 1990
RCAC:	Regional Citizen Advisory Council
RRT:	Regional Response Team
SEMS:	Safety and Environment Management System

SF: Supplementary Fund  
TAPAA: Trans-Alaska Pipeline Authorisation Act  
UNCLOS: United Nations Convention on Law of the Sea 1982 United States of  
America  
OPEC: Organisation of Petroleum Exporting Countries  
USCG: United States Coast Guard  
OSLTF: Oil Spill Liability Trust Fund  
UNIDSR: United States International Strategy for Disaster Reduction  
WQIA: Water Quality Improvement Act

## **Introduction: US Policies and Responses to Environmental Disasters, Particularly Oil Spills**

*“Despite our habit of referring to oil “production,” the reality is that the twentieth century was an unprecedented exercise in oil “destruction.” The oil was actually produced during the time of the dinosaurs. What we have been doing over the last century or more has been to find the fossil deposits left behind during the era of the dinosaurs and to burn them up as fast as we could.”*

— *Freudenberg and Gramling (2010: 4)*

### **Background: Environmental Disasters**

Environment means surroundings of the living beings. It is the sum total of water, air and land, and their interrelationships among themselves and also with the human beings, other living organisms and property. The present world is staring at deterioration of natural resources and eradication of wildlife due to natural as well as human induced factors. Environmental disasters are one of the serious threats that the world is facing today. They disrupt the functioning of a community or society causing harm to harm and losses of agriculture, biodiversity, economy and health of those exposed. The United Nations International Strategy for Disaster Reduction defines environmental degradation as: "The reduction of the capacity of the environment to meet so-

cial and ecological objectives, and needs.” It can have a life-altering impact on individuals, families and society. Its effects can also be seen at national as well as international level. How well the impact is taken has much to do with the intensity and the level of preparedness and resilience of the subject affected. Environmental degradation is generally classified into natural disasters or human induced disasters (UNIDSR 2009).

**Natural Disasters:** A natural disaster can be conceptualised as an extreme event in which a natural hazard interacts with individual and community exposure and vulnerabilities to trigger negative social and economic impacts on a scale that is beyond the coping capacity of the affected population (ICSU 2005: 11). A few examples are earthquakes, hurricanes, floods, tornadoes and tsunamis that cause devastation of human cultures and habitats. In many cultures natural disasters are perceived as “acts of God” or largely falling beyond human control. While they have the capability to cause incalculable loss of life and property, most have a clear beginning and end. The frequency of recorded natural disasters has increased drastically during the last century, from about 100 per decade up to 1940 to nearly 2800 per decade during the 1990s. According to a report submitted to ICSU 28th General assembly, three-quarters of these disasters are triggered by weather-related events. Population growth in risky areas means that people are vulnerable to disruption (ICSU 2005). However, positive decisions and actions can reduce the vulnerability of people and property and cushion the negative consequences.

**Human-induced disasters:** Disasters caused by human manipulation and industrialisation of the natural environment and cause devastation to human cultures and habitats as well as ecological systems. Oil spills, chemical releases, pollution, release of toxic chemicals and explosions are often characterised man-made disasters. These disasters are also of two types:

- a. Resulting from human intent, action or inaction (Lueck and Peek 2011: 161-163). An example of a disaster that falls into this category is nuclear bombs, terrorist actions, chemical releases, etc. Often, this is a result of intent with a large number of those involved losing their lives or ending up with major long term injuries.
- b. Resulting from technology failure. For example an industrial hazard or fire caused due to failure in technology can lead to massive destruction of life, property and environment.

Human induced disasters can have notably high costs. They have a tendency to cause loss in biodiversity along with prolonged human health issues. There is also a possibility that they could generate extreme and prolonged psychological problems such as stress, anger, blame, and loss of trust. Many a times, the community affected by disaster spends time pinning responsibility on the erring party. It is also difficult to identify a clear beginning or end to the disaster along with lack of clarity in measuring its impact.

### **Spill Disaster: A consequence of Oil Exploration!**

The 20<sup>th</sup> century has arguably been the oil century. Industrialisation and transportation has made it mandatory for nation-states to control it. Every country is dependent on this 'black gold' to fuel transport, heat homes and offices, etc. It is crucial to national security and economic wellbeing. Thus, oil consumption, exploration and importation have been on a rise. Approximately three billion oil gallons are used every day throughout the world and about 700 million of those gallons are used in the US (NOAA Service Education). According to the Energy Information Agency, 2010 saw petroleum accounting for almost 50 per cent of the total energy expenditure. The US consumed 19.2 million barrels per day of liquid fuels that year, in which about 10.3 million barrels were imported from foreign sources (EIA 2012; CIA 2012). As much as 40 per cent of the oil consumed in the US is home grown with almost half of it coming from offshore platforms. With deep water drilling, it has become possible to exploit oil deposits that were unreachable previously. However, it is surrounded by issues of extreme water depths, geologically volatile conditions, and negative environmental impacts. An undesired but almost unavoidable consequence of this is spillage of oil. Oil spill lets out crude into the environment from wells, drilling rigs, offshore platforms and vessels carrying oil, etc. Spill can occur anywhere, land or water. As exploration of oil began in Russia, Middle East and East Asia in the late 19<sup>th</sup> century, the demand for oil increased in industrial countries of Europe and the US. Oil producers had to overcome obstacles in shipping their product to market. However, in the last thirty years, while total imports nearly tripled, average annual volume and incidents of offshore spills in the US dropped significantly (Ramseur 2010: 2). The offshore operations in the US in the entire year spills less than 0.1 per cent of what the country consumes every day (Eargle and Asmail 2012: 5).

For this reason, the spills are often known as the ‘black swan’ events. The black swan metaphor depicts spills as highly improbable but consequential events. For example, before the Macondo blowout, it was assumed by the company as well the regulators that since no major offshore incident had taken place in a long time, there was no risk and no need for precautionary measures. The lack of safety measures resulted in an uncontrolled blowout. Public attitude toward such events also move toward extremes. Most people rarely think of such events. It is like ‘black swans’ do not exist. Due to an extreme low probability of an incident, people have the assurance that such an event will never occur or will easily be tackled. However, once it occurs, public opinion shifts dramatically. Identified as "politics of risk", there is neglect until some event dramatizes an old and hidden but significant danger and then overreaction (Birkland and Nath 2002: 202).

In case of industry disasters, corporations usually suffer the blame for greed and negligence. Past investigations have revealed that profit maximising firms appear to underinvest in safety precautions. For example, in the Prince William Sound, safety and environmental values were considered crucial as tankers began transporting oil. The government promised state-of-the-art equipment to monitor the Sound so as to prevent tankers from hitting icebergs, and a high-powered radar system monitored tankers as they departed from the Valdez terminal and approached Bligh Reef. However, as time passed and no major accident took place, federal authorities and industry became lax in their approach. With losses, double-hulls “ceased to be an issue” (Hellstrom 1998: 364). The high radar power system was replaced with a weaker system and the oil industry stopped the practice of escorting tankers with tugs. The crew on each tanker was halved to about twenty people who worked twelve to fourteen hour days, and the federal government cut the Coast Guard. However, following the Exxon disaster, safety values again became core and were even enhanced over time (Busenberg 1999: 104).

This is because disasters such as oil spills have symbolic and emotional power. Oil spills are undoubtedly “one of the most highly visible and emotion-causing form of ocean pollution” (Birkland and Nath 2002: 202). These provide dramatic television and photo opportunity because victims are for all to see. The primary images of oil spills since 1960s to present times include oil washing ashore, oiled wildlife and workers struggling with the clean-up. The effect of oil on natural habitat— coastal marshes, mangrove forests or other wetlands is visible. The videos of slick killing the

marine environment, particularly birds, mammals, fish and other aquatic life receive a lot of coverage. Oil destroys the ability of fur to insulate animals, damages the water repelling abilities of feathers and is poisonous. It also has the potential to affect human health. Spills have led to great financial losses, loss of income, unemployment, setback to tourism and food industry and thus ignite public reaction.

Once a spill occurs, it damages the environment for a long time. In 1969, a barge hit the rocks off the coast of West Falmouth spilling 189,000 gallons of fuel oil into Buzzards Bay, Massachusetts. The fiddler crabs at nearby Wild Harbour still act drunk, moving erratically and reacting slowly to predators. Researchers established that the crabs were suffering from a kind of narcosis induced by hydrocarbon poisoning. Fiddler crabs till the salt marsh, which helps provide oxygen to the roots of salt marsh grasses and are essential for ecosystem. The liver tests of ducks and sea otters in Alaska even now shows exposure to hydrocarbons and chemical compounds due to the 1989 Exxon Valdez (Gillis and Kaufman 2010). Not only the marine life, spills also affect wetland and marshes. Richard Charter, Director Ocean Foundation, said in his interview with the researcher that spills stay for a period of at least 50 to 100 years. “When oil enters the wetland, it forms a layer cake. Oil does not biodegrade. During the 1960 West Falmouth Spill the oil got layered. There are still efforts on to collect it. In the Exxon Valdez, the oil saturated all of the interstitial spaces and was extremely repugnant. It still remains unaffected by the sunlight and stays as fresh. The Ixtoc Spill of 1979 still has tar mats around the Bay of Campa. It lasts in the margins of Estuaries. There is no way to speed up the breakdown of oil in the wetlands. Tides keep bringing oil on vegetation forming onion like layers of the oil” (Interview with Richard Charter 2015).

### **Types of Oil Spills**

Oil spills can be categorised into different types:

**Natural Spills:** Spills are not only human induced. There are natural spills that cause diffused pollution. According to the National Research Council 45 per cent of the oil entering the world’s oceans is of “natural origins” deriving from natural seepage (Bleret 2012: 12). In 2003, the annual amount of oil resulting from natural seepage was estimated to be 600,000 tons. Some amount of exposure to oil can be tolerated by the marine environment and is in fact good and known to increase productivity and stimulate fecundity for some species (Bleret 2012: 12).



**Figure 1: Naturally Occurring Oil Seep Near McKittrick, California**

**Pipeline Ruptures:** Spills due to pipeline ruptures and tankers are dangerous. There has been a continuous rise of pipeline ruptures leading to spills. Between 1968 and 1977, annual average of 47 spills per year was recorded. In the subsequent three decades, 188, 228 and 350 ruptures respectively were documented around the world. In the US, the number has quadrupled since the 1990s due to increase in the number and length of oil pipelines since the 1970s but also lack of maintenance of the ageing pipelines (Jernelov 2010: 354). In the former Soviet Union many leakages go on for years. Only ditches and dams dug out to contain the oil. There are regular spills of substantial amounts in the Niger Delta, the Russian Arctic, and the north western Amazon that are hardly reported and almost never cleaned up.

**Spills from Tankers:** Ocean going tankers are one of the primary means of oil transportation but also result in maximum spillage. Tankers are manmade mammoths. They average approximately 400 meters in length with their dead weights ranging from 80,000 to 320,000 tons (Anderson and Talley 1995: 217- 218).





**Figure 2: Ruptured Pipeline Responsible for Kalamazoo Spill**

By the mid-1880s, tankers carrying almost a million gallons of oil were crossing the Atlantic. Many a times, these tankers would lose their cargo in storms at sea by running aground in collisions. Immeasurable quantities spilled into the sea during wars, especially world wars, when tankers became strategic targets for submarines out to disrupt fuel deliveries. In 1956, the US and Western Europe discovered their vulnerability to interruptions in foreign oil supplies when Egyptian President Gamal Abdel Nasser closed the Suez Canal to tanker traffic. The political developments prompted the oil companies to seek alternative routes. That added thousands of miles to the trip from the oil fields to the market. To make it cost effective, super tankers with enormous capacity to transport oil were used. While this made transporting large quantities of oil easier, the vessels became more vulnerable to adverse weather or traffic conditions. These resulted in an era of unprecedented spills. The average oil spilled annually from the tankers in the 1970s was 314,000 tons, with no single year below 138,000 tons. This has decreased over time due to adoption of several safety measures. Between 2000 and 2010, average oil spilled was 21,000 tons. In 2009, only 100 tons of oil spilled from the tankers (Jernelov, 2010: 354). The main reason was introduction of the double hulled tankers which lowered the risk greatly. These tank-

ers were compartmentalised. Even if there was leakage, the entire cargo was not lost and only a part would flow into the sea. Other safety systems such as establishing sea lanes, allowing traffic to move in narrow waters only in a single direction further brought down accidents. A Global Positioning System was also set up.



**Figure 3: MT Haven Tanker Oil Spill**

Oil is discharged into the marine environment by degassing and de-ballasting as well (Jernelov, 2010: 354). Between 1988 and 1997, the operational discharge amounted to over 200,000 tons per year but has since been reduced to about 100,000 tons per year (Bleret 2012:11). Tanker spills that caught the attention of the public and policy makers were the *Torrey Canyon*, *Argo Merchant*, the *Amoco Cadiz*, and the *Exxon Valdez*.

**Well Blowouts:** These can occur on land, shallow water as well as deep water. Deep water blowouts are the most difficult to contain. In order to control blowout in deep water, a relief well has to be drilled. This is time taking and often results in large amounts of oil be discharged during the intervening period (Jernelov, 2010: 354).



**Figure 4: Well Blowouts Continue to Raise Safety Concerns Regarding Deep-water Drilling.**

Over the years drilling in deep water has become safer. However, as oil companies move to deeper lengths, the challenges have also grown. The two deep water blowouts in the Gulf of Mexico-- Ixtoc I (1979) and the Macondo Spill (2010) reveal an uncanny similarity in the causes and effects, despite a gap of 30 years.

#### **Effect of Oil Spill Disasters on Policy Change**

Disasters denote periods of disorder in the seemingly normal development of human affairs, along with widespread questioning or discrediting of established policies, practices, and institutions (Norhestd 2010:3). Crisis often serve as causal drivers for a non-incremental policy change and can alter the existing status. Past disasters pave

way to build stronger nations and communities (UN 2005: 7). Disasters trigger responses that challenge, criticise, analyse or reassess the existing policy (Birkman et al 2008:2). In 1969, the Cuyahoga River in Cleveland caught fire when sparks from a train burnt up debris floating in a slick of oil and chemicals. Public outcry over the accident brought into open the danger of dirty rivers and spurred the Congress to pass the landmark Clean Water Act in 1972. The act helped in protecting US waters from pollution and destruction. A disaster alone does not induce policy change on its own. Policy making in legislature takes place due to the effect an event has on the public and the decision makers. In the US, accidents like Titanic, Three Mile Island or Exxon Valdez and other industrial accidents led to technology assessment exercises. Managing response in the aftermath of a disaster becomes the responsibility of the stakeholders. Not only the parties responsible for the spill, but also the federal, state and local governments are expected to respond swiftly. From looking into the liability issues to supervising clean-up, government authorities need to stay involved in the disaster response initiatives. Situations of crisis bring stakeholders in action and provide opportunities for policy change in the systems typically characterised by stasis. Interest groups, media and the general public have to work jointly to demand change. Often, they present their versions of reality to shape public opinion and spur or lock legislative change in the wake of a disaster (Findley 2002: 1; Kahn 2007: 24). Interest groups such as environmentalists of key House Committees may lobby for more intense regulation. Firms are unlikely to be passive players in the face of new potential regulation. In the aftermath of a shock, companies are likely to engage in aggressive public relations campaigns in order to mould public opinion and prevent regulation that might not suit their interests (Kahn 2007: 28). Thus, bringing about a change becomes difficult, especially on environmental issues where different stakeholders have different objectives.

### **Theories Linking Policy Change with Disasters**

Policy is a process by the governing body to choose a course of action in order to solve a social problem and adopting a specific strategy for its planning and implementation. Several theories have been in place describing the policy making process.

1. **Rational Comprehensive Approach:** The policy by Harold Dwight Lasswell was given in "*Policy Orientation*". It talked about how public policy decisions are ought to be taken. In this approach, all possible options or approaches to solving

the problem are identified and a cost and benefit analysis is done. The facts are taken into consideration to find the best suited alternative. The method is costly, time taking and requires other resources to gather relevant information.

2. **Incremental Decision Making:** Charles Lindblom questioned the rational comprehensive model in the “*The Science of “Muddling Through”*”, published in 1959. He stated that rationality in policy making assumes that decision makers have time, information and capacity. However, this might not hold true all the time. The rational model is inept to solve complex problems. Decision making in a democracy is an incremental process. A series of small steps build upon an existing policy. Democracies fear that swift changes in policy could be destabilising and bring unintended consequences (Lindblom 1979: 517). It is the angst of a possible revolution, drastic policy change or even carefully planned big steps that make “muddling through” an acceptable method of policy change. The method leaves room for back peddling if policy decisions prove difficult to implement or do not lead to acceptable outcomes.
3. **Theory of Bounded Rationality:** The theory was proposed by Herbert Simon and James in 1957. Simon also brought into picture the weaknesses of following the rational comprehensive approach. The theory of bounded rationality stated that decision makers could not analyse all the information while solving a problem. The best possible decision could be achieved by following the “optimal path”. This often led to path dependency, mimicking behaviours and incremental decision making (Birkland 2013: 12; Jones 2001: 4). Actors tend to engage in “lesson drawing” from nearby or similar jurisdictions so as to avoid steep information costs inherent in innovation. Thus, decision makers simply “make do” in other words, settling for “satisficing”<sup>1</sup> (Birkland, Warnement 2013: 9).
4. **Scope of Conflict:** Elmer Eric Schattschneider in his book “*The Semi sovereign People*” (1960) stated that decision making in normal circumstances are available to a select few elites with normal people or groups not being involved in the policy making process. Conflict, however, provides scope for breakdown of the status quo. As promulgated in the incremental model, democracies avoid rapid changes. This restricts the scope of debate and maintains status quo. However, conflicts

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<sup>1</sup> Satisficing is examining alternatives until a practical (most obvious, attainable, and reasonable) solution with adequate level of acceptability is found, and stopping the search there instead of looking for the best-possible solution.

have the capability to create a “focusing event”. The event is known to policy makers and the public simultaneously and thus it becomes easier to involve outsiders in the decision making and alter the agenda in a policy domain (Parrado 2010: 1).

5. **Punctuated Equilibrium:** Charles O Jones in “*Speculative Augmentation in Federal Air-Pollution Policy Making*” bolstered Schattschneider’s concept by introducing his theory of ‘punctuated equilibrium’. He stated that stability when interrupted by upheaval had the potential to alternate policy (Jones 1975). As an issue found itself at the top of national agenda, new participants gained access to the policy process, old policies were disrupted and change became possible. Greater attention to a problem usually led to more negative assessments of current policy, thereby creating pressure on the dominant policy community to open up policy making and accept change (Baumgartner and Jones 1993).
6. **Kingdon’s Policy Window:** Kingdon (1995: 94-100), Birkman et al (2008:3) and Birkland (1998) stated that chaos could create a ‘window of opportunity’. This provided opening for ideas and groups that were earlier shut off by the already engaged institutions. Disasters could lead to reframing of an issue. According to the theory, larger the crisis, more widespread the public attention. Focusing events became more active in policy change when analysed in context of other events. For example an oil spill in the US could be of interest to those living in coastal Europe. Seemingly local events could garner national and world wide attention. Events such as Hurricane Katrina or September 11 attacks were perfect examples of disasters catalysing structural and irreversible change within environmental, socioeconomic and political structures, institutions and organisations. Most new policy regimes were created in response to some sort of a crisis, even as those regimes remained relatively weak (Jones 1974; Warnement 2013: 2). Disasters resulting from human errors, corporate greed or government neglect lead to inquiries, court hearings and investigative reports that served as catalysts for policy debate (Cohen: 1995; Birkland 2007: 19).
7. **Agenda Setting Theory:** The theory was proposed by Maxwell Mc Combs and Donald L. Shaw. The theory talked about the ability to influence the salience of topic on public agenda. Through the process of agenda setting, problems and alternative solutions could gain or lose public and elite attention. Groups had to fight to earn their issue’s place among all the other issues. An agenda had a lim-



ited space but a systemic crisis could help issues occupy a more prominent space. Despite the issue gaining attention there was need for coherent advocacy coalitions, perceived viable solutions, or favourable political climate to lead to policy change (Schwartz and Connel 2009: 92)

This chapter will look into the role played by oil spill disasters throughout the world in making suitable policy changes.

### **International Action on Oil Spills**

**Torrey Canyon** is oft quoted as the turning point in international action on oil spills (Scanlon 2001). In March of 1967, super-tanker *Torrey Canyon* ran aground off the coast of England. Over the following days, 119,328 tonnes of crude seeped into the Atlantic (Belardo et al. 1984 1184; Barkham 2010). The disaster took place due to a minor human error. In order to save time the captain of the ship decided to go through the gap between the Schillies and Seven Stones reef. The plotting error caused the ship to run aground (Devanney 2006). Thousands of tonnes despoiled beaches of France and England, killed thousands of birds and threatened the livelihoods of local



**Figure 5: Torrey Canyon Spill**

people. It was considered the worst oil accident at that time. There was not much experience to deal with large oil spills. In an attempt to burn the oil, British military aircraft bombed the wreck. However, very little oil burned as oil had become emulsi-

fied<sup>2</sup>. A total of 10,000 tons of dispersants were sprayed at the oil, both at sea and on beaches. These were toxic and made oil more toxic, thus exacerbating rather than alleviating the damage to aquatic life.

The spill caught media attention and raised environment awareness in public. The British and French government forced a change in the law governing oil spills in international waters. IMO expanded its activities in the environmental field (IMO 1998). It established rules allowing governments to act if an accident threatened coastline in international waters (Scanlon 2001). The inability of existing maritime response organisations to deal with the spilled oil was evident. It was realised that society needed to protect itself and environment from a casualty like this. The vessel owner petitioned to limit his liability to fifty dollars, the value of the lone lifeboat that survived. The accident proved that liability and compensation rules needed to be formalised. The spill led to studies regarding oil behaviour in water, result of wave action on oil, role of dispersants etc. Research was carried out about the effect of spilled oil and use of dispersants on birds and sea animals and the effect of oil on algae and other organisms.

The **Amoco Cadiz Accident of 1978** further brought focus to spills. It was caused due to failure of the hydraulic gear of Amoco Cadiz in heavy weather. Despite the towing attempts the tanker grounded off the coast of Brittany in France. The entire cargo along with 227,000 tons of oil spilled into the water. Oil contaminated over 300 km of the Brittany coastline and killed 20,000 birds, millions of molluscs and other benthic species and affected oyster cultivation, fishery, and tourism (Louma 2009: 10). In a 1979 report, the National Research Council of the National Academy of Sciences stated that, "little attention has been paid to how government and industry would respond to a major maritime casualty involving hazardous cargo . . . [and] . . . the technical community ... is concerned about the capability to do so." (Harrald et al. 1989: 2) The accident led to adopting measures to reduce risks and ensure timely response. A new marine pollution response plan was implemented. A traffic separation scheme was adopted so that vessels carrying hazardous material could not sail closer than 50 km from the coast.

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<sup>2</sup> Oil on the sea surface is cooled by the water underneath resulting in emulsification and burns badly.





**Figure 6: Grounding of Tanker Amoco Cadiz**

High sea tug was placed to assist vessels and a specialist technical centre (CEDRE) created to assure technical surveillance. These two spills led to series of conventions aimed at environmental protection (Ornitz & Champ 2002). Paris Memorandum of Understanding (MoU) on Port State Control was also established. Its mission was to eliminate the transportation of substandard vessels. Vehicles were to be inspected and substandard vehicles detained. This showed that efficient use of energy resources was possible through regional cooperation (Payoyo 1994).

In 1969, the International Convention on *Civil Liability for Oil Pollution Damage (CLC)* was adopted. It ensured that compensation was paid to victims and the liability be placed on ship owner. It also set the limit of maximum liability. However, it was not able to satisfy everyone with established liability limits (Luoma 2009: 6). As a result International Fund for Compensation for Oil Pollution Damage was adopted in 1971. The Fund is made up of contributions from oil importers. “If an accident at sea results in pollution damage which exceeds the compensation available under the Civil Liability Convention, the Fund will be available to pay an additional amount, while the burden of compensation will be spread more evenly between ship owner and cargo interest” (International Maritime Organisation). In 1992, both these conventions were amended to address concerns that the liability limits were too low. In 2003, the

International Oil Pollution Compensation Supplementary Fund was created. It created an additional level of compensation to be used when the costs were greater than the ability of the owner to pay. The SF raised the compensation fund for an incident to \$1.067 billion. As of 2009, 121 countries were parties to the CLC, 104 were parties to the FC, and 24 to the SF. Though the Conventions have provided effective means of recovery for spills since their ratification, the recent spills have exposed new issues with the current system (Schwartz et al 2008:18).

### **Spill Management in the US**

One of the first acts to deal with oil spill in the US was the applicability of Rivers and Harbours Appropriation Act of 1899 (REFUSE Act). The Act mandated a fine of \$2500 along with a civil cause of action to recover clean-up costs but the government was still required to show fault making the clean-up costs on the merits difficult (Schwartz et al 2008: 4). It was only in the 20th century that oil pollution of the seas began to be treated as a serious issue. The limitations involving liability assessment for spills still remained in the Oil Pollution Act of 1924. Yet, it became unlawful to discharge oil into coastal, navigable waters. Navigable waters were defined as "the sea within the territorial jurisdiction of the US, and all inland waters, navigable in fact, where the tide ebbs and flows" (Kurtz 2013: 368). Penalties for violation of the act included a fine of \$500-\$2,500, one year imprisonment, or both. The act was primarily concerned with the hazards oil discharges posed to navigation. It aimed at protecting the commercial fisheries and human health (Kurtz 2004: 205). Even as the act enforced civil and criminal penalties against oil discharge, the federal government faced hurdles in establishing liability based on the definition of "discharge" as "wilful or grossly negligent conduct".

The spills in the earlier 20<sup>th</sup> century were seen with awe and celebrated as the spirit of abundance in the US. **Lakeview Gusher of 1910** became a tourist attraction point and led to annual celebration of 'Gusher days' in Taft, California. The spill created an out-of-control geyser of oil for 18 months. The Lakeview Oil Company was drilling for reserves of natural gas. It could not find any oil or gas and sold its interest to Union Oil Company of California (UNOCAL). The company continued drilling and tapped into the significant oil reservoir. However, it was unable to contain significant amounts of oil which was an associated by-product of its natural gas exploration.



**Figure 7: The Lakeview Gusher**

Several attempts were made to contain the oil. In its aftermath, a sixty acre lake of oil was formed. It was estimated that more than half of the 9.4 million barrels was recovered at the Lakeview Gusher site while the remainder evaporated or was soaked into the soil (The Lakeview Gusher). Oil spill legislation underwent a change only after the **Santa Barbara Spill of 1969** in California. On January 28, a blowout erupted below the platform. It spewed more than 3 million gallons of crude oil from drilling-induced cracks in the Santa Barbara channel floor. This remained the largest offshore drilling accident in American waters until the Deepwater Horizon blowout (National Commission, 2011: 28-29). The effects of the spill were shown vividly in dramatic pictures that jolted people into realising the effects of spills. As many as 3,686 seabirds died from the 800 square mile slick. About 35 miles of sandy beaches were

coated with thick sludge (Read 2011: 62). The disaster ushered a modern-day environmental movement. The Union Oil Company blamed the spill on natural forces stating that "mother nature had let us down by letting oil out of the drilling sands." (Time 1969) Environmentalists ascertained the "wilful negligence" to the disaster. A "Get Oil Out" movement took shape to deal with the industry in the channel. The movement continued well into the 1970s and fought the development of offshore in the region. It was instrumental in keeping oil development under state control within three miles of the shoreline. The movement is iconic as it reflected discontentment with the industry, local development pressures and the environmental damage. While GOO clearly did not achieve all the stated goals with drilling and oil pumping continuing in the region, yet it forced the state, DOI and the industry to address environmental issues pertaining to offshore. In 1974, President Nixon signed *Disaster Relief Act* into law, which addressed disaster mitigation. It also provided direct assistance to victims and their families in the aftermath of a disaster. It brought state and local governments into all-hazards preparedness activities and provided funds for their emergency management programmes.



**Figure 8: Santa Barbara Spill**

In 1970s Environment Protection Agency (EPA) began operating. EPA had an environmental emergency response division. Its land and water environmental research was aimed at reducing disasters and carried out an environmental impact statement process relevant for disaster mitigation (Sylves 2008: 54). During that time the *Water*

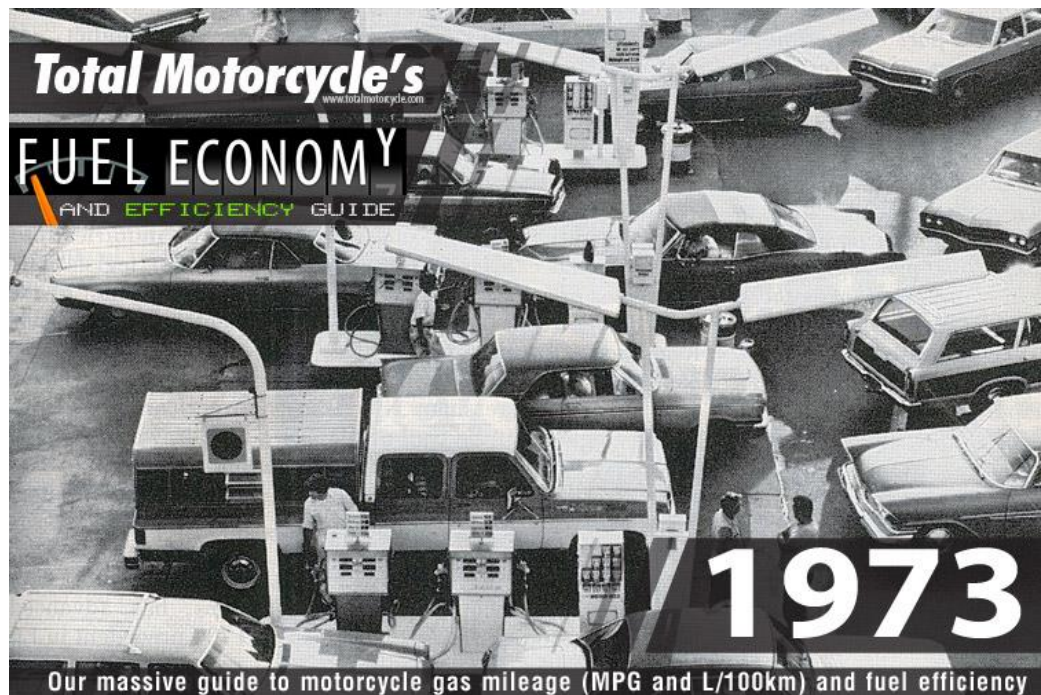
*Quality Improvement Act (WQIA)* was also enacted by the Congress to address spill related issues and water pollution. The Act imposed strict liability on the discharger of the pollution for the clean-up costs (Harrington 1997:5). The new statute prohibited the discharge of harmful quantities of oil into navigable waters. In case of failure to report discharges, penalty could be slapped. An oil discharge National Contingency Plan was established. Congress improved upon this legislation through the enactment of *The Ports and Waterways Safety Act of 1972* and the *Federal Water Pollution Control Act of 1973 (FWPCA)*. The PWSA authorised federal agencies to control vessels. This act was folded into the Port and Tanker Safety Act of 1978, which was passed after the 1976 Argo Merchant spill. The FWPCA (later amended to the Clean Water Act) established liability on the spiller for restoration and clean-up (Kurtz 2013). The stated policy of the statute was "there should be no discharges of oil... into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone." In relevant part, the FWPCA authorised the federal government to remove oil spilled from a vessel and to recover clean-up costs up to specified limits. The operators and vessel owners had to provide proof of financial assurance of ability to meet clean-up costs. The maximum liability limit was \$14 million, regardless of vessel size (Schwartz et. al 2008: 5-6). If the owner or operator could establish that the discharge was caused "solely by an act of God, an act of war, negligence on the part of the US, or an act or omission of a third party", liability could be avoided. Under Section 311, the federal government was to monitor clean-up when the spiller could not or would not undertake the task or when the spill was deemed to be an act of God (Schwartz et. al 2008: 6). Civil discharge penalties of not more than \$5,000 for each offence and civil action caps ranging from \$50,000 to \$250,000 for wilful negligence or misconduct were established. A potential 1-year prison term and \$10,000 fine faced individuals charged with criminal offences (Kurtz 2004: 206). FWPCA was followed by the *Deepwater Port Act* of 1974. The act hardly dealt with the existing issues of liability and compensation. Even when addressed, those "formed a patchwork of sometimes conflicting laws concerning liability for oil discharges" (Oil Spill Legislation Following Exxon Valdez 2011). These problems were acknowledged by President Gerald Ford. Upon his leads, bills such as H.R. 14862 Oil Pollution Liability and S. 2083 Oil Pollution Liability and Compensation were introduced to the Congress, but neither passed. The Clean Water Act of 1977 brought some changes to the FWPCA. It increased liability limits but failed to "establish effective

preventive and immediate response mechanisms which would prevent spills altogether or provide for a prompt response” (Schwartz et al 2008: 7).

### **1980s Logjam on Oil Spill Policy**

The 1980s caused legislative turmoil and disagreements regarding future of spill legislation. On one hand, European countries — Netherlands, Sweden, Norway and United Kingdoms started addressing several environment regulation issues by using integrated regulatory and public policies, cooperative initiatives between government and industry, financial and other incentives (Fiorino 2006:4). In the US, however, there was a general agreement regarding comprehensive oil spill legislation, the Congress could not agree on the type of provisions. Between 1980 and 1986 about 80 to 91 million gallons of oil entered the US waters from oil barges and tankers. On an average 18 major spills occurred every year between 1978 and 1990. Between 1975 and 1976, 10,000 spills took place spewing estimated 27–40 million gallons of oil. The Guadalupe dunes spill in California released approximately 20 million gallons oil and chemical diluents over a period of four decades without featuring seriously in public discourse. Being a slow motion problem, there were no clear gateways to activate detection and response (Schulman 2002: 1403). Nonetheless, it cannot be discounted that these spills aggregated to portray a sense of crisis catching the attention of society as well as decision makers. The spills during the 1970s were considered anomalies in the otherwise “safety conscious” industries. Moreover, the 1973 OPEC oil embargo on the US and other western countries deepened the ethic of energy independence. Thus, there was no change or at best a slow, incremental change in spill related policy. Efforts to pen down a comprehensive legislation to outline liability, response and compensation had begun in 1975. But those remained deadlocked over whether federal law should pre-empt state law. Congress was not able to agree on a comprehensive solution. There was an attempt to combine the spill policy with cleaning up hazardous substances (ultimately came to be known as Superfund). The Superfund was passed to address the clean-up in the wake of the Love Canal and Times beach. However, the passage killed the urgency to deal with spills and the energy behind the initiative dissipated (Birkland, 1998: 9).





**Figure 9: Depiction of 1973 Oil Crisis**

Between 1982 and 1989, the United States General Accounting Office reported 40 cases of crude oil contamination. The Reagan administration had refused to support to any oil spill legislation between 1981 and 1984 (Birkland 1998:9). The Senate and the House could not reach a decision regarding the federal pre-emption of state spill liability schemes. Senators from coastal states, particularly those with more stringent liability systems, tended to oppose pre-emption. Members of the House of Representatives wanted a uniform national liability standard. Existing drilling policy discouraged citizen involvement and disenfranchised environmental groups from the political process. Environmentalists and some Alaskans, particularly those living near the sound, had long opposed the pipeline because of spill fears. In 1973, Congress exempted the pipeline project from the requirements of the National Environment Policy Act (NEPA). The Organisation of Petroleum Exporting Countries (OPEC) had quadrupled the price of crude oil in the early 1970s and terminated oil sales to the US in parts of 1973 and 1974. This fuelled the insecurity regarding energy and Alaskan oil was seen to be reducing dependence on foreign oil. Thus, oil flowed from the Alaskan pipeline in 1977. The requirement of energy independence created an industry friendly alliance between oil companies, shippers, insurance carriers, financiers, select congressional committees, and the Interior Department (Kurtz, 2004: 206). Several stud-

ies have maintained that there was a sustained increase in lax safety adherence all across.

The environmental groups believed that only a crisis situation could lead to any action on the oil spill liability law. “For many of the 15 years that Congress spent labouring in vain to produce a national oil spill liability law, some frustrated backers predicted it would take a catastrophic oil spill to break the legislative stalemate” (1989 Congressional Quarterly: 682). That opportunity became available when on March 24, 1989 Exxon Valdez dumped more than 10 million gallons of oil into Alaska’s Prince William Sound. The clean-up efforts were botched and response was slow. The realisation ended the deadlock and led to streamlining and strengthening oil pollution control laws. One of the goals of the new act was to clarify the lines of authority in the immediate aftermath of a spill so that the response can be swift and effective (Lieberman 2010). A national programme was set up to set out financial responsibility for spills and pay for clean-up and damages” (1989 Congressional Quarterly: 682). To conclude however, that Exxon Valdez alone was responsible for breaking the logjam would be an over reach. It was the impact of the earlier disasters that had raised awareness regarding the issue of coastal oil pollution. Over the years, aggregation of similar accidents had led to maturation of environmental advocacy groups. Even as Congress considered the possibility of a catastrophic spill and attempted to pass reform measures, there was no sense of immediacy for an agreement before the Exxon Valdez spill. The strengthening of these groups and the volume of the spill presented an opportunity for a statutory change.

### **1989 Exxon Valdez Spill**

On March 24, 1989 the single hulled vessel grounded after it hit a reef. The captain was reported to have been operating the vehicle under the influence of alcohol. According to subsequent reports, the captain left the ship under the command of a third uncertified mate before retiring to his cabin. The autopilot mode caused delay in the reaction to avoid the reef. The Coast Guard tracking-system failed to warn the presence of the reef. Once stuck in the reef, the captain worsened the situation by making unsuccessful attempts to free the ship. These failures led to spillage affecting more than 2,000 kilometres of the Alaskan coastline. About 11 million gallons was spilled and affected fisheries, wildlife and tourism of the region. The spill led to death of



more than 250,000 sea birds, 2800 sea otters, 300 harbour seals, 250 bald eagles and nearly two dozen whales and continues to affect wildlife populations till today.



**Figure 10: Sea Otters Covered in Oil**

Indigenous people who subsist on wildlife suffered from health problems as the chemical bio accumulated up the food chain (Collin 2006: 84). The Exxon Valdez was a containable spill but the industry and the government were unprepared. This led to slow and confused response efforts. The containment and clean-up equipment arrived after more than 36 hours had passed. The different government agencies fought over responsibilities. Presence of private firms made the clean-up further chaotic. No one anticipated the possibility of a 240,000-bbl spill (Harrald et al 1990: 13). The regional contingency plan was inadequate for a spill of this magnitude. The planners did not anticipate technology limitations and the amount of equipment required. No adequate organisational plans, response scenarios and operational strategies were in place. These deficiencies in the plans were not fully revealed until the incident occurred. Exxon and the government brought resources, but most of the equipment and personnel arrived late when the crucial time had lapsed. The federal government did not have the funds, contracting capability or organisational capability to move resources as fast as Exxon could (Harrald et al 1990: 18) Exxon spill brought into open the federal-state conflict along with intrastate relationships. The Alaska Department of Environmental Conservation (ADEC) had difficulty establishing its role as the

leader of the state response, and the state response organisation did not work smoothly with the federal Oil Spill Commission until well into the response.



**Figure 11: Protestors Demanding Action Against Exxon**

### **Response of Interest Groups**

Oil industry and fishing are the mainstays of the Alaskan economy. While the oil industry is controlled from outside, the fishing industry is predominantly Alaskan owned. When the spill occurred, the blame fell on the outsiders while the economic effects were faced by the insiders. Alaskans had not anticipated that spill like that could occur and were indignant with the devastation of Prince William Sound. Thus, the state response to the spill became highly politicised (Harrald et al 1990: 23). Groups fighting oil tanker traffic development in Alaska since a long time relayed activism after the spill. They were armed with prior research and could mobilise themselves. Consumers, fishing industry, labour and environmental organisations also came together. Opposing oil business had been difficult before the spill. The state and the federal government had gained extensive economic benefits from drilling, pipeline construction and transportation. Due to the Alaskan fields, dependence on foreign oil was reduced. The society had accepted the environmental and other risks involved. Alaskans had even tried to fight federal environmental initiatives such as 1980 Alaska national interest Land Conservation which locked up more than 80 million acres of land in national parks, preserves and monuments (Birkland 1998: 7). Environmental



**Figure 12: Activism by Fishing Community**

groups would find it specifically hard to oppose oil interests because Alaskans supported the industry. Revenues from the industry funded schools, airports, public works projects etc. Since 1970, Alaska had no personal income tax. As much as 85 per cent of its revenues were generated from oil taxes. It was but natural that labour and environmental groups would remain side-lined. Fishing communities on the other hand were always respected in policy-making circles. Thousands of Alaskans depend on fishery. In the aftermath of the spill, the fishing industry could present its arguments as a respected speaker telling everyone that oil and fisheries did not mix. Historically, fishing and environmental groups would remain in opposition but the spill injured a resource valued by both. Thus, they allied after the incident (Birkland 1998: 8). They first looked into the Trans-Alaska Pipeline Authorisation Act (TAPAA) provisions to pay damages because the spill had resulted from pipelined oil. However, the \$100 million did not begin to cover clean-up and compensation. The next step included a legal battle involving native villages and fishing groups against the Exxon Corporation. Interest groups may not have won the fight on their own, but their vigilance pushed the government to go further in the settlement (Findley 2002).

### **Role of Public Opinion**

The industry and a majority of government officials were initially not in favour of the Oil Pollution Act. The House's Merchant Marine and Fisheries Committee, who held jurisdictional control, was industry-friendly (Kurtz 2004: 207). Exxon had reportedly contributed heavily to Republicans during the 1988 presidential elections. President Bush continued to support offshore drilling and declared no connection between his backing for drilling in Alaska and the Exxon Valdez incident (Daynes & Sussman 2010: 162). However, Brady (2011: 9) writes that when a policy becomes important for the public, officials, including members of Congress, are held accountable for their views (Brady 2011: 9). There was pressure on public officials to pass the OPA. The oil industry had a public image to mend. The public anger pushed the pro-legislation groups to shore up an effective campaign. It educated and rallied the general public to demand compensation from the Exxon and prevent further destruction of this magnitude. Politicians had to choose between the industry and the Alaskan people. The constituents supported by the interest groups dominated the debate. The result was a comprehensive settlement that provided a large amount of financial restitution for the incident. The policy-makers won phenomenal constituent support. This encouraged them to pass more comprehensive spill legislation. The settlement included a criminal plea agreement in reference to the gross mishandling of the incident and a \$150 million fine, the largest fine ever imposed for an environmental crime (Findley 2002). Exxon reached a civil settlement with the U.S. government and the state of Alaska in which it agreed to pay \$900 million in payments, a \$25 million criminal fine and \$100 million in restitution for the fish, wildlife and lands misuse (Kroh 2013).

### **Role of Media**

Media played a crucial role in making the incident visible. The reports and photographs that the newspapers carried influenced public opinion and paved way for future actions. Exxon was derided for corporate incompetence. The newspaper and magazine covers showed pristine Alaskan wilderness in opposition to blackened beaches. Alaska invokes images of a wild, isolated, and beautiful place - The Last Frontier - unspoiled by humans. This imagery had been promoted for years in literature, poetry and art (Birkland 1998: 9). The oil industry had also used this image as part of its advertising. It promoted its technical prowess in extracting oil in a remote

and harsh environment while greatly minimising the environmental effects of that extraction. The media outcry and public support for the environment after the disaster created a situation in which Exxon's efforts could not match the outrage of the local community of environmentally conscious individuals (Brian and Martin 2007: 72).



**Figure 13: Exxon Valdez Oil Spill 20th Anniversary Cartoon**

Source: Seppo (2009)

### **Exxon's Efforts against Policy Change**

- **Oil Spilled:** Exxon claimed that 11 million gallons of crude oil was spilled when the ship ran aground. However, the Alaskan government, in an unpublished investigation, found the actual figure was roughly 35 million gallons, a figure three times as great. After the spill, other Exxon vessels removed oil from the *Exxon Valdez*. Additionally, Exxon said 1,300 miles of coastline had been oiled. In contrast, the National Oceanic and Atmospheric Administration reported the area as 3,240 miles (Brian and Martin 2007: 73).
- **Health Hazards on Workers:** According to court records of lawsuits filed by sick workers, Exxon's clean-up led to sickness among approximately 6,700 of its 11,000 workers. Exxon did not report these cases to state and federal agencies, thereby avoiding requirements to monitor the long term health consequences of hazardous waste clean-ups (Brian and Martin 2007: 75).

- **The Blame Game** The main controversy was who could be blamed for the spill-- the Captain on the ship, Exxon, Alyeska or the industry in general? Captain Hazelwood was made the favourite whipping boy. He had a long record of alcoholism. His car driver's license was repeatedly suspended for drunk driving. Nine hours after the accident, Hazelwood had a blood alcohol test, indicating his alcohol level could have been extremely high at the time of the accident. Exxon CEO Rawl portrayed Hazelwood's drunkenness as the cause of the spill and strongly disassociated Exxon from "the captain ... this man". On the other hand, Exxon was blamed for not addressing the known alcohol abuse of its workers. The Industry was held responsible in lacking in technological prowess to stop the spill.
- **Fantasy Documents:** Exxon came up with contingency plans regarding managing a disaster and clean-up operations of the spill. Organisations often try to reassure public while talking about plans to handle disasters such as nuclear reactor accidents and massive oil spills. In the process they produce "fantasy documents" that obscure dangers and give a false sense of security. Exxon's plans were also considered fantasy documents and not factual or practical. Exxon also claimed that there were no long term impacts of the spill.
- **Coercion:** Exxon has been accused of harassing and firing the workers who acted as whistle blowers. They had access to compromising information at the time of early court cases. Investigative journalist Greg Palast claims the oil industry used "dirty tricks" against individuals who warned, before the oil spill, of shortcomings in containment systems. For example, in 1984, Captain James Woodle, Alyeska's commander of Port Valdez, warned of weaknesses in clean-up equipment and training and pointed out an earlier oil spill in Valdez. However, when he prepared to report it to the Government, his supervisor forced him to take back the notice (Brian and Martin 2007: 76).

### **Need for Policy Change**

The disaster and the cover ups related to the incident, when brought to light, demonstrated the need for an industry wide system to respond to spills. A common theme in the numerous government and scholarly reports was the realisation that the oil spill prevention, preparedness and response system for US coastal waters was broken. (Birkland 1998; FOOSC 1993; Kurtz 2004; National Response Team 1989). The government was tasked with developing new plan of action to deal with similar accidents.

A crucial point raised in the National Response Team (1989) report was that spills may be unavoidable. There is no fail-safe prevention, preparedness or response system. Nonetheless, the chances of similar incidents could be prevented. Comprehensive preparedness and timely response could limit the destruction. The Alaska Commission Report concluded that the spill was a result of gradual degradation of oversight and safety practices. In order to curtail costs, the company had reduced the number of crew members on the tankers. While tankers transporting 6.3 million gallons of oil in the 1950s used a forty-member crew, the Exxon Valdez had only nineteen crew and fifty-three million gallons of oil to transport (Santarpio 2013: 301). The Alaska Commission also observed that the rules established in 1977 should have prevented the spill. Due to oil industry lobbying and lawsuits the state could not enforce these rules. Fundamentally, the Alaska Commission found the spill was almost a certainty: “Success bred complacency; complacency bred neglect; neglect increased the risk—until the right combination of errors finally led to an accident of disastrous proportions” (Santarpio 2013: 302).

Until that accident, there was little interest in a comprehensive policy because the system which left the industry responsible for clean-up activities had proved adequate for most of the numerous but relatively minor spills taking place in the US waters. Following the incident, several reports, however, cited lack of preparedness and the inadequate response actions mandating improvements. The United States General Accounting Office also reported on the government's handling of the spill. The GAO noted that nine agencies incurred clean-up, damage assessment, and other costs totaling \$125.2 million. It further stressed on the need for improvement in equipment, personnel training, communications and organisational structure (GAO 1990: 2). Legislations prior to the spill did not require direct federal action to respond to oil spills, which often led to valuable time being lost. Several attempts by Congress to establish more encompassing and elaborate oil pollution laws were hindered by stalemates. One such conflict was federal law limiting a state's ability to enforce requirements and liability for parties responsible for causing oil spills. The Exxon Disaster highlighted weak oil spill governance and thus became instrumental in the passage of the Oil Pollution Act (1990). This quick shift from deadlock to action makes the Exxon Valdez spill a particularly apt example of how a focusing event can spur greater attention to problems, open a window of opportunity and lead to policy change (Birkland 1998).



### **Oil Pollution Act (OPA)**

Need for new legislation was to reduce the number and the volume of the spills and minimise damage to natural resources. There was a move for improvement in tanker design and a greater preparedness to deal with oil spill in general. OPA 90 defines that ship owners or operators are responsible for the cost of pollution incidents and not just for the clean-up but for damage to the natural resources too (Luoma 2009: 15). OPA espouses tougher penalties and liability for spillers, allocates more resources for dealing with spills, and places more responsibility on the executive branch to respond to such incidents promptly. OPA 90 also created a spill clean-up fund by consolidating three smaller funds that were financed differently and served different purposes. It also created a \$1 billion fund which, while smaller than an Exxon size event, at least approaches the costs of cleaning up large spills (Birkland 1989: 28).

Four basic themes surfaced and won broad support throughout the development and passage of the OPA. These themes also resonated in future legislations in one form or another:

- **Pollution Prevention** found its way in almost all environmental initiatives of the 1980s and 1990s, including the oil spill legislation. The Exxon spill led to Congress placing unprecedented emphasis on prevention measures. Major revisions were carried out to the then existing contingency planning requirements, leak detection systems, as well as new authorities and studies regarding vessel traffic service systems, double hulls etc.
- **Federalisation.** The post-spill legislation led to an increased role of the federal government, but not at the expense of the states, in regulating oil and shipping industries and directing clean-ups. The Exxon Valdez and other spills proved that regulators and the regulated industries had become lax with their contingency plans. The government relied too heavily on spillers for adequate clean-ups. In response, Congress moved to strengthen government regulation in virtually all respects and to give the President a broader, "take charge" role in clean-up operations. It also required coordination of government efforts, with those of a proposed Marine Spill Response Corporation (MSRC). MSRC is a \$900 million initiative of twenty major oil companies created to respond to catastrophic marine oil spills. It includes five regional response centres, twenty-three equipment staging



areas and ten specialised spill response vessels. It established a new layer of contingency planning requirements for ports, vessels and facilities. The Coast Guard was assigned the responsibility to review and approve most contingency response plans and conduct periodic drills. The OPA also significantly limited the President's discretion to rely solely on private spillers' clean-up efforts and broadened the President's authority to direct clean-ups without actually "federalising" them by having the federal government or its contractors perform the clean-up. Only for minor discharges could the federal government decline to take any action and rely solely on private response efforts. Otherwise the President had to choose between "federalizing" or directing or monitoring clean-ups. One important exception to the federalisation theme was OPA's exemption from liability for public and private clean-up personnel. The so-called response action contractor Good Samaritan provision, similar to sections 107 and 119 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), shields certain response officials and clean-up workers from liability under federal law unless they are guilty of gross negligence or wilful misconduct. By providing limited immunity, Congress hoped to create incentives for greater public and private response efforts and avoid insurance/liability problems. The exemption supplements other provisions intended to coordinate planning and response efforts between public and private sectors.

- **Polluter Pays.** The "polluter pays" principle also found its place in the OPA. The act retained the basic strict, joint and several liability schemes originally envisioned in section 311 of the Clean Water Act, section 107 of CERCLA and all recent oil spill bills. However, it departed dramatically from previous approaches in many respects. The scope of recoverable damages, such as third party economic loss, was broader than previous laws. The law established a comprehensive victims' compensation scheme. Liability limits and their availability to spillers were less generous and stricter. Defences to liability were also more limited than those in previous proposals. The law also provided a plethora of new or dramatically increased penalties. In addition, taxes and administrative costs imposed on industry at large and spillers in particular were much more burdensome than those contemplated in earlier oil spill bills.

- **Anti-pre-emption:** The confusing federal and state laws were cited as a primary reason for comprehensive, new federal legislation. As of 1990 twenty-four states had their own oil pollution legislation, and seventeen of these states had regimes that did not contain any liability limits. Thus, there was a need to support reform bills that would consolidate existing federal laws and improved coordination between federal and state systems. The post- Exxon Valdez period led to adding a new layer of oil laws and regulations to the already existing one. OPA embodies the “anti-pre-emption” theme throughout the bill and across all three government levels: international, federal and state/local (Grumbles and Manley 1990: 36-38).

### **Changes with OPA**

OPA included not only costs associated with the removal of oil after a discharge, but “costs to prevent, minimise, or mitigate oil pollution. The Act also provided for (1) natural resource damages; (2) damages to real or personal property, including economic loss, recoverable by the owner or lessee of the property; (3) damages for loss of subsistence use of natural resources, regardless of ownership or management; (4) net losses of taxes, royalties, rents, fees or shares of net profits, due to damage to property or natural resources recoverable by a governmental entity; (5) damages for loss of profits, or impairment of earning capacity, due to damage to property or natural resources; and (6) damages for the net costs of increased public services caused by a discharge of oil (Schwartz et al 2008:8). For this the Congress established the Oil Spill Liability Trust Fund (OSLTF) provision under the OPA. The fund, financed through a tax on crude oil at US refineries, provides an alternative source of economic relief for claimants unable to obtain adequate damages from responsible parties.

OPA when passed was considered to be a futuristic act which was bound to take years to implement. Many government agencies Environment Protection Agency (EPA), United States Coast Guard (USCG), Department of Transport (DOT), The National Oceanic and Atmospheric Administration (NOAA), Office of Response and Restoration and Mineral Management Service (MMS) were responsible for implementing “over 50 new administrative duties and responsibilities.” Beyond the demands of OPA 90, oil companies responded to the problem of spills by applying the important technical and political lessons of spills to their oil handling and shipping operations. They improved techniques for loading and unloading oil, implemented better ship construction, improved employee training, increased drug and alcohol screening and

improved deployment of ships and equipment to respond to oil spills Birkland 1998: 29). While the efforts proved effective to contain smaller spills, bigger spill could still have disastrous effect. Compared to the changes that the OPA ushered, the spill legislation prior to the Act was often characterised as narrow and lacking any significant comprehensive value. OPA symbolized a fundamental shift in the legislative approach. In the study based on period 1976-2004, it was stated that both non-operational measures (like increased liability) and operational measures (like the phase-out schedule of single-hull vessels) related to OPA 90 were effective in reducing oil spills (Luoma 2009: 16). Since the OPA 90 was signed the volume of oil spilled from tankers into the US waters decreased by 95 per cent (House Hearing 111 Congress 2009). Several of the OPA's operational requirements have been embedded into international law. OPA 90 had an impact on the international community which required the phase-out of single-hull tankers. The US Coast Guard is responsible for implementing the provisions of OPA 90 and it uses inducements and sanctions to engender compliance. The sanctions have had the most important deterrent effect on potential polluters (Luoma 2009: 17). Since the passage of OPA 90, there were a few minor changes made to the legislation. In 1996, Congress amended the law to lower what industry called "onerous, unworkable financial responsibility provisions" that onshore facilities must meet, but it did not lower the liability limits of such facilities. Congress also redefined the term offshore to exclude previously included onshore facilities that were not directly involved in oil production. Congress also removed edible oils from its purview (Birkland 1998: 29).

### **Regional Citizens' Advisory Councils—a Product of the OPA 90**

OPA 90 led to the establishment of citizens' advisory council in order to study the prevention, control and impact of oil spills in Alaska. RCACs involved citizens into the governmental framework of monitoring. Two RCACs were established, one for the Cook Inlet Region and one for Prince William. These councils provided an innovative check on the relationship between the government and the industry in Alaska by involving citizens into the policy-making. RCACs were established to keep a check on the oil industry that supports deregulation and appears to oppose environmental safety measures. The statutory authorisation of the Councils provided legitimacy and attempted to guarantee that their work would be incorporated into the oil industry's future decisions (Santarpio 2013: 305). RCACs were also guaranteed funds

for research and projects. Congress is tasked with reassessing funding for the RCACs on an annual basis. The OPA provides that the Prince William Sound RCAC (PWS-RCAC) may receive up to \$2 million per year, and the Cook Inlet RCAC (CIRCAC) may receive up to \$1 million per year. This ensured that the RCACs would be able to promote policy change including tanker escort and navigation, weather reporting, and air pollution controls (Santarpio 2013: 305-306). There are representatives from fishing industry, aquaculture associations, Alaska Native organisations, environmental groups, recreational organisations, the Alaska State Chamber of Commerce, and nearby municipalities. The RCACs have been tasked with improving spill prevention measures and control the industry's impact on the environment in the area. The RCACs also review prevention and response plans and may make recommendations regarding permitting standards, facility operations, tanker operations and prevention and contingency plans in order to improve safety (Santarpio 2013: 307). This decentralised mode of monitoring policy issues and implementing important incremental changes in industry practice has been lauded as an important innovation in policy design.

It is however a fact that these citizen organisation also faced internal as well as external challenges since they were formed. The councils do not have the authority to subpoena information and witnesses that could prove extremely important in supplementing state oversight. RCACs have to trust the industry's inclination to cooperate with important information requests and cannot obtain testimony under oath. Secondly, while RCACs have been provided funding, the Cook Inlet RCAC has to continually negotiate with the oil industry to maintain its budget (Santarpio 2013:306). While the Prince William Sound RCAC received \$15.1 million from 1990 through 1996, the CIRCAC received only \$3.47 million. RCACs are only supposed to monitor and review the industry performance but cannot access industry's data. The PWSRCAC secured some additional powers through its contract with Alyeska, which gave it access to records and documents, and permitted members of the council to inspect facilities. However, only those documents accessed by the EPA and other agencies were to be made available to the PWSRCAC while confidential data could be refused in certain situations. This Contract severely hampered the inspection rights by requiring advance notice to Alyeska.

RCACs' have often faced advisory authority limitations and failed policy proposals. In 1996, the CIRCAC proposed that the industry consider using a tug in the Cook In-

let to help guide disabled tankers. The industry opposed it arguing that a sufficient response vessel that could respond to tankers in need already existed. Alaska Department of Environmental Conservation and the US Coast Guard neither opposed nor supported the proposal. The Coast Guard did not possess the authority to require a tug and neither party perceived the Inlet as a danger zone because of its small size as compared with Prince William Sound. Without this political support, the Alaska legislature did not address the issue (Santarpio 2013: 319). Nonetheless, RCAC did encourage the industry to test and improve the towing abilities of the response vessel stationed in the Inlet.

Both RCACs experienced difficulty in implementing improved oil spill response systems. Under the OPA, every tanker operator had to have a contingency plan if they intended to ship in the waters of Alaska. Despite this, the Prince William Sound Council “faced a generally unfavourable political context in attempting to enhance the contingency plans for the Sound” (Santarpio 2013: 320). The CIRCAC called for increased coordination between the government and the industry in the planning process and the “incorporation of oil fire fighting strategies into the contingency plans,” but did not receive any support from the Council. The subpoena power would empower the RCACs to make recommendations, question the industry, perform important research, and create an incentive for the industry itself to self-police. Secondly, funding for RCACs needed to remain the responsibility of the oil industry, but the process of negotiating the amount of funding should be removed from the day-to-day operations. Above all the RCACs needed to be encouraged to expand from their advisory function and the industry made answerable to their advice. Only by giving them real fangs, RCACs could accomplish the goal of preventing future oil spill disasters (Santarpio 2013:333).

### **Did OPA 90 Resolve all Problems?**

The enactment of OPA represented a fundamental shift in the direction of oil spill legislation from a compensation-centred focus on liability to an emphasis on clean-up and prevention. However, inadequacies still prevail. The Act received criticism in failing to provide uniformity and predictability under the liability and removal provisions by “confusing the interaction of federal and state law” through the Act’s non-pre-emption provision (Schwartz et al. 2008: 12). This can lead to states implementing liability standards outside the scope of the Act. This can make OPA redundant

with liability scheme similar to the one that existed prior to the act. Additionally, the resources by the government to clean up the spill remained the same. The finances available under the OPA are not sufficient to clean up a spill of the Exxon size.

Despite the shortcomings plaguing the OPA, Congress succeeded in creating a revamped oil pollution liability scheme by integrating several dissimilar federal oil spill statutes into one comprehensive law. The oil spill regulations have evolved over time. Before the 1989 spill, the radar coverage did not allow tracking oil tankers once a certain distance was trespassed. This was the reason Exxon Valdez erroneous course could not be detected by the Coast Guard radars (Parrado 2010:9). In the Erika case, the French and the Spanish government decided to send off all old dangerous tankers beyond the 200 miles limit. However, that proved to be impossible as the capacity of the radar systems did not allow for it. Research programmes were underfunded and there was no research that could offer better responses in the case of spills. The availability of equipment for dealing with major spills was also insufficient. Post the spill, an elaborate and costly ship escort system was introduced to escort tankers in and out of the area. Radar coverage was extended to the Bligh Reef area, where the accident had happened, and new rules for real-time monitoring of vessel locations were put in place.

A new set of criteria by which firms are judged, the Valdez Principles, has been offered as a plan by the environmentally concerned. The Principles are ten rules or codes of behaviour with which companies must comply if they want people to invest with them. Drawn up in time for Earth Day 1990 by a consortium of 14 environmental groups along with the Social Investment Forum of 325 socially-concerned stock-brokers, analysts, bankers and others, the Valdez Principles are trying to legitimise the idea that corporations are responsible for their impact on the environment (Ohnuma, 1990: 24). Several organisations engaged in spill prevention and accident response have improved emergency planning, inspections, accident training and drills, clean-up equipment, availability, deployment and safety programs since 1989. While state and local organisations play essential roles in oil spill emergency management, the US coast guard plays a central role in responding to oil spills affecting ocean and navigable waterways. The Exxon Valdez disaster led to increase in regular unannounced drills. Many safety requirements were extended to non-crude oil vessels, such as large cargo ships, fuel barges and passenger cruise vessels. In the wake of the spill state legislators also passed a nickel-a-barrel tax on oil to fund a \$50 million spill

clean-up fund. The state then went on to use the fund to finance clean-up of sites contaminated by fuel spills and to address problems not associated with crude oil or the companies that paid the tax (Bradner 2009).

Although several things changed after the Exxon Valdez spill, the actions taken did not resolve all the problems. Controversy has swirled around concerns such as spill liability, the role of citizen advisory committees, availability of rapid-response oil spill clean-up contractors etc. (Sylves 1998). Debates continue whether tankers should be allowed to carry on board oil spill clean-up equipment. According to several scholars, the US government has continued to exhibit considerable ambivalence toward not following the international maritime oil spill regulations. There is an apparent reluctance to surrender national sovereignty. Moreover, despite the heightened awareness raised by the Exxon Valdez regarding the need for faster response, better design and operation of tankers, the accidents have continued to occur.

Disasters play a role with respect to public policy and scientific research. The attempt of policy is to reduce the negative human and economic costs of the disasters. Research seeks to arm decision makers with knowledge and tools. Disasters provide opportunity and willingness to learn and improve upon a policy. However, disasters do not necessarily lead to policy alteration. According to the agenda setting theory, three criteria should be met: perceptions of a problem in need of solution, perceptions that increased legal and hierarchic accountability is a feasible solution and a political climate conducive to policy change (Schwartz and Kennan 2004: 97). The theory also recognises that not every crisis would bring up situations that would meet these points. Disasters such as the Torrey Canyon Spill, The Cuyahoga River disaster, the Santa Barbara oil spill and the Exxon Valdez somewhat fulfilled these criteria. It should be noted that while focusing events are instrumental, they are only a beginning in the important set of events that must occur bring a policy change. The “incremental” way in which US policy making operates, a single event might not be equipped to alter policy. Other stakeholders such as government, interest groups, media and the general public need to come together and demand a better policy. This was noted in the aftermath of the Exxon Valdez disaster which led to passing of the OPA. However, environment policies generally take significant time to yield results. Many a times they seem at odds with economics of a region and thus not considered profitable as re-election strategy by the politicians. Critical junctures can bring in the surprise factor, shake up the status quo but it is the constituent opinion and outrage that encourage

policy-makers to embark with new legislation and accomplish it quickly (Findley 2002).

The present dissertation looks at the 2010 Gulf of Mexico Oil Spill Disaster, causes and effect on policy change. The researcher analysed the stakeholders' response to the disaster and their influence on the policy process. For the purpose of the research scholarly material discussing the policy making process, government primary source materials, industry research, media findings, and interest groups' reports available in the public domain were consulted and reviewed.



## Review of Literature

The text book case of policy making is the rational comprehensive approach derived by Harold Dwight Lasswell in *“Policy Orientation”* (1951). According to that, the cost and benefit analysis regarding a policy decision helps to find the best suited alternative. Rational decision making occurs in a logical order: a problem arises, alternatives are developed and weighed, and a decision is made to choose the best alternative. Charles Lindblom’s *“The Science of Muddling Through”* (1959) and *“The Policy Making Process”*, takes a hard look at Lasswell’s approach. He perceives policy making in a democracy as the job of elites so general population might not necessarily be involved in it. Democratic Policy formulation promotes deliberation, retards rapid change driven by immediate “passions,” and moderates the ultimate effect of policy changes. This is done in order to avoid major, non-incremental changes in policy direction, for fear that major changes are destabilising and can have unintended consequences. Lindblom notes that policy making is an incremental process with series of small steps building upon an existing policy.

Schattschneider in his book *“The Semi sovereign People”* (1960), and Charles O Jones in *“Speculative Augmentation in Federal Air-Pollution Policy Making”* (1974) argue that this incremental decision making undergoes a shift with conflict. Chaos provides scope for redefining agenda and instituting change. Other scholars such as Frank R Baumgartner and Bryan D. Jones and Thomas Birkland add on this stating that new groups and coalitions are formed within a policy domain to address a problem situation. With the help of research, interviews, case studies and comprehensive analysis Baumgartner and Jones outline the forces that can push a policy out of the public eye and the cycles that can move a policy back into spotlight after years of seeming inaction. The final section of the book focuses on the rise of interest groups, the growth of factions in policy-making, the changing nature of the relationships between local, state, and the federal government in the policy arena.

In *“After Disaster”* (1996), *“Business and Political Dimensions in Disaster Management”* (2000) and *“Lessons of Disaster”* (2006), Birkland notes that while disasters necessarily do not lead to policy change, they can act as an important precursor for debate. Walter Rosenbaum in *“Environmental Politics and Policy”* (2010) and Len-

don and Martin in *“Environmental Disasters”* (2007) provide a definitive coverage of environmental politics and policy, stating decision makers are obligated to consider public opinion, lobby groups’ voice and opposition demands to pass a dramatic new statute or to severely alter an existing one. John Kingdon’s seminal book *“Agendas, Alternatives and Public Policies”* (2003) travels through various processes of policy making such as setting of the agenda, specifying alternatives, making an authoritative choice among the alternatives and finally implementing the decision. The books explain how selective issues get attention of the government. Kingdon notes that policy stream is dominated by influential elites – the president, Congress, and heads of agencies who identify major issues of political importance, but not the detailed alternatives. Decisions don’t seem to follow a strictly logical progression as claimed by rational comprehensive model or incremental model. Some issues become ‘hot’ all of a sudden, with big changes implemented, rather than undergoing exclusively incremental changes. Kirkland and Kretzer’s *“Risk and Crisis Management in the Policy Process: Permanent or Evanescent Concerns?”* (2013) hammers the same point. The paper argues how *“focusing events”* influence policy by looking at the level of the policy domain, rather than at individual events. The paper illustrates that analysing trends in a domain over several decades provides greater understanding about how and when policy change occurs.

In case of the oil spill disaster policy making in the US, Jones (1974) states that between 1955 and 1967, incrementalism continued. However, rising number of spill related incidents during ‘70s and ‘80s punctuated the equilibrium. Harvard Law Review’s article *“Oil Spills and Clean up Bills: Federal Recovery of Oil Spill Clean-up Costs”* (1980), National Research Council Report *“Oil in the Sea III: Inputs, Fates and Effects”* (2003) and Art Davidson’s book *“In the Wake of the Exxon Valdez: The Devastating Impact of the Alaska Oil Spill”* (1990) etc. delve on the same issue. Ben Lieberman in *“The Federal Response to the Oil Spill: Lessons to be Learned”* (2010) and Richard Sylves in *“How the Exxon Valdez Disaster Changed America’s Oil Spill Emergency Management?”* (1988) explain that the Exxon Valdez spill brought out the need to reform federal oil pollution laws leading to passage of the Oil Pollution Act.

The 2010 Gulf of Mexico Spill makes for the case study of this research. The literature pertaining to the disaster has been reviewed at length. Presidentially appointed Oil Spill Commission’s report *“Deep Water: The Gulf Oil Disaster and the Future of*

Offshore Oil Drilling” was analysed at length. The references supporting the National Commission’s final report served as a box of data and information to dwell upon. Other government reports such as “ The Amount and Fate of the Oil and The Use of Surface and Subsea Dispersants” and “*Final Report on the Investigation of the Macondo Well Blowout*” (2011) mention multiple failures to contain, control, mitigate, plan and clean-up the spill. The reports stressed on the faults of the offshore industry, role of the government agencies and effects of the disaster on wildlife, tourism and the entire food chain. Government reports point out to the ethical lapses among personnel, and conflicts of interest in the former Minerals Management Service (MMS). The reports also criticised American Petroleum Institute’s role (API) stating that it failed to serve as a reliable standard-setter for drilling safety and acted as the industry’s principal lobbyist and public policy advocate. The report “*Assessing Progress: Implementing the Recommendations of the National Oil Spill Commission*” released on April 17, 2012, two years after the spill, berated Congress for not able to adopt any major laws on oil and gas drilling despite introducing more than 150 bills to improve the safety and oversight of offshore drilling and holding more than 60 hearings to discuss the spill’s causes and consequences with regulators, oil company officials, grieving relatives and Gulf-area fishermen. Specific concerns involving agency reorganisation and regulatory policies toward safety reforms had been raised in oversight hearings and in reports, including reports by the DOI inspector general such as “*Evaluation Report: Minerals Management Service Royalty-In-Kind Oil Sales Process*” (2008), “*Investigative Report: Island Operating Company et al*” (2010) and “*Investigative Report: MMS Oil Marketing Group – Lakewood*” (2008). The post-spill reports underscored the need for assessment work to be carried out by Government agencies such as the Department of Interior, the Homeland Security, EPA and NOAA. NOAA’s report “BP Deepwater Horizon Oil Budget: What Happened to the Oil?” calculated the flow rate from the rig, and the amount of oil removed from the ocean floor. The Obama administration also came up with an official portal ‘*Restore the Gulf*’ for the response and recovery. The website lists several investigations carried out by federal agencies such as US Coast Guard and the Navy to provide further assistance and relief understand matters related to the explosion, reach an independent, scientific understanding of events, investigate and prosecute all instances of fraud related to the oil spill and its aftermath. The reports included US Coast Guard’s “*BP Deepwater Horizon Oil Spill: Incident Specific Preparedness Review*” (2011) and

*“On Scene Coordinator Report: Deepwater Horizon Oil Spill”* (2011), National Academy of Engineering and National Research Council’s *“Macondo Well—Deepwater Horizon Blowout: Lessons for Improving Offshore Drilling Safety* (2011), Government Accountability Office’s *“Interior Has Strengthened Its Oversight of Sub-sea Well Containment, but Should Improve Its Documentation* (2012). *“The Final Investigative Report”* (2011) compiled by a joint task force of the Bureau of Ocean Energy Management, Regulation and Enforcement and the US Coast Guard Joint Investigation Team documented the faulty decisions made by BP, Transocean and Halliburton managers. It, however, concludes that they could not prove these were personal failures.

The US Coast Guard also conducted extensive investigations into the agency’s response to the incident. “BP Deepwater Horizon Oil Spill Incident Specific Preparedness Review” provides an insight into Coast Guard’s operational role in the federal response. Other government reports, investigations and documents from prior disasters were also incorporated in the study. I looked at BP accidents at Texas refinery and Prudhoe Bay facilities as well as investigative reports regarding the 2008 MMS scandals. Since its occurrence, a lot has been written about the Spill. Within a month of the spill, publishers brought out six books relating to the spill. Many of them pointed to the failure of regulatory and civil justice systems that affected the offshore oil drilling industry and enabled a corporate culture, which sacrificed worker safety and environmental protection in pursuit of profits. Courtney Farrell in the book *“The Gulf of Mexico Oil Spill”* (2011) and Elaine Landlau in *“Oil Spill: Disaster in the Gulf of Mexico”* (2010) explain the causes behind the spill, the effect on workers, animals and environment and efforts being made to deal with the incident. The books talk about the effects on tourism, seafood and oil and gas industry of the Gulf Coast. The book *“Fire on the Horizon: the Untold Story of the Gulf Oil Disaster”* (2011) blends first person interviews with investigative reporting blaming BP for the catastrophe. Written by oil rig captain John Konrad and Washington Post journalist Tom Shroder, the book alleges that BP was pushing Transocean and other subcontractors to work as quickly as possible, in order to reduce costs. Thus, a critical safety test was botched and a last ditch fail-safe was abandoned, leading directly to the gas leak and explosion. Joel Achenbach’s *“A Hole at the Bottom of the Sea: The Race to Kill the BP Oil Gusher”* (2011) and Loren C. Steffy’s *“Drowning in Oil: BP and the Reckless Pursuit of Profit”* (2010) add candid view of the media's coverage. Achenbach (2011)

tries to bring out the media perspective while inter playing it with Washington Politics, Gulf of Mexico events and BP's response and responsibilities. The narrative begins with the explosion and then follows the efforts of BP engineers and Government scientists to plug the damaged well. However, there is nothing on BP's pre-blowout risk assessment, contingency planning or any insight into BP's corporate culture. Steffy (2010) on the other hand examines these points while blaming the corporate culture at BP. The book compiles research and interviews with BP employees, environmental experts and oil industry insiders to argue that BP has had a history of putting profits ahead of safety. The book also takes a look at the lack of proper oversight on the part of the various US Government agencies. The book cites several cases where BP had shown disregard for its employees and the environment. He also blames the current Obama administration and the Bush administration along with the Government agency Mineral Management Service (MMS) for accepting energy company gifts in cash and kind. Antonia Juhasz in "Black Tide" (2011) gave a compelling account of the disaster. The author explained the incidents through the perspective of people on all sides of the catastrophe. Juhasz' position is that of an oil industry watchdog. Her previous book *The Tyranny of Oil* prophesied the 2010 disaster. Colin Read "BP and Macondo Spill: The Complete Story" (2011) on the other hand is different than the books mentioned above. Read puts BP's actions in a broader context. The author tries to shift the accountability away from BP. Read blames the media for flaring up the disaster. The author appreciates the corporate giant for managing the crisis in a more responsible manner compared to any of the past transgressors. In the last chapter Read points out that alternative energy is the only way that could provide a sustainable energy and failure to move towards that is the source of energy issues the world is facing.

The disaster became a pet research project for energy and environmental think tanks. Report by Coastal Response Research Center and the National Oceanic and Atmospheric Administration's "*Coordinating R&D on Oil Spill Response in the Wake of Deepwater Horizon*" (2011), mentioned that the disaster led to prioritising several programmes funded by federal, state and private sector entities. It laments disconnect between federal and state and local contingency plans stating that the failure to involve state Governments was magnified at the local level. The Centre for Progressive Reform's paper "*The BP Catastrophe: When Hobbled Law and Hollow Regulation Leave Americans Unprotected*" and a discussion paper by Resources for the Future,

*“Organizational Design for Spill Containment in Deepwater Drilling Operations in the Gulf of Mexico: Assessment of the Marine Well Containment Company (MWCC)”* (2011) focus on the roles of liability and regulation. The reports blame the regulatory dysfunction of federal agencies, weak legal authority, unpreparedness on the part of government, inadequate resources and insufficient Outer Continental Shelf Lands Act (OCSLA) to protect worker safety and environment for the disaster. *“The National Incident Commander’s Report: MC252 Deepwater Horizon”* (2010) on the other hand blames the state Governments and local authorities for their reluctance in accepting the federal Government's lead role in directing the expenditure of funds and response actions and the collaboration with the responsible party. The report like others stressed improving governance structure, the need for engaging state and local officials in preparedness, planning and exercises of oil spill response unified command, and strengthening regulations over time as new drilling conditions emerge and new risks become apparent. Birkland’s paper *“Emergency Response, Doctrinal Confusion, and Federalism in the Deepwater Horizon Oil Spill”* mirrors the findings of several of these reports. It explains that the spill had three dominant blaming factors: lax federal regulation, managerial corner cutting at the oil company and its contractors and poor federal response. Patty McNicholas examines systemic flaws in the US oil and gas regulation in his article *“The BP Gulf Oil Spill: Failed Regulatory and Corporate Governance Systems Analysed through a Regulatory Capitalist Lens”* (2011). He takes a stand against the regulatory capitalism as a neo-liberal development. He also criticises reduced state regulation in order to benefit the free-market capitalist mechanisms such as competition, unfettered markets, minimal taxes and little Government intervention to provide profit to the industry. Richard L Gordon and Thomas J Blitterati also talk about regulatory dysfunction in their respective articles. *“Gulf Oil Spill Lessons for Public Policy”* (2011) by Gordon points out that in the event of a disaster, policy debates lose track and veer off into tangential campaigns against foreign oil imports, oil consumption and climate change. The article states that the most promising avenue of reform is to privatize commercially attractive federal lands and institute a strict liability regime for damage to third parties in lieu of regulatory oversight. Blitterati’s article *“Offshore Drilling: Is Tougher Federal Oversight needed”* and a paper by Environmental Law Institute, *“The Policy and Regulatory Response to Deepwater Horizon: Transforming Offshore Oil and Gas Leasing”* (2010) written by

Jon Simon and Jennifer Owen hoped that the federal policy and regulatory response to this incident will have significant implications.

There was an increased focus on the literature dealing with the spill response of the state of Louisiana. The state came up with a report along with the Coastal Protection and Restoration Authority named as "*The State of Louisiana Initial Response Plan Deepwater Horizon Incident*" (2010). The report talks about mobilisation of significant state resources in response to the event. The majority of this document describes necessary action to keep the oil spill from damaging Louisiana's coastal wetlands, marshes, beaches, properties, industries (fisheries, shrimpers, etc.), tourism and businesses. The report by Tourism Economics "*The Impact of the BP Oil Spill on Visitor Spending in Louisiana*" (2010) notes the effect of Spill on the tourism of the area. The threats from the oil spill, both real and perceived to the Gulf shoreline, waters and seafood impacted Louisiana tourism. Carsey's Institute Issue Brief on the Subject by Jessica D Ulrich, "*The Social Impact of the Gulf Oil Disaster Diverging Views from Communities in Florida and Louisiana*" (2011) noted that nearly 48 per cent of Gulf residents perceived damage to the environment and wildlife as the most serious impact of the Spill. Moreover, Louisiana residents trusted local and state officials more in cleaning effort than federal and industry. Alexandra Popovici in her thesis submitted to Cornell University, "*The Socio-environmental Implications and Effects of the Gulf Oil Spill: Impact on Citizens, Rights, and Recovery in the Debate over Accountability*" (2011) and Kirkland (2011) point out that indecisiveness on the part of states wasted precious time that could have been dedicated to assisting the victims or preventing further damage to the shore. Popovici notes that Jindal followed an independent approach and supported a Sand Berm project which was a subject of controversy among scientists, federal officials and environmentalists. New York Times article, "*Workers on Doomed Rig Voiced Concerns About Safety*" (2010) reports that a confidential survey of workers on the Deepwater Horizon in the weeks before the oil rig exploded, commissioned by Transocean showed that workers were concerned about safety practices but feared reprisals if they reported mistakes or other problems. BP on its part tried to shift blame on Transocean and Halliburton for the accident and for the failure of the blowout preventer. The report by BP "*Deepwater Horizon Accident Investigation Report*" (2010) seeks to fight the perception that BP was solely responsible for the Spill. The report states that the disaster was a mixed result of mechanical failures, human judgements, engineering design, operational implementation and team

interfaces. The industry on the whole has maintained to have made progress to improve safety. “*API response to commission report: ‘We’ve made progress to improve safety’*” (2011) claimed that Deepwater Horizon was an isolated incident and pointed that the offshore drilling industry was important to job creation and economic growth. The Joint industry Oil Spill Preparedness and Response Task Force “*Progress Report on Industry Recommendations to Improve Oil Spill Preparedness and Response*” (2011), nonetheless, admitted a credibility gap and mentioned the need to constantly improve industry’s safety and environmental performance and providing a platform for Industry collaboration and engagement with third party stakeholders including federal agencies.

In cases of disasters, media plays a major role in agenda setting and formulating policy debates. The researcher surveyed the literature regarding media’s agenda setting. Mc Combs and Shaw in “*The Agenda-Setting Function of Mass Media*” (1972) and Baumgartner and Jones in “*Agendas and Instabilities in American Politics*” (1993) have dealt with the subject deeply. Daley and O’Neill (1991) and Molotch and Lester (1975) have conducted media coverage of oil spills in the wake of the 1989 Exxon Valdez disaster and the 1969 Santa Barbara oil spill respectively. They state that media coverage often becomes a tussle between oil industry and environmental groups and their allies to tell opposing stories of the spill. In cases where a local story is also a national story, Molotch and Lester’s (1975) examination of the Santa Barbara oil spill in “*Accidental News: The Great Oil Spill as Local Occurrence and National Event*” found that local and national media covered the event very differently. Goidzel et al in “*The 2010 Gulf Oil Spill: A Very Local Story*” explain that while national news focuses on the disaster narrative and less on the clean-up efforts, local news is more likely to deal with legislative issues and the effect on local communities. The coverage of the 2010 spill concentrated on passing the buck syndrome between the federal Government, state Government, local authorities and the industry. Travis M. Johnston and Stephen N. Goggin in “*Presidential Confidence in Crisis: Blame, Media, and the BP Oil Spill*” (2012) explain how coverage of the oil spill shifted from factual reporting of events to blame game of how the President failed to lead. Media agenda setting technique could also be viewed in the way it addressed the spill. The spill was named as BP oil spill which played a major role in apportioning the blame on the global Oil and Gas Company headquartered in London.



Environmental advocacy groups also played a crucial role in agenda setting. According to a news report appearing in Louisiana daily, The Times Picayune, “*Environmental Groups Deliver More than 133,000 Petitions to Justice Department Demanding BP be Held Accountable for Gulf Oil Spill*” (2013), advocacy groups such as Defenders of Wildlife, Gulf Restoration Network, Save the manatee Club etc. alleged that the spill harmed and killed the endangered species. The groups fought for change in the US offshore drilling laws. Pew Environment group also advocated several amendments in existing laws such as the Outer Continental Shelf Lands Act (OCSLA), OPA 90 Act, suspension of Deepwater drilling etc. The “*Save our Gulf: State of Gulf*” (2011) report produced jointly by Mobile Baykeeper, Lower Mississippi River keeper, Louisiana Bayou keeper and four other Water keeper groups stated that the oil continued to be washed across the Gulf coast and the economy was suffering. The report released pointed out the health impacts, potentially from exposure to the mixture of crude oil and toxic dispersant. The report also criticised BP’s public relations campaign that allegedly tried to minimise the spill and its effects. Another group Gulf Rescue Alliance (2011), an organisation composed of scientists, medical professionals and seafood industry professional stated that the Gulf of Mexico’s sea floor grew more unstable since the explosion. Juliet Eilperin in a Washington Post article, “*In Oil Spill, Environmental Groups See Opportunity for Changes*” (2010) states that the Gulf provided the environmental community with opportunity to shift public opinion on climate and energy issues.

Public opinion response also assumes importance in the policy-making process. The disaster saw a barrage of opinion polls. The polls conducted reported on issues of offshore drilling, moratorium, federal and state handling of the disaster, use of dispersants and presidential and gubernatorial ratings. In the USA Today-Gallup poll conducted in late May 2010, 53 per cent of Americans rated Obama's performance as poor and approximately 60 per cent said the federal government had done a poor job. A CBS News poll also found a negative evaluation of Obama, with 45 per cent disapproving of his performance. BP’s response in both the polls was dubbed as being poor by more than 70 per cent of those surveyed. The Washington Post-ABC News reported by Juliet Eilperin and Jon Cohen in “*Poll: Support Plunges for Offshore Drilling; Regulators Blamed for Gulf Spill*” (2010) found that nearly three-fourths of Americans considered the spill a major environmental disaster. However, scrutiny of several

media reports and opinion polls reflect that public opinion changed in the post-spill period with offshore drilling gaining support to cater to energy needs.

## **Research Design**

### **Definition of Study**

Disasters are not just events that take place unexpectedly. They have the propensity to challenge people, government and policies in several ways. Human induced disasters- terrorism, climate change and technological failure, especially test the operation, durability, competence of policies and actions of government officials. Media and Interest groups can further influence public perception of a particular crisis situation. Political considerations become significant in preparing for, responding to, recovery and mitigation of disasters. Disasters bring to forefront failures in public policy or its implementation thus situating it for debate squarely into the political arena. This dissertation is a study of public policy analysis of human-induced disasters in the United States. It borrows from political science, public administration and sociology to show how disaster research helps in shaping policy. The study covers the 2010 Gulf of Mexico oil spill and its impact on the policy.

### **Rationale of Study**

The spill was termed the largest environmental disaster in American history and raised questions about energy policy in place. The spill affected the shores of Louisiana, Florida, Mississippi, Texas and Alabama. As a disaster which was human induced, it invited intense public and media scrutiny. The rationale of the study was to analyse the stakeholders' responses to the disaster. For the purpose of the study, stakeholders are persons, groups or institutions with interest in a program, project or policy. They are affected by policy or program either positively or negatively. Communities in the region; the oil industry and BP, Transocean and Halliburton in particular; environmental groups; and local, state and the federal governments are the stakeholders in the Deepwater Horizon blowout.

The dissertation is relevant because as the demand and production of oil increases, it becomes important to understand the relationship between oil industry and govern-

ment structures. The dissertation looks at the existing gaps in energy policy. By uncovering the reasons behind management failures, future ecological and economic catastrophes can be prevented or managed.

### **Scope of Study**

The research analysed federal and state governments' position before and after the spill. It also examined industry's attempt to rebuild reputation and shift out media attention. It studied people's response to government's action and legal justice. The study gathered the complex trade-offs existing between economic and environmental gains. It inspected the strategic manoeuvring of the key stake holders in the political game involving legal, economic, social, technological and ecological dimensions.

The spill exposed the nature of energy addiction while generating discourses to find alternate sources of energy. It also sparked an intense debate on developing, managing and policing the use of technology in order to prevent similar incidents in future. The dissertation analysed the social, political, economic and environmental consequences of the incident. It brought out how government agencies had to account for managing the post-disaster consequences. The industry was interested in protecting its image. The media and environmental interest groups left no stone unturned to pressurise the Government to take appropriate action.

### **Research Questions**

1. What are the effects of human-induced disasters on environment policy formulations?
2. What has been the role of the media, environmental interest groups and public opinion on environmental disasters?
3. What were the line of discourse among different stakeholders— the Industry, the Federal Government and Louisiana State and local authorities during 2010 Gulf Oil Spill?
4. Did the Gulf Oil Spill lead to more concerted federal and state regulations and reining the free market capitalist mechanism?
5. Responses to disasters are often framed primarily on social terms rather than environmental terms. Has such a line of thought been challenged in the wake of the Deepwater Oil Spill Disaster?

## **Hypotheses**

- a. American Federal structure and statutory provisions were a bottleneck in quickly responding to the 2010 Gulf of Mexico Oil Spill.
- b. Societal responses were instrumental in altering the lukewarm reaction of the US Government and the oil Industry to the 2010 Gulf of Mexico Oil Spill Disaster.
- c. While apparently seeking to assuage the popular reaction to the oil spill, the government protected the interest of the oil Industry.

## **Research Methods**

The study adopted historical, descriptive and analytical methods to examine and analyse the data. A large number of books were consulted before drafting the thesis. However, the number of serious research on the 2010 oil spill on the Gulf of Mexico, in particular is not very many. It was thus important to consult the available primary source materials, industry research papers, media coverage, and interest groups' publications available in the public domain. The primary report used for the research was the Oil Spill Commission Report "Deep Water: The Gulf Oil Disaster and the Future of Offshore Oil Drilling". Other government reports, Department of Interior findings, US Coast Guard investigations, corporate reports, and BP's internal communications, documents and investigations have been studied at length. But the Fulbright grant to do field research in the US for a period of six months, proved extremely beneficial to conduct this work. During the field research, interviews of experts from the government, industry and media proved beneficial. The study benefitted from the interview of Chairperson of the US National Commission on the BP Deepwater Horizon Oil Spill and former EPA administrator William K Reilly. The researcher also got the opportunity to meet the family members of those who lost their lives on the rig in the explosion, and experts like Lillian Espinoza, Louis Epstein, Anne Rolfes and Dr Michael Robichaux working on the ground to mitigate the effects of blowout. The researcher also met Leigh Fondakowski, Director of the play 'The Spill' that brought out a provocative web of stories of those affected by the disaster. These sources have been tied together to create a narrative of the development of offshore industry, causes and effects of the Deepwater Horizon explosion and policy responses after the spill.

## **Chapters' Synopsis**

The first chapter gives a detailed view of the causes and the effects of the spill. In order to boost exploration and earn profits, BP took several cost-cutting measures that had a bearing on the disaster. It notes how regulatory agencies, such as the Mineral Management Service (MMS) were consciously defanged over the years. The chapter also throws light on the corruption within the government agencies and their relationship with the oil industry that they were regulating. The second chapter describes federal, state and local governments' response to the disaster and the intergovernmental conflict that negatively affected the disaster response. It focuses on the successive US administrations' ethic of "energy independence" that allowed the industry to move into deeper and riskier regions for exploration over a period of time. The next chapter talks about BP and industry response in the aftermath of the disaster. The final chapter looks at the interest groups and media response. It analyses blogs, press releases, emails and various testimonies presented before the Congress during hearings.

## **Chapter I: Deepwater Horizon Spill: Causes and Effects**

*“Regulations don’t threaten business, they threaten greed”*

- Carl Safina, 2011

### **Gulf of Mexico - An American Treasure**

The Gulf of Mexico is a beautiful region with a vibrant ecosystem and has been significant to growth of the United States. It comprises of five southern coastal states-- Alabama, Florida, Louisiana, Mississippi and Texas. Gulf counties have over twenty-two million people employed in sectors of commercial seafood, shipping, tourism, and oil and gas production. The region boasts of nearly a trillion dollars in trade annually (Gulf Coast Ecosystem Restoration Council 2013:1). The US portion of the Gulf water covers more than 3.8 million square km. Sediments buried deep below the seafloor host large quantities of oil and gas. The central and the western Gulf account for about 48 per cent of the undiscovered technically recoverable resource (UTRR) of oil and about 50 per cent the UTRR for natural gas in the entire US (Hagerty and Ramsuer 2010: 2). The offshore reserves are concentrated off California and in the

Gulf dominated largely by Texas and Louisiana. The past few decades have witnessed technological innovations in exploration and production of hydrocarbons in deep water. From 2,000 feet in 1980 to 6,000 in 1990 the maximum water depth drilled ranges near 10,000 now (Aldy 2011: 1801). The region also has important pipelines transporting crude oil.

Gulf of Mexico also provides food as well as recreational activities. The beaches, marshes, forested wetlands and mangroves provide aesthetic value and support a host of habitats. Its waters and coasts are home to over 15,000 species of sea life. Migratory bird flyways cross the region and utilise the coastal habitat for foraging and nesting. The Gulf boasts of several coastal, marine and freshwater endangered and protected species (Restore the Gulf 2010: 27-28). It has a natural protection against storms and floods with barrier islands and wetland complexes. They perform critical water filtration functions, removing and trapping contaminants in the water and storing carbon.

However, the region has been facing a number of on-going environmental challenges.

1. **Loss of Wetland Habitats:** There has been loss of coastal marshes and forested wetlands in the region, especially Louisiana. In that state alone, a wetland size of a football field disappears into the ocean every half hour. Since the 1930s, the coast of Louisiana has lost over 2,000 square miles of wetlands (Tibbetts 2006; Tidwell 2007; Haney 2012: 109). Oil and gas exploration and pipe installation activity have expedited the process. Without active plan to save and restore these wetlands, by 2050, one-third of coastal Louisiana can vanish (Gordon et. al 2011: 4).
2. **Erosion of Barrier Islands and shorelines:** There has been continued erosion of barrier islands and shorelines throughout the coast from Florida to Texas. The Mississippi Sound, Mobile Bay, Apalachicola River basin, and the Matagorda Bay are each threatened by coastal development and loss of natural habitat. The creation of shipping channels along with the building of New Orleans levee system has altered the way the sediments travel down the Mississippi river (Timothy 2012: 108). This has weakened protection from storm for coastal communities, threatens the beaches that support the local tourism economy and affects numerous species that rely on these barrier islands for habitat. Environmental losses and increased risks from rising sea level, land subsidence, and hurricane damage can cost a total of \$350 billion in losses by 2030 (Gordon et. al 2011: 4).

3. **Loss and Degradation of Coastal Estuarine Habitat:** The estuaries and coastal systems of the region provide habitat for fishery resources in the Gulf and support oyster industry. Loss of estuaries has resulted from factors like pollution, development in coastal areas, erosion and overfishing.
4. **Imperilled Fisheries:** Overfishing has led to depletion of major commercially and recreational important fin fish species. Contaminants such as methyl-mercury in fishes, and red tide organisms and human pathogens in shellfish, reduce fishery values and endanger human health (Restore the Gulf 2010: 28).
5. **Hypoxia (low oxygen):** When concentration of dissolved oxygen in the water column decreases, it reduces the quality of habitat. This results in death or migration away from the hypoxic zone. The northern Gulf of Mexico adjacent to the Mississippi River is the site of the largest hypoxic zone in the US and the second largest hypoxic zone worldwide (Restore the Gulf 2010: 28).
6. **Climate change:** Climate change is altering the physical, chemical, and biological characteristics of oceans, coasts and adjacent watersheds. Rising temperatures, changing precipitation patterns, rising sea levels and ocean acidification are making it difficult to restore or sustain system states (Restore the Gulf 2010: 27).

The 2010 Macondo blowout damaged this already compromised ecosystem.

### **Project Macondo and Key Players**

The disaster involves three key players in the blowout—BP, Transocean and Halliburton. Regulating agency MMS is a fourth player in the disaster. The lease for Macondo drill site was possessed by BP in “Mississippi Canyon block 252”. BP had the exclusive rights to explore oil on the 5,760-acre block of ocean bottom under five thousand feet of water. The company had narrowly outbid five competing companies by offering \$34 million (Konrad, Shroder 2011: 36). The exploration plan involved drilling and “abandoning”<sup>3</sup> two exploratory wells. Most drilling operations are remembered through code names that are easy to remember. There have been names like Holly, Heather, Cognac, Bullwinkle etc. Block 252 was named ‘Macondo’ in a fund-raising contest. It was named after the fictional town created by famous literary author Gabriel García Márquez in his book *One Hundred Years of Solitude*. In the novel, Macondo

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<sup>3</sup> Abandoning means capping a well once discovered until the company reopens it for production.



starts out as a small town in the middle of a jungle. It then expands physically and culturally to become dynamic but its citizens fall prey to own greed and begin to take moral shortcuts. Macondo's promising beginning succumbs to a series of plagues and wars. Finally, it is blown off by an explosive windstorm. In the novel the citizens of Macondo were warned of the tragedy to come, but they were incapable for understanding it before it was too late. All of this theatrically suited the fate of BP's Macondo well as well. There was a sentence in novel about the village that can be fitted with the well, "It was as if God had decided to put to the test every capacity for surprise and was keeping the inhabitants of Macondo in a permanent alternation between excitement and disappointment, doubt and revelation, to such an extreme that no one knew for certain where the limits of reality lay" (Freudenberg and Gramling 2011: 10).

The Macondo project was one of the more than 760 drilling leases BP owns the right to in the Gulf. BP is the single largest producer of oil in the region from where it draws nearly 17 million gallons a day, 25 per cent of the Gulf's total output (Deans and Lehner 2010: 5). BP does not own the rigs or operate them. It hires contractors to drill the well. Transocean was hired for the Macondo project. Transocean is the largest Deepwater driller in the world and contracts out rigs, equipment and work crews to drill oil and gas wells. According to the company, "We specialize in technically demanding segments of the offshore drilling business with a particular focus on Deepwater and harsh environment drilling services" (Juhasz 2011: 6). Initially, rig named 'Marianas' was used for drilling, followed by the Deepwater Horizon.

Marianas was a twenty-four-year-old semi-submersible designed to drill in Deepwater. The Macondo well was to be an inverted skyscraper<sup>4</sup>, a towering structure of steel and cement, telescoping downward. The drilling was to begin at the bottom of the ocean, where not a single worker could venture. Every bit of the construction of this hanging tower, the penetration of the rock, removal of debris, installation and sealing of the walls, had to be done at the end of a five-thousand-foot pole. Juhasz (2011: 10) explains drilling in Deepwater as an "acrobatic dance with pressure". The deeper you go, the greater the pressure. Leigh Fondowski, the director of the play *Spill* that narrates the blowout's causes and effects said, "Deepwater drilling is often

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<sup>4</sup> As commented by Tom Shroder and John Konrad in *Fire on the Horizon: The Untold Story of the Gulf Oil Disaster*.

compared to space travel. Technical experts told me that drilling was not actual science. It was based largely on their best hunches!” (Fondowski’s interview 2015).



**Figure 14: Marianas Rig**

BP’s initial plan for the well was seventy-seven days at a cost of \$96.1 million. BP had leased the Marianas on nearly half-million-per-day. Same amount or more was spent every day on rig’s fuel, daily helicopter flights bringing workers to the rig, drilling supplies, contractor services, food and catering, etc. This brought the drilling cost of BP to almost \$700 per minute. In order to save money, BP had planned on finishing the drilling in fifty-two days that would help BP save more than \$20 million (Shroder and Konrad 2011: 39). However, Marianas soon started experiencing mechanical failures and kicks. Kicks occur when there are problems managing the pressure of oil and gas at the time of drilling. Technical glitches in Marianas literally blew out the rig’s blowout preventer (BOP). The BOP was disconnected, hauled up on the rig, repaired and then re-installed. This was followed by hurricane Ida that caused fur-

ther electrical wiring damage to the Mariana. It was sent to shore for repairs and was later decommissioned.

### **Deepwater Horizon for Drilling**

As a replacement *Deepwater Horizon* was called to take over on January 31 2010. It was 369 feet long and 256 feet wide—the size of an NFL football field, including end zones, coaching boxes, and team areas. There was enough space to house 130 people, along with a gymnasium, movie theatre, lounge, laundry, kitchen and helicopter pad, with room left over for the actual work of the rig: drilling for oil. The rig was known for drilling the deepest oil and gas well in the Gulf of Mexico Tiber field in September 2009. The rig started drilling on February 15 and was supposed to complete the job by March 8 for a total cost of \$96 million. However, there were several unattended repair issues. It had suffered numerous serious spills and fires and the US Coast Guard had issued citations eighteen times between 2000 and 2010. In 2008, an accident led to the evacuation of 77 people (Bernshaw and Lacutas 2012: 68). As it started operating in the Gulf in 2010, it was kicking regularly and the crew lost control several times. A kick can function as an early warning signal, and proper actions can be taken based on precursor incident investigation (Skogdalen 2011: 22). Transocean had commissioned the investigation regarding the safety culture on four of its rigs in the Gulf, including the Deepwater Horizon due to a series of accidents since 2007. In 2009, four workers died on board Transocean rigs in separate accidents within the US. In 2007 eight people died off the coast of Scotland when a support vessel towing a chain for a Transocean rig capsized. Norwegian government's investigation for the incident blamed Transocean. Another report accused the company of “bullying, harassment and intimidation of staff.” Natalie Roshto, wife of Shane Roshto who lost his life in the Deepwater Horizon's explosion held Transocean responsible for not encouraging a whistle blower culture within the organisation. She stated that her husband “expressed grave concern about the dangerous work conditions before his death. He, however, feared losing his jobs if he reported mistakes or raised concerns” (Natalie Roshto in her interview October 14, 2015). In her testimony to Congress, Roshto said that her husband and others on the rig felt the pressure to continue drilling despite frequent equipment malfunction and setbacks. Natalie repeated in the interview what she told the US federal investigators, “From Day 1, he deemed it was a well from

hell! Mother Nature did not want to be drilled here” (Natalie Roshto in her interview, October 14, 2015).



**Figure 15: Deepwater Horizon Rig**

By early April 2010, the Deepwater Horizon had begun to penetrate the famous hydrocarbon-bearing rock that BP was hoping to find. On April 9, at 18,193 feet below sea level, the drilling was halted due to another accident. The drilling was finally stopped at 18,360 feet even as the original objective was 20,200 feet. By then the operation was more than fifty days behind schedule and nearly \$100 million over budget.

### **Cementing Job**

Macondo was an exploratory well. Such wells are usually plugged and abandoned and new wells are drilled for the purpose of actual extraction. BP engineering team on the rig reported that the final cementing job was performed smoothly. A series of tests were run to make sure that the cement job was holding. According to BP Wells Team leader, everyone involved was satisfied (Oil Spill Commission 2011: 4). After the final cement inspection, the team began preparing the well for temporary abandon-

ment.<sup>5</sup> Transocean employer Dewey Revette<sup>6</sup> was preparing for the displacement test. The test displaces heavy mud in the drill pipe with lighter seawater to test the stability of the cement job. It was one of the final procedures before moving off from the well. According to later investigations, BP employer Robert Kaluza brought more shortcuts to the test to make it faster and cheaper. Two tasks would also be performed at once: the displacement and the second negative test to measure upward pressure from the shut-in well. A final test on the cement job was the “cement bond log”. It is considered the only test that can really determine the actual effectiveness of the well’s seal. It was a critical final step in ensuring the stability of the well. However, the test was never run. One of the explanations that found its way with industry insiders is when the team got on the Horizon to run the test they found the well kicking heavily and ordered the well killed (Juhasz 2011: 16). The BP company man chose not to do the test and sent the team back. The team headed by service contractor Schlumberger states that the team was on standby from April 18 to 20. The New Orleans *Times-Picayune* reported that “BP never asked the Schlumberger crew to perform the acoustic test and sent its members back. The test would have cost \$100,000 or more, taken time and required a month of remedial work if it found problems, like an uneven cement job, at a likely additional cost of \$30 million.” (The Times Picayune 2010)

### **Pressure Tests and Explosion**

Finally, removal procedure of the drill involved two tests: the positive pressure test and the negative pressure test. The positive pressure test, among other things, checks the ability of the casing in the well to hold in pressure. Negative pressure test checks not only the integrity of casing but also the integrity of bottom hole cement job. If the pressure increases are seen during a negative pressure test, it signifies that fluids such as hydrocarbons, seawater etc. are leaking into the well from either the well casing or the bottom hole cement job. While the positive-pressure test in case of the Deepwater Horizon exhibited reassuring results, the negative-pressure test indicated volatile pressure condition. The second time the test was conducted, the results were reassuring. This led to dismissal of initial readings as anomalous. Thus, the crew started pre-

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<sup>5</sup> Temporary abandonment is the process after successful exploration for securing the well until the production platform can be brought in for the purpose of extracting the oil and gas from the reservoir (Oil Spill Commission 2011: 5).

<sup>6</sup> Dewey Revette was one of the 11 men who died aboard the Deepwater Horizon

paring for the temporary abandonment process despite continued discrepancy between pressure inside the drill pipe and the blowout preventer. According to experts, two negative tests in a day worsened the already unstable well (Juhasz 2011). The cement requires two days to solidify. The first negative test was performed just sixteen and a half hours after the cement was pumped, and the second test just twenty-one hours later. The cement had no functional strength to hold.

Around 9:45 pm drilling mud began spewing upward through the drill pipe and onto the oil platform, signalling a major breach of the well's integrity. The workers should have gotten warning signs from the well. The rig was well equipped with visual and auditory alarms that would alert the crew if gas enters the rig in dangerous proportions. It also came equipped with control panels that automatically shut down operations in specific areas if gas is detected. Adding to that, the rooms in the drilling area were airtight, so if gas made it into one room, it would be isolated and not threaten the entire ship. The ship computer began to report gas 40 minutes before the explosion even as the negative test and displacement was being carried out. As the gas entered the rig the alarm should have gone off. The crew should have seen lights flashing. However, the automatic gas alarms were programmed only to record information on the computers but not trigger automatic alarms. This was done so that people are not disturbed due to false alarms. The automatic shutdowns did not take place. The drill rooms were not shut in. And those elsewhere in the vessel were left unaware of the gas (Juhasz 2011: 24).

The blowout preventer should have contained the flow of hydrocarbons to the rig, but it failed to seal the well. After the first explosion that accompanied the well breach, the crew attempted to engage the emergency disconnect system (EDS), which should have closed the blind shear ram, severed the drill pipe, sealed the well, and disconnected the rig from the BOP (Oil Commission Report 2011: 114). The EDS failed and rig's riser pipe remained connected to the blowout preventer as the rig sank (Department of Interior 2011:3) According to federal regulations, the BOP needs to be certified every five years. The *Deepwater Horizon* BOP had never been certified once while being in use for nearly ten years. Recertification would require the rig out of use for months and the four-story stack disassembled. Several issues with the BOP were known by both BP and Transocean officials. According to Richard Charter, Senior Fellow the Ocean Foundation, the whole science of BOP is faulty. It has a primitive design that was invented in the 1950s. The drill pipe had buckled under the tre-

mendous pressure of oil and gas rising from the well (Charter's interview 2015). Mike Williams, the rig worker who survived the explosion, gave an account that the destruction of the rig was building up with a series of mishaps that were ignored due to "the pressure to finish the job at the earliest". He stated that a few days before the spill, a BP manager had demanded faster drilling pace. This led to bottom of the well splitting up open and swallowing the tools and the drilling fluid called "mud." This situation forced abandoning the well and a new route to the oil was drilled. It cost BP more than two weeks and millions of dollars. Four weeks before the explosion, the rig's BOP was impaired. The rubber gasket known as "annular" was destroyed and its pieces started coming out of the well. The annular is of critical importance. It is used to seal the well for pressure tests. However, the Transocean supervisor dismissed the episode saying "it was not a big deal!" Additionally, one of the two control pods of the BOP had lost some of its function weeks before (60 minutes 2010). According to federal regulations, such a scenario required the rig to suspend drilling operations until fixed. The regulations were not followed.

### **Blowout Ordeal**

Soon after the blowout, service ship Joe Griffin, equipped with water cannons that could pump out 10,000 gallons of water a minute, was on its way. It still took more than nine and a half hours for it to reach. Most of the workers reached the lifeboats amid smoke, heat and darkness (Freudenberg, Gramling 2011: xi). Lack of adequate drills added to the catastrophe. Rather than waiting for lifeboats, ten people threw themselves from the rig—an estimated 100-foot drop. One lifeboat was dangerously overcrowded when lowered while the other was not even full. One life raft was never deployed, whereas the other was lowered while tethered to the ship, leaving it dangling at a ninety-degree angle, attached to the burning rig. Adding to that there was no chain of command (Juhasz 2011:34). Deepwater Horizon commemorated the fortieth anniversary of Earth Day by going down in flames. During the thirty six hours of fire-fighting that took place, neither the Transocean nor BP took control. Notably, the rig owner and the operator have the responsibility to fight fires on the commercial offshore shore rigs in the US. The US coast guard's guidelines state that its personnel are only to support a regular fire-fighting agency under the supervision of a qualified fire officer 'fire Marshall'. There was no plan, no fire-fighting vessels operating from some other location and no preparation to deal with fire. Salt water was sprayed on

the fire until the rig capsized and sank. There is a concern that salt water might have been responsible for sinking of the rig. The *Deepwater Horizon* stayed afloat with a series of buoyancy chambers—large spaces filled with air and ocean water. The water poured onto the rig, flooded the buoyancy chambers and forced it to sink (Mehta and Solomon 2010).

### **Broken Riser Spilling the Oil**

It was realised soon after that crude oil was leaking. Initially, it was hoped that this oil might just have come from the pipe that connected the rig to the ocean floor. Over the next few days it became clear that there was more than just one pipe's worth of crude oil. Both BP and the federal government were aware that oil was leaking from the well from the time of the blowout. However, they chose to conceal the information from public (Juhasz 2011: 58). While the total volume is estimated to be 4.9 million barrels, BP's original estimate was only about 2 per cent of that volume. Throughout the three months, BP took the lowest spill estimate from a range of amounts. BP's internal documents show that earlier the actual amount of oil spillage was in the range of 1,063 to 14,226 barrels per day (Juhasz 2011: 66).

The Oil Spill Commission report criticised the federal government for using the anonymous NOAA scientist's figure of 5000 barrels per day which was many magnitudes low from the actual number. The estimate did not take into account the other leaks and his methodology for estimating the velocity of the oil was also imprecise. On April 21, an oil slick two and a half miles was visible around the disaster site. Rear Admiral Mary Landry, commander of the Eighth Coast Guard District was in charge of the federal government's early response. He stated, "13,000 gallons of crude might be emanating from the source per hour that is approximately 7,500 barrels per day." (Juhasz 2011: 60) The Commission's report states that throughout the first month of the spill, government responders officially adhered to "low and inaccurate estimates" (Oil Spill Commission Report 2011:2). Finally, on public demand, BP released a thirty-second clip of the oil coming out of the broken riser on May 12. For the first time it was visible to all what an oil gusher at 5000 feet below the ocean's surface looked like. On May 20, the spill cam went alive. By late June, Marcia minute, Director of US Geological Survey and leader of the federal government's "Flow Rate Technical Group," estimated that the blowout was spewing between 35,000 and 60,000 barrels per day (Freudenberg and Gramling 2011: 13). On August 2, the final



“government estimate of discharge” was released. The final finding was between 55,800 and 68,200 barrels of oil a day from April 22 until the riser was cut on June 3. After June 3, the rate declined to between 47,700 and 58,300 barrels of oil a day until the well was capped on July 15 (Deepwater Horizon Incident Joint Information Center 2010). BP was reluctant to divulge the actual number because that would be directly proportional to the amount of money BP would have to pay in restitution.

**THE BP OIL SPILL**  
ONE YEAR LATER

# IN MEMORY

*The 11 men who died on the Deepwater Horizon*

 <b>JASON ANDERSON   35</b> <ul style="list-style-type: none"> <li>• DRILL SUPERVISOR</li> <li>• MARRIED, FATHER OF TWO</li> <li>• BAY CITY, TEXAS</li> </ul>	 <b>AARON DALE BURKEEN   37</b> <ul style="list-style-type: none"> <li>• CRANE OPERATOR</li> <li>• MARRIED, FATHER OF TWO</li> <li>• PHILADELPHIA, MISS.</li> </ul>	 <b>DONALD CLARK   49</b> <ul style="list-style-type: none"> <li>• ASSISTANT DRILLER</li> <li>• MARRIED</li> <li>• NEWELTON, LA.</li> </ul>	 <b>STEPHEN RAY CURTIS   39</b> <ul style="list-style-type: none"> <li>• ASSISTANT DRILLER</li> <li>• MARRIED, FATHER OF TWO</li> <li>• GEORGETOWN, LA.</li> </ul>
 <b>GORDON JONES   28</b> <ul style="list-style-type: none"> <li>• MUD ENGINEER</li> <li>• MARRIED, FATHER OF TWO</li> <li>• BATON ROUGE, LA.</li> </ul>	 <b>ROY WYATT KEMP   27</b> <ul style="list-style-type: none"> <li>• ROUGHNECK</li> <li>• MARRIED, FATHER OF TWO</li> <li>• JONESVILLE, LA.</li> </ul>	 <b>KARL KLEPPINGER JR.   38</b> <ul style="list-style-type: none"> <li>• MUD PIT WORKER</li> <li>• MARRIED, FATHER OF ONE</li> <li>• NATCHEZ, MISS.</li> </ul>	 <b>BLAIR MANUEL   56</b> <ul style="list-style-type: none"> <li>• CHEMICAL ENGINEER</li> <li>• ENGAGED, FATHER OF THREE</li> <li>• GONZALES, LA.</li> </ul>
 <b>DEWEY REVETTE   48</b> <ul style="list-style-type: none"> <li>• OIL DRILLER</li> <li>• MARRIED, FATHER OF TWO</li> <li>• STATE LINE, MISS.</li> </ul>	 <b>SHANE ROSHTO   22</b> <ul style="list-style-type: none"> <li>• FLOOR HAND</li> <li>• MARRIED, FATHER OF ONE</li> <li>• LIBERTY, MISS.</li> </ul>	 <b>ADAM WEISE   24</b> <ul style="list-style-type: none"> <li>• FLOOR HAND</li> <li>• SINGLE</li> <li>• YORKTOWN, TEXAS</li> </ul>	

**Figure 16: Eleven Rig Workers who Died in the Blowout**

According to the 1972 Clean Water Act, \$1000 penalty for each barrel of oil and gas accidentally spilled to \$4,300 if the spill is a result of “wilful negligence.” The 1990 Oil Pollution Act states that in the event of an oil spill, the private company is responsible for plugging the well, cleaning up all of the pollution its creates, and compensating all of the victims. Thus, the more oil and gas spilled, the more BP would have to pay. For this reason many in the industry, including the BP, often claimed that accident sites were already polluted or eroding (Charter 2015).

### **Causes of the Blowout: Time and Money over Safety**

According to the Oil Commission Report (2011: 115) and the DSHG Report (2011: 87, the Macondo blowout was a result of several individual missteps and oversights by BP, Halliburton, and Transocean as well as the government regulatory machinery. The high cost of drilling prompted BP to cap the Macondo well in a way so that it remained accessible for use in future oil extraction. BP wanted the task completed in the most economically viable manner (Kurtz 2013: 372). Decisions were thus taken in order to save time and money while adopting a less rigorous safety protocol (Joint Investigation Team, 2011; Oil Spill Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011; U.S. Coast Guard, 2010). BP championed “every dollar counts culture” (Chief Counsel’s Report 2010: 185). To hasten up its work, BP altered the well design three times within a day. The new designs were \$7 to \$10 million cheaper and were approved by the regulating agencies as soon as they were submitted (Juhasz 2011: 15). In place of 21 centralisers needed to hold the pipe while cementing the well, only six were utilised (Oil Spill Commission 2011). It was stated that other 15 centralisers “were not ideal for the job, and it will take ten hours to install them” (The Times Picayune 2010). Jesse Gagliano, a Halliburton engineer, advised BP five days before the explosion that the well had a “severe risk” of natural gas leaks with only six of the devices, which could lead to an explosive blowout (Fisk and Johnson 2013). Nonetheless the decision to go with this number stuck. BP decided against a third party evaluation to save time and a \$128,000 inspection fee (Oil Spill Commission 2011).

On April 19, Halliburton completed the job to BP’s specifications. However, the work was below standard and Halliburton used the wrong cement. Nitrogen foam was used which was common in offshore drilling generally, but not suitable for deep high-

temperature, high-pressure zones such as the Macondo prospect. The Oil Spill Commission report reveals that both BP and Halliburton knew that the cement mixture would be unstable, but did not act on that data (Oil Spill Commission 2011). According to the Chief Counsel's Report, BP did not inform Transocean about the risks of a poor bottom hole cement job. Transocean argues that if BP had done so, its crew might have demonstrated —heightened awareness (Chief Counsel's Report 2010: 186). Bill Railey, co-chair of the Oil Spill Commission, stated in his interview with the researcher, the cement was later on sent for testing to Chevron. "It failed nine tests" (Railey 2015). Notably, the BP professionals did not trust the cementers they did not examine the cement. Halliburton had sent a report to BP regarding its cement two weeks before the blowout but the report was ignored. When the Commission took an industry wide overview if other companies would have examined the cement, the response was-- "Yes, since the problem was renowned" (Railey's interview 2015). The Chief Counsel Report noted that it was known that the final displacement severely would under balance the well (Chief Counsel's Report 2010: 186). Displacement is a critical operation and data needs to be sufficiently monitored but it was not done.

Rig personnel have noted in post-blowout interviews that sometimes "speeding up" the job becomes a requirement to finish the work, especially by the end. This may be because —everybody goes with the mind-set that we're through, this job is done...everything's going to be okay (Chief Counsel's Report 2010: 185). BP engineers were expected to be more time efficient while drilling wells. These factors were in play for reduced well monitoring vigilance, diminished sensitivity to anomalous data, delayed reactions, a failure to undertake routine well monitoring measures (like flow checks and volumetric calculations), and a willingness to perform rig operations in a manner that complicated well monitoring. Bill Railey also pointed out lack of experienced people on the rig contributing to the disaster. "Many personnel had left the rig when the problem started" (Railey 2015).

The hardware of the rig was considered to be close to being the best in the US at least. The rig held an all-time record for Deepwater drilling, and few others were comparable. The technology that was in use, including the blowout preventer that failed was officially considered to be "fail-safe" just a week before the accident. The vessel had even been inspected just a few days before disaster struck, and at least according to the records of the agency in charge, the MMS passed it with no problems (Associated Press 2010). Even as number of accidents or complaints were registered prior, that did

not alter the risk taking practice of oil industry on the whole and BP in particular (Davis 2012: 158). The immediate cause of the spill was the failure to contain hydrocarbon pressures in the well. The rig personnel were not trained adequately to interpret the results of the negative pressure tests. The third party evaluator was sent home. While the blame fell on BP, it should be noted that government regulations or industry guidelines did not specify any standard procedure for running and interpreting the test. Interestingly, BP was not obligated to run a test at all. No policy dictated the rig personnel to call back to shore for a second opinion about a confusing data. Those conducting the tests assumed from the beginning that the well could not be flowing and kept running the tests (Oil Spill Commission 2011: 119). The disaster is reminiscent of other oil and gas disasters— the Montara well blowout (2009), the Occidental Petroleum North Sea Piper Alpha platform explosions and fires (1988) and the Petrobras P36 production platform sinking offshore Brazil (2005). In all these disasters, risks were ignore and not assessed. Cost and corner cutting by the industry were common themes as was a lack of appropriate and effective governance by the public governmental agencies (DHSG Report 2011: 10).

### **Regulatory Oversight of the Minerals Management Service (MMS)**

The spill revealed in stark terms a culture of complicity on part of the industry and government going on for decades. The rig's demise signalled the shortcomings of federal regulation of offshore oil drilling, particularly the MMS oversight. The MMS in the past also has been accused of working for the industry rather than safety and environment. Public outcry for the environmental protection during the 1970s led to enactment of regulatory laws. Policy makers had a difficult task of combining conflicting goals of environmental production, revenue generation and energy independence. The MMS was founded in 1982, under the Reagan administration known for its anti-environmental stance, aimed at achieving such reconciliation. In one entity the task of leasing, revenue collection and auditing, permitting and operational safety, and environmental protection were combined (Oil Spill Commission 2011: 68). Thus, the MMS had a built-in incentive to promote offshore drilling in sharp tension with its mandate to ensure safe drilling and environmental protection. Revenue increase ensured that the offshore drilling continues to move into deeper waters while oversight remained weak (Oil Spill Commission: 56).

A 2008 Inspector General report concluded that the agency's relationships with oil companies were even worse than most critics had claimed. MMS rig inspectors have lived in same areas as the oilfield workers they monitored. Many had worked in the oilfields themselves before joining the government. One field officer who also inspected the Deepwater Horizon, said: "Obviously, we're all oil industry. We're all from the same part of the country. Almost all of our inspectors have worked for oil companies out on these same platforms. They grew up in the same towns. Some of these people, they've been friends with all their life. They've been with these people since they were kids. They've hunted together. They fish together. They skeet, shoot together. . . . They do this all the time." (Steffy 2010: 197) MMS employees vied for industry jobs while still working for the government. BP hired a state engineer in Texas in 2003 after he had spent the two previous years processing applications for BP's new air quality permit at the Texas City refinery. After joining BP, the former regulator spent the next two years representing BP in the permit negotiations. BP and state officials maintained that the hiring did not violate state laws that restrict regulators from taking industry jobs because although the engineer was involved in some BP permit applications for Texas City, he didn't work on the specific one that was granted in 2005. However, the move clearly showcases the economic power wielded by companies like BP over regulatory authorities. The MMS inspector general released a report a month after the Macondo blowout focusing on employees' behaviour at the Lake Charles, Louisiana, field office from 2000 to 2008. Inspectors routinely accepted gifts from the oil industry—crawfish boils, hunting and fishing trips and golf tournaments. More than a dozen employees, including the former director of the oil royalty program, took meals, ski trips, sports tickets, and golf outings from industry representatives (Freudenberg, Gramling 2010: 39). Two employees and members of their families flew on an oil company jet to attend a football game. One of them told investigators that he knew the trip was wrong, but he justified it because he was a "big LSU fan and could not refuse the tickets" (Steffy 2010: 197; Deans and Lehner 2010: 73). A 2008 report cited MMS employees taking sexual favours and abusing substance. The report cited frequent social gatherings "lubricated with alcohol, cocaine, and marijuana". Some women were dubbed "MMS chicks" by oil company employees, and one suggested that a female MMS worker meet him for a bubble bath before they attended a football game. Another notorious example was the "royalty in kind" program. Under the program, MMS exercised its option to accept royalty payments in

kind. The 2008 Inspector General's report implicated more than a dozen employees in Denver's royalty-in-kind office for "unethical and criminal conduct". It was the cumulative lack of adequate resources, absence of a sustained agency mission, or sheer erosion of professional culture within some offices, MMS came progressively to suffer from serious deficiencies of organisation and management (Oil Spill Commission 2011: 78).

The agency tried to fulfil its regulatory framework by listing hundreds of pages of technical requirements for pollution prevention and control, drilling, well-completion operations, oil and gas well work overs (major well maintenance), production safety systems, platforms and structures, pipelines, well production, and well-control and production safety training. It also attempted to conduct both annual and periodic unannounced inspections of all offshore oil and gas operations to assess compliance. However, a lack of appropriations stifled the ability of MMS to engage in personalised inquiries into the management of specific oil operations, forcing regulators to limit inspections to explicit cases of non-compliance (Hughes 2011: 13). Statutes such as the National Environmental Policy Act of 1970 (NEPA), the Clean Water Act of 1972 (CWA), the Outer Continental Shelf Lands Act Amendments of 1953 (OCSLA), and the Oil Pollution Act of 1990 (OPA) were only given lip service. According to Deans and Lehner (2010: 73), oil company employees would sometimes pencil their own responses to official inspection forms, leaving it for federal inspectors to merely ink on those responses later. Interestingly, both industry officials and regulators have expressed pride over the outcome of the arrangement, pointing out that Gulf offshore wells go from discovery to production in sixty-eight months, on average as compared to eighty months worldwide and 116 months in Europe. This advancement, however, did not appear to have kept pace with the safety. Throughout the industry there was no subsea containment capability. MMS officials were inexperienced. Government regulators were responsible for 54 wells. But, they did not know what a negative pressure test was. "It was shocking how unscientific and inexpert they were" (Reilly 2015). Half of those surveyed as part of an internal investigation conducted by the Department of Interior agreed lacking in sufficient training. Some even disclosed that they had very little understanding of what they were inspecting and had to often depend on the assistance of company representatives.

In the past, efforts were made to improve the MMS. Due to a series of accidents in the 1980s, MMS convened a task force to review its offshore drilling inspection and en-

forcement program. The 1989 Piper Alpha explosion had resulted in an uncontrolled release of liquid hydrocarbons destroying the platform and killing seven people. It brought out poor management, “absence of detailed and coordinated planning for the project,” and need for the “oversight over contractor activities” (Oil Spill Commission 2011: 70). The agency commissioned the Marine Board of the National Research Council to recommend overhauling its regulatory program in order to fulfil its safety mission at current levels of staffing and budget. The report advocated that MMS place its primary emphasis on the detection of potential accident-producing situations, particularly those involving human factors, operational procedures, and modification of equipment and facilities. Suggestions were given to address changes in the operating environment on the outer continental shelf—including its ageing platforms, more complex systems and operations, activities in deeper water at greater distances from shore, and changing characteristics of operating companies. Overall, the Board recommended that MMS needed to create a more proactive inspector corps and develop a greater focus on identifying emerging safety risks (Oil Spill Commission Report 2010: 70). Unfortunately the board's report was ignored with the 1989 Exxon Valdez disaster which turned nation's attention towards the need for double hulled tankers. The OPA 90 did not address the regulatory deficiencies within the MMS. The regulatory agency was rather given the responsibility of overseeing offshore pipelines and oil-spill response planning and prevention. The already scarce regulatory resources narrowed down even more (Oil Spill Commission 2011: 70). In late 1991, the American Petroleum Institute asked the agency to postpone any action regarding MMS reform efforts and rather allow the industry itself to develop an offshore safety standard. MMS agreed and urged companies to adopt safety and environmental management systems voluntarily, and hinted that wide industry participation might prevent a formal rule making.

The budget allocated to MMS reached its lowest point in November 1996, when Deepwater was expanding. There was a heavy drop in the agency's annual budget from approximately \$250 million dollars in 1984 to a low of \$125 million in 1997. It remained understaffed and unable to maintain up-to-date technical drilling-safety requirements to keep up with rapidly evolving technology. As drilling technology evolved, many aspects of drilling lacked corresponding safety regulations. With diminished resources, MMS inspections became less effective (Oil Spill Commission 2011:73). It had a total of 55 inspectors to oversee about 3,000 offshore facilities in

the Gulf. Surprise inspections while required were never conducted. Federal regulations call for each rig to be inspected monthly. As a result of these issues, many rigs in the Gulf fell behind on their inspection schedule (Steffy 2010: 199). Even if inspection conducted and company's record questioned, drillings were rarely halted and permits were almost never revoked for safety violations. In 2003, MMS had questioned BP's safety record in the Gulf. The MMS had expressed concern about a rig fire in 2002 and a pressure build up in an unfinished well that had forced the evacuation of workers. However, the drilling and permits continued unabated (Hughes 2011). The industry resisted any attempts at a greater oversight and took no initiative for making drilling safer and improving its oil-spill containment technology and contingency response planning in case of an accident (Oil Spill Commission 2011: 56). After hurricanes Katrina and Rita in 2005, Louisiana requested to delay the lease sale to allow a fresh look at the environmental baseline for a better environmental review. The MMS refused to consider that request stating the purpose of the 1978 amendments to the Outer Continental Submerged Lands Act was to expedite oil and gas development and that "any delay of this sale imposes significant and unnecessary economic and national defence costs." The American Petroleum Institute echoed the MMS concern about economic calamity and industrial upheaval if the lease sale was delayed or cancelled (Davis 2012: 164). Most of the MMS prescriptive and performance-based regulations applied uniformly to all offshore wells regardless of their depth. MMS personnel stated that it was routine for them to grant certain specific exemptions from regulatory requirements. These mostly pertained to blowout preventer (BOP) testing to accommodate the needs of Deepwater operations. While the regulators would review shallow drilling for possible hazards, this was not done with regards to the deep water drilling. Notably, the shallow drilling technique is different than deeper drilling. On shallower wells the BOP sits on the deck and is visible. In Deepwater, the BOP is on the seafloor and accessible only by remote underwater submarines. The Coast guard hearings pointed out lack of backup systems in place. When the MMS was asked as to why the companies were not required to have backup systems that would stop the blowout. MMS response was, "it was highly encouraged but there was no enforcement" (New York Times 2010).



### **Effects of Spill on People**

The spill effects were seen in several sectors. The first people affected by the spill were the rig workers on the rig. Other major stakeholders include, the environment, the government, the Gulf fishing industry, and tourist-dependent businesses and communities.

Human vulnerability to a disaster is based on several factors such as physical location, social class, and demographic characteristics. Vulnerability often depends upon the resources at stake and the efficacy to prepare and respond. Factors such as age, gender, race-ethnicity, and local culture also contribute to vulnerability (Gill et al. 2011: 5). The fragile ecosystem of the Gulf region already makes life difficult for people. Presence of refineries and petrochemical plants do additional damage. According to studies undertaken in the past, people working in refining suffer from chronic health issues such breathing problems, headaches, nausea, decreased fertility and frequent diagnosis of hyper-aggressive cancer. According to a study conducted by Steve Lerner regarding the health impact on the residents of Louisiana, petro and petro chemical industry underestimated the amount of pollution they released and the state failed to inspect or refused to fine the parties responsible for the ill health of hundreds of “coloured” residents (Lerner 2005: 43-53). Between 50 and 70 per cent of the children living in the inner city neighbourhoods of New Orleans have blood lead levels above the current guidelines. These hazardous facilities are often near poor and vulnerable communities. Hurricanes and floods also increase the vulnerability of these communities. These natural calamities, especially 2005 Katrina, forced people, including the service providers, to leave the area and never return. Facilities that were destroyed were not rebuilt due to lack of service providers. There is lower quality of the professional behavioural health, health care, and social services workforce. Issues like decreased donations, revenue loss and fall in functional facilities continue to plague the health care in the region (Restore the Gulf 2010: 52).

### **Psychological Disorders**

These disasters also contribute to vulnerability and increased levels of stress in the region. The vulnerability arising from industry related disasters was based on dependence on environmental resources damaged or threatened by the oil and clean-up response. It affects the "renewable resource community" (RRC)-- “communities whose primary, cultural, social and economic existences are based on the harvest and use of

renewable natural resources” (Gill et al. 2011: 6). People of the RRC community suffered from environmental trauma due to threats and damage to ecosystem resources (Hobfoll 1991). It is easier to fix attention on responsible party (ies) in the wake of human-induced disasters. Although focus is on the responsible party, other organisations, including the government, are also deemed responsible. Evidence from the past disasters such as the Exxon spill and Hurricane Katrina show that behavioural health needs, issues such as domestic violence tend to increase and become a greater burden on health care, public health and social service systems during the recovery period. They may also impact a resident's life span and quality of life. After the Macondo blowout, the Post-Traumatic Stress Disorder (PTSD) levels were similar to those experienced after the Exxon Spill. Technological disasters tend to create chronic uncertainty, particularly with respect to health effects, economic impacts, extent of environmental damage and recovery, fair and just reparations, and sociocultural recovery and closure. These add to anxiety and psychological stress (Gill et al. 2011: 5, 6).

Researchers were still in the process of quantifying the health impact and human service needs caused by the blowout till the writing of this dissertation. Previous findings exist about the health impacts of other spills. Past researches stated that clean-up workers who were subjected to "high exposure" was 3.6 times more likely to have anxiety disorder and 2.9 times more likely PTSD. According to the Gallup survey poll of 2600 residents, instances of depressive illness have increased by 25 per cent since the Macondo explosion. The study reported case of stress in coastal residents. There was an increase in suicide cases, domestic violence, and increase in police calls, observable community conflict, and requests for mental health services throughout the impact region (Gill et al. 2011: 5). It is apparent that the BP spill has created a social context that is characterised by uncertainty regarding exposure to oil and contamination of renewable resources that are the foundation for community survival. With slow recovery of shrimp, oysters, crab, and other fish, groups tied to these resources might continue to experience increased psychological stress (Gill et al. 2011: 15). A study conducted by Mancuso, Alijani, Kwun (2011) examined the effects of spill on local businesses in the cities Venice, Galliano and Grand Isle of South Louisiana. Fishing is the main occupation for all the three cities. The study was conducted at the time when fishing areas were closed, seafood processing plants had shut down, restaurants and bars were closed and 'for rent'/'for sale' signs were put all across. Grand Isle was reduced to a "ghost town". No restaurants were open, the camps had 'for

rent' signs on them and the few people seen were BP workers who would not talk to the interviewers. Interviewees in Galliano (33%), Grand Isle (41%), and Venice (23%) stated in the next five years they will not be doing the same business (Alijani et.al. 2011).

The social disruption for long period also starts manifesting in open conflicts, lack of trust within the community. A community based participatory research model including 23 participants in Florida and Baldwin revealed symptoms of depression, anxiety and PTSD among those who suffered financial losses (Grattan et al. 2011). Another survey conducted by the Center for Disease Control of 128 households in two counties in Alabama revealed similar symptoms. Gallup survey of 2600 residents revealed that stress, worry, sadness and depression have increased by 25 per cent across the region since the spill. The most serious example of the spill's negative effect on mental health was suicide committed by a charter boat captain two weeks after he was hired by BP to assist in cleaning up. The colleagues and friends and family postulated that the spill was "too much" for him to bear (Frailing and Harper 2011:237). Study launched by the National Institute of Environmental Health Sciences (NIEHS) is surveying 55,000 workers and volunteers involved in the response. According to the researchers, the long term study will last for at least twenty years. The study aims to assess links between oil spill response and rare cancers. It will concentrate on respiratory, neurological, and haematological outcomes that are due to oil constituents. Besides health problem, the study will also investigate psychological health relating to clean-up and living in the gulf (Schmidt 2011). Unfortunately, OPA 90 and related policies do not specifically address the mental and physical effects resulting from a spill (Oil Spill Commission, 2011:191). The Gulf Coast Compensation Fund has announced that damages for mental illness caused by the spill would not be paid as financial support has been awarded to other competent organisations to deal with the subject. Health departments of affected Gulf coast states have already received \$42 million for mental health from BP. Similarly the Substance Abuse and Mental Health Administration has also received \$10 million from the oil company (Oil Spill Commission 2011: 194).

## **Race and Crime**

The states in the region account for 30 per cent of the African American population, who make more than one-third less than their white counterparts based on median income. The region is home to Native American Bayou tribes who have strong cultural and economic ties to the land. It is also has about 20,000 largely non-English-speaking Vietnamese fishermen and shrimpers, who along with Vietnamese-American workers in related jobs such as seafood processing and oyster shucking hold 30 per cent to 50 per cent of all seafood industry-related jobs in this region (Gordon et al. 2011: 11). Reportedly, racial discrimination and language barriers increased their problems. According to media reports there was a surge in assaults, rape and robbery. There were cases where workers smoking marijuana passed the drug test by temporarily stopping drug abuse but their intake of alcohol increased which also spiked the cases of domestic violence (Frailing and Harper 2011: 235). In Pascagoula, Mississippi a clean-up worker reportedly raped another. The alleged offender is on the national sex offender registry and has a criminal record but was permitted to work on the oil spill because BP failed in conducting background checks on clean-up workers. The spill is also known to have created opportunities for fraud. The Federal Trade Commission issued a statement to the Gulf coast residents, warning them about potential scams, including people expediting both clean-up of oil and claims for monetary compensation for a fee, people offering to assist those looking for a job in clean-up work, etc.

## **Effect on Wildlife**

There is nothing like a good time for a disaster but the springtime spill did much worse. Gulf of Mexico has been termed as fifth-most-diverse marine setting in the world for known species. There are 28 species of marine mammals. All are officially threatened and six are endangered. Mississippi Canyon location is ecologically sensitive. The area is home to lush but endangered coral reefs. Pulley Ridge is located about 150 miles west of Cape Sable, Florida. It is the deepest known coral reef in the continental US and extends for more than 60 miles. The Flower Garden Banks National Marine Sanctuary, located at 110 miles south of the Texas-Louisiana border, includes the northernmost warm-water, shallow coral reefs. Amounting to more than 300 acres of protected reef, this is home to more than 23 species of coral, 250 species of invertebrates, 175 species of fish, and 80 species of algae.



**Figure 17: Oil Laced Pelican**

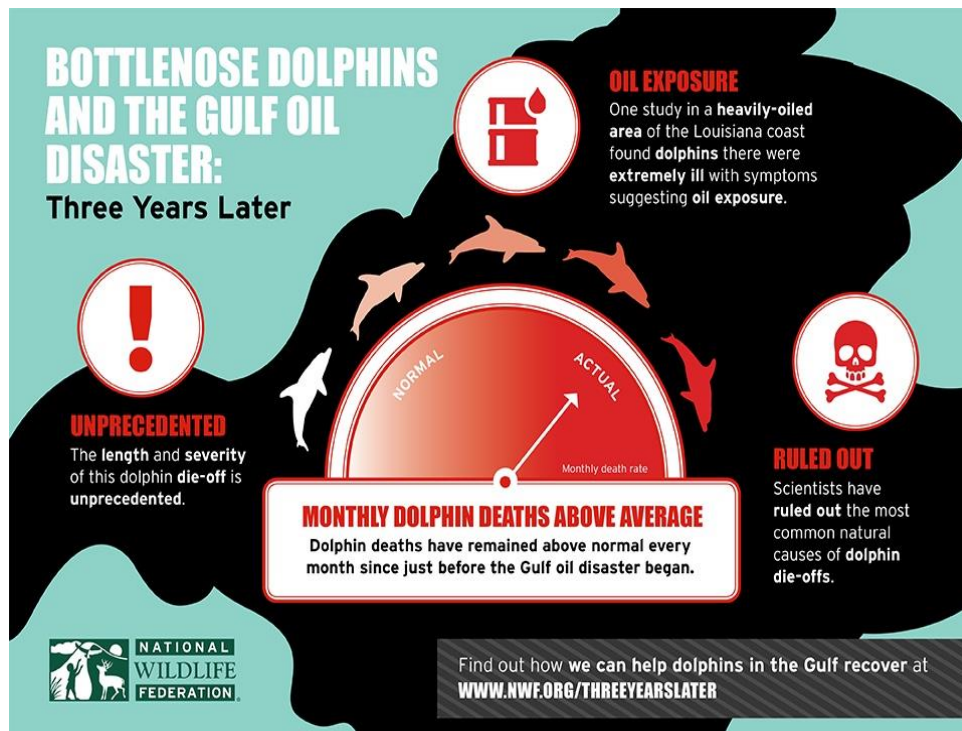
Several post-spill studies have found widespread damage at a coral community located 11 km southwest of the Macondo well, known to be in the path of a documented deep-water oil plume. Colonies twice as far from the wellhead and in water 50 per cent deeper also sustained damages, expanding the known area of impact (Adams 2015: 3). Another study examined impact of the spill on bottom-dwelling (or benthic) organisms and found a “severe” reduction of their abundance and diversity in an area of 9 square miles surrounding the wellhead. It will take decades for them to recover. The loss of benthic biodiversity is correlated to an “exponential decline” in deep-sea ecosystem functioning due to the suppression of various populations and associated ripple effects. The spill contaminated the shallow water sediments (those within 1 km of shore) that adversely affected the organisms and overall ecosystem productivity. At least 10 square miles of sea grasses that provide food and shelter for a wide variety of organisms were oiled and/or adversely affected by response activities. At least 600 miles of sand beach habitat was oiled, 400 miles of oiled beaches experienced some level of impairment due to response activities. According to study, the oiled marsh and mangrove habitats experienced loss of vegetative cover and condition, and researchers have also documented a lower abundance of snails— an important prey source for birds—in oiled areas (Adams 2015: 6). There has been a steep decline in several species of insects, particularly spiders, ants, wasps and grasshoppers that are top predators among insects but are food for birds and fish. Studies conducted in reveal that the oil that sank to the bottom did not break down and is present in the sedi-

ments killing small insects and fish and causing eggshell thinning in birds (Smith 2013).

Gulf has endangered species such as sperm, sei, fin, blue, humpback, and North Atlantic right whales, brown pelicans etc. In November 2009, brown pelican was pulled back from the brink of extinction. However, in 2010 it became a tragic emblem of the disaster. (Juhasz 2011: 138). Tuna, whose population has decreased by 75 per cent in the last thirty years, was just past the peak of its spawning season at the time of the spill. Scientists calculate that 12 per cent of blue fin tuna larvae were contaminated. Lab studies demonstrate that oil contamination leads to heart defects and death of Bluefin tuna, and other large fish (Adams 2015: 2). Gulf sturgeon and several species of shark all threatened already were impacted by the spill. The entire Gulf region is sort of a major migratory flyway for millions of birds heading north and south. It provides habitat for birds like herons, egrets, songbirds and pelicans etc. At the time of the spill these were breeding and hatching. Young of the species were exposed to maximum threat.

When oil coats an animal, it can limit the ability to move about, swim, fly, navigate, maintain body temperature, feed properly and even reproduce. In a testimony to Congress in June 2010, Dr. Samantha Joye, Professor of Marine Sciences in the University of Georgia declared that “everything from the base of the food web—microorganisms—to the higher order consumers—invertebrates, zooplankton, jellyfish, fish, birds, sea turtles, marine mammals—will suffer direct consequences of as long as there is oil in the system, due to the inherent toxicity of crude oil components” (Joye 2010: 5). The spill is estimated to have killed 2 trillion to 5 trillion larval fish, as well as 37 trillion to 68 trillion invertebrates, in surface waters. Between 86 million and 26 billion fish larvae and between 10 million and 7 billion planktonic invertebrates were killed in deeper waters. The larval loss likely translated into millions to billions of fish that would have reached a year old. The spill resulted in as many as 8.3 billion oysters lost over 155 miles of sub tidal areas along the Gulf Coast, and addition 6 million oysters lost a year because of the loss of oyster cultch (Schleifstein 2015). Despite five years to the disaster, the fisheries and oystereries have not been able to revive in several areas such as Plaquemines Parish, Bernard Parish etc. and researchers say it will take 5-10 years more for that if those ever revive (Marsh Playboy 2015).

Measures were taken to tackle the adverse impact of the spill but oil washed into the salt marshes, mudflats, mangroves, sandy beaches that serve as essential habitat for marine species. Marine and coastal species are often so interdependent that a significant effect on any one has the potential to disturb others in the complex food web. Oil interferes with water repellence of feathers and can cause hypothermia in certain conditions. Bird eggs can be damaged if an oiled adult sits on its nest. It can also smother plants, impede photosynthesis



**Figure 18: Effect on Bottlenose Dolphins**

Source: National Wildlife Federation (2013)

and affect organisms that live below. Algae may die or become more abundant after coming in contact with oil. According to NRDC (Adams 2015: 2), marine mammal deaths could be as high as 5000 individuals. A study of bottlenose dolphins in Barataria Bay, which was heavily oiled, confirmed that exposed to oil they were afflicted with moderate to severe lung disease at five times the normal rate. Of the 29 dolphins evaluated in this study, half were given a “guarded or worse prognosis.” Another 17 per cent were considered in grave condition, indicating the likelihood that they would soon die. NOAA’s report stated that lesions discovered on the lungs and adrenal glands of dead dolphins found clear indications of exposure to oil products (NOAA

2015; Newsweek 2015; NOAA 2013). Many dolphins had bacterial pneumonia and adrenal disorders. Nearly half the dead dolphins recovered between 2010 and 2012 from the area had a thin adrenal gland cortex, indicating insufficient adrenal function, and died “without another clear explanation.” Dolphins take deep breaths of air right at the water’s surface, where oil fumes would be most concentrated, and hold that air in their lungs for long periods of time while they dive. TV cameras caught images of dolphins stuck or moving through thick oiled water dyed orange with dispersant. Sharks, whales and other mammals reportedly changed their migration patterns in order to avoid the soiled waters. More than 600 endangered sea turtles washed up dead. Sea turtles feed along floating debris and seaweed (including Sargassum) that were heavily oiled during the spill. Kept Ridley is the most endangered sea turtle on Earth and relies on Gulf for its survival. As oil was being burned in a controlled burn several turtles were burned alive (US Fish and Wildlife Service 2010).

### **Effect on Fisheries**

Oil production, fishing and tourism are the cornerstones of the Gulf coast economy. Second to Alaska, the Gulf region produces the greatest amount of seafood by volume and value in the US. The seafood sector produces more than one-third of the nation’s domes Louisiana waters). Louisiana alone accounts for 67 per cent of the nation’s oyster production and 26 per cent of the blue crab production (Oil Spill Commission 2011: 187). According to the NMFS, the commercial fish and shellfish harvested from the five US Gulf states in 2010 represented approximately \$639 million (EOA 2011). The entire seafood industry supported 213,000 full time and part time jobs with related income impacts of \$5.5 million in the Gulf of Mexico (Upton 2011: 5). Recreational fishery also makes sufficient contribution to the region's economy by supporting businesses such as charters, bait and tackle shops, restaurant and hotels. In 2010, marine recreational participants took more than 20.7 million trips catching 145.4 million fish from the region (representing over 59.3 million pounds) (Bleret 2012: 62). Tourism and fishing together generate more than \$40 billion of economic activity annually in the five states in the Gulf. Gulf fishermen catch 73 per cent of the nation’s shrimps. They are particularly vulnerable to direct ecosystem harm and public perceptions of tainted food and soiled beaches. NOAA and state fisheries agency closed 88, 522 square miles of coastline to fishing (Hughes 2013: 18)



**Table 1: Size and Percentage Coverage of Fishing Area Closed**

**Deepwater Horizon/BP Oil Spill: Size and Percent Coverage of Fishing Area Closures Due to BP Oil Spill**

	Date of Closure	Area (sq mi)	Area (sq km)	Percent Coverage of Gulf EEZ	Percent Change in Coverage
2010	May 2	6,817	17,648	2.8	N/A
	May 7	10,807	27,989	4.5	58.5
	May 11	16,027	41,511	6.6	48.3
	May 12	17,651	45,717	7.3	10.1
	May 14	19,377	50,187	8.0	9.8
	May 17	24,241	62,784	10.0	25.1
	May 18	45,728	118,435	18.9	88.6
	May 21	48,005	124,333	19.8	5.0
	May 25	54,096	140,109	22.4	12.7
	May 28	60,683	157,169	25.1	12.2
	May 31	61,854	160,200	25.6	1.9
	June 1	75,920	196,633	31.4	22.7
	<b>June 2</b>	<b>88,522</b>	<b>229,270</b>	<b>36.6</b>	<b>16.6</b>
	June 4	78,182	202,491	32.3	-11.7
	June 5	78,603	203,582	32.5	0.5
	June 7	78,264	202,703	32.3	-0.4
	June 16	80,806	209,286	33.4	3.2
	June 21	86,985	225,290	35.9	7.6
	June 23	78,597	203,564	32.5	-9.6
	June 28	80,228	207,790	33.2	2.1
	July 4	81,181	210,259	33.5	1.2
	July 12	84,101	217,821	34.8	3.6
	July 13	83,927	217,371	34.7	-0.2
	July 22	57,539	149,026	23.8	-31.4
	August 10	52,395	135,703	21.7	-8.9
	August 27	48,114	124,614	19.9	-8.2
	September 2	43,000	111,369	17.8	-10.6
	September 3	39,885	103,303	16.5	-7.2
	September 21	31,915	82,659	13.2	-20.0
	October 1	26,287	68,083	10.9	-17.6
	October 5	23,360	60,502	9.7	-11.1
October 15	16,481	42,686	6.8	-29.4	
October 22	9,444	24,461	3.9	-42.7	
November 15	1,041	2,697	0.4	-89.0	

Source: NOAA (2010)

The commercial fishing industry was estimated to have lost \$247 million (Adams 2015: 2). “Birds don’t fly, fish don’t swim and fishermen can’t make a living,” Charlotte Randolph, President of Laforce Parish, a Gulf Coast county in Southern Louisiana, told the Oil Spill Commission in a July 2010 hearing (Deans and Lehner 2010: 31). One study projected that the overall impact of lost or degraded commercial, recreational, and mariculture fisheries in the Gulf could be \$8.7 billion by 2020, with a potential loss of 22,000 jobs over the same time frame (Adams 2015: 2). The saltwater brown shrimp season constitutes a crucial business time for the stakeholders of the gulf coast shrimp supply chain. All the actors of the chain: shrimp fishermen, fresh shrimp processors, seafood wholesalers, fresh shrimp retail markets and restaurants faced the impact. In addition to impacts resulting directly from oil, the oyster industry has been harmed by efforts to protect Louisiana estuaries from oil intrusion. After the spill, Louisiana released freshwater into estuaries to flush oil out of wetlands east of

the Mississippi River and in Barataria Bay. The strategy somewhat worked in keeping oil offshore. The freshwater releases decreased salinity on the oyster grounds below the level that oysters can tolerate and resulted in significant mortality of oysters, by some estimates half of Louisiana's annual oyster crop (Buskey 2010).

The Institute of Medicine and the Oil Spill Oil Spill Commission recommended continued analysis of the seafood in order to determine potential long-term health impact and restore the confidence of consumers in the fisheries. It has been established in the past studies that organic pollutants— PAHs can cause cancers. These originate from oil and tend to accumulate in fishes. In large quantities they are considered unsafe. Along with that, accumulation of metals such as Zinc, Magnesium, Nickel, and Copper etc. has already been detected in sediments and marine organisms harvested from oil spill zones. A study on crude oil was conducted to determine its effect on shells and tissues of the organisms. Preliminary results indicate a significantly higher concentration of components such as vanadium, lead, cobalt and chromium in the shells and tissues of the oysters collected after the oil slick. While heavy metals may not be harmful to oysters in particular, they can endanger the life and health of other animals throughout the food web, including human beings (Baker, 2012). The only way to rest public concerns was continued testing, improvements, and a coordinated marketing campaign. To reduce the adverse impact resulting from the spill BP gave \$48 million to Louisiana and \$20 million to Florida for seafood testing and marketing (Oil Spill Commission 2011:188). After carrying sensory and chemical testing of seafood for components of oil, finfish, shrimp, crabs and oysters were found to be safe for human consumption (Restore the Gulf 2010: 28). Despite assurances from the government, scepticism prevailed regarding the safety of sea food. Criticisms were levelled regarding the testing protocols because seafood sampling coverage is considered insufficient and list of toxic substance being tested was considered too low (Upton 2011: 7).

Miller et al. (2011: 147) stated that oil spill had a negative impact on fishermen, who run significantly small businesses. The fish hurts the price of the vessel, which runs \$60 thousand to over a million dollars, as most buyers would not want to buy fish from oiled fishery. This drastically devalued boats and permits. According to the CRS Report many in the fishing industry have however benefitted from their damage claims and associated payments. There are on-going issues such as legitimacy of some claims, lack of transparency in the review process, eligibility to make claims and level of payments (Upton 2011).

**Table 2: Affected Commercial Species and their Economic Relevance**

<b>Species</b>	<b>Value of landings (2008 figures, in millions USD)</b>	<b>Comments</b>
Shrimp	Alabama: 38.4 Florida: 23.3 Louisiana: 130.6 Mississippi: 17.7 Texas: 157.2	73% of total national landings come from the GoM
Blue crab	Alabama: 1.5 West Florida: 3.3 Louisiana: 32 Mississippi: 0.45 Texas: 2.3	Louisiana accounts for 26% of the nation's landings
Oysters	Alabama: 0.24 Florida: 5.47 Louisiana: 38 Mississippi: 6.87 Texas: 8.83	The GoM region lands 67% of US total
Red snapper	Alabama: 0.24 West Florida: 2.94 Louisiana: 2.03 Texas: 2.74	No data was available for Mississippi

Source: NOAA (2010)

### **Effect on Tourism**

The Gulf region's richness in natural habitat has made it a favourite recreational and touristic location in the US. The region generates roughly \$19.7 billion of tourism activity annually (Oil Spill Commission 2011: 191), and employs 620,000 workers.

NRDC estimates of lost tourism dollars were projected to cost the Gulf coastal economy up to \$22.7 billion through 2013 (Adams 2015: 2). The State of Florida represents more than 50 per cent of the total with more than 80 million visitors visiting annually. It is said to have experienced the maximum loss in tourism (Oil Spill Commission, 2011: 191). Public perception that beaches were oiled led to decline in hotel bookings, restaurant seating, and a wide array of coastal activities. Travel website TripAdvisor, revealed significant decline in US page views for Gulf coast destinations for the twenty days leading up to May 20 and to July 18 compared to the same twenty day periods one year earlier (Juhasz 2011: 206). Consumers searched 52 per cent less for Pensacola, Florida, 65 per cent less for Gulf Shores, Alabama, and 48 per cent less for Destin, Florida in July 2010. With oil on the beach, water getting brown people became sceptical to travel to these places. Even areas such as Fort Meyers that were not impacted since the oil did not appear on its shores experienced significant decrease in tourism due to negative public perception of tainted waters. Although the area was not directly affected, BP paid \$500,000 to Lee County to assist the cost of advertising. Lee County spent over \$1,250,000 in advertising to attempt to counteract the negative public opinion of the area without satisfactory success. BP has spent more than \$230 million in an attempt to bring tourism back to the region (Brennan 2013: 8).

### **Effect on Ecology**

The Gulf of Mexico ecosystem hosts a variety of significant coastal and marine habitats. However, these have seen rapid degradation even prior to the Deepwater Horizon Disaster. Almost 2,300 square miles of coastal wetlands along the Gulf have been lost due to hurricanes and erosions. The expansion of industrial fisheries resulted in reduced habitat suitability for a number of marine mammals. All 21 species found in the Gulf are listed as threatened under the endangered species Act. The Spill added to this already prevalent habitat loss. Oil impact on marsh grasses, mangroves and other vegetation, could accelerate erosion of marsh edge, which would only exacerbate a large-scale problem plaguing the region. Oil that becomes entrained with suspended sediment or other particles can sink to the bottom, affecting submerged vegetation, oysters, coral, and other benthic species that live on the seafloor (Restore the Gulf 2010: 29) Oil in marshes led to loss of grasses and other plants that hold the marshes together. Sieve-like marshes are susceptible to the oil, and their death threatens the long-

term ecological viability. No marsh mud leaves the front lines of scores of miles of wetlands exposed to currents and tides. As a result water will become deeper, and communities would have less of a buffer against hurricanes, increasing the amount of potential inland surge (Levy & Kopalakrishnan, 2010). The oil industry has exacerbated wetlands loss in other ways as well. Crisscrossing the marsh with hundreds of miles of pipeline, and cutting canals for supply boats and rigs, the oil companies have opened thousands of gaps for seawater to rush in. This brings salt that kills freshwater habitat and accelerating wetlands loss. Other than the 2010 spill, even the earlier leaks and spills from the pipelines, storage tanks, platforms and other equipment have been polluting regional waters and wetlands. When Hurricane Katrina hit, more than eight million gallons of oil spilled into the region as a result of damage to production, storage and processing facilities (Deans and Lehner 2010: 101).

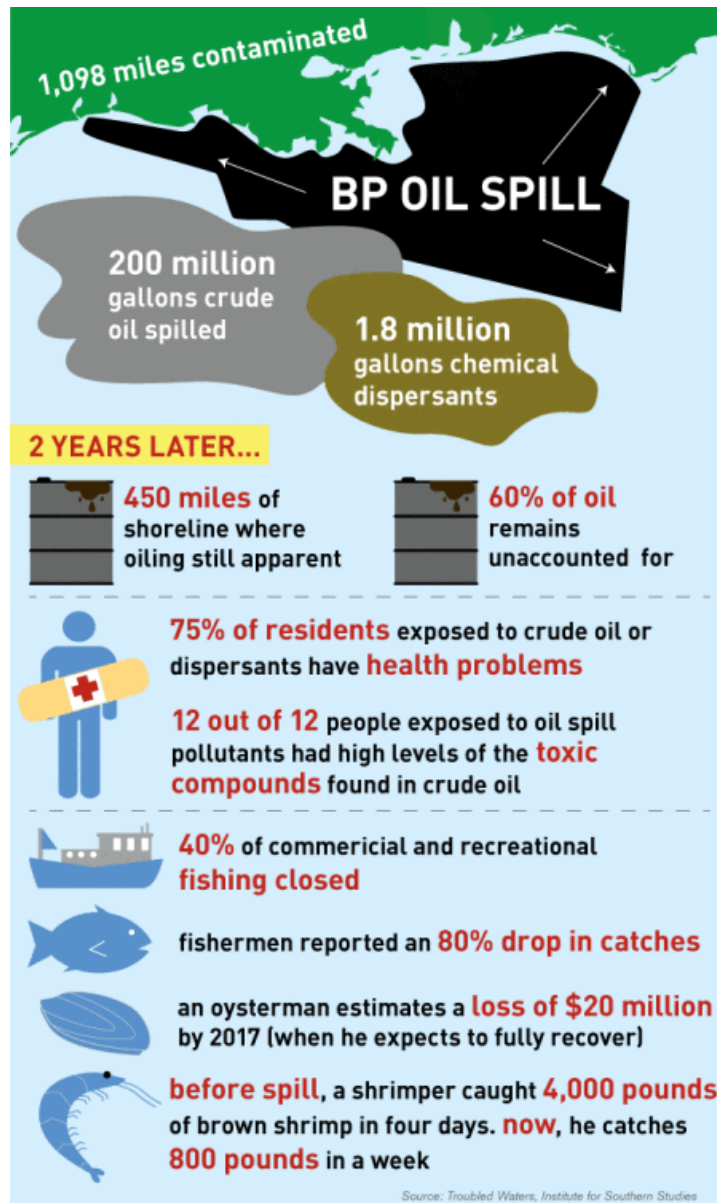
**Table 3: BP Deepwater Horizon Disaster Impacts**

Impacted Resources	Known and Published Impacts
Sea Turtles	1,149 sea turtles collected. 613 dead. 456 visibly oiled (18 dead). Of the total number of sea turtles collected 809 (481 dead) endangered Kemp’s Ridley sea turtles.
Birds	600,000 to 800,000 coastal birds died. 8,500 live impaired or dead birds collected as part of wildlife rescue and recovery NRDA operations. 2,642 birds visibly oiled (80% dead at time of collection or died after collection.
Marine Mammals	Thousands of marine mammals exposed to oil. Health assessments of dolphins in Barataria Bay found that they were 5 times more likely to have moderate to severe lung disease than dolphins at control sites. Since February 2010, there has been a cetacean unusual mortality event (UME) in the Gulf. In total, 1,164 cetaceans have stranded (95% dead). The majority of these have been bottlenose dolphins.

Oysters	<p>Oysters in Louisiana in 2010 suffered high mortality rates on both public and private grounds in Breton Sound and Barataria Basin.</p> <p>Some sites had 100% mortality of seed and sack size oysters.</p> <p>Spat settlement reduced or absent in areas through fall of 2011 and 2012.</p>
Deep- sea corals	<p>DWH significantly impacted corals roughly 7 km from the wellhead. Bare coral skeletons were exposed and coral showed signs of tissue damage. The material on corals and the sediment at the base of the corals matched the biomarker for Macondo Oil.</p> <p>Multiple coral communities, up to 22 km from the spill site and at depths over 1800 meters, impacted by the spill.</p>
Shoreline and Marshes	<p>1,053 linear miles of shoreline were oiled.</p> <p>A total of 463.8 miles of marsh were oiled around the Gulf: 436.2 miles in Louisiana, 21.5 miles in Mississippi and 6.1 miles in Alabama.</p> <p>Tar balls were found with elevated numbers of <i>Vibrio vulnificus</i> on beaches.</p> <p>Marsh erosion amplified in oiled marshes in Louisiana.</p>

Source: Ocean Conservancy (2014)

**Figure 19: Chart Depicts the Effect of Spill till 2012**



Source: Govtbooktalk (2012)

### Cleaning Up Spill

After the explosion, the government and BP were left with the task of cleaning up the oil entering the region. It was realised that while there has been constant innovation and investment in technology of offshore drilling, there had hardly been any improvement on the cleaning up technology. After the Exxon Valdez spill, the OPA allotted \$19 million dollar for oil spill research, but the allotment was not spent (Zaves-toski 2012: 79). Primary devices used for cleaning up oil from water were booms and skimmers. The boom cages oil which the skimmer then scoops up and saves for later use. Booms were used across the Gulf as an artificial barrier stretched out along the

surface of the water to try to stop the oil from hitting land. These could recover only 4 per cent of the spilled oil or some 8.2 million gallons. The other measures were dispersants and burning the oil. Dispersants were applied continuously till July 19. Nearly 2 million gallons were applied. According to several research dispersants are toxic and so is oil. Their combined toxicity makes oil 52 times more toxic. Dispersants move oil from the water surface to the water column by breaking the oil slick into smaller droplets. Their use does not reduce the total volume of oil in the environment, but rather changes its distribution and physical properties. The benefits of chemical dispersant involve potential stimulation of microbial degradation of oil and protection of shorelines. However, the potential harms include exposure of oil to subsurface marine life; the presence of larger dispersed oil plumes of uncertain fate and environmental impacts when dispersants are applied at depth. There is no possibility of oil recovery once oil has been dispersed and a large potential for facilitating oil transport from the ocean surface to the ocean floor by the aggregation and sinking of small oil particles. (Azwell et al 2011: 3). BP initially used dispersant Corexit 9527A and only after intense public pressure switched to Corexit 9500 (Juhasz 2011: 100). Corexit 9527A contains 2-BTE (2-butoxyethanol), a toxic solvent that can “cause injury to red blood cells (hemolysis), [the] kidney[s,] or the liver.” Corexit 9500 is only “slightly less toxic”<sup>7</sup>. Both the dispersants bio-accumulate up the food chain. Of the total dispersant used (1,843,786 gallons), 40 per cent (771,272 gallons) were applied below the water’s surface to break up the oil at the well (Staves 2012). Notably, the subsea application had never been tested before.

Subsea application broke the oil into small droplets that merged with deep-sea water. Water at the seabed is not same as the surface. It is colder, saltier and therefore denser. This results in droplets of dispersant-covered oil that remain suspended underwater. The oil-dispersant mixture interacted with this water to form plumes (Lovett, Richard 2011). The plumes spread across miles of the bottom of the ocean from the wellhead left areas of depleted oxygen. This resulted in the area being filled with dead creatures -- shrimp, worms, and other invertebrates. Only the oil eating microbes survived. The microbes could eat only minuscule portions of the oil and gas but excreted mucus. That mucus created a drippy slide by which oil moved down until it settled at

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<sup>7</sup> Wilma Subra, a microbiologist and toxicologist who has studied the petrochemical industry of the Gulf coast for decades, described Corexit 9500 as “slightly less toxic” than 9527A.



the bottom of the ocean floor. This caused problems for worms that stay on the ocean bed and help oxygenate the sediment. Oil, oil mixed with mucus, oil dispersant combination all affected the food chain and the entire ecosystem (Juhasz 2011: 113). While oil stays at the bottom of the floor, natural or human induced occurrences can bring the oil on shore at a later date. EPA Senior Policy Analyst Hugh Kaufmann explained that dispersants caused internal haemorrhaging in dolphins and humans as well as making the clean-up far more difficult (Heather 2010). Along with the use of dispersants, the Joint Unified Command (BP, MMS, and the coast guard) began burning the oil on the surface of water. Not only crude oil but the dispersant was also burning. These released deadly toxins into the air that sickened workers at the spill site and people all along the coast. NOAA reported, “15 to 70 km downwind from the spill, concentrations of certain hydrocarbons were much higher than found in typical polluted air.” (NOAA 2010) According to a Newsweek article written by Hertsgaard (2013), BP rebuffed a direct request from the EPA administrator Lisa Jackson, made on May 19 in a letter, asking the company to deploy a less toxic dispersant in the clean-up. Notably, Jackson could only ask BP to do this but could not legally require it because use of Corexit was authorised under the federal Oil Pollution Act. The article quoted Jackson’s interview explaining “she and other officials had to determine, with less-than-perfect scientific testing and data, whether use of dispersants would, despite potential side effects, improve the overall situation in the gulf and coastal ecosystems” (Hertsgaard 2013). The trade-off was potential damage in the deep water versus the potential for larger amounts of un-dispersed oil in the ecologically rich coastal shallows and estuaries. Many in BP and EPA maintained that Corexit was safe. “The same ingredients contained in Corexit are also found in common consumer products such as household cleaners, food packaging, hand lotion and cosmetics,” officials have stated (Marsa, Playboy 2015). However, Government Accountability Project 2013 report obtained a safety manual issued by Corexit maker NALCO spelling out the health hazards posed by the chemical. It warned that repeated or excessive exposure might cause injury to red blood cells (hemolysis), kidney or the liver and advises users to “wear suitable protective clothing” (Hertsgaard 2013). According to Robert Bea, Professor Emeritus at the University of California and researching on risk mitigation, “oil recovery should have been preferred to the use of chemical dispersants because recovery removes oil from the environment and does not carry the in-

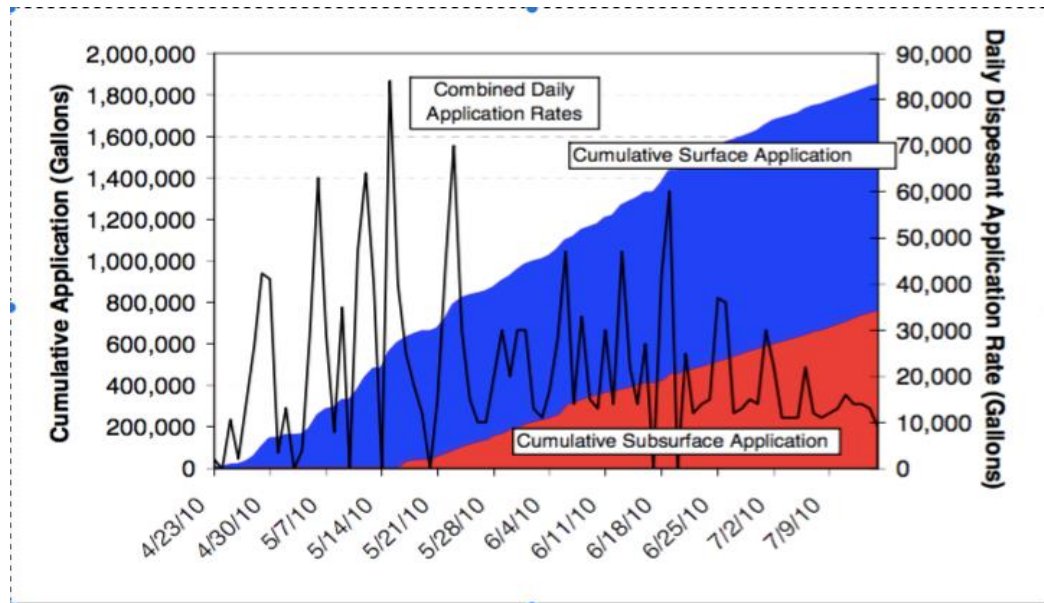
creased ecological exposure to the toxicity of crude oil” (Interview with Robert Bea 2015).

### **Health Hazards for Workers and Residents**

Chemical biological, bio hazardous debris, workplace injuries, heat, sun burns, noise etc. were the added hazards. The region had to battle poisoned marine water and exposure to chemical and compounds. Crude oil is considered toxic to humans, plants and wildlife. Exposure to crude can cause nausea, fatigue, headache, impaired speech, tremors, and depression among other things. It can cause cerebral atrophy resulting in a decrease of the functions that the brain controls, liver and kidney damage, cardiac arrhythmia, and death. The VOCs are known to have caused longer-term health effects such as cancer, birth defects, and neurological effects. Crude oil also contains polycyclic aromatic hydrocarbons (PAHs) and heavy metals, such as nickel and lead (Juhasz 2011: 90). These tend to stay in the environment for long periods of time, especially if oil penetrates into beaches or shorelines. They can affect cardiovascular, dermal, immunological, and respiratory functions along with development of human organs, reproductive capacity, and urinary, kidney functions etc. Earlier tests have shown that exposure to certain chemicals in oil can lead to abortion, neural-crest birth defects, decreased birth weight etc. As the crude oil sits on shore, the harmful elements can be picked up by the wind and other weather conditions and be carried through the air as a toxic aerosol (Juhasz 2011: 91).

Clean-up workers particularly complained of several health problems ranging from respiratory to neurological problems. Headache, nausea and throat irritation were the common issues faced by the workers (Workshop report 2011). There have been cases of muscle spasms, coughing up blood, short term loss of memory, itchiness etc. interestingly, the symptoms were similar to those experienced by soldiers who returned from the Persian Gulf War with Gulf War syndrome (Hertsgaard 2013). Despite treatments, patients would show similar symptoms once they would reach their home environments. Ordinary household chemicals such as deodorants, perfumes and petroleum products become extremely noxious to persons suffering from toxic exposures and prevent them from leading normal lives (Interview with Robichaux 2015). Playboy did a cover story on how dispersant Corexit was responsible for damage to the work

ers' health. The magazine interviewed the workers and health practitioners of the region.



**Figure 20: Dispersants Applied in the Gulf**

Source: Denison (2010)

One of the workers named David Hill stated that since the clean-up operation, he had undergone nine surgeries including removal of his gallbladder and thyroid. He suffers from severe bouts of diarrhoea, stabbing pain and chronic itching. He has no energy, his eyesight is failing, and his short-term memory is gone (Marsa 2015). Louisiana Environmental Action Network reported similar cases all across southern Mississippi, Alabama and Louisiana among tens of thousands of workers who worked on the clean-up. There have been cases of patients suffering from neurological problems. Dr Robichaux explained that there were incidents where people, especially those who had worked at the spill site, suffered from a “state of stupor” that would last from a few minutes to several hours. The patients in that state of stupor could remember everything going around them but were unable to move or talk for considerable lengths of time. In layman terms the condition could be described as being “Stuck Stupid.” (Interview with Robichaux 2015)

According to the Louisiana Department of Health and Hospitals, there were 411 reports of health complaints believed to be related to exposure in contact with tar balls by stepping on them or inspecting them on beaches (Bleret 2012:50). Around 325 of these complaints were from response personnel and 86 from the general public (Inter-

view with Robert Bea 2015). Tar balls contain infection causing *Vibrio Vulnificus*. That is the prime cause of seafood-borne fatalities nationwide. Ingestion of contaminated seafood can lead to septicaemia, while exposure to contaminated seawater, fish, shellfish, or fishing gear can cause severe wound infections. Between 20 per cent and 30 per cent of people infected tend to succumb.

Government Accountability Project report cited interviews of nearly half of the clean-up workers stating that they were threatened with termination if they tried to wear respirators or additional safety equipment on the job. Many received early termination after raising safety concerns on the job (Devine and Devine 2013: 3). BP denied such accusations and stated that that it never sprayed dispersants on the clean-up crews directly. However, workers and residents have stated that dispersant planes would not close sprinklers even while flying over residential places and on multiple occasions people were doused with dispersants.

Due to the negative effects of burning, skimming, booming etc., there have been voices asking for oil to disappear naturally. Researchers promoting ecological engineering claim that clean-up efforts often lead to more harm than good. Through natural process, the oil in the Gulf will ultimately dissipate, evaporate or be consumed by oil-degrading microbes. The phenomenon is stimulated every year by the warm water summer temperatures in the Gulf and the abundance of nutrients coming down from the Mississippi river. Consequently, according to ecological engineers, there is no need to import 'oil-eating microbes' to clean up the Gulf (Bleret 2013: 39). Use of artificial substances is considered more of a way of appeasing public that the government is taking visible steps to reduce the spill. While the multiple mitigation techniques would have removed up to 19, 000 barrels of oil per day from the Gulf water. Major threats for the wildlife and human health did not disappear as most of the oil could still be found sitting on the ocean floor. (Narayan, 2010: 58).

The result was massive destruction of the region that is already sensitive due to decades of environmental degradation, disappearing wetlands and habitats. The region had not fully recovered from hurricanes Katrina and Rita when the blowout took place. Six years are still early to realise the long term effects of the blowout. Moreover, lack of baseline studies makes it difficult for the researchers to keep a tab on the restoration of the region. During the testimony before House Subcommittee on Insular Affairs, it was revealed that knowledge about the effects of oil and dispersants on marine mammals was rudimentary. NOAA's stock assessment reports do not include

baseline information on mammalian species in the Gulf (Hughes 2013: 21). With regard to the human health the studies have focussed largely on small term effects such as skin, eye, nose and throat irritations and psychological symptoms. The present stock taking of the region reveals coral degradation, decline in insect population, cancer in dolphins and continuing growth of dead zone. In addition, millions of gallons of oil still sit on the deep sea floor. It is scattered in patches across more than 1,200 square miles. There is on-going research on how the oil is affecting the microbial community of organisms as well the entire food chain. The government, industry and environmental groups' responses and their planned restoration of the region will be analysed in the subsequent chapters. Restoration involves rehabilitating, replacing, or acquiring the equivalent of injured natural resources and the services they provided (Oil Spill Commission 2011: 212). The Gulf of Mexico needs to strive for improvement rather than merely returning to the baseline.

## **Chapter II: Policy, Process and Politics: Governmental Responses at Federal, State and Local Levels**

*'You never want a serious crisis to go waste'*

[Rahm] Emanuel, White House Chief of Staff (2008)

### **Federalism in the United States**

The United States has the federal system of governance where powers are divided between the national and local governments. While some responsibilities such as foreign policy clearly lie with the national government, there are others such as divorce laws that are under the ambit of state governments. However, activities like responding to disasters such as earthquakes, hurricanes, etc. involve cooperation among local, state and federal governments (Ginsberg et al. 2010: 64). At the time of constitution building, federalism was considered a way to limit the power of the national government. Over the decades, federalism in the US has reshaped and restructured itself multiple times.

**Dual Federalism:** This was the traditional system of federalism in which governance operated at two levels- the state and the federal governments. This was also known as *layer cake federalism*. The power of the government was split in a way to preserve a balance between the two. The states, however, possessed a vast amount of governing power. This system prevailed between 1789 and 1937.

**Cooperative Federalism:** The New Deal of the 1930s brought about changes in which the national government took on a more active role. The national government got more power as states proved ineffective to cope with the issues of Great Depression. Under the leadership of Franklin D. Roosevelt, several programmes were initiated to administer federal relief and employment generation. These programmes were funded and financed by the national government but administered by the states. This system prevailed between 1930 and 1960s.

**Creative Federalism:** This type of federalism evolved under President Johnson's administration. The federal government assumed responsibility of what the states needed and provided them with resources. The social and welfare reforms during the 1960s were based on federal funding to the states. This was, however, conditional on states adopting a series of federally determined goals.

**New Federalism:** As a response to states' loss of power, developed a concept of leaner government whereby powers were handed over to state and local governments. This was in response to shortcomings of welfare programmes, pressure by state and local officials and political philosophy of Nixon and Reagan administrations. The conditionality on federally provided block grants were removed and allowed states to choose how to prioritise the funding.

**Bush Federalism:** This type of federalism during the George W Bush administration showed an increasing level of federal interference in state issues. After 9/11, there was a drive for greater national security. Many scholars even termed it as "*coercive federalism*" (Birkland 2011: 694). This branch of federalism apparently relates to regulations by the federal government over state governments. It appears to compel state and local authorities to work in accordance with federal standards in pursuit of national goals (Birkland 2011: 694).

### **Federalism and Disaster Management**

Disaster Management is an oxymoron term. Disasters are calamitous and deadly events. Therefore, their management remains a critical question. Managing risks in-

volve emergency preparation and response planning of the stakeholders involved (Sylves 2012: 82). The Government's role becomes crucial especially when the private sector cannot or is not willing to manage crisis in a responsible manner. Government actions in a disaster range from finding the reasons of the disaster to organise timely response and recovery operations. The governments at the state level act as subsystems while counties and municipalities act as sub-systems and sub-sub-systems respectively (Sylves 2012: 78). Till the twentieth century, disaster response came under the ambit of state and local administration (Birkland 2008: 695). There is a possibility that due to separation of powers between national and the state government, the latter resisted seeking aid from the national government to maintain autonomy. It was with Second World war that federal attention to emergency management increased. During cold War when Soviet detonated its first atomic bomb in 1949, there was an attempt on the part of leadership to mobilise the nation to prepare for civil defence against the nuclear attack. Over the years emergency management expanded its scope to not only national security but also to natural disasters and in the last few decades technical or human-induced disasters as well (Sylves 2008: 4).

The first Disaster Relief Act was enacted in 1950 as a result of the flooding of the mid-west. This law guided US disaster policy making for the next fifty years. The act provided an orderly assistance from the federal government to the states in carrying out their responsibilities to address disasters. The law created the first permanent system of disaster relief without the need for congressional post-disaster action (Sylves 2008: 49). The act aimed towards "shared governance" where the federal government would only support the states in disaster management and mitigation (May and Williams 1986). According to the act, the governors could request the President for federal assistance. The act established federal responsibility for providing emergency relief and also set up a framework that invests immense and broad authority in the president. During the '50s, civil defence preparedness continued to evolve with a focus on cold war. However, when John F Kennedy (1961-63) came to power, he underlined the relevance of home, school or workplace fallout shelters for saving lives. During Lyndon Johnson administration, a series of natural disasters, including hurricane Camille struck Louisiana and Mississippi (1969), Alaska earthquake (1964). This invited recommendations for more disaster assistance to the citizens and led to the Disaster Relief Act of 1969. The act was updated as the Disaster Relief Act of 1974 after Hurricane Agnes. It provided relief assistance to local governments and individual vic-



tims (Birkland 2008: 695). President Richard Nixon during his presidency redefined civil defence policy to include preparedness for natural disasters. The entire '60s and early '70s saw a heightened interest in environmental conservation. In many ways environmentalism and disaster mitigation complimented one another. Nixon's "new federalism" was reflected in the 1974 act that handed over the responsibility for planning and responding to disasters to state and local governments. The Carter administration sought to combine different disaster functions into a single branch- the Federal Emergency Management Agency (FEMA). However, FEMA became a tool by Reagan and Bush administration for homeland security. The agency ignored natural disasters, even as National Earthquake Hazards Reduction Act (NEHRA) had recognised FEMA as the lead disaster response agency (Birkland and Waterman 2008: 696).

### **Stafford Act**

The 1974 Federal Disaster Relief Act was later amended to Stafford Act in 1988. It became the primary law to govern states' response in the disasters. This was hailed as the beginning of the modern era national disaster management. The policy reflected shared governance ideals while dealing with disasters. The President became authorised to issue major disaster or emergency declarations. The act promulgated that federal government would provide natural disaster assistance to state and local authorities to help them aid citizens. This was aimed at encouraging states and localities to prepare disaster plans and respond with better intergovernmental coordination. The governor of an affected state was to formally ask the president to declare a major disaster or emergency. It was the President's discretion to declare a particular disaster eligible for federal assistance. The small disasters were taken care off by the local and the state governments with some federal assistance. Nonetheless, in the '90s criticism was levelled regarding handling of disasters such as Hurricane Hugo and the Loma Preita earthquake. The Clinton administration then came up with federal programmes so as to improve local and state capacity in disaster planning and response and promote hazard mitigation (Birkland and Young 2011:8). Stafford Act was also amended twice in 1993 and 2000 respectively to improve its performance and to stress mitigation. These amendments suggested federal government to be the facilitator while the state and local governments remained "first responders" in nearly all disasters (Birkland and Waterman 2008: 696). During the '90s, FEMA was forced to turn its atten-

tion to natural disasters after serious criticisms were levelled against its slow response in several disasters. The federal government under Clinton and Bush categorised disasters eligible for federal assistance. This was appreciated by the states and local administrations as well that could shift a major portion of disaster fiscal to the federal government. The terrorist attack of 9/11 led to national government asserting its leadership in domestic policy making. The emergency management and disaster response came to be described as ‘‘homeland security events’’. This put disaster management under federal government ambit. There was apprehension that this would lead to undermining local or state authority.

### **Federal Policies Governing Offshore Oil Development**

The US emergency management grew centralised incrementally but the policy to regulate offshore industrial operations has stayed with the federal government since the very beginning. Local governments have almost no authority to regulate off-shore industrial operations, unless those operations have on-shore policy facilities within their jurisdiction. Notably, most states have jurisdiction in coastal waters out to 3 nautical miles. Texas and the Gulf Coast of Florida have permission extending up to 9 nautical miles (Sylves and Comfort 2012: 82). The federal government is authorised to regulate, protect and direct maritime resources. With spills having the ability to affect the coastal areas transcending national borders, the International Maritime Organisation formulates relevant laws. The US has not yet signed the United Nations Convention on Law of the Sea but mostly complies with the provisions of the measure.

Several policies were in place governing the US Offshore Oil and Gas Development. The Environmental Impact Statements (EIS) was required to compare alternatives available to leasing and to gather the potential consequences of offshore activities. The River and Harbour Act had the responsibility to limit obstructions to navigation. It influenced the location of offshore platforms and activities. The US Coast Guard (CG) determined the various luminous signals used on platforms. The Clean Air Act ensured the environment quality. It regulated the OCS air emissions and empowered the EPA to impose to offshore facilities located within 40 km of the seaward boundary of a state, rules applicable onshore. The Clean Water Act regulated the discharge generated by the separation of saltwater and oil/gas produced from wells in offshore areas. The clearance also required consultation from the National Marine fisheries Service (NMFS), The Fishery Conservation and Management Act and the US Fish

and Wildlife Service (FWS) so that the oil development did not harm a listed species. In case of potential negative impact on a mammal, the Marine Mammal Protection Act (MMPA) applies (Burroughs, 2010: 60-61). The National Marine Sanctuaries Act called on consultations in order to protect the marine sanctuary resources from potential negative impacts related to oil and gas leasing activities (National Commission, 2011: 80). Despite the listed regulations, several of these environment considerations were not always considered. OCSLA dominated most of the rules. The Act expressly singled out the Gulf of Mexico for less rigorous environmental oversight under NEPA. (National Commission, 2011:80-81) Moreover, there was no technology forcing mandate in the OCSLA. Therefore, industry did not take any steps to invest in better technology. The OCSLA gives authorisation to the Department of Interior to cancel permits if it “would probably cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to the national security or defence, or to the marine, coastal, or human environment” (Flournoy. et. al 2010: 2) This, however, required extremely high level of proof to trigger protective action. Compliance with regulatory standards was far from consistent, and the threat of enforcement did not serve as a deterrent. The industry operated in a climate in which costs were routinely balanced against safety and environmental protection. In 1986, the White House Council on Environmental Quality (CEQ) rescinded a 1978 regulation under the National Environmental Policy Act (NEPA) that required agencies to conduct a “worst-case analysis” in their Environmental Impact Statements when important information regarding the potential consequences of a proposed action was unknown or missing. Had that provision still been in place, it would have forced more rigorous planning by the MMS, BP, and its industry colleagues, which in turn might have prevented the disaster or at least led to a more effective response. (Flournoy. et. al 2010: 3)

### **“Energy Independence” Versus Federal Spill Policies**

Legislative responses to the oil discharge from ocean-going tankers into the marine environment have not always been governmental responsibility, neither in the US nor in other countries. In 1954, International Convention for the Prevention of Pollution of the Sea by Oil (OILPOL) was adopted. OILPOL was the first international convention. Its aim was protection of the marine environment from pollution by oil tankers. It established zones near land in which the discharge of oil containing more than 100

parts of oil per million was forbidden. It also required promoting the provision of facilities for the reception of oily water and residues. At that time the focus was still on pollution resulting from routine operations and the discharge of oily wastes, not on tanker spill accidents. However, the growth in oil trade showed that OILPOL was inadequate (Luoma 2009: 5). This led to several changes in the energy policies. Till 1960s no laws were in place to make spillers liable for damages and clean-up costs. The existing laws focused on spillage from shipping and not production. Moreover, the liability limits were extremely low and it was difficult to prove that a spill resulted from gross negligence.

However, a series of spills took place during the 1960s. That led to liabilities for ships owners and oil facilities. The Santa Barbara spill on January 28, 1969 brought out the longstanding concerns over coastal drilling. The environmental movement gained momentum when Cleveland's Cuyahoga River, awash in refinery waste and other debris, caught fire. This event, memorialised in Randy Newman's song, "Burn On," focused attention on polluted waterways. Two major blowouts also occurred on offshore platforms in the Gulf of Mexico in 1970. In 1971 a tanker collision dumped 19,000 barrels into San Francisco Bay (Sabin 2012: 179). These incidents intensified opposition to new oil and gas drilling and made water-quality protection a national priority. Under new pollution laws, offshore drilling restrictions, financial reforms, and efficiency measures were passed representing significant breaks from the past (Sabin 2012: 177). In the wake of Santa Barbara spill, The National Environmental Policy Act (NEPA) was passed by Congress in December 1969 and signed by President Nixon in January 1970. It is fondly known as the "Magna Carta" of environmental laws. Nixon in his message to Congress stated, "Our national government today is not structured to make a coordinated attack on the pollutants which debase the air we breathe, the water we drink, and the land that grows out food... The time has come to organise them rationally and systematically" (Nixon 1970). NEPA created the Environmental Protection Agency (EPA), with broad authority to enforce prohibitions and orders deemed essential to advance environmental policies and goals (Jahshan 2013). It also established the White House Office of the Council on Environmental Quality to provide policy analysis and advice to the president on policy environmental issues (Deans and Lehner 2010: 85) Besides environmental considerations, the NEPA also takes into account the socio-economic effects of the potential impacts. Two year later, under the enactment of section 311 of the Federal Water Pollution Control Act

Amendments of 1972 (Clean Water Act or CWA), liabilities were established for owners of oil facilities and for ship owners, at \$8 million for fixed facilities and \$100 per gross ton or \$14 million for ships (Birkland and DE young 2011: 480). This allowed the federal government to regulate the discharge of comparatively small amounts of oil. Amended in 1978 the owner's' liability was raised to \$150 per gross ton for ships and \$125 per ton for barges. The same act section also mandated a National oil spill Contingency Plan (NCP) and included the creation of a revolving fund to cover costs of potential future cleaning up after oil spills (Birkland and DE Young 2011: 480). The Department of Interior (DOI) established the “Environmental Studies Program” in 1973, aiming at providing information regarding the geological, physical, biological, and chemical characteristics of offshore oil and gas leasing areas (National Commission, 2011: 59). For offshore oil production, the Congress passed the Outer Continental Shelf Lands Act (OCSLA) Amendments in 1978. This Act established another oil spill fund providing for \$200 million for clean-up and a \$25 million liability limit for damages, but unlimited liability for clean-up from oil spills relating to offshore oil production (Birkland and DE Young 2011: 480). It also incorporated several environmental considerations, including a schedule for the anticipated lease sales and the possibility for states to identify tracts or sales that would likely cause environmental damage, if developed by the oil industry. Furthermore the revision of OCSLA made the “Environmental Studies Program” of 1973 official and established the means to favour safer working conditions. The Nixon administration also passed the Water Quality Improvement Act (1970). This addressed oil pollution by ships at sea and slapped liability on ship owners in case of coastal damage. The Coastal Zone Management Act 1972 encouraged states to balance their economic as well as environmental interests, particularly in relation to coastal energy activities. A Ports and Waterways Safety Act expanded the power of the Coast Guard to manage vessel traffic and congestion, especially if it involved oil tankers. Coast Guard also had the authority to set safety standards for tankers and waterfront facilities (Sabin 2012: 180). The Supreme Court in 1973 stated that state was authorised to regulate shippers, oil drilling facilities and dockside terminals as long as state laws did not conflict with federal standards. The period witnessed public activism regarding issues such as traffic congestion and air pollution. States concentrated on regulating policies regarding motor vehicles, and regulating emissions. California concentrated on building mass transit systems rather than funding highways. President Nixon made revenue collected

from Highway Trust Fund money available for developing mass transit (Sabin 2012: 180). Yet protection of the environment, need for revenue generation and energy independence remained conflicting goals. While in a few areas, drilling was banned, some regions including the Gulf witnessed oversight rules seriously diminished to support offshore drilling (National Commission, 2011: 55). Fear of energy crises blocked any substantial changes. The Arab oil embargo of 1973 and a substantial increase in the oil prices exposed the American vulnerability to energy.

Thus, subsequent administrations attempted to frame policies that aimed at fixing energy shortages and price rise. “Project Independence” kick started by Nixon administration is considered to be one of the first responses with regard the energy policy. While delivering the State of Union Address President Nixon said, “At the end of this decade, in the year 1980, the United States will not be dependent on any other country for the energy we need.” (Nixon 1974) During Nixon’s presidency, the US imported 36.1 per cent of oil. The project aimed at ending the dependency by exploring oil from offshore drilling. The accessible petroleum deposits had been tapped already but the offshore drilling along the frontier regions had not been exploited much.

Subsequent administrations continued to emphasise on energy independence. Every administration since 1976 has had special advisors on energy. In his State of Union Address, President Gerald Ford said, “We must reduce oil imports by one million barrels per day by the end of this year and by two million barrels per day by the end of 1977.” Jimmy Carter appears to have made an honest attempt to change energy policy. He encouraged energy conservation and stated in his television address to the Nation on Energy and National Goals, “Beginning this moment, this nation will never use more foreign oil than we did in 1977—never.” During Carter’s presidency, the US imported 40.5 per cent of oil. Carter announced a new national energy plan in early 1977 to reduce the growth of energy demand and cut imports. The plan promised lessening the use of oil through expansion of coal consumption along with use of unconventional energy sources such as oil shale and solar power. Above all he emphasised on the need to reduce demand through energy conservation (Sabin 2012: 184). Carter while encouraged exploration also called to impose tax on oil that could bring domestic crude oil prices comparable to world oil price levels. The plan, however, did not go forward in the Senate. Decontrol of oil and natural gas prices was opposed as sceptics believed that price increase would boost industry profits but not benefit consumers. Yet, Carter administration succeeded in cutting oil consumption to a certain

extent. There was an increased attention on buying more fuel efficient cars and insulating houses. When Ronald Regan came to power, he overturned several of Carter's initiatives, particularly those that had to do with solar power and energy efficiency. Reagan slashed the staff of the White House Council on Environmental Quality to just eight, down from fifty. Reagan's EPA exempted wastes generated by oil and gas coverage under the Resource Conservation and Recovery Act of 1976. Waste from oil and gas production often contains heavy metals and toxic chemicals. Its exemption had a bearing on public health, safety and environment (Deans and Lehner 2010: 89). There was an aggressive leasing of offshore lands. The government still imported 43.6 per cent of oil from foreign sources. This figure rose to 47.2 per cent by 1992 but administrations one after the other continued to stress on energy independence. President George H.W. Bush announced that the first principle for his national energy strategy was "reducing our dependence on foreign oil." (Freudenberg and Gramling 2011: 6)

Between 1970s and 1989 there was no comprehensive oil spill liability, compensation and response regime. The House and the Senate were in a deadlock over whether state laws should be pre-empted by federal law. Most senators provided support for states to have the power to tax oil companies, fund clean-ups and set liability regimes. State laws were often more strict (Birkland and DE Young 2011: 480). House of Representatives, federal officials and oil and shipping companies wanted pre-emption. The oil industry wanted low liability and the federal government desired regulatory coherence and efficiency as they promoted policies for greater energy production (Birkland and DE Young 2011: 480).

The 1989 Exxon Valdez disaster broke that logjam. The state as well as the federal administration found it difficult to anticipate the size of spill. The Federal Response Plan was not developed while the Alaska government was underprepared. There was no clarity regarding federal government's authority to coerce Exxon to manage the clean-up. There was policy regarding deployment of skimmers and support vessels. The administration was advised not to federalise the spill. It was feared if the federal government intervened, Exxon would feel off responsibility. The Alaska governor asked the President twice to declare the spill a major disaster but his request was denied each time. It was assumed that Exxon had the adequate financial resources and technical expertise to do so (Sylves 1998: 25).

The disaster led to the realisation that major oil spills demanded a unified command system. National Contingency Plan (NCP) was applied after the spill under which unified command operates. NCP reflects the elements of basic emergency management. Birkland and DE Young (2011: 482) list Hagerty and Ramseur's basic elements:

1. A national response team (NRT), which consists of federal agency representatives. It is led by the Coast Guard when a spill is on water.
2. Regional response teams (RRTs), formed from representatives of each federal regional office, and including state and local government representation as well.
3. Area committees (ACs) prepare area contingency plans for response to oil spills in a localized area, such as a harbour.
4. The on-scene coordinator (OSC) is a coast guard official and the leader of response efforts at the scene of an oil spill.

As discussed in the last chapter, the act tasked federal action without state government's request for assistance. The federal government was tasked with supervising the clean-up, which would be conducted by the spiller or the party responsible for the spill (Birkland and Young 2011: 2) The President could additionally deploy federal or state assets such as the Navy and the National Guard to contain and remove the oil. The ethic of energy independence, however, continued unabated. President Bill Clinton stressed on enhancing domestic energy production to deal with the then importing of 49.8 per cent oil. While giving out the statement on Petroleum Imports and Energy Security, he stated "The nation's growing reliance on imports of oil... threatens the nation's security" (Clinton 1995). Clinton spoke about "performance based regulations" (Clinton 1995), which effectively increased industry's influence over government oversight. Congress enacted the Deepwater Royalty Act of 1995 to suspend the payment of royalties for specific initial quantities of oil and gas produced from Outer Continental Shelf in the water depths greater than 600 feet (Deans and Lehner 2010: 95). The 2005 Energy Policy Act extended other favours. Committee chair Rep. Joe L. Barton (R Texas) added billions of dollars in tax and royalty "relief" to encourage faster drilling, along with a \$50-million annual earmark to support technical research for the industry. The Government Accountability Office has estimated that the deep-water royalty waiver program cost the nation more than \$50 billion over the life of the leases (Geiger and Hamburger 2010; Government Accountability Office 2007) Notably, Barton was serving as the senior Republican on the House Energy and Commerce



Committee at the time of the Macon blowout. He apologised to BP officials for the “harsh treatment” they received from the administration (Kreighbaum 2010).

By 2006, the imports had reached 65.5 per cent even as President George W. Bush believed that the US would be able to replace “more than 75 per cent of oil imports from the Middle East by 2025” (Deans and Lehner 2010: 92). Bush signed the Energy Policy Act 2005 to “promote dependable, affordable, environmentally sound production and distribution of energy”. The law provided billions of dollars in tax breaks for oil, gas, nuclear power and coal companies (Deans and Lehner 2010: 92). A few positive developments also took place. The Security Act of 2006 recognised the financial involvement and support of coastal federal states in the Gulf of Mexico offshore oil production, along with the risks in case of environmental damages. The act stipulates that coastal states should receive some of the revenue generated by the OCS oil exploitation. Accordingly, 37.5 per cent of offshore revenues must be apportioned to adjacent coastal states. Another piece of legislation awarded the states a share of 27 per cent of the royalties due to the Federal Treasury. By 2009, the US was importing 66.2 per cent while Obama administration chalked out the policy of “building a new energy economy” (Freudenberg, Gramling 2011: 3). Under Obama’s presidency, oil import decreased steadily and there has been an increase in offshore and natural gas drilling (Slack, 2012). The main focus lay in tapping fossil fuel resources along with investing in renewable or “clean” energy projects such as wind, solar, biomass, hydropower, and nuclear.

### **President Obama’s Relationship with the Oil Industry**

During the 2008 Presidential campaign, Obama was forceful in his attack against the “Big Oil”. In one of the speeches, he stated that he will free the US from the tyranny of oil (Obama 2008). Obama as a presidential candidate regularly criticised industry’s profits and pledged to impose a windfall profit tax, cut industry subsidies and tax breaks, and investigate oil and gas price manipulation. In the campaign, Obama promised addressing issues of global warming, environmental protection and expanding investments in energy and green jobs. Despite that he received large donations from BP’s political action committee and individual employees, collecting more than \$71,000. It was the largest slice of more than \$6.2 million that BP had given to federal candidates in the last two decades.

According to Steffy (2010:195), Obama and BP connections go far beyond. BP had donated \$20 million to solar research as the first step in a decade-long program of backing “green” energy in 1997. By 2007, the program had expanded, and BP had awarded a \$500 million grant to establish the Energy Biosciences Institute at the University of California, Berkeley. The institute funds dozens of research projects seeking next generation of biofuels. The attempt is to find a more efficient fuel than ethanol. The institute was run by Dr. Stephen Chu, a Nobel Prize–winning researcher and a pioneer in the study of biofuels. President Obama placed Chu his administration’s energy secretary. Chu hired BP’s top scientist, Steven Koonin, as the undersecretary of science. Koonin was responsible in directing the bulk of the grant establishing the biosciences institute to UC Berkeley and Chu (Steffy 2010: 196). Notably, Chu’s research was on developing alternatives to oil. Obama administration wanted him to oversee the oil industry. The entire industry shared scepticism on Obama administration’s decision. Steffy (2010:196) writes that BP was happy that someone they knew so well would be in charge. It is a different matter that overseeing of offshore drilling did not come with the Energy department. Moreover after the spill, Chu grew increasingly disenchanted with BP’s handling of the Gulf spill response (Steffy 201: 196). Obama’s national security advisor James Jones had also served as president and CEO of the US Chamber of Commerce’s Institute for 21st Century Energy in the recent past. The institute is a prominent lobby body for US business. He also served on Chevron’s board of directors in 2008. In speeches in that capacity, Jones expressed support for repealing remaining moratoria on domestic energy production and exploration, expand leasing for oil and gas, and reduce “burdensome regulations that stymie energy production and industry innovation” (CorpWatch 2009). Democrats received a total of \$884,000 in the 2008 elections from the oil industry. This is often believed to have been the reason for dramatic flip mid-campaign in support of lifting the moratorium on offshore drilling. The moratorium on offshore drilling was imposed in the wake of Santa Barbara spill. In 1981, the Outer Continental Shelf (OCS) moratorium was put in place to prevent new leases off the Pacific, the Atlantic coasts as well as parts of Alaska. The legislation included a provision that the moratorium, which was in place only for new leases, would automatically expire unless renewed annually. The oil and gas production facilities already operating were out of the moratorium rule. The Gulf of Mexico was not included in the list due to the presence of oil-funded legislators. The drilling in the region took place at a neck breaking speed.

The oil production replaced plantation culture in many of these states such as Louisiana. Between 1998 and 2007, offshore producers released an average of 6,555 barrels of oil a year into US waters. That was 64 per cent more than the annual average during the previous ten years (Ivanovich and Hays 2008). Not just spillage, drilling itself threatens marine ecosystems and species. A single offshore well produces around 2,000 tons of waste material including toxic material such as lead, cadmium, mercury, benzene, arsenic, zinc etc. Several offshore activities such as seismic survey involve ships towing multiple airgun arrays. These airgun arrays fire regular bursts of sound that affect the auditory organs of marine species such as whales (Juhasz 2011: 258). These sounds have been known to kill some species outright, including salmon, whose swim bladders have ruptured from exposure to intense sounds. Other survey activities such as grab sampling are harmful to seafloor organisms and fish habitat, discharging silt plumes that are transported on ocean currents and smother nearby life on the seabed (Juhasz 2011: 258).

Recognising these effects, Obama during his election campaign in June 2008 had supported keeping in place the “moratorium in Florida and around the country” (Obama 2008). However, in August 2008 he changed his stance and accepted additional offshore drilling and lifting of the moratorium. This was done as a trade-off with the oil industry to overcome gridlock in Washington on energy legislation so that oil and gas prices could be reduced. In September, Congress allowed the moratorium to expire. Hoping to win votes for climate legislation in Congress, President Obama pushed for new offshore drilling in the Arctic, the South eastern seaboard and new waters in the Gulf (Dickinson 2010). He also stated on April 2, 2010 that, “oil rigs today generally don’t cause spills. They are technologically very advanced. Even during Katrina, the spills didn’t come from the oil rigs; they came from the refineries on-shore.” (Dickinson 2010) These statements were factually wrong. The hurricanes Katrina and Rita damaged 167 offshore platforms and more than 450 pipelines resulting in nine major oil spills and release of 7 million gallons of oil and other pollutants into the water. The storm carried one offshore rig sixty-five miles before dumping it on Dauphin island (Button 2010: 211) But by opening the areas for offshore drilling, Obama ignored his administration's top experts on ocean science, who warned that the Arctic be exempted from drilling until more scientific studies could be conducted. The President’s agenda was to get the comprehensive energy and climate legislation

passed. However, those who supported the legislation also had to support offshore drilling.

### **Oil Pollution Act and 2010 Macondo Blowout**

The initial federal response was based on the OPA and its related regulations. The act directed new contingency planning and response preparedness for government and the industry. There was additional guidance on how to coordinate and direct response and clean-up activities. The act provided funding for response activities through the Oil Spill Liability Trust Fund. OPA amended the Clean Water Act to increase penalties for oil discharged, and broadened the enforcement authority of the federal government. Additionally it also safeguarded the authority of the state to establish laws regarding prevention and response. As discussed in the first chapter, the act set financial responsibility requirements, and subjected liability on the responsible party. The OPA's focus is on returning injured natural resources to 'baseline conditions'.

However, the report by the Deepwater Horizon Study Group (Azwell et al. 2011: 7) stated that even as the OPA addressed all these issues, it ignored three critical features that became particularly crucial with respect to the Macondo blowout.

1. Release of natural gas that took place simultaneously with the discharge oil from the well. An estimated two million oil barrel equivalents of natural gas discharged into the Gulf. This negatively affected the water quality. Natural gas represented 40 per cent of the hydrocarbons released into the Gulf and should be included in the per-barrel fines under the CWA, as well as the environmental damage analysis required under the OPA (Azwell et al. 2011:7).
2. Not considering environmental impacts in using chemical dispersants subsea. This externalised the environmental costs. OPA should have assessed the use of dispersants in terms of damage to the environment.
3. Emissions from in-situ burning and garbage generated from the clean-up need to be considered in the environmental damage assessment. The burning presented occupational hazard to response personnel due to harmful gases and particulate matter released and added to global stratospheric pollution. Eleven million feet of absorbent boom, carcasses, sand/sediment, etc. generated from the clean-up of the Deepwater Horizon event have put an additional burden on landfills. However, most of these waste materials are not accounted for. The spill and its subsequent clean-up methods generated 80,276 tons of solid waste and 956,350 BBLs of liq-

uid waste by October 2010. The alternative clean up technologies such as natural fibre booms and loose absorbents can absorb the oil and then be composted. The State of Louisiana is the largest sugar cane producer in the United States, generating more than 3 million tons of natural fibre waste per year, known as bagasse, which could have been used (Azwell et al. 2011: 7). The clean-up generated created concern in the communities surrounding the landfills. Most of these are low income communities and or with the majority population of colour (Kubendran 2011: 2). Proper planning was required to successfully divert waste.

### **Federal Response After The Spill**

As soon as the disaster occurred parallels were drawn between the blowout and hurricane Katrina. The administration made an effort not to handle the crisis the way the Bush administration (mis)handled Katrina. Obama delivered a speech on May 2, 2010 in Louisiana, fifty miles from the site of explosion and assured that the he was taking the disaster with “utmost seriousness”. He assured that the administration was working to resolve it and would use all the resources for the purpose. Obama pointed that BP was the responsible party and would be “paying the bill” but the administration was steadfast in full restoration of the Gulf and its people (Juhasz 2011: 252). The White House stated that it was “active monitoring the situation” (White House Blog). A principal meeting was convened to discuss the situation and response efforts on April 22. The federal government offered assistance to rescue efforts and to mitigate and respond to the environmental impact. More than a month after the disaster, Obama took the charge of the clean-up effort. "In case you were wondering who's responsible, I take responsibility" (Obama May 27 2010) The President also admitted to being lenient on oil industry. “I was wrong in my belief that the oil companies had their act together when it came to worst-case scenarios... The buck, stops with me.” Despite these declarations, the federal response was criticised for being slow, confusing, tied up in bureaucracy and red tape (Jonsson 2010). The administration was accused of attempting the make the crisis disappear. President Obama had vowed to crack down on MMS, even before taking office (Dickinson 2010). However, no action was taken in this regard after he assumed office. The response to the spill was based on misleading estimates from BP, the official bungling of figures regarding the spilled oil, and the belief that the leak could be stopped in no time.



**Figure 21: President Obama Inspecting the Beach**

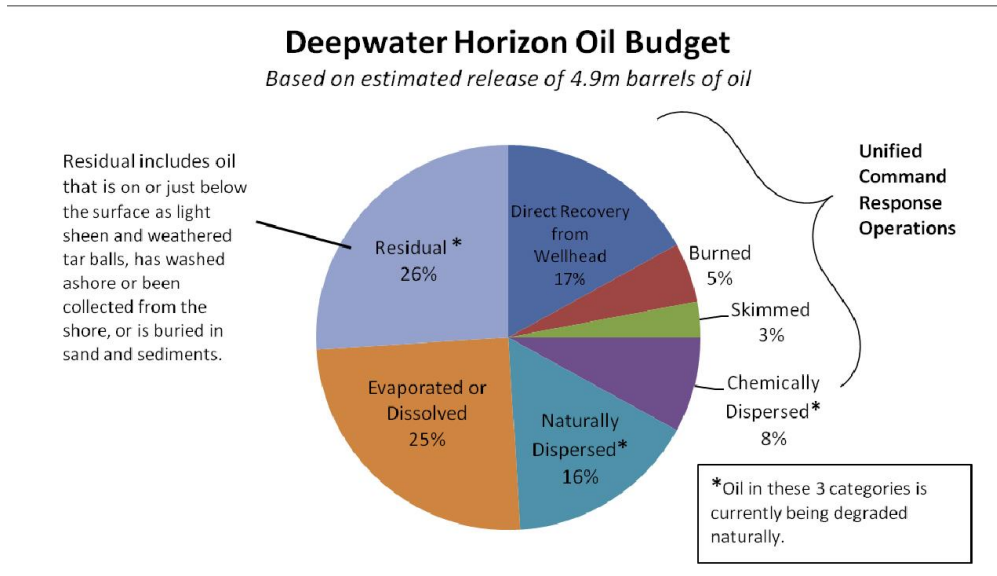
The misrepresentation started with Rear Admiral Mary Landry’s announcement that no oil was leaking from the well. Admiral Landry was in-charge of the federal government’s early response. By April 23rd BP and the Coast Guard had discussed privately that 64,000 to 110,000 barrels of oil per day could emanate from the well in the event of a full blowout (Solomon, Mehta 2010). However, the federal response was to deny leakage of any oil. On April 24, she declared that just 1,000 barrels of oil a day were leaking from the well. On April 27, this estimate was increased to 5000 barrels a day. Only after that the BP and Transocean were designated the “responsible parties” for the spill. White House took nine days to announce that the spill had attained “national significance”. By this time at least 607,500 barrels of oil had already spilled in the Gulf. For months, there were inaccurate statements about the size of the flow. The Flow Rate Technical Group<sup>8</sup> announced a new estimate of 12,000 to 25,000 barrels in the end of May. This was the minimum estimate and even in this the upper range was not included in the report (Dickinson 2010). White House Director of the Office of Energy and Climate Change Policy Carol Binderer also declared that “virtually all oil was gone” from the Gulf long before that happened.

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<sup>8</sup> Team of scientists establishing gusher’s output

Critics believe that by minimising the size and significance of the spill, the administration ensured that long term policy changes do not take place. The spill response saw Exxon Valdez veterans showing off the 1989 experience at press conferences and planning meetings of the Unified Command. The idea that was given out was -- they had been there before and knew what to do. It was taken for granted that oil spills were all the same. However, a few months later it was realised that the oil spill regulations written after Exxon Valdez were written for a spill of that kind not the Deepwater Horizon Spill. The 2010 blowout was “indeterminate and multidirectional, it was disaggregated and going in different directions” (Bond 2013). It was difficult to follow it. The scientists working with the Unified Command were reluctant to monitor the impact of dispersed oil in the Deepwater stating that nothing could be done about it. Their mandate was to protect the environment and any research that could not “yield real-time operational results had no place in the emergency response” (Bond 2013). This stopped them from assessing long term impact to the environment. They further stated that nothing could be done regarding the water plumes which were a mile deep. Thus, they excluded microbial and chemical evidence of Deepwater plumes of hydrocarbons, which further destabilised the environment (Bond 2013). Allowing the use of dispersants was another area where the federal government was blamed. Dr Michael Robichaux curing the patients in the Gulf blamed the government and stated, “The government did not acknowledge the fact that there are so many sick people from exposure to the toxicity in corexit.” (Interview with Michael Robichaux 2015)

The government nonetheless managed response. As many as 45,000 individuals were drawn from federal, state, local and regional governmental agencies. The US Coast Guard coordinated the multiagency response and directed BP in mobilising more than 800 specialised skimmers, 120 aircraft, 8,000 vessels, nearly 50,000 responders, and two drilling rigs to drill relief wells (The White House 2011). Approximately 4.12 million feet of boom and 17,500 National Guard troops were deployed. Experts from government agencies, BP, and the industry tried several well-control options. Oil release was halted temporarily on July 15. A relief well permanently killed the well on September 19. However, the entire procedure was mired in lack of clear lines of authority among federal, state and local officials, as well as BP (Brooks 2010). The main intergovernmental conflict stemmed from state level understandings of their role under the relevant laws.



**Figure 22: Oil Budget. Shows Oil Estimate.** Source: NOAA (2010)

The Obama administration faced the problem regarding issuing a presidential declaration of major disaster for the spill. Officials of the Obama administration believed that BP was both culpable and financially responsible for the spill. Sylves and Comfort (2010: 93) explained that had the President imposed his authority under OPA-90 by federalising the spill and issued disaster declarations under the Stafford Act, he would have risked transferring a major portion of oil spill response and recovery costs to the taxpayers. As explained earlier, the Stafford Act allows reimbursement of federal disaster costs by charging the responsible party. However, there needs to be enough proof that the disaster was intentional or an act of negligence. States believed that the administration would go ahead with Stafford Act. The administration, however, proceeded under the National Contingency Plan and did not federalise the spill. This plan implemented the Clean Water Act, amended under the OPA 90 and calls for a federally-led response (Birkland and DE Young 2011: 5).

The administration formed an understanding with BP to accelerate the well shut down and the larger response effort. BP reached an agreement with the administration to cover all economic damages, and appoint an external special master to facilitate claims, fines and remediation fund. Obama allowed BP to continue to generate revenue from the sale of Gulf oil (Read 2011: 163). It was believed that BP's bankruptcy would hinder the response and remediation process. The administration needed a functional BP to support clean-up and pay fines levied to the US Treasury. The ad-



ministration employed the National Incident Management System (NIMS) to work jointly with BP and assumed full responsibility for the spill management. States, localities and private parties applied under the BP's \$20 billion Oil Spill Liability Fund to cover their direct losses and oil spill response costs (Sylves and Comfort 2012: and 93).

### **Restructuring Mineral Management Service**

On April 26, the administration directed the MMS to conduct physical inspection of all oil rigs and platforms. By then there was no talk about bringing changes to the MMS. However, the aggressive activism by environmental organisations, research and findings, lawsuits and media commentary forced the government to take a more serious approach towards the MMS. It was discussed earlier that the MMS had critically failed in its functions. The Bush administration had scrapped environmental analysis and had fast tracked permits. Even during the Obama administration, MMS continued to issue categorical exclusions to several companies. This was despite the fact that companies like BP lacked necessary permits to protect endangered species. MMS failed to enforce a host of environmental laws, including the Clean Water Act (Dickinson 2010). In March 2009, it was granted a categorical exclusion from National Environmental Policy Act provisions. After the spill, MMS stated that it inspects rigs 'at least once a month' when drilling is under way." MMS own records, however, declare that the federal inspectors failed to conduct nearly a third of required inspections on the Deepwater Horizon rig in the 28 months before the explosion. The last MMS report dated three weeks before the explosion. According to that the BoP was working properly. There was no mention of any persistent issue with natural gas flowing up through the well and disrupting drilling. "MMS inspectors noted the presence of a kick in October 2008, but none later" (Freudenberg and Gramling 2011:55). Other reports revealed that as many as 12,087 oil-related incidents had been reported to the MMS in the Gulf alone since 2005. None of it worked as a wake-up call for the industry or for the administration. The MMS also approved BP's Oil Spill Response Plan— designed to cover all BP operations in the Gulf. In the application BP stated that a spill was "unlikely". It further maintained to be containing superior skimming equipment with a recovery rate of 491,721 barrels/day in case a spill was to occur. Notably, had the information been factually correct, BP could have removed 20,652,282 gallons, or more than eight times the estimated spill volume of 60,000

barrels per day (Freudenberg and Gramling 2011: 53). The plan further claimed in case of an unlikely spill, there was only a 21 per cent chance that oil would reach the Louisiana coast within a month. The actual spill took only nine days to start fouling the coastline. According to the document, a spill would not have any adverse impact on sea turtles or endangered marine mammals, both of which started showing up dead within a few days of the blowout. No significant adverse impacts were expected for the region's beaches, wetlands and coastal nesting birds. No site specific plan was attached with the application and no discussion was made on how to stop a blowout. Interestingly, it did express concern for walruses, sea otters, sea lions, and seals, etc. None of them have been found in the Gulf for the last several million years (Freudenberg and Gramling 2011: 54).

In the five years before the explosion, 400 investigations of rigs had resulted in only 16 fines. According to reports, ten of the largest refineries in Louisiana averaged ten accidents a week from 2005 to 2008. Despite the availability of the data, no action was reportedly taken by the federal agencies to stop these accidents. The data had been continually communicated to agencies. Yet, the federal agencies failed in conducting investigations (Interview with Anne Rolfes 2015). In 2009, Transocean received the MMS' regional Safety Award for Excellence (SAFE) even as several inconsistencies were revealed. The MMS offered its annual award to recognise what the agency considered "outstanding drilling operations" and a "perfect performance period." BP was a finalist in the 2009 competition. The 2010 awards were scheduled to take place less than two weeks after the fatal blowout. BP had been nominated for two awards for following offshore safety. According to the Oil Spill Commission Report, the MMS suffered "agency capture"-- where it became influenced and was controlled by the very industries it was tasked to regulate (Hughes 2013: 14). The role of MMS was that of a regulator, yet its goal appears to have been facilitating drilling rather than restricting it. The government was the recipient of more than \$10 billion royalties annually. Thus, the government had an incentive to continue offshore production. As the drilling moved deeper offshore, new safety rules were put in place by the MMS in order to reduce human errors. However, following the rules was a voluntary practice. The laws were tailored in a way that regulators were given a month to decide on a drilling application in the Gulf. That left very less time for environmental review and it was continually waived. MMS used the term "categorical exclusion" to exempt applicants from environmental review. The Center for Biological Diversity (Press Re-

lease 2010) reported that the MMS approved 27 new offshore drilling projects after the explosion of Deepwater Horizon. As many as 26 projects were approved using “categorical exclusion” from environmental review. Two of these drilling operations were awarded to BP despite the new plans being based on the exact same false assertions about oil rig safety and the improbability of environmental damage in case an oil spill occurred:

**Table 4: BP Exploration Plans**

<b>BP Exploration Plan, Mississippi Canyon Area, approved April 6, 2009</b>	<b>BP Exploration Plan, Green Canyon Area, approved May 6, 2010</b>
“2.7 Blowout Scenario - A scenario for a potential blowout of the well from which BP would expect to have the highest volume of liquid hydrocarbons is not required for the operations proposed in this EP.”	"II.J. Blowout Scenario - Information not required for activities proposed in this Initial Exploration Plan."
“14.5 Alternatives - No alternatives to the proposed activities were considered to reduce environmental impacts.”	"VI. Alternatives - No alternatives to the proposed activities were considered to reduce environmental impacts."
“14.6 Mitigation Measures - No mitigation measures other than those required by regulation and BP policy will be employed to avoid, diminish or eliminate potential impacts on environmental resources.”	"VII. Mitigation Measures - No mitigation measures other than those required by regulation will be employed to avoid, diminish, or eliminate potential impacts on environmental resources."
“14.7 Consultation - No agencies or persons were consulted regarding potential impacts associated with the proposed activities.”	"VIII. Consultation - No agencies or persons were consulted regarding potential impacts associated with the proposed activities. Therefore, a list of such entities has not been provided."

<p>“14.3 Impacts on Proposed Activities - The site-specific environmental conditions have been taken into account for the proposed activities and no impacts are expected as a result of these conditions.”</p>	<p>"IV. Impacts on Proposed Activities - The proposed well locations were evaluated for any seafloor and subsurface geological and manmade features and conditions that may adversely affect operations. No impacts are expected from site-specific environmental conditions."</p>
<p>“14.2.3.2 Wetlands - An accidental oil spill from the proposed activities could cause impacts to wetlands. However, due to the distance to shore (48 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected.” (p. 45)</p>	<p>"III.C.2. Wetlands...Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to wetlands are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by BP’s Oil Spill Response Plan (OSRP)."</p>
<p>“14.2.2.1 Essential Fish Habitat - ...In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of BP’s Regional Oil Spill Response Plan which address available equipment and removal of the oil spill.”</p>	<p>"III.B.11. Essential Fish Habitat...Should a spill occur in the area of a mobile adult finfish or shellfish, the effects would likely be subtle and the extent of the damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. Activities proposed in the EP will be covered by BP’s Oil Spill Response Plan (OSRP)."</p>

Source: Centre for Biological Diversity (Press Release 2010)

When this came to light, the administration announced that new drilling permits would not be passed till DoI reviewed it completely. It was argued, however, that the rule should be followed not only for new applications but also for the existing ones. “MMS needs to formally revoke all 400 environmental waivers given out in the past 18 months and redo each and every decision” (Eiplerin 2010). Due to the intense pub-

lic pressure, the administration decided to restructure the MMS in order to separate leasing and royalty collection from its regulatory functions. The Oil Spill Commission (2011: 57) points out the “decades of inadequate regulation” as the critical cause of the spill and blamed MMS as “an agency systematically lacking the resources, technical training, or experience . . . to ensure[e] that offshore drilling is being conducted in a safe and responsible manner. For a regulatory agency to fall so short of its essential safety mission is inexcusable” (Oil Spill Commission Report 2011: 57). MMS associate director of offshore programs Chris Oynes resigned after this. Oynes had earlier been involved in a multibillion-dollar scandal regarding payment of royalties. No action was taken against him in this regard. Oynes’ departure was followed by MMS chief Elizabeth Birnbaum resignation. President Obama recognised existence of a “scandalously close relationship” between the industry and the MMS which makes it imperative to separate regulation and profit (Obama 2010b).

The MMS was replaced by a new Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE). Michael R Bromwich, former Justice Department Inspector General, was deployed as the head of the agency. BOEMRE is responsible for conventional and renewable offshore energy development. It is tasked with simultaneous needs to reorganise, increase staff, develop capabilities, and maintain a reasonable pace of developments in offshore hydrocarbon exploration and production activities; and at the same time, develop advanced capabilities to address proposals for new high risk exploration and production projects. The BSEE has been tasked with carrying out oversight, inspections, safety, and environmental protection in all offshore energy activities. An Office of Natural Resource Revenue was also created. It handles both onshore and offshore royalty and revenue functions, including the collection and distribution of revenue, auditing and compliance, and asset management (Juhasz 2011:275). The Bureau of Safety and Environmental Enforcement (BSEE) maintains safety oversight. The division separates resource management from safety oversight and a focused leadership. The separation particularly makes environmental review an important component of exploration. Both BOEM and BSEE mandated that offshore drilling companies had to implement Safety and Environmental Management Systems (SEMS). This was earlier voluntary but was made integral for the outer continental shelf operation. It includes identifying potential safety and environmental risks, safety training for staff, conducting regular testing and inspections, etc. SEMS also covered emergency response, accident investigation, audits, and record keeping.

However, Robert Bea pointed out that the regulatory framework still lacked in a strong environment risk assessment model (Interview with Robert Bea 2015). The new government agencies lacked the resources (insufficient financing), personnel, training, technology, enforcement tools, regulations and legislation they needed to do their job properly (Bleret 2012: 71). There was hardly any change in deployment of officials. Staff members, staffing levels and regulations remained largely the same. The exploration permits were still going to the same parties (Interview with Anne Rolfes 2015). MMS still overarched these organisations. The top officials of MMS are the same in the new agencies. For example, MMS director for Alaska John Goll had been in the MMS since Bush administration. Dickinson (2010) claimed in his journalistic piece on the oil spill that shortly after, the Interior secretary announced a reorganisation, Goll called a staff meeting and served cake decorated with the words "Drill, baby, Drill." Critics claim that the ground thinking has remained the same. "The BSEE and BOEM do not have the "right stuff"—people with experience and knowledge about risk assessment, governance and regulatory processes." (Interview with Robert Bea 2015)

### **Moratorium on Offshore Drilling**

On May 30, the administration announced a six-month moratorium on some offshore drilling in the region. According to the administration, the moratorium would provide necessary time for stock taking so that future accidents can be tackled and that industry was prepared to deal with worst-case scenarios. It was to help the administration with investigation and agencies to undertake safety reforms. The moratorium was implemented at a time when the polls reflected increased opposition to offshore drilling. However, the ban halted exploratory drilling at only 22 Deepwater operations. This was less than one per cent of the total wells in the Gulf. Yet, the moratorium was criticised by republicans, Gulf state officials and Gulf residents, and even several Democrats in the Gulf. It was stated that the measure would only aggravate the economic situation. Republican Presidential nominee 2012 Mitt Romney accused Obama of not acting in the national interest with respect to energy. Representative Doc Hastings, chairman of the House Natural Resources Committee, described moratorium as "a giant step backward for American offshore energy production." Even Louisiana Democrat Senator Mary Landrieu fought the moratorium stating that it cost her state thousands of jobs and permanent damage to the industry. On the other hand Demo-

crats such as Drew Hammill, a spokesman for California Democrat and minority leader Nancy Pelosi, blamed Republicans for lack of action. Notably, at the time when moratorium was in place, the production continued at 5,106 wells in the Gulf, including 591 in deep water. Dickinson (2010) gave example of the deep-sea production at Atlantis rig that continued. The rig is one of the world's largest oil platforms. Capable of drawing 200,000 barrels a day from the seafloor, Atlantis is located only 150 miles off the coast of Louisiana, in waters nearly 2,000 feet deeper than Deep-water Horizon (Dickinson 2010). Congressional report stated that Atlantis lacked required engineering certification for as much as 90 per cent of its subsea components. This could lead to "catastrophic" errors (Food and Water Watch).

### **States' Gulf Restoration Plans**

The states in the Gulf region historically stayed aggressive in forming alliances with the industry to expand their domestic and global energy markets. State leaders have been accused for striking bargains with the industry trading off natural health of the region for jobs and tax revenue. On the other hand states also have energy "policy laboratories" (Rosenbaum 2015: 22) where innovative policies have originated sometimes becoming models for federal policy and even generating pressures on the national government to act on energy issues. One such policy is the Gulf Restoration Plan initiated by the states. Deans and Lehner (2010: 103) write that Coastal restoration is an industry in itself. Almost every university in the region is involved in some kind of coastal management coalition with NGOs and environmental groups. In Louisiana alone there are more than three dozen companies devoted to restoration and coastal management. In 1989, two agencies were set to oversee the protection and restoration of Louisiana's coasts and wetlands and help coordinate state agencies with US Army corps of Engineers, US Geological Survey and other Federal agencies that manage coastal and wetland issues. There is also a ten-year coastal ecosystem restoration plan with the aim to collaborate fifteen specific projects, mostly to funnel river sediments back to wetlands. Similar initiatives have been in place in Mississippi, Alabama, Texas and Florida. In 2004 all five states formed a Gulf of Mexico Alliance to improve water quality, coastal habitat, wetlands etc. In order to help the federal, state and tribal authorities, Natural Resources Damage Assessment was created by the NOAA and the Department of Interior. Thirteen working groups were set up to get the information on the affected habitat. The NRDA was also tasked with assessing any

lost human uses of the region's natural resources such as recreational fishing, boating, visiting a beach etc.

Two months after the spill the federal government tasked Secretary of Navy and Ray Mabus and former Governor of Mississippi to come up with a long plan for recovery of the Gulf Coast. Mabus' report "America's Gulf Coast" gave pointers on economic and ecological recovery in the coast. The report requested Congressional action and use of penalties under the Clean Water Act levied against the responsible parties to fund a regional recovery plan. The report talked about a federal-state partnership, the Gulf Coast Recovery Council, tasked with developing a plan for environmental, economic, and public health recovery. It stated that restoration can help preserve the region's economic base and make it more resilient to future disasters, such as hurricanes and a rising sea level. The report gave special attention to the existing environmental weaknesses of the region. It noted that the needs of vulnerable communities and the underemployed be managed and exploration of the economic diversification strategies, including finding opportunities in increasing export potential, developing a 21st century workforce, and promoting a clean energy economy be carried out (Oxfam 2011: 44). Unfortunately, the money received as BP's compensation appeared to be used by some states for building commercial infrastructure projects or football stadiums etc. In September 2015, America's wetland foundation opposed the use of spill fine money to be used for any infrastructure project. Governor Jindal had asked the state Coastal Protection and Restoration Authority to change state policy to let oil spill settlement money be used to pay for part of the \$350 million bridge project.

States also took initiative in prohibiting the drilling permits to faltering agencies. California Democrat in the House of Representative, George Miller, proposed this policy against companies with more than ten fatalities at drilling or production facilities. The amendment was targeted at BP. The Texas City explosion in 2005 exceeded the fatality threshold. The bill passed the House in late July, increasing the chances that BP might be barred from Gulf for years, not allowed its drilling prospects, and denied future revenue from the fields (Steffy 2010:225). However, BP stated in response in September that if the legislation was passed and BP was restricted from new offshore permits, it might not have enough money to pay for all the spill damages.



### **Intergovernmental Conflict**

As the disaster progressed, intergovernmental conflict gained visibility. The US has a decentralised federal system of government with authority blurring among national, state and local governments. The NCP tried to coordinate federal, state and local government responses. However, the responses quickly degenerated into a persistent conflict between the different agencies. Federal authorities were accused of acting independently without consulting their state and local counterparts. Similarly, state and local officials were blamed on failing to act in concert or apprise federal authorities of their actions. Critics accused that states and local governments often suffer from crying poor syndrome. Local governments sustaining disaster losses often exaggerate their scales of damage to maximise outside state and federal assistance. States also have an incentive to maximise their magnitudes of disaster loss (Interview with Gordon Binder 2015). After the 2010 disaster, the states were confused by the regulatory regime to be put in place. The states were reportedly not clear whether the NCP or the Stafford would be applied. Birkland and DE Young (2011: 6) noted that the federal government refused to invoke the Stafford Act in the Exxon Valdez Spill as well. Post-1989 there were improvements in spill deterrence and Stafford was never invoked. Additionally, the choice to act through NCP was strategic since under this regime people can seek compensation from oil companies and their contractors and not the federal government. On the other hand a case can be made in favour of the states as well. It appeared natural on the part of the states to be confused regarding devolution of powers. The past decade had witnessed generous disaster relief being doled out by the federal government to the states in case of disasters. Post 9/11 also led to a greater federal activism in every aspect of domestic policy. Thus, it is likely that there would be confusion and conflict regarding the devolution of disaster management responsibility between states and the federal government.

Six major complaints were made by state and local governments concerning the crisis management as listed by Birkland and DE Young (2011: 476-477):

- Louisiana Governor Bobby Jindal and Mississippi Governor Haley Barbour spoke out against federal government's insufficient coordination and consultation with state governments. He said, "we are in a war here to fight and protect our way of life" and repeatedly asked the federal government for more help (Barnshaw and Letukas 2012: 44). However, even if such a consultation would have been organ-

ised, it could not guarantee better coordination rather than competition among the neighbouring states for attention to local needs.

- Criticised federal government's bureaucracy and red tape slowing down local self-help efforts.
- The state government also blamed the federal government for failing to take charge. Notably, leadership of the spill response lies with the US Coast Guard. As the Spill of National significance (SONS), National Incident Commander was leading the response effort but technically BP was addressing the situation. BP supplied the equipment and bore the cost. Many felt that BP was acting without any federal oversight or guidance. However, the actions taken by BP were approved by the national incident commander Birkland and DE Young, 2011: 476-477.
- A fourth complaint concerned the amount as well as the slow speed of federal aid to localities impacted by the slick (Birkland and DE Young, 2011: 476-477)
- The states also spoke out against the moratorium on new Deepwater drilling projects, which had idled 33 Deepwater rigs in the region. It was projected that the moratorium would cause rigs to be moved to oil fields outside the US (further delaying the resumption of offshore Gulf drilling) and costing as many as 6,000 jobs immediately and 20,000 by the end of 2011 (Urbina, 2010a). Despite the temporary moratorium on new drilling permits and environmental waivers federal regulators granted at least 19 environmental waivers for Gulf drilling projects and at least 17 drilling permits during the time (Urbina, 2010a).
- Use of booms and skimmers: Booms and skimmers are the first techniques used to recover or control oil floating on the surface of the sea. Constituted of a floatation element riding on the surface and a weighted skirt extending beneath it, booms can stop oil moving at the surface when the currents and winds allow it. Skimmers are more elaborate oil recovery systems; they are special vessels collecting oil thanks to physical separation from saltwater, either by pumping the oil/water mixture aboard the boat or by moving an oil-absorbing material through the oil and often squeezing the oil/water mixture into a container on the vessel. Local communities were particularly attentive to the use of booms in their neighbourhood. Initially, responders used the data provided by NOAA scientists on oil trajectory, as well as their knowledge of the region's geography, in order to place booms adequately. Eventually, deployment of booms became a political decision to placate

state and local officials. The booms were shown as physical manifestation of federal concern for state interests and local community (Birkland and Young 2011: 6). Once they were deployed it was difficult to shift them to more strategic and sensitive locations. The booms also faced the risk of being blown off into delicate marsh habitats in the event of a storm (National Commission, 2011:153-154).

This lack of understanding between the local, state and federal levels certainly did not favour the adequacy of the oil response. It led to chaos and confusion and as a result a lot of information was kept secret (Interview with Schleifstein 2015).

The National commission report noted the confusion:

*During the Spill... the Governors and other state political officials participated in the response in unprecedented ways, taking decisions out of hands of career on-spill responders... Because the majority of oil would come ashore in Louisiana, these issues of control mattered most there. Louisiana declined to empower the officials that it sent to work with federal responders within Unified Command, instead requiring most decisions to go through the Governor's office.* (National Commission 2011: 136)

The local governments also created their own improvised responses to the spill that were not prescribed by the National Contingency Plan. According to Rosenbaum (2015: 6), Louisiana county governments known as parishes attempted to assume as much independence in controlling the spill as the state had asserted. Many purchased their own equipment and created their own disaster management organisation. Numerous private organisations also rushed to share in disaster management often without any regard for the managers and strategy for the NCP.

### **National Commission's Policy Recommendations**

Soon after the spill it was realised that technological innovation on the safety dimension had fallen behind innovation on extraction in deep water (Aldy 2011: 15). Thus, the administration established the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling to seek the causes and consequences of the spill. The commission consisted of Senator Robert Graham and former EPA administrator William K Reilly<sup>9</sup> along with academics and environment group representatives. The

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<sup>9</sup> William K Reilly, in 2010, was on board of Conoco Philips. Reilly was serving as the EPA administrator when the 1989 Exxon Valdez accident took place.

aim of the commission was to provide a detailed analysis of the blowout and offer recommendations to help make offshore drilling safer. The final report released in 2011, talked about the need to improve the safety of offshore operations; safeguarding the environment; strengthening Oil Spill Response, Planning, and Capacity; advancing Well-Containment Capabilities; ensuring Financial Responsibility and promoting Congressional Engagement to Ensure Responsible Offshore Drilling. It also talked about raising the liability cap, restructuring DOI by creating an independent safety agency and a distinct environment science office, among other reforms. The report noted that there was no ready to go well containment measures for the well. Drilling a new well to intercept the Macondo would have required three months or more (Aldy 2011: 15). Reilly in the interview stated that after the research, "I realised the oil industry needed what the nuclear industry did after the three-mile island incident. The nuclear industry decided on self-policing. That has been extremely successful." (Interview with William K Reilly 2015) Reilly pointed out that nuclear industry regulations involved a sincere review of every reactor and long extensive review before they reached the site and finally a two-week shake down where they would take everything apart, the fuel, the rods and the safety standards, engineers and graded reactors. The industry ran it following best practices. It involved continuous improvement and self-interest was the guiding factor (Interview with Reilly 2015). The report led to Obama administration proposing an industry consortium to develop technology necessary to contain future Deepwater spills. This was an attempt to improve the safety of offshore drilling by tapping into private-sector technical expertise. The White House hosted several meetings with oil companies to discuss well containment, lessons from the industry's Marine Spill Response Corporation ("MSRC"), and the need to fill the gap in the offshore drilling safety regime. The Interior Department initiated a number of steps to improve offshore oil and gas regulation and oversight. The agency nearly doubled the number of safety inspectors in the Gulf of Mexico, from 55 at the time of the spill to 92 by April 2015 (New York Times 2015).

### **Congressional Failure**

However, the 110<sup>th</sup> Congress could not turn any legislation to address the disaster. After the summer recess when the Congress returned, the Macondo well was capped and the White House had announced the oil from the well was virtually gone. Every oil bill that had passed the House in the summer died in the Senate by the fall. Even

the \$75 million liability cap was not lifted. The Death on the High Seas Act that limits the damages the families of victims on Deepwater was not amended. The administration was not lobbying actively for any legislation. The oil industry was working against changes and the Republicans succeeded in stonewalling any legislation. Even the Democrats from the oil producing states resisted any new legislation and fought the moratorium. The only act passed was the RESTORE Act. Nine Gulf Senators had introduced the bill which was signed into law on July 6, 2012. Under this Act, at least 80 per cent of the fines (under CWA) owed by BP and other liable parties was to be returned to the Gulf in order to restore the region's communities, economies and environments. Without this legislation, the penalties potentially ranging from \$5 to \$21 billion would have gone into the US treasury. This Act was beneficial to the region's wildlife and habitat. It was hoped that the penalties would provide a long-term investment in ecosystem restoration and create jobs benefiting to more than 140 businesses across 37 states. Two years after the spill, a report was released by Oceana in order to grade the improvement or failure of the US government and the oil and gas industry as far as these recommendations are concerned. In this report, the government and industry received "F" grades in most of the categories. Along with that a group of former members of National Commission, now calling itself Oil Spill Commission Action (OSCA), assessed the government's implementation of those suggestions. According to OSCA, the administration and industry made significant progresses but not the Congress. Republican members even introduced bills to speed offshore drilling and loosening regulations (Zeller 2011). Congress has been blamed for continued systemic problems related to safety and regulation. Merry (2014: 142) points out that the administration's early actions, while largely symbolic or at best small-scale ended up weakening the impetus for major policy change.

The last six years have seen continuous calls for increased funds to increase programs for safety training and inspection. There have also been demands for securing funding to the key regulatory agencies such as the Department of Interior, Coast Guard, and NOAA. The government still needs to work on increasing the liability cap and financial responsibility requirements for offshore facilities. With low liability and financial responsibility standards, a significant number of injuries, natural resource damages and government response costs tend to go uncompensated. There are also demands to secure the protection of whistle blowers who notify authorities about lapses in safety by amending the Outer Continental Shelf Lands Act or specific statutes to provide the

same whistle blower protection that workers are guaranteed in other comparable settings. According to the studies conducted by the Interior Department, the number of accidents and injuries per oil-producing well has increased (New York Times 2015). Between 2009 and 2014, the overall number of oil- and gas-producing wells dropped about 20 per cent, and incidents associated with drilling in the Gulf dropped 14 per cent. But during that period, accidents and injuries per producing well increased by about 7 per cent. Chemical Safety Board in its study conducted in 2014 warned that despite regulatory improvements another there was risk for another blowout. This underlines the lack of proactive attitude of the government and the agencies to implement promises made after the spill. The industry and government embarked on development of petroleum resources in areas that presented significant increased risks—the likelihoods and consequences of system failures—while in some cases employing systems that had not kept pace with these higher risk operations.

Just after the spill, the plans on offshore drilling were modified but continued to expand. Drilling continues under a new set of standards in the central and western parts of the Gulf of Mexico (Vick 2012). The administration's drilling plan covering the years 2012 to 2017 is quite similar to the one of March 2010, and authorises 12 large lease sales in the Gulf of Mexico and three smaller in the Beaufort and Chukchi seas and the Cook Inlet (The New York Times 2012) The administration as of now is focusing on safer drilling. The number of offshore inspectors working in the Gulf has increased to nearly twice as many as before the spill. New regulations on drilling well casings have been announced. More rigorous inspection of blowout preventers and testing for cement is conducted. The Interior Department has also announced new proposals requiring operators to install blowout preventers that would have more backup measures. The aim of the administration is to “double down on building a culture of safety”. However, there has not been a downward trend in cases of blowouts and accidents. In an interview with LEAN director Marylee Orr, she said, “since the capping of the well, at least 9800 spills of crude oil have been recorded” (Interview with Marylee Orr 2015). None of these individual spills garnered the attention that the BP disaster did, but the cumulative impact of this chronic pollution deserves its own attention. Government regulators, and the oil and gas industry, promised to fix the problems that led to the BP disaster. However, near-daily oil spills continue. The 2012 ill-fated drilling attempt of Shell in Chukchi Sea led to the grounding of the Kulluk drill rig and the failure of the oil spill containment dome. According to the

findings of the US Coast Guard investigation, “inadequate management of risks by the parties involved was the most significant causal factor of the mishap.” (Bea 2015: 3) Bea in the interview stated that Shell did not properly employ the Safety Case Regime risk assessment and management processes they had successfully used in other offshore areas. The Department of Interior’s post-Macondo guidelines and requirements also failed to produce the desired results. The 2011 National Commission Report had recommended that the Department of Interior integrate Safety Case Regime risk assessment and management processes into their traditional experience. However, neither the Department of Interior nor Shell had done it till the writing of this dissertation. There is need for the government and the industry to demonstrate that the measures proposed to drill could lower the possibility of an uncontrolled blowout.

### Chapter III: Response of Oil Industry

*“They are cowboys. When they don’t have adequate parentage, by which I mean the government and the public, they just get spoiled and run wild. The lack of parentage has been an extremely important part of this story. We turned our back collectively, which is part of why Macondo became such a catastrophe. I hope we don’t do it again.”*

— Robert Bea about the oil industry

#### **Oil as Modern God**

Oil is considered a primary energy source for humanity. Everything from economy and currency exchange rate to a country’s over-all sense of security and political stability seems to hinge on oil. It is needed to transport goods, build infrastructure, advance technology, and grow food in turn greasing national and international demand for the black gold. The rarity of oil and the time it takes for the creation of oil makes it a more cherished product. Offshore oil and gas reservoirs are formed from sediments deposited by rivers flowing from mountains and broad uplands into the ocean. If the sediments contain organic materials, and if geological processes later subject these sediments to intense pressure and heat, those can be transformed into liquid and



gaseous hydrocarbons over the course of millions of years. These hydrocarbons if expelled from source rock can collect in the pore spaces. Drilling for oil consists of finding these “reservoir zones” of trapped hydrocarbons and then drilling through the trap layers into the oil. Since, oil contains a lot of energy in a concentrated form, is light and portable making it a miraculous substance to control. Most importantly oil is a rare commodity. It is a progressively depleting tool even as the demand escalates which is the reason that the oil companies have succeeded in building an industry that is profitable, powerful and influential. The first oil wells were produced in Europe and West Asia. In the US oil wells were discovered in Pennsylvania and Texas in the 1920s. Since then oil has become a major component in asserting and maintaining political control.

### **Role of Oil Companies in Global Affairs**

History has witnessed several contentious conflicts regarding oil involving countries such as the US, Russia, Ukraine, Britain, Afghanistan, Venezuela, United Arab Emirates, etc. The foreign policy of the US in the Middle East, Latin American and Central Asia, particularly since the 1950s, has been linked to oil. The Suez Crisis in 1956, the 1973 Arab oil embargo, the consequences of the Iran-Iraq War in 1980, and the two Gulf Wars in 1990 and 2003 are a few examples of oil being a strategic tool guiding foreign policy (Betts et al 2006: 4). Most of the prosperous countries have made arrangements to receive large supplies of oil at reasonably low oil prices and are willing to use whatever political might they find necessary to protect their position of prominence (Oil Price 2009). The relationship between OPEC states and the importing states have been highly political. The OPEC states are in a position to collectively decide on the price, production and export with strong implications on foreign policy (Betts et al. 2006: 4).

Oil industry remains a sector where companies remain nationalised, except in the United States. Many countries see the role of an NOC to help promote energy security and support the national foreign and strategic policies of the government. Governments own some of the largest oil companies in the world such as Saudi Aramco, and the Iranian National Oil Company (Betts et al 2006; 8). National oil companies with transnational character are often used by states for petro-nationalism. China’s Sinopec and China National Petroleum Corporation, French company Total Fina and India’s Oil and Natural Gas Corporation are state owned oil companies that use political clout

to acquire stakes in oil reserves abroad. Petro Vietnam in its attempts for oil exploration in the South China Sea met with continuous friction with China. As a result, it invited foreign oil companies and signed more than 100 exploration and production contracts by 2013 (Asia Report 2016: 12). China in turn made efforts to convince companies such as BP, Chevron and Exxon to cancel those deals. While Chevron and BP followed Beijing's demands as they have stakes in China. Exxon Mobil chose to continue exploration due to limited investments in China. ONGC also continued its presence despite the fact that the project was not commercially viable. This was done reportedly at the behest of the Indian government that wanted to maintain its presence in the region for strategic reasons. There were instances where states also used their diplomatic prowess to deal with issues pertaining to oil companies. In the aftermath of the Macondo blowout, British Prime Minister David Cameron negotiated with Obama on behalf of BP.

The US does not have any national oil companies (NOIs). However, several American based International Oil Companies (IOCs) have served as NOIs for the US. The government facilitated the entry of these companies into foreign markets. These were among the pioneers to enter and oil producing areas abroad for sources of oil and became the vehicles of national interest in foreign oil (Encyclopaedia of the New American Nation). On the other hand oil companies at times appear to have managed tacit approval from their home countries regarding business ties with other nations. For instance, despite EU and US sanctions on Russia, BP currently has a 19.75 per cent share in Russian oil company Rosneft and work together in exploration and technological development. The oil companies have also lobbied with home and host governments to allow them to extract deeper offshore reserves, shale formations and unconventional reserves.

### **Influence of Oil Companies in US Politics**

It was the exploration of oil that fuelled the US economy in the gilded age<sup>10</sup> and also helped the US to become a super power. Shortly before the World War I, the US began converting its coal-burning battle fleet to one that used oil for fuel. Oil allowed ships to attain greater speed. It also solved navy's problem of projecting its power in

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<sup>10</sup> Gilded age spanned the last three decades of the nineteenth century and marked the period of rapid economic growth

the Pacific Ocean. The war witnessed oil powered submarines, airplanes, tanks etc. The oil powered internal combustion engine transformed the US economy. Oil continued to play an important role during the Second World War as well and during the Cold war. Most of the warships remained oil powered. Each new generation of weapons consumed more oil than its predecessors. The real exploration started in the 1960s and 1970s in the Gulf of Mexico and the North Sea. These have remained major exploitation provinces since then. In 1975, Shell became the first company to find oil beneath water more than one thousand feet deep in Mississippi. Five years later Exxon became the second, going five hundred feet deeper than that. Private oil companies since then have continued their domination over oil production. According to the 2009 statistics, oil companies such as—Exxon, Chevron, ConocoPhillips, BP, Shell and Valero—had combined sales of \$1.2 trillion (Deans and Lehner 2012: 51). Each has a significant American presence and is more amenable to US energy policies.

By 2000 industry drilled scores of Deepwater wells into more than three dozen oil fields in the Gulf of Mexico, to depths as great as a mile. With such high stakes, oil companies partake in lobbying with the Congress and contribute donations to the political parties. “The oil industry is omnipresent in Washington... always providing information, always hinting at post-government service jobs and always applying pressure,” wrote California former Environmental Secretary Terry Tamminen in book *‘Lives per Gallon: the True Cost of Our Oil Addiction’*. This has resulted in federal tax subsidies, traditional investments and tax breaks for the industry. Between 2002 and 2008, the oil and gas industries received \$51 billion in federal subsidies and favourable tax treatment (Deans and Lehner 2010: 53). The demand for oil leads to government doling out subsidies to the companies who keep exploring newer deeper areas for oil. With years the search has intensified and competition for new sources has grown keener. Even the risk has increased. Heavy equipment, hazardous chemical substances, contact with and gas and distance from shore create unpredictable conditions for drilling. Along with that government oversight has steadily weakened while industry has been left to fend for itself.

### **BP’s Oil Exploration**

The main protagonist of the Macondo saga is BP. BP was known as British Petroleum for almost fifty years. In 2000, it rebranded itself as "bp: beyond petroleum." The exercise was a public relations effort to show that it was an energy company and not

merely an oil company (Beder 2002). BP redesigned its logo— a vibrant green-white-and-yellow sunburst named after the Greek sun god Helios. The company spent a whopping \$200 million in its advertising and public relations campaign to portray “commitment to the environment and solar power” (Mejri and Wolf 2013: 76). The lower-case letters were chosen to show that “bp is friendlier than the old imperialistic British Petroleum.” The company made an attempt to distance itself from its peers by showcasing a greener initiative. It publicly broke with most of the major firms in the industry, acknowledging a possible link between carbon emissions and global warming. BP promoted renewable energy including biofuels, hydrogen, solar and wind power. CEO of the company John Browne was featured in the “green issue” of Vanity Fair magazine in 2006. BP’s brand awareness jumped from 4 to 67 per cent between 2000 and 2007 (Mejri and Wolf 2013: 76). Coalition for Environmentally Responsible Economies (CERES) termed it a leader in its 2006 report analysing the Climate Change Strategies of the top 100 global companies. A customer survey taken in 2007 titled BP as the most environment friendly company in the oil sector. It also won the Gold Award from the American Marketing Association (Mejri and Wolf 2013: 76). BP was among the pioneering companies to start publishing an annual sustainability and corporate social responsibility report. When Tony Hayward assumed the role of CEO in 2007, he maintained the commitment to reform. On the day of the blowout, BP officials celebrated seven years without any injury on the rig.



**Figure 23: BP’s Environmentally Conscious Logo in Green and Yellow**

While this is one part of the story, BP was also charged with not following environmental reforms as seriously as it claimed. BP was accused of safety negligence, especially in the US. The firm had been embroiled in the worst oil disasters in the US. In 1965 BP oil rig Sea Gem collapsed while being moved resulting in death of thirteen crew members. At the time of the 1989 Exxon Valdez disaster, BP was heading the industry consortium that mismanaged the clean-up during the early hours of the spill, when the worst damage occurred. Vital equipment was buried under snow, no clean-up ship was standing by and no containment barge was available to collect skimmed oil (Dickinson 2010). In 1996, BP was reportedly involved in human rights violations in Colombia. Its Casanare oil field had reserves of \$40 billion approximately (Beder 2002: 27). These have been the target for non-state guerrillas who want the oil industry to be nationalised. BP put in place layers of preventive protection for its staff and installations, paying the Colombian Defence Ministry around \$60 million over a period of three years to augment the battalion with 150 officers and 500 soldiers. BP also depends on the police force, which patrols the perimeter of its facilities for which the company pays \$3 million a year. According to reports, it further hired the Defence Systems Limited (DSL) for protection. Critics accused BP of forming its own army and being party to state repression (Beder 2002: 27). Amnesty International report accused BP's armed security guards of persecuting and threatening those protesting regarding company's anti- environmental activities such as water pollution, deforestation, landslides, earthquakes and ground contamination. BP was also criticised for selling oil and gas to the military and cooperating with local refinery during the apartheid regime, despite an international embargo in place.

### **Safety Culture: Profit over Safety**

BP reportedly has given higher precedence to budgeting and keeping the costs down over routine maintenance and safety. The company has been criticised for being a major investor in carbon-heavy efforts to extract petroleum from the huge oil sands reserves of Alberta, Canada. In 2000, there was a refinery accident in BP's Grangemouth Complex in Scotland, caused by failure in safety management resulting in a succession of mistakes leading to a power distribution failure. In 2003, a gas line ruptured on BP Forties Alpha platform in the North Sea causing flooding of the platform with methane. In 2005, 15 workers were killed and 170 injured after a tower filled with gasoline exploded in Texas BP refinery. The investigations revealed that BP de-

fied its own safety procedures and disabled a key warning system. According to Dickinson (2010), BP had internally conducted a cost-benefit analysis. It had considered making buildings at the refinery blast-resistant to protect its workers from any explosion. However, it was cheaper to render compensation to the victims rather than making the refinery blast proof. Congressional findings in the aftermath of the 2006 Prudhoe Bay (AK) pipeline leak noted that BP was aware of the problem for several years, but had taken no significant measure. This led to the spillage of more than 250,000 gallons of crude oil (Mattera year). Subsequent investigations showed that the company had failed to check the pipeline despite warnings about corrosion to save costs. The EPA recommended the fine of \$672 million; it was settled for just \$20 million (Dickinson 2010). BP was also fined \$12 million for violating the federal Water Pollution Control Act. On February 2009, contractor at Alaska's Petroleum Integrity Office Allison Iverson wrote to BP stating that the company did not inspect the stretch of pipeline for more than a decade before it broke. A scheduled 2003 inspection was not performed due to the pipe being covered in snow and the company never returned for completing the task. BP was also accused of not following timelines with regard to the incident investigation. BP submitted the report after four months, which is typically submitted in two weeks. OSHA initiated safety and health inspections into the March 2005 incident and issued citations and fines totalling over \$21 million, the highest penalty that OSHA had ever issued to that time (OSHA Fact Sheet: BP History Fact Sheet year). The company entered into an agreement with OSHA paying \$50 million to settle a criminal investigation.

However, the fines and the citations appear to have had made little impact on BP. In October 2009, the US Department of Labor's Occupational Safety and Health Administration proposed \$87 million new fines for 709 alleged safety violations at the same facility and failing to comply with a 2005 settlement agreement. Between June 2007 and February 2010 two BP-owned oil refineries out of 55 inspected had citations for "egregiously wilful" safety violations. Egregiously wilful safety violations are defined as committed with plain indifference to or intentional disregard for employee safety and health. The other 53 refineries received a total of one (Cheeseman 2010). BP has also been criticised for environmental and social impacts on its activities. In 1991, EPA published its toxic release data in which BP was cited as the most polluting company in the US and in 1992 Greenpeace International named it one of Scotland's two largest polluters (Beder 2002). It was termed as one of the ten worst corporations

in 2000 by Corp Watch and in 2001 and 2005 by Mother Jones for its alleged environmental and human rights records (Mokhiber and Weissman 2001). A French Social rating agency gave BP 26/100. The industry average is 31/100 (Ben Seddik 2010).

BP was charged with burning polluted gases at its Ohio refinery in 1991 and settled the charges by paying \$1.7 million in fine. In July 2000 BP paid a \$10 million fine to the EPA and agreed to reduce air pollution coming from its US refineries (Beder 2010: 29). Between 1990 and 2004, 3565 accidents occurred in its chemical plants and refineries and the Texas Public Interest Research Group termed the corporation responsible for the highest number of accidents. BP reportedly is one of the biggest spenders on lobbying among the oil and gas companies. Allegedly, BP spent about \$625 million between 2004 and 2010 lobbying and nearly \$16 million in 2009 to block attempts to regulate stricter safety by the Congress (Mejri and Wolf 2013: 77). After Hayword took over he slashed 7,500 jobs, cut some \$4 billion in corporate costs to boost profit (Wall Street Journal: 2010). While the Macondo blowout continued, BP burned 500,000 pounds of toxic chemicals at the Texas City refinery between April 6 and May 16, 2010. It did not bother to notify residents until weeks later. The burning released about 17,000 pounds of benzene that could lead to related health issues (Schwartz, Nelson 2006, and Report to President 2011: 2). Between 2007 and 2010 blowout, BP accounted for nearly half of all OSHA safety citations to the entire refining industry. BP received 69 citations for “wilful” violations, defined as those including “intentional disregard for employee safety and health”. A 2004 report claimed that BP resorted to intimidating workers who raised concerns regarding safety and environment. While BP did not suffer any safety disaster in the Gulf before 2010, there were repeated warnings of an impending disaster. In December 2007, an internal BP presentation noted that ten high potential incidents had been recorded at its facilities in the Gulf since the start of that year. Richard Morrison, vice president for BP Gulf of Mexico operations, issued the declaration regarding “unprecedented frequency of serious incidents” in the operations (Wall Street Journal 2010). “You had 760 violations in five years. Sunco had eight safety violations. Conoco Phillips had eight. Citgo had two and Exxon Valdez had one safety violation in the same time period....How the heck do you explain that”, asked Rep. John Sullivan during the hearing on June 17, 2010 (Deans and Lehner 2010: 72).

1. As has been discussed in the earlier chapters, BP violated its own safety guidelines and chose risky procedures to cut cost and save time. The technical and mechanical negligence prevented the safety automatic mechanism from being successful. BP had no contingency plan for loss of well control and lacked planning, oversight, testing and maintenance of the BoP. According to the US Congressional Committee formed to investigate the reasons for the blowout, BP made five fatal decisions, “illustrating the oil company's desire to put profit before safety” (Pilkington, 2010).
2. The company chose cheap design, preferring a single-walled well casing, rather than the more sophisticated design recommended by its own analysis.
3. The company installed only six centralisers despite being recommended to use 21 by Halliburton.
4. The acoustic tests designed to measure the efficacy of the cementing in the well to block off gas flow was not carried out on a decision of BP. This was done as the process would have cost \$128,000 and lasted an extra 12 hours.
5. The proper working of the new well system implying the circulation of drilling mud from its bottom to the surface was not controlled.
6. BP deployed a BoP without a remote-control trigger and in the process saving \$500,000. The “lock down sleeve” was a must in many countries, but not in the US (Dickinson 2010). BoP could lock the wellhead and the casing at the level of the sea floor stopping a potential blowout. (Pilkington 2010)

BP displaced the well with saltwater instead of mud without sealing the well with cement plugs. Worker statements and a congressional memo about a BP internal investigation provided further evidence that warning signs were ignored. According to the congressional memo, tests conducted less than an hour before the accident found a build-up of pressure that indicated abnormality (Bluesten and Baker Associated Press: 2010). A CNN report pointed out that BP was “trying to shut down” the internal safety watchdog office it had set up under congressional pressures after the Texas City refinery explosion (Griffin and Fitzpatrick, CNN 2010). The hearings conducted by the Coast Guard and the Interior Department after the blowout recorded statements of BP’s workers. Ronald Sepulvado, the well manager, testified that he had notified supervisors in Houston about a leak from the blowout preventer, a few days before the blowout. The hearings focused on a report prepared two days before the blowout by Halliburton. Halliburton had the contract of cementing the well casings into place and



plug the well. The report predicted that BP's well design could risk "severe" gas flow problems. Changes made to BP well design and procedures were not subjected to management of change process, considered important otherwise (National Commission, 2011:122-123). BP maintenance audits indicated a number of mechanical problems on the rig, including an engine that was out of operation, a thruster that was not running and a leak in the blowout preventer (Cart and Lin 2010).

BP's collaboration with Transocean also came under lens. BP leased the rig from Transocean. Till 2010, Transocean owned 138 vessels used in drilling for oil around the world with 20 of those designed for ultra-deep water. The company started in Louisiana when Danciger Oil and Refining Co. bought its first drilling rig. In 2007, it merged with GlobalSantaFe, combining the industry's two biggest players. Transocean has had its own share of controversies. It participated in a drilling project in Myanmar when the country was still under trade sanctions from the United States. A freight forwarder shipped some of its drilling equipment through Iran on the way to Turkmenistan. Transocean has also held a minority interest in a Libyan company that does business with Syria. Notably, the US companies are prohibited from doing business with Iran and Syria as the government considers these countries state sponsors of terrorism. The company faced tax probes in the US, Brazil and Norway (Steffy 2010: 180). During a hearing that took place in August 2010, the investigators questioned a Transocean subsea superintendent on the rules governing the maintenance of blowout preventers. There are API issued guidelines for how the preventers need to be maintained. These were not followed by Transocean. Transocean engaged a risk management company for investigating the Gulf of Mexico operations. Deepwater Horizon had previously suffered numerous spills and fires and the US Coast Guard had issued eighteen citations between 2000 and 2010. The rig also suffered other serious accidents, including one in 2008. The month before the disaster, Transocean commissioned Lloyd register to investigate and assess safety culture on four rigs in the Gulf including the Deepwater horizon in response to a "series of serious accidents and near hits within the global organisation" (Urbina 2010). The report issued gave poor ratings to two cranes, indicating that they needed to be removed from the service, but "the assessment was for the company's internal use. Less than two months earlier, one of the main inspection firms upon which governments depend declared that the same cranes were in satisfactory condition." (Washington Post 2010)

The relationship between BP and Transocean that had developed into a profitable client-service provider relationship over the years took a hit after the blowout. Both the companies blamed each other for the disaster during the Congressional testimony. In its press statements BP “offered its full support” to the drilling contractor, and offered sympathy for the loss of life. Later findings revealed that BP’s decisions violated industry guidelines and were made despite warnings from its own personnel and contractors. “BP chose risky procedures to reduce costs and save time and made minimal efforts to contain the added risk.” (US Chemical Safety and Hazard Investigation Board Investigation Report June 18 2010) Cement was not tested despite the warning signals. Halliburton had no say in laboratory testing and test results were not analysed nor communicated (National Commission, 2011:123). Communication and information were compartmentalised between BP, Transocean, and Halliburton. According to the National Commission Report, BP did not share important information with its contractors and sometimes even with its own personnel. People involved were driven to make critical decisions without a full understanding of the context (National Commission, 2011:123-124). Halliburton accused BP for using a dangerous well design to save \$7 million. The long string design used by BP was used in no more than ten per cent of the region’s Deepwater. BP’s internal documents suggest that cost and expediency were the major factors governing decision making. Another factor that depicts the failure of safety culture is the visit of four of BP and Transocean members seven hours before the disaster. Members and drilling engineers were there to supervise and evaluate safety on the rig. However, they failed to notice visible signs that the well was not sealed and was at the risk of blowing. Transocean had experienced a near disastrous blowout in the North Sea, off the Scottish coast four months prior to the Macondo blowout. The disaster led to stock taking of the safety situation and alertness to unusual incidents. This ideally should have had bearing on the Macondo prospect but no lessons were learned.

### **BP’s Response**

Within moments after the blowout, it became apparent that resources needed to manage the disaster were not readily available. The Department of Homeland Security notified BP and Transocean as “responsible parties” in the spill. However, BP was not prepared to deal with the spill. Hayward admitted in his interview to Money Programme on BBC 2 that “BP’s contingency plans were inadequate and that the compa-

ny was not prepared for the disaster” (Hayward 2010). BP hired vessels to skim oil off the surface and used booms to contain and surround the oil gushing from the well. Four weeks after the disaster, it began accepting resources and technical assistance from international partners with experiences in cleaning up spills.

BP’s immediate response was to try and stop the flow of oil and gas. Before the rig sank, attempts were made to close the BOP. On April 21, BP and Transocean began using a Remotely Operated Vehicle (ROV) to carry out the task. BP also started drilling a relief well to stop the flow of oil. BP also started drilling a back-up well (National Commission 2011: 131-132). However, the company had no tested technique to operate at such a depth. It adapted shallow water technology to the Deepwater environment and also tried to create new technological devices. They continuously worked to contain the flow by drilling a relief well and recover oil until they eventually capped the well 87 days after the blowout. Several strategies were applied to kill the well — “top kill”<sup>11</sup>, “top hat”<sup>12</sup>, etc. Another step was trying to install a second BOP (a capping stack) on top of the existing one. BP also designed a system to collect oil and gas through the choke line of the BOP which collected about 10,000 barrels of oil per day (National Commission, 2011:159). In June, BP deployed a “capping stack,” that enabled them to shut in the well. A joint decision was taken by BP, government and other stakeholders to kill the well. The strategy of “static kill” was employed. It pumped heavy drilling mud into the well and pushed oil and gas back into the reservoir. The process was made easier as the capping stack ensured the relative immobility of oil and gas. Both the static kill and following cementing of the well were successful. BP finished its first relief well and intercepted the Macondo well, where it pumped cement in order to permanently seal the reservoir by mid-September 2010 (National Commission, 2011: 169).

### **Clean-up Operation**

BP conducted a massive clean-up operation employing several thousand workers. It involved hundreds of Gulf residents—those from the fishing industry and local workers who were harmed by the disaster. They were considered useful due to their experience in the Gulf of Mexico and knowledge of the shoreline. (National Commission,

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<sup>11</sup> Top kill is the process of pumping heavy drilling mud into the top of the well to force the flowing oil back down the well. The method, however, failed (National Commission, 2011:149-150)

<sup>12</sup> A Collection device that collected approximately 15,000 barrels oil per day

2011:140) BP started a programme called the Vessels of Opportunity (VoO) that included local fishermen providing some indirect income to affected residents of the Gulf. VoO started a week after the explosion and continued till August. The entire cost of the programme was almost \$450 million (UCFA 2014). The programme gained popularity and every person with a boat or able to work on a boat wanted to participate. Depending on the size of the boat, the program provided between \$1200 and \$3000 per day whereas individual crew members made \$200 for an eight-hour day shift (BP Factsheet on VOO 2010). The workers scooped the oil off; laid, maintained and retrieved booms; removed tar balls; and transported supplies. They worked to protect shorelines, made efforts to save the wildlife, and escorted government personnel around the region. Despite its crucial role, the program was slow to develop eligibility requirements. While some vessel owners were able to sustain themselves, others faced grim employment opportunities. Hundreds of vessels looking for oil did not contribute significantly to the response. Indeed, aircraft were more effective at locating oil and placing booms (National Commission, 2011:140). These clean-up and containment efforts proved to be significantly less impressive than the oil gushing out. BP initially presented an optimistic picture of a company scrambling to clean up, mobilising a “flotilla of vessels and resources”. However reports revealed that BP’s “significant mechanical recovery capacity” was actually removing less than 900 barrels per day (Washington Post 2010). Even after 75 days of supposed containment and clean-up activities, BP managed to remove only 67,500 barrels of oil and burn off 238,000. The programme was later hastily executed and ended abruptly. On July 15, when the well was capped BP started pulling back its workers from the clean-up activities. However, as part of its response effort, BP did work with various government agencies in the response control centre in the BP building in Houston. As many as 400 BP personnel were working with 150 from other companies and government officials from MMS and Coast Guard worked along with them. A total of 160 private companies were involved in the response. Even as the response required approval and permits from the government, it was BP that had the technological capacity to work offshore and control the spill. In the process, BP was accused of creating a no-fly zone, workers made to sign non-disclosure contracts, and scientists not allowed data, etc.

### **Criminal Charges against BP**

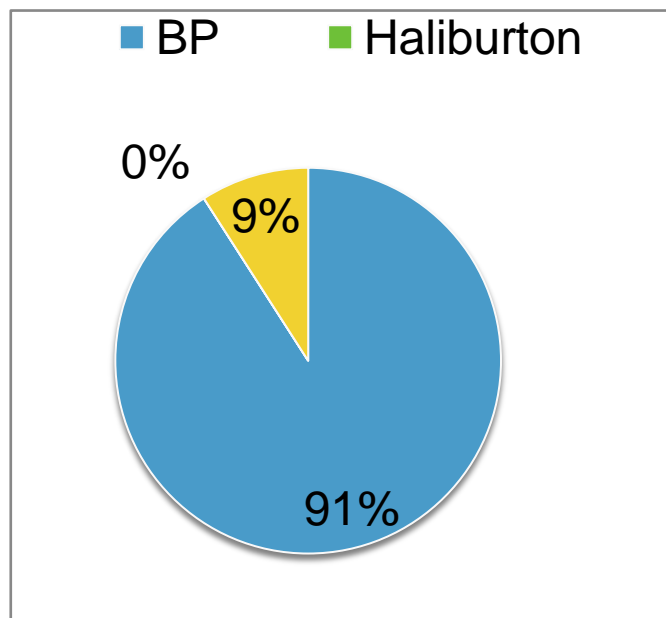
BP was tried in civil court and criminal court. In total, BP pleaded guilty to 11 counts of felony manslaughter, one count of felony obstruction of Congress, and violations of the Clear Water and Migratory Bird Treaty Acts. BP was sentenced to pay \$4 billion in criminal fines and penalties (Brennan 2013: 23). BP accepted the agreement in order to avoid a long and expensive trial. BP was sentenced to five years in probation that required the company to provide detailed drilling safeguards, monitors, and other conditions. The company was to maintain a process safety and risk management monitor and engage an independent auditor to oversee the quality of the new controls (Brennan 2013: 23).

With regard to the charges of manslaughter, Robert M. Kaluza and Donald J. Vidrine, two on board well site leaders were put in trial after the spill. It is documented that the two misinterpreted the results of a critical pressure test and ignored clear warning signs that the well was in danger. Kaluza has 35 years of experience in the oil and gas industry but was assigned to the rig four days prior to the blowout. In December 2015, charges against both the site leaders were dismissed. In June 2015, former BP executive David Rainey was pronounced not guilty. Rainey was charged with manipulating calculations to match a far-too-low government estimate of the amount of oil spewing into the Gulf following the explosion. In 2013, former BP engineer Kurt Mix was convicted on one of two criminal counts. His case centred on the fact after prosecutors said that he had deleted two extended text-message conversations, one of which had the material about the oil flow following the explosion. His conviction was overturned because a jury forewoman mentioned that she had heard something outside the trial that affirmed her view of Mix's guilt. Mix wrote an opinion piece in Wall street Journal about his trial claiming that he was made the scapegoat of the BP spill and “had worked for 90 straight days to stop the spill... but the Justice Department turned my life into a legal nightmare” (Mix 2015). Mix was given six-month-probation in November 2015. BP's cement contractor on the rig, Anthony Badalamenti, was sentenced one year probation for destruction of the evidence. Critics believe that if a corporate culture would have been in place that trained personnel regarding corporate social responsibility and safety, the disaster could have been avoided.

### BP's Claims Process

The Obama administration summoned BP to hammer out an agreement on the payment for the Disaster Victim Compensation Fund. BP agreed to pay all reasonable third-party claims. BP feared losing access to its oilfields in the Gulf. The company realised that it could not afford drilling ban from US waters. It also faced the potential for huge fines under the Clean Water Act. The amount of the fine is determined primarily by the amount of oil that leaks (Steffy 2010: 185). Under the Oil Pollution Act, additional civil penalties can be levied as much as \$25,000 a day and \$1000 for each barrel of oil spilled. It was expected that other parties-- Transocean, Halliburton, Mitsui Oil Exploration, Cameron International, and Anadarko Petroleum, will arrive at a settlement among themselves and with BP regarding payments after the investigations were complete (Juhasz 2011: 180).

It set up claims offices along the Gulf Coast. Following claims process could save BP from losing access to the region's oil fields. BP's quick response differentiated it from its peers as well as the way it had acted in the past (Steffy 2010: 186). BP created a \$20 billion claims fund. It made initial payments of \$3 billion in quarter 3 of 2010 and



**Figure 24: Fine Levied Against BP (\$ 4 billion), Transocean (\$ 400 million) and Halliburton (\$ 200,000)**

\$2 billion in quarter 4 of 2010. These were followed by \$1.25 billion payment per quarter until a total of \$20 billion was paid (Mejri and Wolf 2013: 80). The company

also made a public announcement of giving \$52 million to federal and state health organisations to fund behavioural health support and outreach programs across the region. More than 450,000 claim requests were filed. The government was supposed to monitor the funding. Kenneth Roy Feinberg, Special Master of the September 11 Victim Compensation Fund, was appointed as the administrator of the claims process. BP claimed keeping the public informed about the claims process (BP CEO's testimony 2010; Oil spill answers 2010). BP created a 24X7 call centres and claim centres in Alabama, Florida, Louisiana, and Mississippi. As part of its public relations effort, it set up an entire site to document its progress on the clean-up efforts. Within 30 days after the explosion BP announced the creation of "four informational web sites designed to offer state-specific oil spill information to residents of [affected] communities" (BP press releases, 2010a). Early restoration projects promised region's economic and environmental recovery. By December 2010, one-third of the claimants had received payments. Feinberg had the responsibility of reviewing, paying, and rejecting claims. Steffy (2010: 223) writes that Feinberg was criticised by business owners for declaring that the amount was proportional to the distance between their businesses and the beach. One of the clauses stated that claimants cannot sue the company. BP required all those involved in the clean-up to sign a "voluntary waiver of release," agreeing not to sue BP or other companies involved in the accident. Feinberg backed this saying, "It is not in your interest to tie up you and the courts in years of uncertain protracted litigation when there is an alternative that has been created," he said (CNN 2010). "I take the position, if I don't find you eligible; no court will find you eligible." (CNN 2010) This was seen as an attempt to shield BP from liability. The clause was appealed in the District Court and it was ruled that the language in the contract was "over board" and required that the waiver be removed. Hayward later apologised for the requirement, calling it a "misstep" (Parekh 2013: 6). Many fishermen have expressed dissatisfaction with the claims process, crying foul over the deals and have sued Feinberg (Ludwig 2015). Many of the fishermen community are Vietnamese and reportedly faced language access issues. Many among them especially the ones with smaller boats, opted for quick pay and lost the eligibility to file a separate claim. By 2015, about \$8.8 billion dollars was spent for the claims purpose with a key focus on Louisiana. The state has been guaranteed \$5 billion of natural resource damage as-

assessment money under the final version of the comprehensive settlement of federal and state claims against BP for the oil spill (Schleifstein NOLA 2015)<sup>13</sup>. BP has also given \$2.3 billion to bolster the region's seafood industry and \$105 million to improve available health care in the impacted communities. The company agreed to provide periodic medical consultations for the next 21 years for those with spill-related health complaints. BP began workshops in collaboration with other influential stakeholders around the world (in London, Washington DC, New Orleans and Rio de Janeiro), to find out what is expected from BP's sustainability reporting (Mejri and Wolf 2013: 83). BP also used market intelligence search engine to evaluate its reputation. In 2015, the company reached settlement agreements on all federal and state claims along with claims made by more than 400 local government entities. BP will pay a civil penalty of \$5.5 billion under the Clean Water Act (CWA) – over 15 years. It will pay \$7.1 billion to the federal government and the five affected states for natural resource damages (NRD). This is in addition to the \$1 billion already committed for early restoration (BP Press Release July 2015). The projects intended to benefit the Gulf's environment and habitat along with providing relief to those who live, work or visit the region.

The projects included restoration of dune, sea grass and oyster habitats, as well as barrier islands that would protect coastal areas from waves and tides, and the creation of living shorelines. The recreational projects addressed the loss of natural resources during the period when human use was reduced, including the time when some beaches and waters were closed (BP Early Restoration Fact Sheet 2014: 2). An additional amount of \$232 million was also added to the interest payment to cover any further natural resource damages unknown at the time of the agreement (BP Press Release July 2015). A total of \$4.9 billion was to be paid over 18 years. About \$1 billion was to be paid to local government entities. As much as \$350 million was also earmarked to cover outstanding NRD assessment costs and \$250 million to cover the full settlement of outstanding response costs, claims related to the False Claims Act and royalties (BP Press Release July 2015). To cover costs BP had to dispose of its assets. Since early July 2010, BP has sold \$7 billion assets in the Permian Basin, Canada and Egypt. BP also sold its Wytch Farm terminal fields for \$ 610 million in 2011 and a

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<sup>13</sup> This is part of the \$20.8 billion out of court settlement reached between BP and the federal and the state governments



number of platforms off the coast of Yorkshire and a terminal at Dimlington for \$400 million in 2012 (Mejri and Wolf 2013: 81). Until 2015, BP had sold \$50 billion of assets. In October 2015, BP announced a third round of spending cuts and more asset sales over the coming years to tackle an extended period of low oil prices and help pay for the spill settlement. It expected an additional \$3-5 billion of divestments in 2016.

**Table 5: BP’s Payment Schedule** Source: Louisiana Wildlife Federation (2015)

	Civil Penalty payments	Natural Resource Damages (NRD) payments	NRD Additional Final Payment	State Claims payments
0				\$1,000,000,000
1	\$379,310,345	\$489,655,172		
2	\$189,655,712	\$244,827,586		
3	\$379,310,345	\$489,655,172		\$260,000,000
4	\$379,310,345	\$489,655,172		\$260,000,000
5	\$379,310,345	\$489,655,172		\$260,000,000
6	\$379,310,345	\$489,655,172		\$260,000,000
7	\$379,310,345	\$489,655,172		\$260,000,000
8	\$379,310,345	\$489,655,172		\$260,000,000
9	\$379,310,345	\$489,655,172		\$260,000,000
10	\$379,310,345	\$489,655,172		\$260,000,000
11	\$379,310,345	\$489,655,172		\$260,000,000
12	\$379,310,345	\$489,655,172		\$260,000,000
13	\$379,310,345	\$489,655,172		\$260,000,000
14	\$379,310,345	\$489,655,172		\$260,000,000
15	\$379,310,343	\$489,655,172		\$260,000,000
16			\$232,000,000	\$260,000,000
17				\$260,000,000
	<b>\$5.50 billion</b>	<b>\$7.10 billion</b>	<b>\$0.23 billion</b>	<b>\$4.90 billion</b>

### **BP's Arrogance!**

At the beginning of the disaster, BP underestimated the severity of the damage and the time it would require to recover. The CEO's initial statements did not go down well with the public. He said, "The Gulf of Mexico is a very big ocean" and the amount of . . . oil and dispersant we are putting into [it] is tiny in relation to the total water volume" (Guardian May 2010). When the leak of oil did not stop, the anger towards BP kept mounting. Hayward portrayed himself as the victim. "There's no one who wants this thing over more than I do, I'd like my life back" (Huffington Post June 2010). In another interview he said that he was painted as a villain by the US media (Langley 2010). "The effect of the spill was going to be "very very modest". These statements angered the public and put BP as an irresponsible arrogant Big Oil company. It also masked the company's efforts to clean up the spill and compensate victims. Hayward "foot in mouth" syndrome turned him into a source of celebrity ridicule. He reportedly went to watch his yacht race while the disaster was on. Hayward also diminished the health concerns of hospitalised clean-up workers and denigrated the findings of accomplished oceanographers. Nine clean-up workers were hospitalised complaining respiratory ailments, nosebleed and headaches but Hayward dismissed it as a case of food poisoning and sunstroke and not the fumes of oil and chemical dispersants they had been exposed to (Deans and Lehner 2010: 47). He also disputed the findings of NOAA researchers saying that "There aren't any plumes". Critics accused BP of downplaying the disaster due to economic motives. As a consequence, Hayward was replaced by Bob Dudley on October 2010. Not only Hayward but other members of BP top brass also came under scanner. BP chairman Carl Henry Svanberg after meeting President Obama stated, "We care about the small people". The reaction was immediate. "On this side of the pond, everybody's an equal partner and there are no small people or big people," New Orleans Mayor Mitch Landrieu remarked in a press conference soon after. Svanberg apologised after the criticism.

### **Findings After the Spill**

After the spill was stopped, BP published its own investigation report. The report blamed Halliburton and Transocean along with its own engineers for "complex and interlinked series of mechanical failures, human judgments, engineering design, operational implementation and team interfaces" that caused the accident. The report not-

ed that lack of rigour, quality of oversight of contractors, and a series of events caused the accident. This report was dubbed as an attempt to shift the blame. Transocean described the report as “self-serving” while Halliburton pointed out “substantial errors” with the BP document (Mejri and Wolf 2013: 54). However, BP’s other partners (Anadarko, Mitsui and Co. Ltd. and Weatherford International Ltd.) agreed to settle the claims related to the disaster. Anadarko agreed to pay \$4 billion (less than the \$6.1 billion that BP had claimed), Mitsui agreed to pay \$1.06 billion (less than the \$2.14 billion that BP had billed it for its alleged share of clean-up costs) and Weatherford International Ltd. announced \$75 million to BP as its contribution to the Gulf Coast recovery fund. BP launched lawsuit seeking \$40 billion against Halliburton, Transocean and Cameron (Mejri and Wolf 2013: 81). BP blamed Transocean for being inadequate in its safety and training protocol. It held Halliburton responsible for not cementing or sealing off the well adequately and rendered Cameron International Corp accountable for the failure of the BoP. The sustainability report published a year after the accident carried BP’s apology. The company promised improvements and stated that safety has become their number one priority. The CEO’s address carried the word “safe” nine times. The report stated that BP established a Safety and Operational Risk function that had its own expert staff embedded in BP’s operating units (including exploration projects and refineries) report directly to the company’s incoming chief executive officer who would oversee technical activities. BP also reviewed its Risk management system. It reorganised its upstream business into three divisions — exploration, developments and production — with a centralisation of the drilling wells activity into a single organisation. The report stated that BP is repositioning the technology to meet the 21st century energy demand safely and responsibly. The report has been dubbed by many as “green washing” (Mejri and Wolf 2013: 82). BP did not include any facts and figures of the accident.

### **Research Funding by BP**

Gulf of Mexico Research Initiative (GoMRI) was established by BP for conducting studies in the Gulf Coast in 2010. Around 500 million-fund was set aside for the research program. The idea was to support independent research on ecosystem assessment, impacts, and recovery efforts and response carried out on the environment and public health. The funding would be level-loaded over a period of ten years. By the end of 2014, GOMRI awarded \$315 million in grants for research in areas including

the ecological and human health aspects of spills, and the development of new technology for future spill response, mitigation and restoration (BP Sustainability Report 2014: 12). Similarly, the National Science Foundation provided rapid financial response so that researchers could begin data collection. Scientists from BP, government agencies and other researchers are studying how wildlife populations and the environment were affected. Since May 2010, more than 240 work plans were developed. The data could prove helpful in restoration efforts. BP's website *gulfsciencedata.bp.com* collects this data from various sources and shares it. BP claims that according to its research, the impact on the environment was short in duration and relatively limited in geography (BP Sustainability Report 2014: 12).

BP has been accused of rejecting findings that did not suit its interests. In 2014, BP Vice President of US Communications Geoff Morrell commented that studies on harm caused by the spill were scientific exaggeration. "Some groups would have you believe that the spilled oil caused irregular heartbeats in tuna that can lead to heart attacks or even death. But those studies are lab tests and oil at such concentrations are not available in the Gulf," Morell commented about a NOAA study (Newsweek, Schlanger 2014). However, several studies taking real time data from the Gulf observed results similar to the NOAA lab tests. Regional advocates are concerned that BP initiated research could sabotage factual findings. It could provide the company with experts to testify on its behalf in the courts (Interview with Louis Epstein 2015). There is also scepticism that it could hamper a full and fair accounting of the damage inflicted by the spill. Director of Institute on Water Resources Law and Policy at Tulane University Law School Mark Davis remarked that BP was "trying to buy the experts they are going to need to settle the case" (Deans and Lehner 2010: 112).

Industry analysts say that the BP's Atlantis today posed a graver risk. Ken Abbott, who earlier worked with Shell and GE, was hired by BP to manage engineering drawings for the Atlantis platform. Abbott found 89 per cent of those drawings were not inspected and approved by engineers. As much as the 95 per cent of the underwater welding plans were not approved. In 2008, BP manager Barry Duff warned that the lack of approved drawings could result in "catastrophic operator errors," and "currently there are hundreds if not thousands of Subsea documents that have never been finalised." However, BP ignored these concerns. According to Abbott, "The Atlantis is still pumping away out there, 200,000 barrels a day, and it will be four times that in a year or two when they put in all 16 wells. If something happens there, it will make the

Deepwater Horizon look like a bubble in the water by comparison.” (Mike Williams, CBS News 2010)

### **Industry Response**

The disaster led to massive campaign against BP in particular and oil industry in general. The federal government was already working towards lifting the estimated \$36 billion in tax breaks and subsidies granted to the oil industry during the Bush administration. Along with that the effort to implement climate and energy legislation was taking momentum and midterm congressional elections were coming up in November 2010. The industry thus took a stand with isolating BP. Executives of four major oil companies testified before a congressional committee in mid-June and stopped short of blaming BP for the disaster. Exxon Mobil, Chevron, Conoco-Phillips, and Shell Oil stated that they did not agree with BP’s methods of operation. They also stated that BP’s well design did not follow industry’s best practices (Steffy 2010: 219). “We would not have drilled the well the way they did,” said Rex W. Tillerson, chief executive of ExxonMobil. “It appears clear to me that a number of design standards that I would consider to be industry’s norm were not followed”, he testified in a congressional hearing. Tillerson also criticised the well design, the outside pipe—called casing, reaching down from the rig to the well. A more popular design would have provided greater protection against a blowout, at a marginally higher cost. He also talked about the cement used to seal the casing stating that the operators should have tested the cement (Deans and Lehner 2010: 10). He stated that, “There were clearly a lot of indications of problems with this well going on for some period of time leading up to the final loss of control”. “It certainly appears that not all the standards that we would recommend or that we would employ were in place,” said John S. Watson, chairman of Chevron. “It’s not a well that we would have drilled in that mechanical setup,” said Marvin E. Odum, president of Shell. “And there are operational concerns” (Juhasz 2011: 277; Deans and Lehner 2010: 10). BP was strongly criticised for decisions it made regarding the lining of the well and number of centralisers used to stabilise the well. The Industry’s attempt was to make the blowout appear a freak, isolated incident caused by BP and something for which the entire oil industry could not be blamed for. This line of response also encouraged BP’s partners to break ranks with BP. Anadarko issued a public statement refusing to contribute to any of the clean-up costs and blamed BP for the disaster. “The mounting evidence clearly demonstrates that this

tragedy was preventable and the direct result of BP's reckless decisions and actions," Anadarko's chief executive Jim Hackett, said. (Anadarko Petroleum Corporation Press Release 2010) Hackett expressed shock that "BP operated unsafely and failed to address critical warning signs during the drilling of the well." Although BP sent Anadarko and Mitsui bills for their share of the costs, neither of them agreed to pay. In reality failure of BP was a result of a systemic problem in the entire industry. In interview with William K Reilly (2015), he pointed out that the industry had no subsea containment capability. "You are down there at 5,000 feet and another 13,000 feet below that and you had nothing! Advances in technology to go from shallow water to deep water had never been paralleled by the same kind of sense that we need to have the security technology in place" (Interview with William K Reilly 2015). According to Juhasz (2011: 278), the oil industry engaged in massive lobbying and campaign with the administration. The industry spent a whopping \$112 million between January and July 2010. It worked alongside the US Chamber of Commerce to help the latter spend another \$75 million on the November midterm elections. The American Petroleum Institute (API) spent as much as 4.8 million by July 2010.

### **American Petroleum Institute: Ensuring Safety or Lobbying?**

The American Petroleum Institute is responsible for the safety standards of oil and gas industry (Bleret 2012: 27). However, the institute's reliability to set safety standards for drilling stands compromised by its role as the industry's principal lobbyist. API's goal is to eliminate barriers to oil production, including all moratoriums on oil production "off the shores of the east and west coasts and parts of the Gulf of Mexico, Alaska..." (Juhasz 2011: 281). The National Commission in its report to the President declared that API regularly resisted rule-makings and favoured industry autonomy without any government oversight (National Commission Report 2011: 225). API-proposed safety standards were criticised for failing to reflect "best industry practices" and instead expressing the "lowest common denominator", a standard that almost all operators could readily achieve. The Interior Department had relied on API to develop its own regulatory safety standards. API's shortfalls undermined the entire federal regulatory system (National Commission Report 2011: 225). It was reviewed that fatalities in the offshore oil and gas industry in the years between 2004 and 2009 were more than four times higher in the US waters than European waters. The companies operating in these waters were frequently the same as in Europe. This strengthened

the argument that the problem was not so much about the dangers in the drilling business but regulatory systems under which the companies operated (National Commission Report 2011: 224-225).

After the disaster, the API initially promised to work alongside the administration. It praised the government for placing the moratorium so that necessary inspections could be carried out and that the “offshore operations were safe and subject to oversight”. However, with time API showed a more aggressive posture claiming that “the moratorium placed the jobs of tens of thousands of workers in serious and immediate jeopardy and has led to a substantial reduction in domestic energy production.” (American Petroleum Institute Press Release 2010) The API nonetheless agrees that stricter regulations are inevitable. Companies operating in the Gulf now have to account for “political risk”, one company’s mistake can affect operations throughout (Steffy 2010:250). It is time for oil companies, drillers, contractors, and transport companies to take into consideration risk-reward ratios for operating in the Gulf.

In July, the American Energy Alliance launched the website [www.saveusenergyjobs.com](http://www.saveusenergyjobs.com) to “educate voters about the unfortunate divergence in safety and health approaches between BP and the remainder of the industry.” It tried to distance itself from BP and stated that it was unfair and factually incorrect to punish the entire industry because of the continuing incompetence of BP. It also presented selective data to suit its requirements. According to Juhasz (2011: 284) the website provided no supporting data, date range, accuracy or documentation, and requests for this information have gone unanswered. The API also started an online movement through the group “Energy Citizens”. The group called itself a movement of citizens focused on “countering reactionary policies and restoring a common-sense perspective” that is “supported by” API. Its primary item was to “Tell Congress to Get Domestic Energy Production Back on Track.” API also provided statistics such as US oil and natural gas industry “supporting” over 9 million jobs. It also broke down the numbers by state stating “In Louisiana alone, 330,053 jobs are supported by the industry”; for Texas, 1,772,335 jobs; for Mississippi, 83,820 jobs; for Alabama, 94,732 jobs; and for Florida, 267,277 jobs.” The industry maintained that moratorium and regulatory measures victimised local and smaller size businesses. The industry also criticised Congress’ consideration for raising the spill liability cap under the OPA to \$10 billion from the current \$75 million. While BP agreed to pay all spill-related expenses, the argument made in the Congress was that there was no guarantee that other

oil companies would follow suit when faced with similar circumstances. The industry argued that higher cap will only scare away smaller oil companies. Steffy (2010:251) points out that the industry has been reminding the administration as well as the public about a general safety record followed by most companies.

The industry had to face a world-wide scepticism against offshore. In September 2010, the European parliament proposed a moratorium for deep-sea drilling rigs until the cause and effects of the spill were understood completely. It also ensured that high safety standards were followed in the drilling process (European Parliament News Press Release 2010). Proposing stricter regulation in deep water drilling activities, the European commission noted the EU needed to evaluate its capability in responding to a potential spill as well as provide assurances that polluters would be held legally responsible. In Norway a temporary ban on new drilling areas was announced until some sort of clarity on the Gulf of Mexico spill. The UK government was critical of the proposal as more than half the offshore rigs in the EU were in British waters. UK maintained having a “robust safety and environmental regime. We welcome the continuing dialogue and sharing best practices with our EU partners. We will look at the new proposals to see what they could usefully add.” The industry also had to deal with the activism around the spill. Greenpeace called on the UK government to impose moratorium and stated it would begin legal action if the government continued to grant drilling licences without carrying out new and more stringent environmental assessments, and before understanding the lessons of the spill (Mene 2011). Greenpeace claimed that the UK government failed to undertake the necessary environmental assessments when granting new licences for deep-sea drilling. The deep-sea rigs were located in areas off the Scottish coast that were environmentally strategic and home to marine creatures such as dolphins and whales and until the assessment of the area was not carried out, no new licences should be granted (Mene 2011). Similarly, in Brazil in August 2010 the National Petroleum Agency shut down Petrobras’ P-33 platform in the Campos basin following a leak and fire in July after which the rig was declared unsafe. Four more platforms in the area were closed. This is despite the fact that in Brazil rigs and refineries are seen as catalysts of national development and deaths and accidents are usually seen as “small sacrifices on the road to national prosperity” (Bernshaw and Lacutas 2012: 81).



### **Changes within Oil Industry**

The Oil industry reviewed the reports prepared by the National Commission, the Safety Oversight Board and the National Academy of Engineering along with others and promised to correct the damage caused. The studies blamed BP and the industry for lack of preparedness among other things to contain a spill of such size. Several reports noted that supplies of oil-stopping boom were used up soon, idled fishing boats were converted to skimmers on the fly. The major obstacle for the industry after the blowout was obtaining drilling permits. The industry was required to provide rapid containment capabilities in the event of an underwater problem. As a result, industry had to wait until a containment system was developed and approved by the regulatory agencies. The industry worked on correcting shortcomings in the operational infrastructure. Joint industry task forces were created to address safety, containment, and area spill responses. The industry has two containment companies— Marine Well Containment Co. and Helix Well Containment Group to develop better technology with respect to containing spills. MWCC is a consortium of ExxonMobil, Chevron, ConocoPhillips, and Shell. A Helix Well Containment group has also been launched. Both the companies could maintain quickly deployable systems to stem any uncontrolled flow of hydrocarbons from a subsea well. They claimed to have proper systems for placing stacks over an out-of-control well and capturing huge amount of oil and gas escaping from a blowout — up to 130,000 barrels of oil a day and 220 million cubic feet of gas in 10,000 feet of water, twice the depth of the well in the Macondo prospect.

These also facilitate training of their member companies on the installation and operation of these systems. Their systems also provide the potential to capture flow from a subsea well incident via subsea equipment, risers and containment vessels that can safely capture, store and offload the oil. The MWCC has integrated BP and its containment resources developed in response to the blowout. As of June 2011, MWCC's membership expanded to include Anadarko, Apache, BHP Billiton, Hess, and Statoil. The ten member firms represent about 70 per cent of the Deepwater wells drilled in the Gulf region between 2007 and 2009. The members have equal ownership in company. Non-members have to pay a fee for access to the MWCC resources on a per-well basis. However, the line of thought prevailing in the industry is that developing the technical capacity to contain a deep water wild well should not weaken incentives for safe drilling operations and inspection (Aldy 2011: 72). As of now both MWCC

and Helix are improving their capacities and services. However, the containment systems till now have not been tested during an actual blowout. Industry has also claimed to have increased their capacity to respond. For example, Clean Gulf Associates Inc. maintains it has increased its absorbent boom from 10,000 feet to 55,000 feet and added several large skimmers to its fleet. Clean-up groups have also developed new devices for spraying dispersants, both underwater and from the air. Environmentalists remain wary regarding the toxicity of the dispersants and have blamed regulators for the failure to push the industry to develop non-toxic alternatives (Associated Press 2015). According to Richard Carter, industry worked hard to make Corexit the primary chemical dispersant of choice. Dispersants move the oil out of sight and quell public fears, facilitate PR, stabilise stock prices. All of this allows the companies to avoid fines. The industry is further pushing ahead on dispersants (Interview with Richard Carter 2015). The MWCC engineers and builds oil well caps. It recently announced a new system that not only caps a broken wellhead, but also includes large containers of dispersant, pre-installed on the sea floor, that can be remotely activated in the event of an oil spill (Katzman 2015).

Meanwhile, the industry is encouraging training and certifying third party inspectors to evaluate the COS Safety Environmental Management System (SEMS) programs. The Centre of Offshore Safety-- an industry-led initiative is working to promote continuous safety improvement for offshore drilling, completions and operations. COS boasts that its SEMS tool kits and tools for auditor qualification, certification, and accreditation have been adopted by the BSEE. COS has begun training and certifying third party inspectors to evaluate the SEMS programs. It draws on the expertise and input from the industry and the regulatory community. It has conducted studies and published a series of reports comparing year-to-year performance and safety improvement. Key findings of the report (Centre for Offshore Safety Annual Performance Report 2015) include:

- On an average, 96 per cent of planned critical maintenance, inspections and testing were performed on schedule.
- All eligible COS members successfully completed audits of their Safety and Environmental Management System.
- COS members did not suffer a single fatality or loss of well control during more than 42 million work hours in the Deepwater Gulf of Mexico. The report's find-

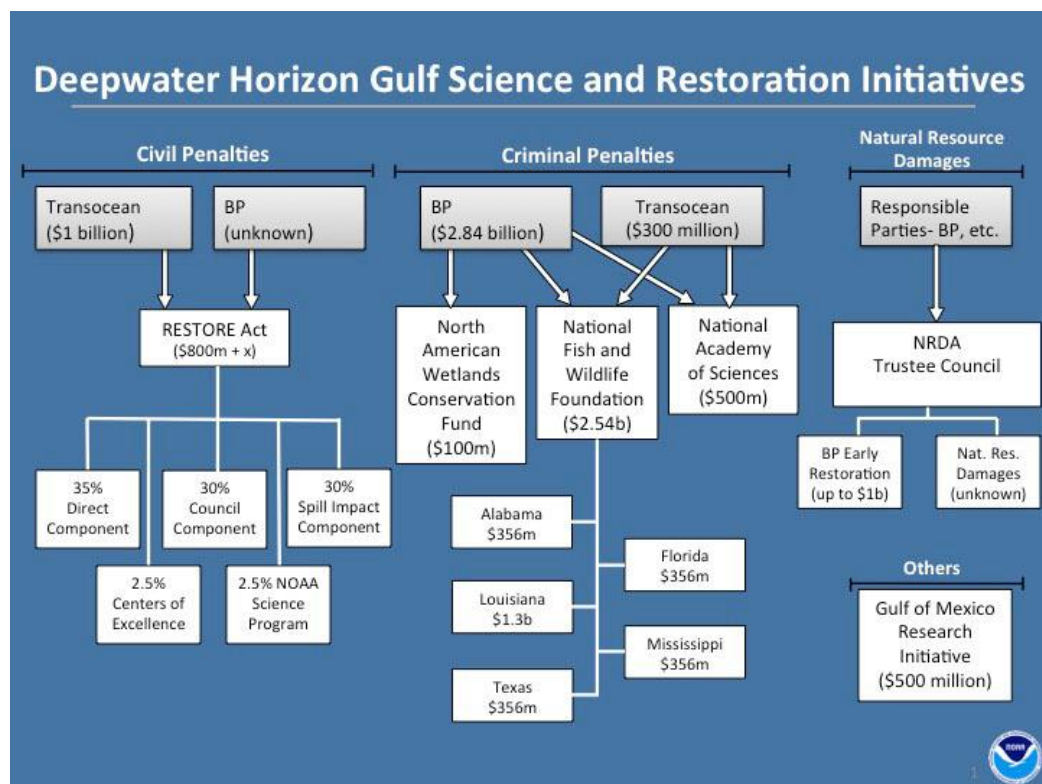
ings will be used as a baseline for future Subsequent annual performance reports.

The top three areas COS has identified for further improvement are:

1. Safe mechanical lifting, such as the use of cranes and hoists.
2. Process safety, with emphasis on risk management and maintenance, inspection and testing.
3. Effectiveness of and adherence to operating procedures and safe work practices, particularly the quality of work plans and preparation (Centre for Offshore Safety Annual Performance Report 2015).

Industry created joint forces to address safety, containment and area spill responses. It also adapted to the new measures issued by BOEM and BSEE, imposing new well designs (Connection 2012). The industry currently runs 224 exploration and production standards addressing offshore operations, covering everything from blowout preventers to comprehensive guidelines for offshore safety programs. Since 2010, API has published over 100 new and revised exploration and production standards including well design, cementing etc. It has also provided protective equipment for oil spill response workers (API 2015). The oil and natural gas industry along with the API established oil spill response research and development programme focusing on planning, mechanical recovery, dispersants, etc. API also started a new working group called API RP 96 'Deepwater Well Design Considerations' in collaboration with member companies. It serves as a deep well design consideration tool that can be used by drilling and completion engineers to drill deep wells. A new well geometry scheme is on the horizon, moving from the current "Big-Bore" well designs to the "Big-Big Bore" designs. Efforts are on to optimise well designs and the tubular, connections, and grade of material needed for the challenges of the Deepwater drilling (API 2015). In 2011, the DHSG proposed an "industry stress test". The report pointed out the industry's claim that 35,000 wells were drilled in the Gulf in the year 2009 making the Macondo blowout a low probability event. However, the report noted that only forty-three of the "complex wells" were drilled. The real risk was not 1/35,000 but 1/43. The report observed the need to see whether drilling companies had sufficient resources in place to prevent a blowout. It also needed to be seen if it was possible to fire and explosion on ultra Deepwater platforms. The report further noted the requirement to explore whether the drilling and production practices conformed to existing regulation and were equal to or better than industry practices. The Risk As-

assessment and Management should conform to industry better practices (Roe 2011). In the aftermath the industry invested in car-size robots that can carry tools to seal a well within 45 seconds. According to experts, these Remotely Operated vehicles (ROVs) can seal a well in mile-deep seas. In 2010, these robots, lacking high-flow pumps, could not do that. The industry also needed to address important challenges to upgrade a selection of people with the right talents for the tasks to be performed. There should be adequate training for operations personnel who are associated with ultra-hazardous hydrocarbon exploration and production projects. The design, process, equipment and materials upgrades will enable consistent realisation of BAST in these operations (Roe 2011: 95).



**Figure 25: Restoration Initiatives in Wake of the Spill**

Source: NOAA (2015)

### Drilling Goes Deeper

Six years since the disaster, the exploration and production in the Gulf has increased with drilling spreading to deeper and more dangerous areas. There has been intensified offshore activity in the region. In December 2011, the first offshore auction was held after the spill and BP successfully bid for 11 of the 191 available drilling blocks.

BP also participated in new Deepwater projects in areas such as the South China Sea. It partnered with companies like Chevron for new projects in places such as Hong Kong with water depths ranging from 198 to 1980 metres. It has extended operations in Libya amid calls for a moratorium questioning the capability of the state to deal with an oil spill of a similar magnitude. Between 2006 and 2012 number of rigs able to drill in 900 metres of water or over has increased 43 per cent to 146 with many more under construction. The industry aimed to invest 167 billion dollars on Deepwater development between 2010 and 2014. In the Gulf, out of the 83 working rigs, 63 are operating in deep water—a sharp increase from the 14 rigs that drilled in deep water in 2010. BP says it produced 252,000 barrels per day in the Gulf in 2014, up from 189,000 in 2013 (Koch 2015). Total Gulf production also increased in 2014, after declining for three years. According to the EIA, the Gulf accounted for about 16 per cent of the total US oil production in 2015. Industry claims to have improved safety over the last six years. Along with training with high-tech drilling simulators there is 24/7 onshore monitoring of well operations and subsea robots that can quickly activate BOP in the case of emergency. The industry also claims to be focusing on finding the spill and getting there quickly. According to a report by E&P and oil and gas investor, there has also been a lot of improvement in technology with a focus on clean-up in all kinds of weather and at night. There have been other technological advances such as bigger and more effective barges with greater boom deployment; skimmers that can remove a larger per cent of oil; and smaller, quicker response vessels (Oil and Gas Investor Report 2015).

The spill exposed that government agencies relied on the industry for expertise and equipment needed to respond the disaster. Regulators acknowledged that they were still dependent on the industry and found it hard to keep up with innovations. Several public policy scholars have stated that dependency on industry is a desired practice. RL Gordon (2011) writes that the only promising avenue of reform is to privatise commercially attractive federal lands and institute a strict liability regime for damage to third parties in lieu of regulatory oversight. Gordon believes that the regulatory policy is rent-seeking and brings out Friedrich A Hayek's argument that markets are better placed to handle the situation to centralised control. According to Gordon, public regulators will never have sufficient expertise or administrative resources to govern market actors. Aggressive government intervention in the past resulted in public policy failure in energy markets, ideological decisions and domination by non-specialists.

The most direct remedy to the underlying problems is to eliminate royalties on mineral production and drilling regulation and replace them with one-time fee for use and strict liabilities to damages (Gordon 2011: 7-13). Government agencies have since long faced the issue of retaining engineers and inspectors, who are better paid by the energy sector. The Government Accountability Office noted that the BSEE struggles to retain highly trained personnel. Watchdogs note that the regulatory changes have been slow and largely incremental.

Industry on its part believes that the post-blowout period has made drilling costly. At present there are higher costs associated with recertification of drilling programs, maintaining quality and attempts to reduce risks. These create a degree of uncertainty and new assessment of well plans. New well designs and the heavy loads associated with thicker casings have exceeded the current hook load capacity of many rigs. Retro-fitting for 2.5 million pound hook load capacity is impractical so new rigs would be needed in the Gulf. All of this would need new and better equipment (Connection 2012). In 2015, Shell decided to indefinitely suspend exploration offshore Alaska. The decision was sparked mainly by disappointing results from the one well spud in the Chukchi Sea. The company blamed regulatory uncertainty as well as the safety requirements that forced it to spend millions of dollars and launch a flotilla of ships to drill only one well (Gentile 2015). However, Arctic Programme Director Wilderness Society Louis Epstein stated that the arctic infrastructure was not ready for response operations in case of a major spill. The closest Deepwater port is nearly a thousand miles from the Arctic. The US only has two icebreakers which are ageing and it will take a long time to build new ones. Additionally, there is limited housing and emergency response infrastructure in Arctic communities. Notably, Interior estimates there is a 75% chance of at least one 1,000 barrel (42,000 gallons) or more spill during the projected 77 year lifetime of oil drilling and production in the Chukchi Sea associated with Lease Sale 193. This does not even include the likelihood of a major spill of at least that size offshore on Beaufort Sea leases or near shore on state leases (Interview with Louis Epstein 2015). Due to this there has been a post-Macondo requirement for companies to have a backup rig available to drill a relief well in the case of a blowout in the harsh Arctic seas. Shell complied but it became economically impossible for it to carry out a robust exploration program offshore Alaska. That led the Department of Interior to cancel the remaining lease sales. It remains to be viewed of future lease sales in the Chukchi and Beaufort Seas remain in the 2017-2022 leasing plan. It is still

believed that bigger companies with expertise and reputation will be better-abled to follow safety rules. Critics, however, are of the opinion that the industry might become complacent again. Lower oil prices can force cost-cutting measures. “When budgets are tight, training is the first thing to go”. While there is a constant stream of technological innovation, it is often questioned how effectively some of these devices—such as the well-sealing robots—would perform in a real emergency.

## **Chapter IV: Societal Responses: Media, Public Opinion and Environmental Interest Groups**

*We have gone to a different planet in going to the Deepwater. An alien environment. And what do you know from every science fiction movie? The aliens can kill us. —*  
Byron King (Achenbach, 2010)

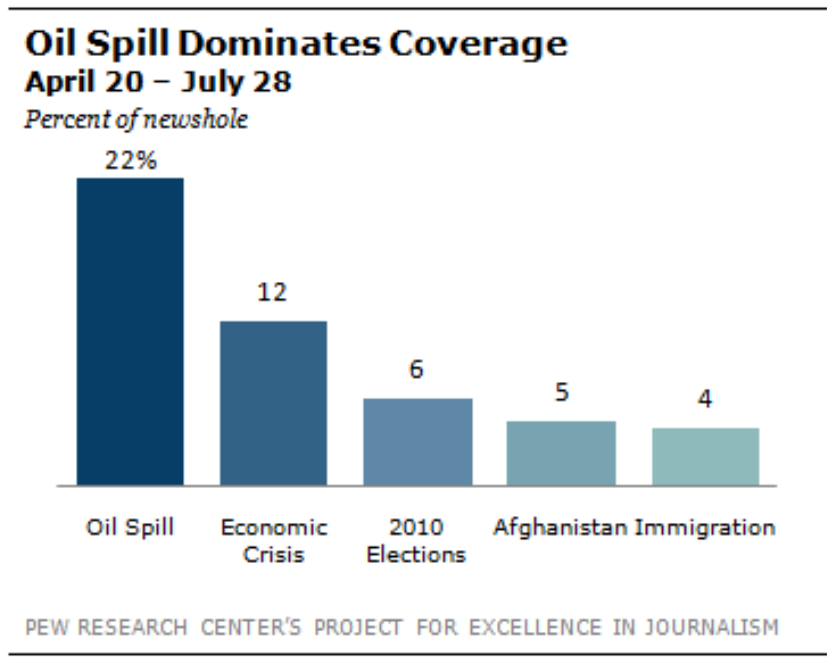
### **Media and Policy Making**

As discussed in the Agenda Setting theory in the first chapter, media coverage has the potential to structure issues in a way that receive considerable attention for public and policy makers and instrument policy change (Dynes 1970: 90; Schattschneider 1960/1975). The way media portrays an agenda can tilt the balance in favour of “pro-change” groups (Hilgartner and Bosk 1988; Baumgartner and Jones 1993). Agenda setting offers new insights for journalists, planners of communication campaigns, and social activists to gain access in policy debates. The groups demanding change only need to re-iterate what is being depicted in the media and use the symbols already being circulated to carry weight in terms of crises (Birkland 1998:56). Studying oil spills between 1960 and 1990, Birkland stated that industrial accidents or disasters often are dramatic incidents that allow anti-industry mobilisation. Human negligence

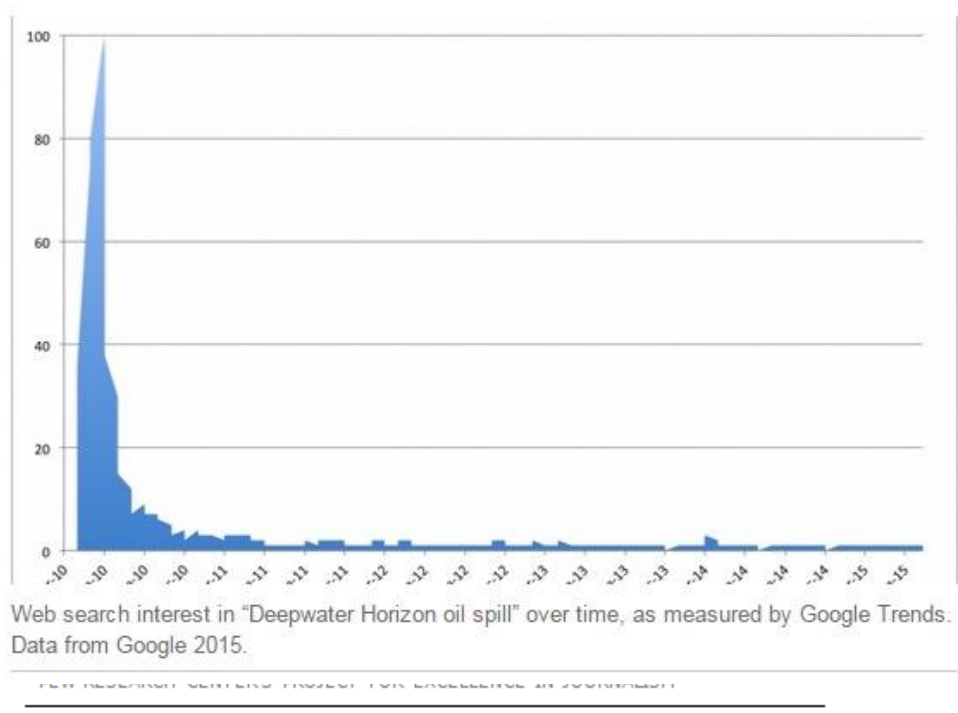


is usually blamed for any technical disaster (Stone 1989). Media narration and images play a vital role in this regard. The most striking narrative in case of the Macondo blowout was the frequently shown pictures of oil-soaked birds. On the other hand, media and public opinion can also be manipulated by more powerful groups as they present their arguments in the wake of a focussing event. Powerful groups tend to present the case that the crisis situation is not as fateful as claimed by the opposition, can easily be managed and above all any change suggested by the other would be ineffective at best or worse can also turn counterproductive.

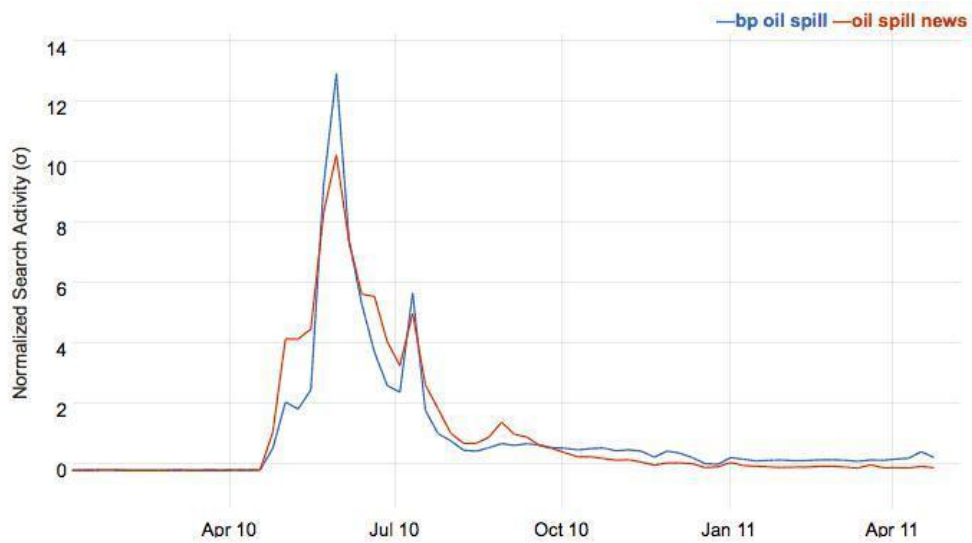
Understanding what frames dominate news coverage helps in advancing particular policy goals. Media persuades people “What to think about” and “how to think about it” thus manoeuvring how an event will be viewed (Entman 2007:164; Scheufele 2004; Shoemaker and Reese 1996: 21). For example the 1989 Exxon Valdez spill coverage led to questions regarding systemic issues in US energy policy, and power of multinational corporations in environmental policy and energy matters, etc. Change not only takes place through propagating news and symbolising an event, but also through the ties that journalists share with policy makers. Journalists in many ways are in a position to alert policy makers to issues concerning the public (Cook et al. 1983). Yue and Weaver (2009) conducted research stating a correlation between issues that media slanted as important and those receiving legislative attention. Media framing of crisis situations are done with the aim of riveting readers, listeners and viewers (Read 2011:154). These frames can also change as the event progresses. The average time span an issue is salient in the American public’s agenda is 18.5 months (Tyson 2013: 10). This was depicted in the research conducted in the aftermath of the Deepwater Horizon Spill by the Pew Research Centre. The study titled “Modest Decline in Oil Leak Interest, Sharp Decline in Coverage” stated that immediately after the explosion, in the first week of July, 57 per cent Americans surveyed reported following the spill. With a steady increase in interest, media devoted 38 per cent of the news coverage to the spill a month after the disaster. As the BP web cam went live, the spill could be seen from the source. However, with capping of the well, and clean-up of the shoreline complete, media also lost interest. By mid-July, the coverage fell into single digits (Read 2011:155).



**Figure 26 Oil Spill Coverage**  
 Source: Pew Research Centre (2010)



**Figure 27: Interest in Deepwater Horizon Sill over time**  
 Source: Pew Research Centre (2010)



**Figure 28: Oil Spill News**

Source: Oceana (2011)

### **Public Opinion Instrumenting Policy Change**

Public opinion is a combination of attitudes, views and sentiments of people. In a democracy, government is expected to pay attention to public opinion, citizen's views about political issues, leaders, institutions and events. When the government actions do not seem consistent with the views of the larger public, it results in questioning the legitimacy of government's actions (Ginsberg et al 2010:139). As discussed in the first chapter, people are usually not involved day to day in policy making which is best left to elites and experts. Most people know less about major policy issues. Their issues on the subjects are not well informed. However, conflict provides scope for breakdown of the status quo. The focussing event allows the issue to be known to elites and public at the same time. Thus, in case of any natural or human induced calamity, general public get involved in the policy debate. They identify new issues or start paying attention to existing but dormant issues and demand a change in policy. For example, the American public initially supported the idea of American intervention in Iraq and Afghanistan after the 9/11 attack. However, public opinion went against it as the war dragged on and the human and economic costs mounted and by 2007 and 2008 many Americans demanded "bringing the boys home". However, public opinion suffers from its own biases. Many critics of public opinion involvement in

policy making suggest that opinions of the uninformed may be susceptible to manipulation by politicians, interest groups, and the government itself through public relations and advertising (Ginsberg et al. 2010: 140). This may lead people to accept and opt for views they would not be supportive of if they had better access to information. Often presence of inattentive or ignorant individuals makes it easier for elites to guide public opinion according to their beliefs. This was seen during the World War II. The US administration under Franklin Roosevelt was open to the idea of entering the war but the American public was against the idea. Government often attempted to change the public opinion in favour of intervention. With the attack on Pearl Harbour, the US government succeeded in rallying American public support for the war.

### **Influence of Interest Groups in Public Policy**

An interest group can be defined as a group of people organised to pursue a common interest or interests, through political participation, toward the ultimate goal of getting favourable public policy decisions from government (Ginsberg et al. 2010: 240). Interest groups are formed to increase the probability of getting views being taken more seriously through their influence on bureaucracy, politicians, governmental officials and the population (Jesus 2010). In the last four decades, tens of thousands of interest groups have proliferated in the US continuously lobbying for representation. There range from civic associations to nationwide groups. Interest groups often compete with each other to get their voice heard. People with adequate sources— financial, intellectual, and social are better-abled to exploit the interest-group process to their advantage. A well-funded association might employ more tactics, put more money into an issue and/or even assign more specialists to a case. Thus, with these characteristics, it is more likely that interest groups succeed in influencing policy (Jesus 2010). There are varied kinds of interest groups. There are interest groups with direct economic stake in governmental actions. These groups largely find support in groups of producers or manufacturers in a particular economic sector. For example, the American Petroleum Institute represents oil and gas industry. There are public interest groups that have stemmed from New Politics movement. The movement reflects upper middle class representation which is concerned regarding issues such as environmental protection, women's rights, nuclear disarmament, etc. There are ideological groups, professional associations and labour groups as well. Interest groups seek to influence the public policy through lobbying with legislators, administrators, commit-

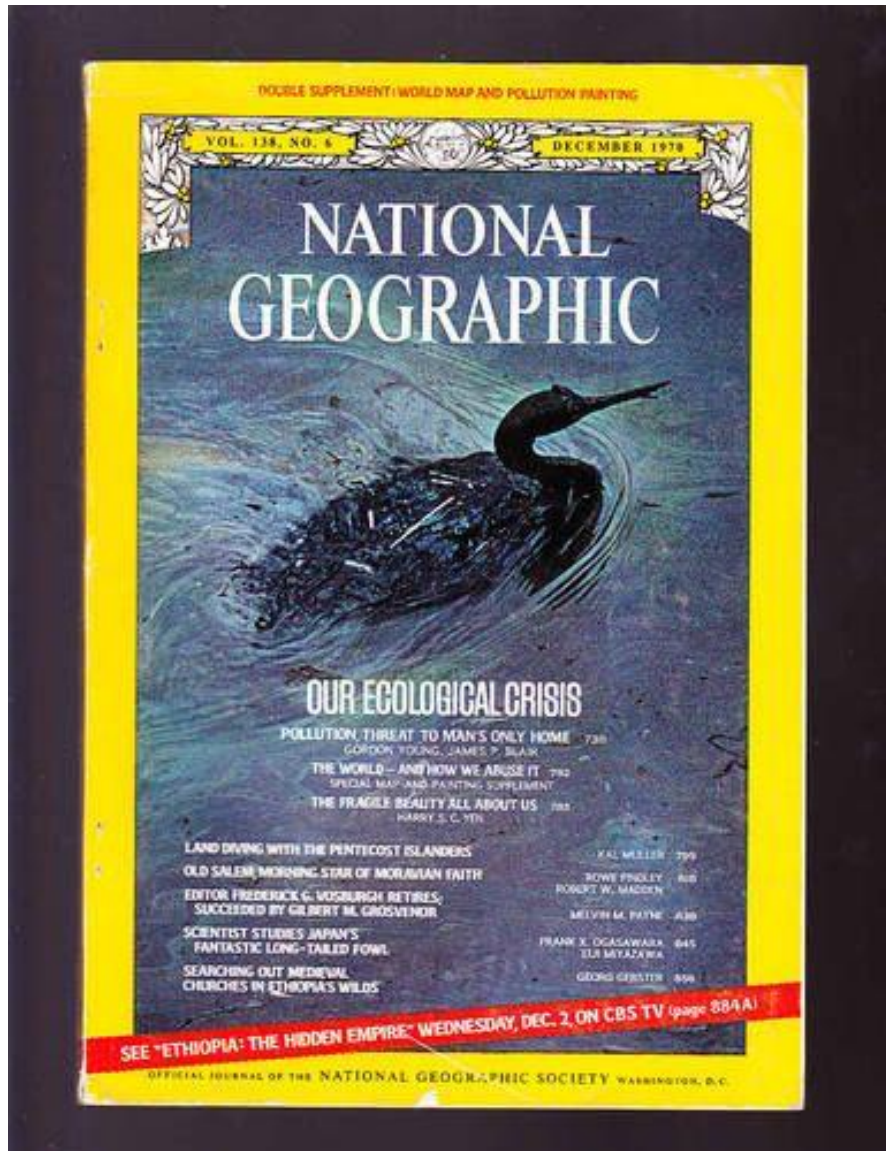
tee members and even media to convince them regarding their take on crucial issues. Interest groups also use lawsuits to change policy, government agency behaviour, and the actions of other groups they oppose (Ginsberg et al. 2010: 250). They also work towards securing a favourable public opinion by advertising about their institutions and associations; by organising protests and demonstrations; and organising grass-roots campaigns. Many a times, interest groups also work to ensure who is elected in Congress. Often campaign donations and activism are strategic tools for these groups. Historically, individual and groups of citizens have worked to get administrations act on policies. For example, the River keeper organisation in New York's Hudson Valley has continuously protested against corporate polluters since its inception in 1966. It was part of the new political movement created by a blue-collar association of "commercial and recreational fishermen to track down Hudson River polluters and bring them to justice" (Gassman 2012: 15). Using the volunteer labour of law students and their network of experts who could testify in court, they succeeded in preventing development of the Storm King pump storage facility benefiting those who use the river as a source of income and recreation (Gassman 2013: 16). Countless initiatives have been taken in the past to restore the Gulf ecosystem, create jobs and change policy to prevent or better respond to disasters. Community activist groups, individuals and the government have enacted legislative changes to restore or preserve natural resources and air, water and land quality (Gassman 2012: 16). Governments have also taken into consideration local voices in decision making. Yet, the environmental groups have had to compete with representatives from the oil and gas industries. This puts them at a disadvantageous position to influence policy given industries' resources.

### **Media Coverage of Spills**

During the 19<sup>th</sup> century, gushing oil was the symbol of abundance and vastness. The images carried out by newspapers and magazines encouraged such a narrative. For example the Pennsylvania's Oil Creek was described as exhilaration of nature beyond human control and nature's providence in granting Americans such vast energy and wealth. Describing the Lakeview gusher that spewed for eighteen months between March 1910 and September 1911, California journalists used the metaphor of "volcanic glory". Los Angeles Times reported, "from the very first, the gusher was beyond control" (Morse 2012: 125). It became a tourist jaunt with excursions featuring a

stop at the million- barrel reservoir (Los Angeles Times 1910). Gushers were described in terms of their height and volume. The spouter of the 1874 Lady Hunter in Butler County, Pennsylvania was 100 feet high, spewed 3,000 barrels the first day; the 1901 Lucas geyser at Spindletop, Texas was 40 feet high, spewed 30,000 barrels per day and Lakeview was 300 feet high, and spewed 50,000 barrels per day. Those provided good photo opportunities to those coming in thousands to witness oil in abundance. The Atlanta Constitution reported of the Lucas geyser at Spindletop that, “The railroads did a flourishing business in hauling spectators” and that five thousand people crowded the scene after the blowout (Morse 2012: 126). Taking a picture with a gusher was to welcome a limitless future. Even in case of fires, the stories would focus on the “awful grandeur” and “spectacles of power beyond human control”. Visual evidence of human loss would not be carried out (Morse 2012: 126).

With time as oil production and transportation increased, the narratives expanded to include oil-slicked bays and harbours, soiled beaches and images of wildlife affected by the oil. Rachel Carson’s book *Silent Spring* brought into discussion the ill effects of DDT and pesticides on birds. The book pointed the ill effects of poisonous chemicals on the ecosystem. Torrey Canyon spill brought the images of crippled, dying or dead animals and volunteers bathing the animals. It changed the narrative of oil as abundant and powerful to evil and cast the blame on the consumer culture. The New York Times and Washington Post carried out articles with rhetoric of self-destruction. Spills at Santa Barbara, Tampa Bay, and San Francisco between 1969 and 1971 played on the existing concerns. After the Santa Barbara spill, the newspapers all around ran photographs of the rig, slick, booms, beaches, and volunteers. Newsweek included pictures of a dying seabird, along with workers raking up oil-absorbent straw (Morse 2013: 130). Life published images of two grebes— one dead, other being bathed. The Los Angeles Times reported birds fleeing from well-intentioned rescuers headed into the spill. Pictures included an oil-drenched seal pup stranded in slippery rocks (Morse 2013: 131). The images prompted public anger towards the Union Oil and lax regulatory mechanism. Media also carried infamous statement by the Union Oil President Fred Hartley, “I’m always impressed by the publicity the death of birds receives compared with that of people.”

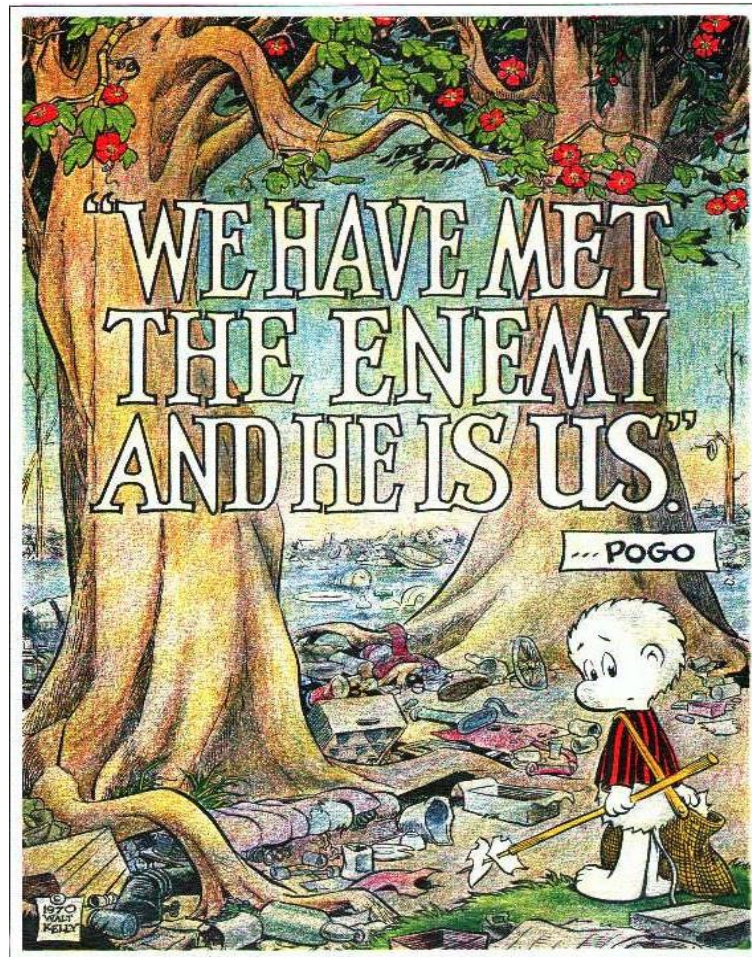


**Figure 29: Cover Photo National Geographic (1970)**

Due to pressure from media, environmental groups and a strong public opinion the Nixon administration took steps for dealing with the issue. As tanker Delliapolon dumped oil into Tampa Bay, Life carried out picture of a drowned blue buck duck. Washington Post carried out photographs of carcasses of hundreds of birds killed in Martha's Vineyard, Massachusetts thanks to oil slick with no clear origin. In 1970 National Geographic carried out a special issue "Our Ecological Crisis" and used pictures from Santa Barbara spill. In 1971 media captured similar images when two tankers collided and ruptured in San Francisco Bay. The writer and activist John Francis later wrote of desperate moments at Bolinas Lagoon. "Kneeling in the sand," he wrote, "a grown man cries as a blackened grebe dies in his hands." (Morse 2013:



132) The images and stories carried out by the media prompted Americans to take the air and water pollution seriously. As Morse (2013: 132) explains, three images gained popularity during that time: people wearing gas masks, Walt Kelly's comic strip character Pogo, and the ecological Indian of Keep America beautiful anti littering advertisements.



**Figure 30: Kelly's cartoon strip (1971)**

Kelly's long running cartoon strip showing Pogo picking up trash with the motto: "We have met the enemy and he is us" (Kelly 1971). The Argo Merchant grounding in 1976 again brought a series of similar pictures of slick flowing out from the stranded ship. The Christian Science Monitor carried out Guernsey LePelley editorial cartoon showing not a bird but the entire globe drowning in a black sea. The year 1976 witnessed several oil and tanker related incidents. December 17 a tanker exploded in Los Angeles Harbour. December 24 the *Oswego Peace* leaked seven thousand gallons into the Thames River in Connecticut. On December 27 the Olympic Games ran



aground in the Delaware River near Philadelphia. Tanker Grand Zenith disappeared south of Yarmouth, Nova Scotia, Canada with thirty-eight Taiwanese crewmen and 8 million gallons of oil. Three weeks later, a heating-oil barge ran aground in Buzzards Bay, Massachusetts (Morse 2013: 132). All the disasters received heightened media activism with emotional appeal. The coverage “snow balled” the issue which led to passing of legislation Superfund in 1980 in the United States.

The 1970 script came alive once again with the Exxon Valdez spill. Media employed criminal and environmental narratives to the story. Captain Joseph Hazelwood was the negative character in most of the media narratives. Newspaper stories also focused on the Republican administration and Big Oil response to the disaster. The *Boston Globe*'s narrative focused on government's response, especially President George H. W. Bush's position on drilling in the Arctic National Wildlife Refuge (ANWR). Daley and O'Neill (1991) write that the “journalists suggested political slugfest between the administration and environmental forces was going to be waged on the symbolic battlefield as much as in the halls of Congress” (Tyson 2013: 7). These narratives strengthened environmental groups to press claims for policy change in congressional hearings leading to the passage of the OPA 90. Industry on the other hand was less active in congressional testimony after the spill. It appeared to have hoped that the crisis would be forgotten soon. The spill strengthened the position of those groups that historically opposed oil development and tanker traffic in Alaska, and voiced reservations regarding the trans-Alaska pipeline from the outset. Consumers, fishery associations, environmental groups came together against the industry.

### **Media Coverage of 2010 Blowout**

The 2010 disaster saw similar coverage by the newspapers. This time media expanded its narrative. Media offensive was not restricted to just one week after the disaster took place. Pew Research Centre has stated that most of the articles are “one week wonders.” The stories tend to receive significant amount of media attention during the first week, but then slowly fade away. This spill exceeded the usual media attention span, commanding substantial coverage week after week. There was an oil gusher being covered live underwater gauging public interest.



**Figure 31: Oil Spill Seen on Live Camera**

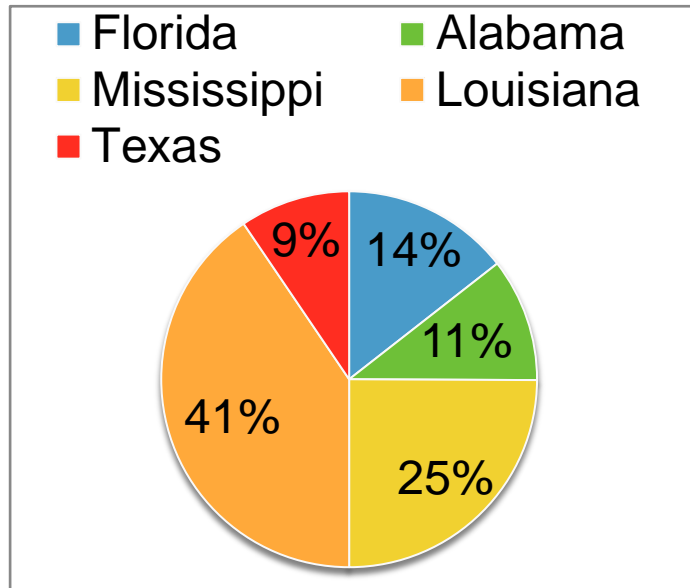
Source: Weber (2013)

Attempts to stop the flow gained a lot of coverage and so did the use of interesting terms by BP spokespersons (top hat, top kill). Media coverage brought out the human costs of disaster, not only the rig workers but the clean-up workers as well as fishermen, shrimpers, restaurant owners, and other tourist-dependent business owners. The internet and social media allowed not only national newspapers and television agencies but common people to post their narratives. There were visual pictures and oral narratives about spill affected birds, dolphins, tainted beaches, tar balls, grieving families, clean-up crews, etc. (Juhasz 2011). From April 20, 2010 through the month of July 2010, the spill coverage overwhelmed mainstream news. According to a study carried out by Padgett et al (2013: 6), most of the media items included the administration's pressure on BP and the organisation shifted the blame on subcontractors. The news stories also highlighted that journalists and public officials were being turned away from areas affected by the spill. Journalists complained of restrictions to fly overs over the Gulf. There were constant complaints that BP was intentionally preventing efforts to document the spill. However, it is hard to conclude if these restrictions were caused by BP or the US Coast Guard. Nonetheless, it was impossible

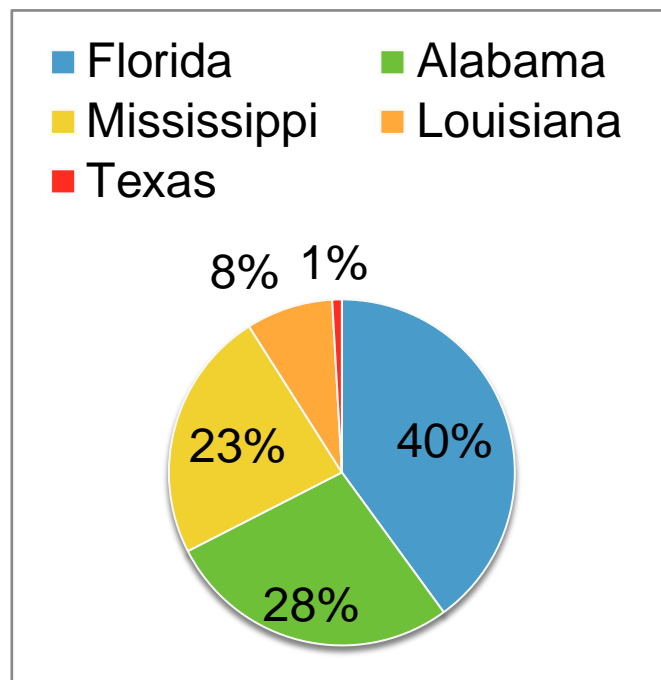
to restrict the spill's visibility and the coverage helped re-energise the debate over offshore drilling issues and opened a window for public opinion.

### **National versus Local Media**

Studies have suggested that local coverage of a disaster might differ from the national coverage. The physical proximity to a disaster can drastically alter media frames (Tyson 2013: 2). National media has a broad base and can be geographically removed from the site of destruction. The local papers can bring out individual stories from the place of the disaster. Holt et al. (2010) in their study found out that newspapers located within the same city tend to put a more human face to the issue while the papers farthest away most likely framed the issue as moral wrong. A study of three Alabama newspapers—Mobile Press Register, Pensacola News Journal and Sun Herald was conducted between April 20<sup>th</sup> 2010 and April 20<sup>th</sup> 2011. According to the content analysed, the local newspapers put forward the woes of residents, business, tourism and fishing industry on front pages, thereby setting an agenda and prompting action. Out of the 269 articles that described the dissatisfaction of the oil spill victims with the claims process, 136 included quotes of fishermen and shrimpers while the rest quoted restaurant owners. Personal accounts of businesses shutting down and seafood workers without steady work were the recurrent themes in all the three papers (Stinchcomb 2011: 27). Over 16 per cent of coverage by the local broadcast stations highlighted the oil spill's impact on tourism and 15.1 per cent focused on the impact on the fishing and seafood industry (Goidel et al. 2012: 14). Even within the states focus differed. In Louisiana, the local impact on the fishing and seafood industry was the second most common storyline with 41 per cent coverage. Texas gave the lowest coverage of only 9 per cent to seafood storyline. In Florida, tourism received the maximum coverage with 35.9 per cent while the impact on seafood and fishing only found place in 10.2 per cent. In Mississippi local impact on tourism was 21.1 per cent while in Alabama 24.7 per cent (Goidel. et al. 2012: 22). Local coverage was markedly different from the national coverage. There was also significant variation across areas affected by the spill and those by moratorium. Support for offshore drilling varied across the states being strongest in Louisiana and weakest in Florida. Local media played on the physical environment of the Gulf coast.



**Figure 32: Seafood Storyline in States**



**Figure 33: Tourism Storyline in States**

The beaches were no longer pristine but “tar stained”. Local coverage concentrated on legislative issues, compensation and effect on local communities. The articles were also framed around morality and used social perspectives and moral messages to frame the crisis. Those highlighted protestors’ demands to shut down BP, people’s anger towards BP, defacing BP’s signs with brown paint. In the local media coverage,

regional leaders assumed greater importance than national leaders. While the President received 12 per cent coverage in the national news, he only received 7.6 per cent in local coverage. The local papers were more interested in interviewing the region's leaders. According to Goidel et al. (2012: 15), Louisiana Governor Bobby Jindal was the primary newsmaker in 43 per cent of the stories in Louisiana media while Obama only in 32 per cent. In Mississippi and Alabama, Governors Haley Barber (39.7 per cent) and Bob Riley (37.9 per cent) were considerably more prominent in news coverage than the President-- 19 per cent and 24.1 per cent respectively. BP CEO Tony Hayward received almost same amount of coverage in both national as well as local media (Goidel et al 2012: 14-15). Salience was given to environmental concerns with 47.4 per cent of all coverage. Across Gulf Coast states, it was the focus of 40.3 per cent of all stories, while in the national news coverage it went as high as 64 per cent (Goidel et al 2012:16). The second most common frame at the national level was corporate responsibility. This story found place in Texan papers. Local papers targeted BP.

According to Stinchcomb (2011: 29) only 17 stories carried a positive image of BP where in the company was shown to be cleaning beaches, putting the newly unemployed people to help with restoration work. Most articles blamed BP for its inability to close the well fast. One of the important things that the study pointed out was that while the negative articles about BP contained quotes of business owners, the positive articles carried quotes of BP employees. Local papers also criticised Ken Feinberg for claims process. Even while claims emerged as a significant issue in the media, problems with the Gulf Coast Claims Facility exist even after six years. The study also noted that national newspapers were more interested in disaster narrative and less on clean-up efforts (Goidel et al. 2013: 4). These were more likely to focus on federal officials and corporation heads. They also presented the costs and expenses that BP incurred. A study conducted by Chen Lou (2011) of the 296 stories carried out by the New York Times and Washington Post from April 20, 2010 to September 21, 2010 depicted that national coverage was nationalist in character and perceived BP as a foreign company. The newspapers consistently blamed BP for causing the spill with a New York Times article by Robertson and Wald (2010) stating, "BP is responsible for this leak and will be paying the bill." BP was accused of incompetence and Hayward was ridiculed for his statements (Bosman 2010). About 34.1 per cent of the spill stories talked about assistance and guidance, 25.7 per cent focused on the disaster's af-

termath, 22.6 per cent used background information and causal exploration frame. Both the newspapers used the US federal official sources as the largest number of sources (26.1%) (Lou 2011: 34). According to Gordon and Luloff (2011: 192), the national news organisations depicted BP as this powerful, corporate monster with no regard for the environment but along with that also depicted coastal people as the weaklings. The locals expressed dissatisfaction in the way the national media covered the disaster. People living in south of Panhandle, Florida were angry that the national media was not informing people that their beaches and tourist attractions were open and that little tar and oil had washed ashore (Bernshaw and Lacutas 2012:44).

Media framing was also done according to party lines. Content analysis was done of two newspapers from Washington, D.C. (Washington Post and Washington Times) and New York City (New York Times and Wall Street Journal) respectively. The editorials differed considerably in their views of the relative culpability of government in relation to the spill. The Washington Post and New York Times made references to the scandals at MMS twice as often as their more conservative counterparts. These papers tended to tie MMS's problems to the Bush administration, such as by claiming that "the problem of regulator-industry cosiness predated [Obama's] tenure" (Washington Post 2010) or asserting that the agency "was corrupted by industry in the Bush years" (New York Times 2010). In contrast, the more conservative Washington Times and Wall Street Journal repeatedly criticised the Obama administration's response efforts. Critics wondered if the lacklustre response amounted to "Obama's Katrina" (Bernshaw and Lacutas 2012:44).

### **Social Media (You Tube, Facebook and Twitter)**

The spill coverage is momentous as it occurred at a time when social media had gained influence. By July 2010 Facebook had more than 500 million active users and Twitter was becoming important for news and information (Rogers 2012: 3). The spill saw the repercussions of social media. Reporters and interest groups were able to reach out the public to provide and gain information and get instant feedback. A study conducted by Starbird et al (2015) did an in depth content analysis of the way the disaster was covered in social media/ twitter between May 9 and August 4, 2010. The findings noted that the account handled by the administration was less interactive by using the re tweet mechanism and had a larger proportion of non-reciprocal friend-follower relationships. The study analysed twitter accounts of the wildlife and NGOs,

locals, response organisations, accounts specific to the event, media, celebrities, and political bloggers. The findings noted that tweets of NWF were critical of BP's strategy regarding the use of dispersants. Dispersant-related tweets were much likely to refer to human health impacts than tweets not mentioning dispersants. The tweets of the IBRRC, an organisation of veterinarians and scientists who specialise in cleaning birds after oil spills, tweeted 1209 #OilSpill tweets during the event, often with links to photos or articles on their own site that described their clean-up efforts. Many of their tweets were backed with pictures of oiled or recently cleaned birds (Starbird et al 2015).

### **Public Opinion in Status Quo**

Prior to the spill, Americans generally believed that the government should emphasise on the development of energy supplies. Even a year after the spill, about 60 per cent of Americans favoured increasing offshore drilling (Saad, 2011b). While there is larger public support for deep sea oil exploration activities, society considers that governmental agencies and scientific experts would take care of the operations so that human or environmental health is not threatened (Comfort, 2007; Giddens, 1998). In cases of technological disasters, the inability of these niche agencies to meet the social responsibilities is met with contempt (Freudenburg, 1993; Marshall and Goldstein, 2006; Picou et al., 2004, Safina 2011). This often leads to erosion of trust and disapproval of both the responsible parties and disaster management entities. The spill took place at a time when vigilance regarding environmental issues has been on a rise. People are more interested in lessening, mitigating and repairing damages caused by energy and industrial development. According to Smith (2010: 2), Corporate Social Responsibility has become a buzzword and people are thinking more than just the product and price while purchasing something (Smith 2010: 2). Image of industry in general and BP in particular had already received a setback due to past incidents. People were campaigning for increased air and water quality and successful anti-littering campaigns. The 1970s witnessed development and expansion of network of individuals and organisations committed to the environment. Grassroots campaigns to protect and conserve persisted on a smaller, but simultaneously broader-reaching scale. Student Environmental Action Coalition was formed. Thousands of high school and college campuses nationwide worked together to tackle issues such as recycling and responsible food sourcing, and held direct action against industrial polluters

Gassman (2012: 6). A few pre-existing conditions are required to initiate a movement or a policy change. There needs to be an established communication network; members of the network must be like-minded and open to new ideas of the movement; and most important is a crisis event to spark a movement.

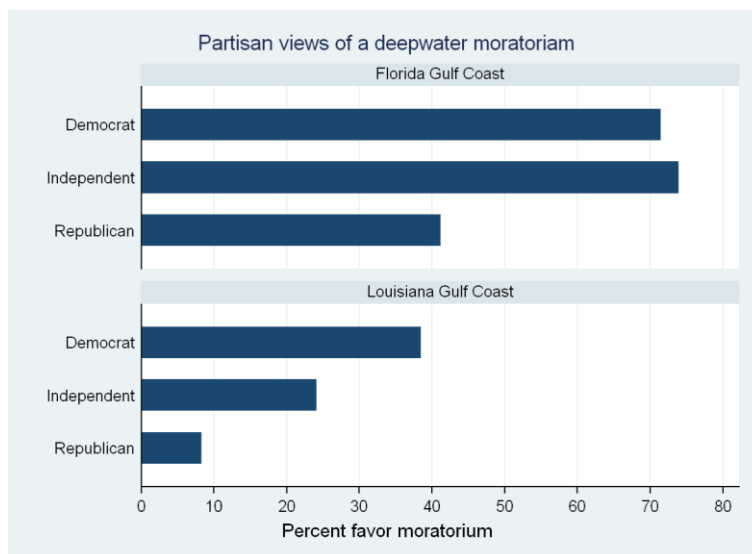
### **Public Opinion after Disaster**

The University of New Hampshire Carsey Institute carried out a survey of 1,000 residents in coastal Louisiana and Florida to gain a perspective on residents' perceptions of the disaster (Gassman 2012: 9). The researchers Safford et al (2012) conducted a random-digit telephone survey of residents in coastal Terrebonne and Plaquemines Parishes in Louisiana and Franklin, Gulf, and Bay Counties in Florida between July 29 and September 30, 2010. The survey included questions about the human, environmental, and organisational aspects of the disaster as well as the social context in the region. There were questions regarding spill impact, location, occupation, political, and social-position indicators. The parishes and counties were selected on a range of industries present—oil exploration and services, commercial and sport fishing, and tourism. Louisiana economy is dominated by oil and gas production and fishing. Tourism and fishing are the mainstays of economy in Florida and residents remain opposed to the offshore activities. The national polls taken by Pew found that respondents viewed the spill mitigation activities of both the federal government and BP negatively. Safford et al. (2012: 33) found similar results from their survey but also highlighted marked differences in residents' evaluations of state and local government actors. As many as 77 per cent of responders rated the federal government's response as either fair or poor. About 70 per cent viewed BP's efforts negatively. On the other hand 51 per cent of Gulf Coast residents rated state government's job as good or excellent, and 61 per cent had positive views of local governments' responses (Safford et al.: 2012:33). Studies have revealed that residents dependent on marine resources, and fishing were more likely to experience negative impacts from the disaster (Gill et al. 2012). To a question, "Which do you think is more important, increased exploration for oil in the US, or increased use of solar, wind and alternative energy sources?", sixty-two per cent of those surveyed reported the importance of using alternative energy (Gassman 2012: 14).

The surveys tried to analyse support base for federal and state government. Respondents with higher income were more involved in local politics and more favourable to-



wards local government efforts. Non-whites were more likely to believe that the federal government was doing a capable job, while considering state and local responses negative. Among the non-white participants, 56 per cent were African Americans. The researchers believe that the Obama administration enjoys strong support in Louisiana and Florida which has a significant non-white populace (Safford et al.: 2012:35). Oil workers looked at states' efforts favourably. This appears to be due to the strong ties shared between state governments and energy firms (Freudenburg and Gramling, 2011). The state and local officials sought to minimise disruption of the oil and gas activities, but also made concerted efforts to secure compensation for affected groups like fishermen, local businesses etc. The visible presence of Jindal played a role in assessments of the state's efforts (Safford et al. 2012: 36). The region is dominated by Republican affiliation. In this scenario, Obama administration's response was bound to be considered poor. In a more liberal oriented community of Palmetto in Mississippi Gulf coast, there was a perception that the community needed to be more vigilant of the government and required protection from energy companies.



**Figure 34: Partisan Views of Deepwater Moratorium**

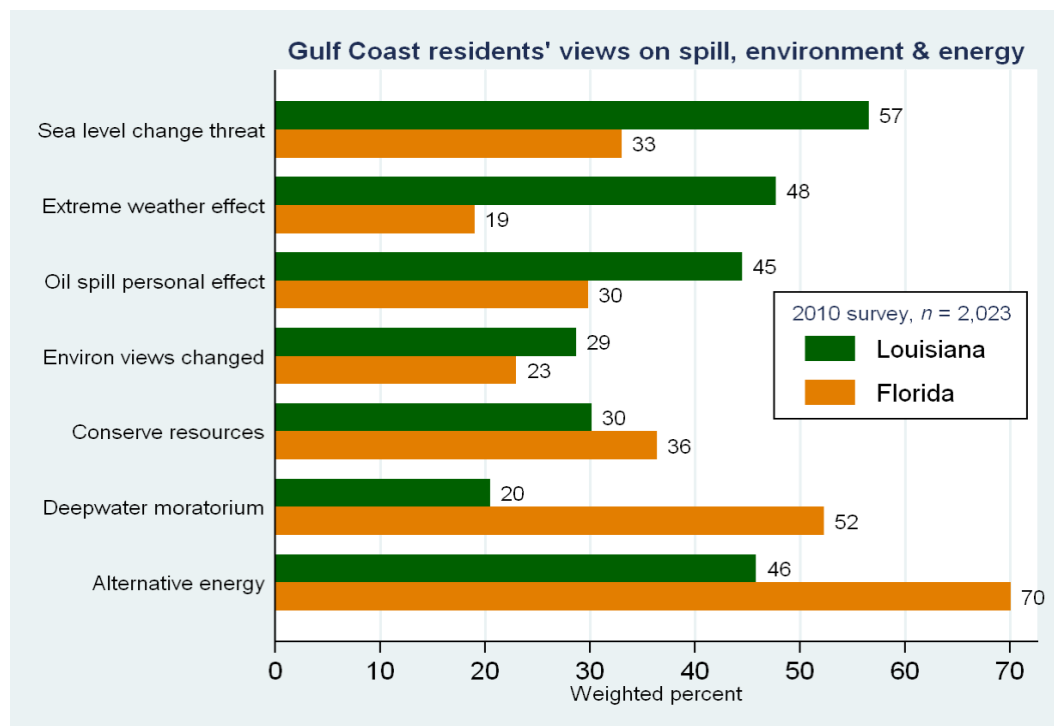
Source: Hamilton (2013)

Notably, Louisiana residents perceived serious threats from the spill, rise of sea level and extreme weather. Yet, they were less likely to support conservation, moratorium or development of alternative energy. Moreover, federal government and federal officials, including specific references to President Obama and the US Congress were blamed for the spill and the “inept” response. According to a study conducted by

Lueck and Peek (2011: 169), respondents felt that the government had waited too long before responding to the situation in the Gulf.

*“I am very disappointed that the government has not been proactive in effectively stopping the spill. It’s a disgrace to know that not only we have resources; but been offered resources from other countries, and not utilised them. It makes me question my government’s priorities”* – As cited in Lueck and Peek (2011: 169)

Once the spill came out, the involvement also heightened. A CNN opinion poll taken on May 24, 2010 compiled that 76 per cent respondents disapproved BP’s handling of the disaster (CNN opinion research poll, 2010). About 51 per cent were not in the favour of Obama’s handling of the spill. As many as 53 per cent predicted, that efforts to control the spill and prevent it from spreading would be unsuccessful (CNN research poll, 2010).



**Figure 35: Gulf Coast Resident’s Views**

Source: Hamilton (2013)

In ABC news- Washington Post poll on July 14, 2010, three quarters of residents in the most affected counties along the Gulf said the spill has hurt their area's economy, including 55 per cent who said it has had a strongly negative impact (Langer 2010). About 61 per cent favoured criminal charges against BP and other companies in-

volved. Nationally, the percentage asking for action against BP was 56 per cent (Langer 2010). However, local public opinion is different as compared to national sample. The nationwide survey conducted by the Pew Research Centre for the People and the Press between May 6 and May 9 involving 994 adults is markedly different than the survey conducted by LSU's Public Policy Research Lab (PPRL) of Louisiana, Mississippi, Alabama, and Florida coastal residents during a similar time period. As many as 41 per cent of Pew respondents believed that major spills were inevitable. 80.6 per cent of the PPRL's respondents attributed mechanical failure responsible for the spill and demanded better engineering. Pew also found that 38 per cent of the national sample approved of Obama's response while PPRL found that less than 30 per cent rated his response as either "excellent" or "good (Goidel et al 2012: 4).

Miller et al (2011) cited people's feelings:

*"You don't know when BP check is going to show up in mail, if ever. You don't know when the feds and the state are going to do their thing, toward recovery. It's a chronic spiral of people going into deeper and deeper levels of anxiety, and research shows that one of the major sources of anxiety is the litigation process itself. So on top of everything else the disaster throws at you then you have the decade long experience of trying to litigate your way back to your economic livelihood or trying to get some sort of economic compensation for what you've lost and of course it never comes"*—(Jamail 2010, Global Research; As cited in Miller et al 2011: 145)

### **Public Perception on Moratorium**

According to the PPRL survey, 59 per cent of Louisiana's residents strongly favour (20 per cent) or favour (39 per cent) offshore drilling which is similar to the national average where 54 per cent support offshore drilling (Pew Research Center, May 2010). In other coastal states, only 45 per cent supported offshore drilling. Thus, Louisiana had a much stronger anti-moratorium stance than the remaining states. As much as 12.4 per cent of coverage in Louisiana was pro-offshore drilling compared to 3.1 per cent in Texas and 0.9 per cent in Mississippi. Alabama and Florida had no television news stories that were positive on the offshore drilling issue (Goidel et al. 2012: 18). The Louisiana Oil and Gas Association, however, calculated loss of 150,000 jobs. This was particularly troublesome at a time when the national unemployment rate was already hovering above 9 per cent.

**Table 6: States' Drilling Stance (Percentages)**

States	Pro-Drilling	Anti-Drilling	Pro- Moratorium	Anti- Moratorium
Louisiana	12.4	4.5	4.1	9.3
Florida	0.0	10.7	11.9	0.0
Alabama	0.0	10.8	5.2	0.0
Texas	3.1	1.3	1.3	1.8
Mississippi	0.9	3.3	3.3	0.9

Source: Goidel et al (2012: 22)

### Public Activism

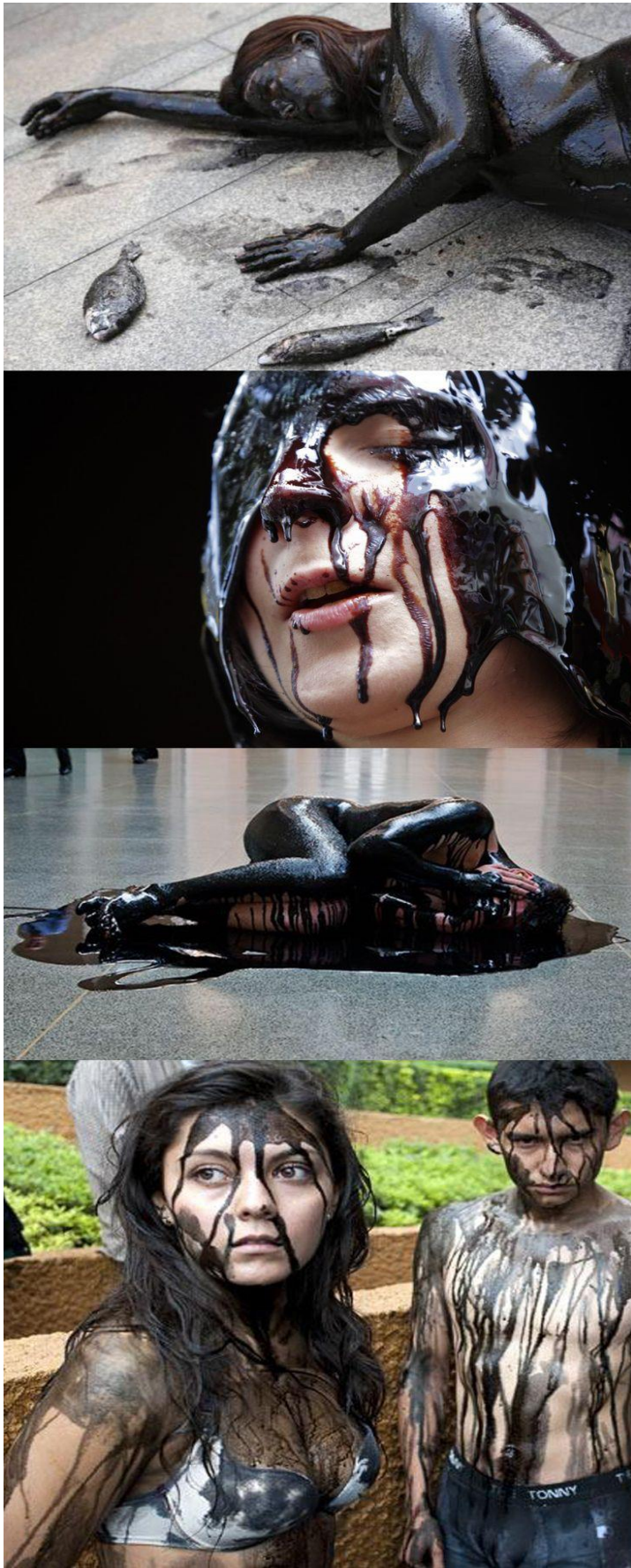
University of Alabama Sociologist Steven Picou states that a community often feels ill-equipped to deal with a technological disaster. Thus, outreach programmes based upon the principal of self-help become crucial. One such programme is the information and lessons learnt about the Exxon Valdez spill and its victims. Another programme is the peer listener training which changes a person's role from victim to active community helper by suggesting a number of recuperative coping strategies. These help to develop a more positive outlook upon the negative situations. After the blowout, several such programmes were conducted at the California State University Fullerton and at the Temple University. Teaching event "The BP Disaster: Reckless Corporate Greed or Business as Usual?" was organised in Asheville, North Carolina; Tallahassee, Florida; Houston, Texas; New Orleans and Grand Isle, Louisiana. Events also involved the non-academic community. Linkages were drawn between the spill and the political implications along with dependence on fossil fuels etc. Cultural exchanges took place between the indigenous peoples of Ecuador and Gulf Coast native tribes impacted by the blowout. Ecuadoreans were affected by the Chevron's oil contamination in Ecuador's rainforest. The Amazon leaders toured the affected areas and interacted with the residents (Weeber 2011:271-272). The South Louisiana Vietnamese community utilised the networks of self-help and social support. The fishermen had to file claims for losses or sign up to do the clean-up work. All the legal paper

work was in English. Most of the fishermen cannot speak English and could not understand the legal fine print in the contracts. There were also complaints about the proficiency and cultural competence of BP translators. To deal with the issue some members of the community trained in the oil spill jargon. They also served as translators to people filing BP claims paperwork (Weeber 2011: 272).

There was also increased activism regarding coastal erosion. The oil industry has been accused of treating the waters as an “underwater junkyard”. Climate Progress reported, “These companies aren’t even pretending to clean up their mess. When they’re finished using something, they don’t remove it or maintain it. It’s out of sight, out of mind” (Ollstein 2015). Fishermen in the region grappled with the effects of climate change, sediment diversion and vanishing coastline. Sea level rise and wetland loss resulted in habitat destruction for crucial species. The region suffered from invasive or locally viable species, changes in species growth rates, shifts in migratory patterns or dates, and alterations to spawning seasons. This affected the local or regional seafood output and the local economy. The fishing community complained that wetland erosion affected the oyster population threatening their occupation (Ollstein 2015). Louisiana Oysterman Association accused the Louisiana government for wanting the fishermen to toe the line with respect to oil and gas industry. Residents of the coastal area were worried about the pollutants in the Mississippi River that created a massive ‘dead zone’ in the Gulf (Ollstein 2015). A National Wildlife Federation study in 2004 reported that oysters experienced high mortality and low spat recruitment since the spill. Large volumes of fresh water were released from the Mississippi River to decrease oil infiltration into shoreline areas. This caused low salinity conditions in oyster habitat and killed huge numbers of Gulf oysters (Interview with Mark Schleifstein 2015).

There were instances when the Gulf community believed that rallies and protests against the industry and the federal response were the only ways to gather attention. BP and Chevron’s office in San Francisco were filled with protesters chanting, “Make Big Oil Pay!” They blockaded BP’s building and the street corners surrounding it. Rainforest Action Network organised a mass die in on a giant black tarp mimicking a toxic oil stain. The Mobilization for Climate-Justice West organised the day’s events as a call not only to hold the oil industry accountable for its crimes in the Gulf but also for meaningful action to address climate change. Activist Cherri Foytlin from Louisiana walked 1,243 miles to Washington, DC in April 2011. Foytlin’s husband

worked in the oil industry but was laid off after the explosion. She rallied at BP's headquarters to deliver a symbolic "bill" for almost ten billion dollars in due taxes and clean-up costs. Scientist Wilma Subra provided data to communities threatened by energy development and chemical production for several decades. Subra informed individuals on ways to protect their health by describing common symptoms from exposure to chemical compounds common around oil spills (Gassman 2012: 26). There were street protests of concerned citizens around BP gas stations expressing outrage. Mock spills were held at several places as part of the protests (Weeber 2011: 272). In Alabama and Florida, the elected public officials resisted the spill. In Magnolia Springs, Alabama Jamie Hilton, the local volunteer fire chief led the campaign to save his town's waters from the approaching oil spill. His plan was approved and enacted (Weeber 2011: 273). In Florida, the Okaloosa County Commission voted unanimously to allow their emergency managers to override and overrule federal emergency managers to save the Fort Walton Beach that provide about 50 per cent of the local community. Talking about the "safety and lies in the oil industry", whistle blower Randy Comeaux reported safety and criminal issues in the oil industry. Comeaux worked in the oil and gas industry for 35 years. In an interview with BridgetheGulf project, he stated that regulatory authorities gave a seven day prior notice about any inspection to oil companies. Just after that he would be called by these companies to inspect the platform and fix before the regulatory authorities inspect. "This was an industry pattern... it was the same thing, over and over, and over, and over. As soon as BSEE left, they went right back to put the platform back in noncompliance, and operated like that." (Comeaux 2015) He also reported that it was a standard practice to filter water before sending it for testing so that oil could not be found. Local environmentalists also accused EPA of failing to release the air and water results and ignoring the threat to public and workers' health from exposure to crude oil, chemical dispersants (Sheoin and Zavestoki 2012: 76).



**Figure 36: Public Activism in the Aftermath of the Spill**



### **Interest Groups Response: BP's Communication Strategy**

BP's crisis communication response to restore its image in the aftermath of the disaster was influenced by two main theories:

1. **Benoit's "Image Restoration Theory":** Benoit has divided Image Restoration into five major sub-strategies (1) denial, (2) evasion of responsibility, (3) reducing offensiveness, (4) corrective action, (5) mortification. (Dillistone et al., 2011: 228). Denial and evasion of responsibility involve rejecting or reducing the accused's responsibility for the act in question. Reducing offensiveness and corrective action concern the second component of the strategy where attempt is made to correct the situation. This is done by providing financial reimbursements or compensating whichever goods are in question. Another possibility is attempting to restore the status quo (Benoit 1997: 181; Benoit, 1995: 6). Mortification, tries to restore image by offering "sincere apology" and asking for forgiveness (Benoit 1995:4). The strategy was applied in the wake of Exxon Valdez and Bhopal crisis (Benoit, 1997). Notably, despite offering apology, the organisation may not be ready to take the blame. Admitting fault might lead to lawsuits, which can cause a major economical setback for the company (Benoit 1997: 182).
2. **The Situational Crisis Communication Theory:** It is one of the most recognised theories in the field of crisis management. It provides an understanding of the reputational protection afforded by the post-crisis communication (Coombs 2007: 163). It states that public knowledge of past crisis events an organisation is charged with plays an important role in addressing future crisis communication planning. Public knowledge of past accidents at BP refineries heightened concerns regarding safety measures being employed to protect the environment and its commitment towards social responsibility.

Tyson (2013:12), Mehta (2012: 43) and Dilliston et al (2011: 230) used **Benoit's strategy** to analyse BP's image restoration. According to the, corrective action and compensation were the dominant techniques in BP's handling of the disaster followed by mortification. Tyson (2013) cites Harlow, Brantley, and Harlow (2010) study of BP news releases from April 20, 2010 until June 15, 2010. "BP focused on two particular strategies—describing how it would correct the problem and describing how it would compensate the victims...BP did not attempt to shift the blame onto other



companies nor admit responsibility on their own part” (Tyson 2013: 7). It rather disassociated itself from being responsible for the actual explosion and resulting spill and presented itself simultaneously as a saviour and dealing with the aftermath. It did not try to shift the blame to another company. The initial press releases from April 21 through April 28 show that BP framed responses implying that BP and Transocean were sharing the burden of response to the explosion. However, later releases stopped depicting Transocean sharing the burden (Harlow et al 2011:80). While all the press releases depicted steps taken by BP, none appear to portray that BP was responsible for the disaster.

According to Merry (2014:160), BP did not clearly admit fault for causing the blow-out though it accepted the accountability for mitigating the disaster and reimbursing the victims. The strategy was surely chosen to avoid responsibility in the press and in judiciary procedures. Mehta (2012: 43) analysed 72 BP press releases, 55 newspaper articles from national and local papers, and five commercials between April 20, 2010, and July 15, 2010. She states that BP used a mix of image restoration strategies, with corrective action being the most aggressive. BP used that in 52 of the 72 press releases. In addition, corrective action was used in every BP commercial examined. This was intended to change the negative view towards the organisation (Mehta 2012: 44). BP also tried to “reduce the offensiveness” by portraying commitment for restoration, compensation and research activities. The strategy least used was *denial*. According to Mehta (2014: 45), it appears only in three of the 72 press releases. Due to the strong scientific evidence, it was not feasible for BP to deny its involvement. Its commercials also used multi image restoration strategy, a mixture of corrective action and mortification.

Tyson (2013: 17) also analysed the content of BP news releases from April 20, 2010 to July 15, 2010 to find BP’s strategy. The research pointed that 72 of the 78 BP press releases contained contact information. However, the contact address in 63 releases was that of BP’s press office in London. Contact information for their Houston office was only given in three of their releases. BP’s Deep Water Horizon Response Website at [www.deepwaterhorizonresponse.com](http://www.deepwaterhorizonresponse.com) was on 62.8% (49 in total) of the news releases. The United States Coast Guard was another contact printed in four of the releases and a Joint Info Center which was a combined effort from the government and BP was cited in 38 articles or 48.7% of the time. Locations for these offices were not provided in these news releases. BP was not mentioned in 53.8% title of its press re-

leases; it was mentioned positively in 28.2% (in 22 total articles) of the releases; neutrally in 13 articles (16.7%); and negatively in only one (Tyson 2013: 26). BP's predominant strategy was corrective action in a way that the organisation was explaining their plan to solve the problem. Another attempt was stressing good qualities over negative (Tyson 2013: 27-29). Another group of researchers examined BP's 126 news releases and 1376 news articles by US papers and 2355 articles by UK media. They analysed the content using agenda-setting and strategic framing. Their findings suggested that while the White House received 56 per cent coverage in American papers and 37 per cent coverage in UK newspapers, BP press releases only mentioned it in 26 per cent of its articles (Tyson 2013: 8).

**The Situational Crisis Communication Theory** was analysed in Maresh and Williams (2012) research. The overall perception was that BP plants were "unsafe and ill-supervised" (Maresh and Williams 2012). BP failed in providing comfort to the audience. It already had a poor environmental track record. Despite repeated attempts, instances of the past had already coloured public opinion. BP was facing reputational threats due to the 2005 Texas refinery disaster and similar incidents. BP tried to emphasise on the positive actions. It took the help of social network to initiate a dialogue with the public and tried to create "an image of transparency" through press releases. The strategy played a positive role in managing the volume of complaints that poured (Muralidharan, Dillistone & Shin 2011: 231). A study was carried out by analysing the content by selecting tweets randomly generated by BP\_America and @BP\_America between May 2, 2010 and January 15, 2012. It states that 80 per cent of the tweets by BP were restoration strategies. 42 per cent of the tweets had corrective action about the technical measures being taken by BP to stop the spill and clean the oil. Read (2011:156-158) on the other hand presents a completely different picture of BP's communication response. He praises BP for employing EPA's "Seven Cardinal Rules of Risk Communication":

1. Accept and involve the public as a legitimate partner
2. Plan carefully and evaluate your efforts
3. Listen to public's specific concerns
4. Be honest, frank and open
5. Coordinate and collaborate with other credible sources
6. Mark the needs of the media

## 7. Speak clearly and with compassion

According to Read, BP satisfied all the above criteria better than any other modern transgressor. It also allowed a transparent media access. Read stated that public relations gaffes instead “portend to cultural differences” (Read 2011: 157). He agreed that BP’s goodwill took a hit and could take a few years to be restored so long as there are no further accidents. However, as part of regaining trust, BP collaborated with its stakeholders. It tried to reassure them regarding the crisis. BP conducted various workshops in London, Washington DC, New Orleans, Rio de Janeiro, etc. to find what was expected of BP’s sustainability reporting. More than 40 stakeholders representing non-governmental organisations and community groups as well as academics, policymakers and investors took part in those workshops. BP’s corporate culture, plans, policies, processes and performance were discussed at length. BP additionally used a specialist market intelligence search engine to identify trends in public opinion and evaluate their potential in affecting company’s reputation (Mejri and Wolf 2013: 53).

### **BP’s Public Relations Campaign**

As part of repairing its reputation, BP launched a public relations campaign. The company started running apologetic ads with Hayward apologising and taking full responsibility for cleaning up the spill. The company also launched a print ads campaign and spent almost \$93 million on advertising between April and July 2010. BP also started its Gulf of Mexico Response Web site. The website designed in bright yellow and green colours of BP logo carried variety of formats, including time lines, pictures, videos, and maps. Information on claims, contact numbers, and a link to BP’s internal investigation was provided. BP spent nearly \$1 Million a month between Google AdWords and YouTube advertising and purchased a number of search terms in order to direct internet users’ search queries about the Gulf oil spill to the BP site where clean-up efforts are exposed (Mejri and Wolf 2013: 54). As someone would type “oil spill” into her Internet browser, the first item to pop up was BP’s Web site with the tagline: “Learn more about how BP is helping” (Yousuf 2010). The Web site states how BP’s efforts led ballooning of volunteers from 2,000 during the initial period to more than 45,000 in July. The height of BP’s work came the week of July 13, it mobilised 46,000 people, 6,850 vessels, and 117 aircraft and deployed more than 3.4 million feet of boom. By the end of August, there were approximately 21,000

people, 3,000 vessels, and 61 aircraft and 1.8 million feet of boom deployed. By December 2, the numbers were just 6,000 people, 445 vessels, and 11 aircraft. By early June, BP's \$50 million ad campaign to show what it was doing to "make this right" was being derided as cynical even by President Obama (Steffy 2010: 188). The campaign was not received well by stakeholders as well as the administration, who considered that the money should have been spent on clean-up efforts and on compensating victims (Mejri and Wolf 2013: 52).

Another set of researchers, Hall et al. (2012) criticised the use of technical jargon while analysing the contents on BP website. They also stated that there was a "definite lack of aesthetic appeal". They reported that there was a lack of compassionate storytelling. There was miscommunication, mistrust and missteps in BP's crisis communication. Usage of technical jargon revealed that the target audience did not appear to be the general American population. BP seemed to be in the mode of self-justification. Thus, BP's corporate image was massively damaged. BP failed in employing strategies that could have indicated more responsibility on the part of BP and a genuine concern towards those affected by the crisis. It instead focused on science and technology and technical details rather than people, environment and damage to industry.



**Figure 37: Satirical Representation of BP's Advertisement Campaign**

Source: Kurtzman (2016)

### **BP's claims in Media**

By 2014, BP insisted that most of the leaked crude oil was either dissolved or evaporated before it even reached land. BP also kept stating that the oil did not settle down on the ocean floor. In October 2014, *Politico* published a piece written by BP Senior Vice President of Communications Geoff Morrell, "No, BP Didn't Ruin the Gulf". Morells (2014) insisted that there were natural oil seeps that released up to six Exxon Valdez spills in the Gulf each year, and microbes in the region had adapted over time to feast on oil. He also claimed that as the disaster took place in deep water in a temperate climate and around 40 miles from shore. Thus, most of the oil dissolved, evaporated, or was physically removed due to BP's efforts before it could make a landfall. Juhasz responded to that article stating facts that as much as 30 million barrels stayed behind. She observed that microbes ate the oil. However, what was left behind was the most toxic part of oil they did not want to eat. That part remained on the bottom of the ocean floor (Juhasz 2015). In addition, dispersant Corexit kept the microbes away that could have eaten more oil. She also quoted Dr. Joye's research that the microbes were long done eating. "So, what's left is going to be there forever, because the bottom of the ocean is cold and dark. It's a refrigerator. It's a naturally preserving environment. So that most toxic part of the oil and the Corexit is now a permanent feature of the Gulf of Mexico and continuing to cause harm permanently, as well" (Juhasz 2015). She further added that the response to the disaster did not appreciate the significance of the cycle of life that exists from the bottom of the ocean to the top of the ocean to us. Thus, little creatures like tube worms that are supposed to live on the bottom of the ocean were not there anymore as a result of the spill. These worms facilitate break down of food particles that provide food for phytoplankton. "Phytoplankton provides 50 per cent of the oxygen on the Earth. So if it does not have food and can't live, then we can't live, either" (Juhasz 2015).

### **Environmental Groups Response**

In a normal scenario, environmental issues tend to get less salience than the state of economy (Merry 2014: 10). However, the 2010 blowout offered numerous opportunities to the environmental groups for blame attribution. Schattschneider said that those on the losing side of the debate often had interest bringing in more participants who were sympathetic to the disadvantaged side (Schattschneider 1960). These participants engaged in "frame extension" (Merry 2014: 51), whereby they took on new is-

sues on already accepted problem definitions to increase the chances that new claims would be validated. Environmental groups as part of their responses mentioned America's "addiction to oil" nearly as much as they mentioned BP. They purposely highlighted the systemic problems that stayed with extracting oil and made a case for policy change. A blog post by the National Audubon Society stated, "We have to re think our use of petroleum. We're all guilty. We want low-priced petroleum and we want a lot of it. There's a cost to that". This "addiction to oil" storyline was pre conceived and active even before the blowout. This theme blamed not just BP but the entire oil industry for "ratchet(ing) up profits and leaving the people to comb the beaches looking for oil slicked birds and turtles". The entire industry was blamed for lack of response capabilities. "It is a classic story of profit chasing over safety." (Merry 2014: 38) The idea was to propagate a shift in the energy policy toward renewable resources and shunning fossil fuels rather than aiming for small regulatory changes. At the beginning of the disaster the groups did not target BP. BP was not in the radar prior to the spill. Thus, the groups did not have general accusations ready to direct at the BP. Moreover, the groups wanted to avoid the "one bad apple" explanation which would lead only to corrective action such as fines and increased oversight. The aim was to gear up for systemic policy change. Thus, groups made it a point to club BP with other oil companies propagating the idea that the fault was related to the industry.

BP was targeted regarding workers safety and environmental protection. Additionally, organisations such as the League of Conservation Voters, Sierra Club, Nature Conservancy etc. in their press releases and blog posts directed attention to BP's containment and clean-up operation and criticised the organisation for spraying dispersants, burning sea turtles alive while burning oil, not providing adequate safety equipment to clean-up workers and for various failed attempts to stop the flow of oil. The responses from the environment groups implied corporation's responsibility in causing and its inability to manage the disaster. Organisations like the Louisiana Bucket brigade protested against chemicals the clean-up workers were exposed to. The organisation volunteers reportedly spoke to medical professionals stationed in the medical tent within the BP zone in Grand Isle, Louisiana. According to them, a nurse who was officially deployed to assist workers and others if they experienced health problems from the spill revealed that "BP officials took away her medical equipment such as suture stitching materials etc. and she was left with only aspirin and band aids." BP was reportedly running its own Emergency Medical Service where the sick would be taken

and not to the parish emergency centre” (Interview with Anne Rolfes 2015). She testified in the Congress that BP had vested interest in minimising health concerns and the company was controlling medical records and information.

A press release by Sierra Club stated, “BP made this mess and they need to clean it up” (Sierra Club, May 13, 2010). The groups also targeted BP for operating without adequate response plans. Along with this, groups such as Friends of the Earth blamed the spill on politics and members of Congress “who are too easily swayed by the dirty oil dollars”. “The money has corrupted the democratic process and perpetuated our dependence on oil, making new spills more likely (Merry 2014: 28). Whenever the groups blamed the MMS, they highlighted the inherent tension between agency’s conflicting goal in generating revenue and engaging in regulatory oversight emphasising the need for sweeping reforms. Federal administration was blamed for allowing exploration in sensitive ecosystem and deep waters and in failing to develop a cogent response to the spill. Organisations such as the Mobile Baykeeper and Public Employees for Environmental Responsibility (PEER) exhorted the Obama administration to maintain transparency, carry out monitoring and caution in implementing crisis clean-up solutions that could make the situation worse, such as controlled burns and chemical dispersants. PEER also filed a legal petition with the FDA asking the agency to test seafood chemically for dispersants before declaring the seafood safe. FDA without conducting any such tests for dispersants had claimed that the seafood was safe for consumption (Juhasz 2011: 175). PEER testified in Congress that FDA needed to conduct additional studies to reaffirm that dispersants did not accumulate in tissues of fish and shellfish. The Louisiana Bucket Brigade (LABB) organisation that works with communities affected by the petrochemical industry and trains them to monitor the quality of air and water in those areas. LABB was founded in response to inadequate regulation, oversight, and enforcement of the industry by state EPAs and other government agencies. LABB asked the residents of the Gulf Coast to report fisherman out of work, endangered wildlife, and oil on shore, oil sheens, health impacts and other problems using a new tool known as the Oil Spill Crisis Map. The Oil Spill Crisis Map created in partnership with Tulane University Disaster Resilience Leadership Academy compiled and mapped eyewitness accounts of the oil’s effects in real time. It visualised reports made via texts, emails, tweets and the web on the effects of the spill across time and geography (Nienaber 2011). Several people posted

anonymous reports on health issues on LABB website. Yet, the groups did not target the federal government as much as BP and oil companies in general.



**Figure 38: Oil Crisis Map**

Source: Meier (2010)

Nonetheless, the investigations that brought out corrupt practices in the MMS drew responses. Earth justice wrote in a blog post on July 22, “This pollution tragedy exposed serious gaps in America’s regulatory system. It has failed to protect the environment, the wildlife and the public from harm” (Earth Justice 2010). Several blog posts criticised federal government’s slow response, allowing the usage of dispersants as well as “falsely” claiming that all the oil was gone from the gulf waters. Merry (2014: 41) points out that interest groups did not criticise the federal government so much as the goal of these organisations was to get the climate change legislation passed. Moreover, the groups consider Democrats as more environment friendly than the Republicans. Thus, despite the fact that the Obama administration gave a go ahead to expand offshore drilling across the Atlantic coastline and on the north coast of Alaska, groups were reluctant to blame the administration fearing they will lose access to decision makers in Washington.

A few NGOs came under scanner for their relationship with the oil industry. BP reportedly donated \$10 million dollars to Nature Conservancy over the years. BP antic-



ipated that maintaining relations with NGOs will give legitimacy to its environmental discourse. BP also had a seat on Nature Conservancy's International Leadership Council. After the spill, members of the council started to question the partnership and called to review it. Conservation International, another BP partner on a number of projects and which accepted \$2 million in donations from BP over the years, announced that it was reassigning its ties to the oil company in the wake of the spill (Mejri and Wolf 2013: 52).

### **Interest Groups and Public Participation in Government Schemes**

The spill saw a heightened public involvement. BP earmarked \$1 billion compensation for early restoration work. National Oceanic and Atmospheric Administration (NOAA) and the National Resource Damage Assessment (NRDA) chalked out ways to consult the Gulf residents for input on ways to use the restoration fund. There were eleven NRDA public hearings in the five Gulf States and Washington, DC in 2011 (Gassman 2012: 20). More than 500 community members who attended the meetings expressed concern for wildlife and fisheries and expressed the need for the funds to be used for recreational opportunities and restoration of barrier islands, etc. The residents also used those meetings to raise awareness and communicate with the government. However, according to the critics such measures are "narrow" as people get limited time to understand the technical or policy issues (Kinsella 2004). It was stated that information should be made available ahead of time so that people have a better understanding of the issues and are able to push for directed and effective response.

People also participated in NOAA activities as volunteers for cleaning the beach and reporting affected wildlife. Many in the region became involved in monitoring the beaches. Volunteer Field Observer Program was created to keep a tab on whether the oil was coming ashore, the location of the oil and its impact (Juhasz 2011: 137). There are other organisations like the Gulf Future Coalition that have membership from 46 groups, including state, local and national environmental initiatives. The aim of the organisation is to provide support for protecting the environment. It wants to protect the distinct culture of the Gulf Coast for future generations as well as working to ensure government commitment to the economic and environmental well-being of coastal communities (Gassman 2012: 19). It published a report "Sunshine on the Gulf: The Case for Transparency in Restoration Project Selection". The report noted the need for a systematic project selection methodology to ensure a sustainable environ-

mental and community restoration. Moreover, the projects needed to take constant input and response from the people and support local groups while hiring and contracting, develop a committed work force. It also demanded creation of Citizen Advisory Committees.

Citizens are the worst affected by the spill. Thus, it is important that voices of fishers, conservation and environmental activists, socially vulnerable and affected community find way in policy making along with business groups, research scientists etc. Groups have also testified about the spill in the Congress. Brenda Dardar Robichaux, principal chief of the United Houma Nation, termed the spill as an existential issue for the residents:

*“The medicines we use to prevent illnesses and heal our sick, the places our ancestors are laid to rest, the fish, shrimp, crabs and oysters our people harvest, our traditional stories and the language we speak are all tied to these lands inextricably... the spill looms as a death threat to our culture as we know it.”* (As quoted by Juhasz 2011: 89)

### **Policy Solutions Following Disaster**

A report published by the Center for American Progress and Oxfam America stressed the need for citizen driven solutions in the region, especially for the African Americans. The Gulf coast contains 30 per cent of the African Americans who are represented broadly in the oil-and-gas and fishing workforce along the coast. Latinos and Asians comprise about 4 per cent and 1 per cent, respectively, of each state’s population, and are strongly represented in the offshore drilling, seafood, and tourism industries. Native American groups in the region average only 0.7 per cent of the overall population, but these communities are also heavily engaged in the tourism and aqua cultural industries (Agbede 2011). The report indicated that investing in wetlands and coastal restoration would create nearly six times as many jobs as investments in oil and gas. It also argued that the region was economically underdeveloped as a result of its dependence on extractive industries and would fare far better if natural resources were developed, not depleted. Agbede (2011) writes that the findings stressed on the need for strong renewable energy development in areas where the region holds substantial potential, such as hydropower, biodiesel, solar, and wind energy. Notably, between 1930 and 1950 there were a lot of solar water heaters in Florida and several farms had wind energy. The renewable energy suffered a setback as oil exploration sped up. It is returning now. In the Paris Climate talks the push towards Clean Energy

was visible. US solar installation hit a new yearly high in 2015. EIA expects total renewables used in the electric power sector to increase by 8.7% in 2016 and by 6.5% in 2017. Forecast hydropower generation in the electric power sector increases by 5.4% in 2016 and by 2.8% in 2017. Renewables other than hydropower are projected to grow by 11.5% in 2016 and by 9.5% in 2017 (EIA 2016). The clean energy tide would work from the bottom to create innovative opportunities for the region, leading to healthy job growth in new and existing sectors. The only issue is that alternative energy as of now was more expensive than fossil fuels.

There have been voices demanding ending subsidies for oil and gas industries (Merry 2014: 77-79). There are calls for banning drilling in specific locations such as the Arctic, areas off Eastern Gulf of Mexico and areas off the Atlantic Coast. Groups have demanded punishment for companies responsible for spill, levying costs on BP and others as well as ending federal contracts. They have urged government reforms, restructuring agencies such as the MMS, ending corruption and ensuring enforcement of existing laws. Environment groups are calling for enacting new regulations in terms of oil and gas activities and stronger punishments such as ending the \$75 million dollar cap on liability. Additionally the groups demand greater transparency from BP and the federal government regarding the spill. There are several proposals pertaining to long term restoration in the Gulf.

The environmental groups and media brought out the need for policy consideration regarding offshore drilling. A general lack of cohesion among the environmental groups, nonetheless, weakened their political clout. Merry (2014: 142) cites Kingdon's theory that political clout depends on convincing officials that there is "one voice". The interest groups showed incredible diversity in blame attributions and policy proposals. In her study involving 33 organisations, Merry (2014: 143) found 20 targets of blame, each of which subjected to range of accusations. The spill was the fault of multiple actors including the BP, Halliburton, Transocean, the MMS and nation's larger dependence on oil. However, spreading the blame and range and number of solutions might have worked against the groups' advocacy efforts. Too many solutions often prevent any one of them from being enacted especially as policy makers are overwhelmed with the complexity of issues. Additionally the "oil addiction frame" actually put the blame not on oil industry, a particular company or government policies but on consumer demand and the solution thus lay with environment friendly consumer choices rather than legislative changes. Media has also been blamed for not

covering the issues with oil exploration. “We still haven’t learnt our lessons in addressing the complications and the issues with the Deepwater Exploration.” (Interview with Mark Schleifstein 2015)

It would be unfair to deduct that the media, environmental groups and public participation had no impact whatsoever. As discussed in earlier chapters, focusing events might not necessarily lead to policy change. However, they can have a range of more subtle effects. Media, interest groups and public opinion have worked together to influence and change policy regarding coastal restoration and offshore drilling. Through constant community action and increased cooperation between individuals, governments and corporations, there is hope for more sustainably based society. Communities recovering from disasters could prove to be the leading models in their efforts to restore ecosystems. Grass-root Organisations such as Mobile Baykeepers, the STEPS Coalition, shrimpers and fishers associations are experienced and can offer innovative solutions. Locally based organisations are the vehicles for information dissemination. Recent years have witnessed the involvement of local citizens in preparing, adopting and revising disaster management plans like never before. Exxon spill led to setting up of the RCACs which look at prevention and effective response to future environmental and community damage from offshore operations. These give citizens an advisory voice and appropriate, agreed-on practical roles in current response and future prevention, response planning, and environmental monitoring.

The strong criticism levelled against use of dispersants led to the issue being dealt with more sincerity. The arguments against the government agencies brought out in open the issues of corruption, nepotism and finances. The spill and the resulting discourse will prove to be a learning experience for issue framing in future oil spills. The repetition of causal stories strengthens a particular kind of blame attribution strengthening the need for change in particular policy areas. It was the effort of activists and public opinion that 80 per cent of the BP’s civil and administrative penalties for the spill under the Clean Water Act was directed to the Gulf for the economic and natural recovery of the region under the RESTORE Act. In addition the administration also took several steps to off limit the Atlantic and the Pacific coasts to new lease sales. These policy impacts came about in 2012 and 2013 suggesting that the window of opportunity remained open for a long term.

## Conclusion

On April 2010, an explosion tore through the Deepwater Horizon drilling rig in the Gulf of Mexico unleashing a human, economic and environmental disaster the effects of which continue till date. Eleven crew workers died and many got injured as the rig caught fire. In the subsequent days oil began gushing uncontrollably, making a land-fall along the coast and threatening the already compromised habitat of the region. The spill affected the shores of Louisiana, Florida, Mississippi, Texas and Alabama. Over a period of 86 days till the well was sealed, 4.9 million barrels of oil spewed in the ocean with grave impact on wildlife, habitat, beaches and communities. The blowout invited intense media and public scrutiny. The sequence of events shook public faith in the energy industry for the time being. The government agencies were lambasted for their inability to regulate the industry and respond to the disaster. Many considered that the “sticky, visceral” (Walsh 2010) disaster would finally expose the true cost of energy dependence. Like previous disasters such as the 1998 Exxon Valdez or the 1969 Santa Barbara spill had prompted policy change so will the Gulf spill. Nevertheless, the disaster failed in bringing about a major reform in the existing regulatory mechanism. The response from stakeholders followed a historical pattern of no dramatic change in the American policy making.

According to the available public policy literature, democracies have a tendency to promote slow changes. States do not want major political shift in a short period of time. Rather, policy making is a step by step process with new policies building upon existing policies. This stems from the notion that decision makers may not know the outcome of a particular policy. A step by step change in policy gives chance for “back peddling” in case the new policy fails to bring the desired results. Nonetheless, this incrementalism gets challenged in case of shocks or crises prompting a change in the status quo. A crisis situation has the potential to open a “window of opportunity” to trigger policy change. There is willingness and even a certain amount of pressure from the other parties to learn from the shortcomings and improve upon a policy. These can result in “punctuated equilibrium”— the long periods of stability, scattered

by large but less frequent changes. For altering the existing policy, three criteria need to be satisfied—a problem, a feasible solution at hand and an appropriate political climate supporting change. While these are necessary, they are not a sure shot way to initiate changes in the existing policy. Following the 2010 blowout, President and other policy makers promised changes. Obama went on record stating, “It is time to embrace clean energy now”. However, in the last six years there has hardly been any change in the regulative policy. John Kingdon, a specialist in American policy, has explained that “policy windows” open and close unexpectedly. A crisis or a focusing event gets instant coverage but passes away from the scene quickly. The 2010 blowout was a long duration disaster but ultimately resulted in fading of interest (Merry 2014: 139).

The rationale of the study was to analyse the policy responses of stakeholders involved in the disaster along with looking at the success and failure in the policy process. The research had a special focus on the state of Louisiana, the hub of offshore drilling and the area worst affected area of the spill. The study concentrated on the responses of diverse groups of political actors, such as the Government, citizens, organised interest groups and private sector that have crucial stakes in the outcome of disasters. It analysed federal and state governments’ position before and after the spill and examined industry’s attempt, especially that of BP, to rebuild reputation and shift out media attention. The spill sparked an intense debate on developing, managing and policing the use of technology to prevent similar incidents in future. The research looked at how much of those technologies have been put to use. The dissertation also studied public opinion on government action and the complex trade-offs that often existed between economic and environmental gains.

After examining the available source material, primary and secondary, and conducting interviews with various stakeholders, the following hypotheses were tested.

- **American Federal structure and statutory provisions were a bottleneck in quickly responding to the 2010 Gulf of Mexico Oil Spill**

The federal government was termed responsible for lacking in a framework to manage oil and gas activities. The government holds exclusive power to regulate and lease oil lands outside the three nautical mile territorial limit of the state. Gulf of Mexico is a significant source of financial revenue for the federal government. More than 90 per cent of the offshore lease payments are generated in the Gulf region. With such a

huge economic incentive, the government is motivated to promote oil exploration in the region. Safety drilling is a central aspect of the offshore drilling and exploration. The federal agencies are charged with the responsibility of oversight. However, the investigations in the aftermath of the disaster establish that poor funding, manning and training of the regulatory agencies— MMS and USCG, failed to enforce regulations. The MMS was not equipped technically and financially to regulate offshore drilling. The USCG was overloaded with responsibilities. Both the agencies were under-resourced and had to rely on approaches that were out-dated to safety regulation. The primary bottleneck in the federal response was the intergovernmental conflict. The state governments, especially Louisiana, blamed the federal response for being slow, confused and working independently without any consultation. It was alleged that even as the responsibility lay with the US Coast Guard, BP was technically leading the response effort. Another logjam was the confusion over the regulatory regime in place. The states were confused whether the federal government would apply the National Contingency Plan or the Stafford Act to deal with the blowout. The federal government chose to act through the NCP so that the public could seek compensation from the oil company and their contractors and not the federal government. In case of disaster declaration under the Stafford Act, a major portion of spill response and recovery cost would be borne by the federal government. The federal government instead proceeded for a federally-led response with the NCP. This led to uncertainty regarding the devolution of disaster management responsibility between states and the federal government. The local authorities acted independently without NCP guidelines. Many purchased their own equipment and created disaster management organisations. Several private organisations also rushed to manage the chaos without any regard for the NCP. Such confusion was not new as the past decade had witnessed substantial funding from federal to state government along with considerable federal activism in handling disasters.

Thus, the first hypothesis that the federal structure and the statutory provisions were a bottleneck in quickly responding to the 2010 Gulf of Mexico oil spill stands vindicated.

- **Societal responses were instrumental in altering the lukewarm reaction of the US government and the oil Industry.**

In the past, the public opinion and the response of environmental groups have had a bearing on federal government's response to the disasters. Torrey Canyon Spill, Cuyahoga river disaster, Santa Barbara oil spill and the Exxon Valdez spill led to public outcry and strengthened the position of environmental groups prompting the government to take action. After the 2010 disaster, the salience of the issue in public imagination was uncharacteristic. There was a renewed interest in environmental protection. The impact was largely felt on fishery and tourism—the mainstays of the Gulf economy. This led to clarion call for change in the existing regulatory mechanism of the government.

The research reveals that BP and the administration initially sought to downplay the size of the spill and its effects. After intense public gaze on the disaster, the administration grew more serious to tackle the disaster. In order to “prevent and mitigate the impact of any future spills resulting from offshore drilling” (White House Press Release 2010), the administration formed an Oil Spill Commission. The Commission's report blamed BP for non-preparedness and failing to employ prevention and crisis management system in place. It stated that BP should have been more transparent in providing information and tackling the crisis that might have helped people to cope with the crisis. BP was blamed for bad decision making, ensuring profit over safety, and not having a functional safety culture in place. There were numerous federal indictments of BP for corporate violation of federal regulatory laws. The administration also conducted restructuring of the MMS. The MMS was reorganised into BOEM and BSEE. BOEM is tasked with managing development of the offshore resources in an environmentally and economically responsible way. The BSEE enforces safety and environmental regulations. Despite these policy innovations, changes have been slow. The restructured MMS units remained under one overarching Department, the BOEMRE. In addition, public opinion still revealed partisan cleavages in environment valuation. A few months after the spill, even as the oil was still on the beaches and clean-up work was going on, more than 50 per cent of the people in a poll approved of offshore oil exploration (NBC News Poll May 2010). Economic security and energy development won over the need for bringing about a change in policy. The Gulf region also did not want any long term disruption of exploration due to royalties and employment.



The blowout had the potential to lead to a concrete environmental policy but presence of more pressing concerns prevented it from doing so. The environmentalist movement was feeble and disparate. There was no institutionalised response. The fragmented responses of different groups could not present a strident front against BP and the federal agencies. Notably, groups such as the Sierra Club, Earth Justice, Louisiana Environmental Action Network and Gulf Restoration Network used litigation against inefficient and untimely response of the government to the disaster. Courts did hear all kinds of arguments but the judgements could hardly lead to any positive influence on the governmental policies on the oil spill management in the Gulf of Mexico. Many organisations such as Bayou Interfaith Shared Community Organising, Mobile Baykeepers, the STEPS Coalition and the various shrimpers and fishers associations were well positioned to offer grass-root solutions but had little effect on the policy processes. The absence of a unified, vocal environmental interest group response, short public memory and intense lobbying from the oil industry worked against prioritisation of the Oil Spill disaster in the US Congress. Despite numerous Congressional hearings since the event, by 2016 only RESTORE Act was passed. Two major bills—the Consolidated Land Energy and Aquatic Resources (CLEAR) Act in the House and the Clean Energy Jobs and Oil Company Accountability Act in the Senate which could have had a bearing on the drilling safety standard and removal of the liability cap were introduced but not passed.

Thus, the above hypothesis stands vindicated because societal responses did gear up the government to address the issue. The initial spurt of modest innovation and reform, indeed, paved the way towards incremental changes.

- **While apparently seeking to assuage the popular reaction to the oil spill, the government protected the interest of the oil industry.**

The research points out how the disaster was a result of risk taking and profit maximisation on part of the government and industry. The government failed in its regulatory role for years but continued to work with the industry on expanding the offshore drilling. The response of the blowout brings out the state-corporate partnership that did not allow any major policy change to take shape.

To stop the blowout, the administration fostered partnership with BP. While BP covered all economic damages, paid fines and facilitated claims, Obama allowed BP to continue generating revenue from the sale of Gulf oil. It was stated that BP's bank-

ruptcy would hinder the response process and a strong BP was required to pay liabilities. As part of the clean-up operation, dispersants were applied at the surface and at the subsea level with government's approval. Dispersants reportedly increased the toxicity of the spilled oil and had a negative impact on the health of clean-up workers as well as the entire food chain. Oil is still present on the deep sea floor and there are on-going researches to study its effects on the sea life.

The present research has found that the federal government apparently imposed restrictions on accessing clean-up operations in the beaches and airspace to limit public visibility of the spill. In several areas, media blockade was reportedly imposed by government law enforcement agencies as well as private guards hired by BP. Critics were also of the view that the temporary moratorium issued by the federal government was symbolic at best as it only affected the new sales. Moreover, the ban was fictitious as new sales continued to be issued (Merry 2014: 141). However, it should be noted that the administration took steps to ensure that BP provided adequate compensation to the Gulf Coast communities and pushed for inclusion of RESTORE Act that allocated 80 per cent of BP's civil penalties to the affected Gulf Coast states to be used for environmental restoration and economic recovery of the region. According to analysts, the changes allowed the government to bolster its position, deflect criticism while putting aside any regulatory reform that could have hindered the interests of the industry. According to Kingdon, the policy window often closes if there is a perception that the problem has been solved. The administration's "first step" (Rosenbaum 2015:9) created a sense that attempts were made to deal with the disaster and prevent a future one.

According to the research findings, the above hypothesis that the government protected the interest of the oil industry has been vindicated.

### **No Policy Change**

The present researcher reaches the conclusion that the "window of opportunity" could not be translated into relevant policy changes. With so many stakeholders— interest groups, political parties and federal and state governments— involved in policy debate, each side defended its own agenda resulting in "issue polarisation". During 1970s and 80s there was a bipartisan support to address environmental issues that aided passing of the Clean Air Act, Clean Water Act and the Oil Pollution Act in the 1990s. However, at present the environment issues face strong and organised opposi-

tion from business interests and the Republican Party. Democratic Party on its part is more inclined to support conservation. Yet, Democrats belonging to the Gulf region, like Democrat Senator Mary Landrieu from Louisiana, appeared to have had a propensity to value economics and employment more than the environment. She urged the administration to drop the moratorium stating “it could cost more jobs than the spill itself.”

The national agenda influenced by economic considerations clearly failed to implement measures with stronger federal oversight. Congress did little to improve safety and environmental protection. It did not even increase the \$75 million oil spill liability limit. The clean-up cost for the Deepwater exceeded \$14 billion. While BP voluntarily excluded itself from the cap, it opened up a possibility that another company could choose not to do so in future. BP worked closely with the federal government to respond to the disaster and restoration efforts. Lack of policy change could allow others in the industry to follow Exxon’s example rather than BP while dealing with liability issues. In 1989 Exxon sued the federal government claiming that Congress cannot pass laws specifically directed at one legal individual. While the appeal was denied, Exxon fought almost every fine and succeeded in reducing the 5 billion punitive damages awarded by an Alaskan jury to mere \$507.5 million plus 5.9 per cent interest (Reuters 2009). With low liability and financial responsibility standards, a significant number of injuries, natural resource damages and government response costs tended to go uncompensated.

On their part, the government and the industry claimed to have made progress with the offshore safety. The industry insisted that safety had become a priority. There was improvement in technology with focus on clean-up. Bigger and more effective barges with greater boom deployment were created (Oil and Gas Investor Report 2015). However, figures state otherwise. Number of accidents and injuries per oil producing well went up about 7 per cent in the region. There were warnings regarding another potential blowout. The industry and government embarked on developing petroleum resources in deeper areas with increased risks. Offshore drilling expanded in the Gulf of Mexico, the Beaufort, Chukchi seas and the Cook Inlet. Between 2006 and 2012, number of rigs drilling in 900 metres of water or deeper increased from 43 per cent to 146 with many more under construction. In Chukchi Sea, Kullu drill rig grounded off after the failure of the oil spill containment dome. The study showed that neither the

government nor the industry demonstrated that the risks associated with an uncontrolled blowout could be controlled.

The 2010 Deepwater Horizon was a high profile event and received a subsequent amount of coverage. However, day to day pollution associated with offshore drilling had been ignored for long. Since drilling began in the region in 1940s, 27,000 oil wells on the sea floor were abandoned. BP alone dumped about 600 wells in the Gulf (Don and Weiss 2010). Many of these wells were inadequately plugged. Well sealing technology used cement for plugging which could crack and shrink with time, exposure to sea water and underground pressure. There was no practice of looking methodically for leaks, which could not be detected easily from the surface. At the time when the disaster was on-going, wells damaged from hurricanes showed chronic leaks. In the last six years, since the well was capped, at least 9800 spills of crude were recorded. These individual spills were small and did not garner much attention but the cumulative impact of this chronic pollution deserves its own scrutiny.

Need for energy and development in exploration technology had prompted several countries to venture into deeper waters. BP and other companies were partnering in new Deepwater projects in South China Sea, Hong Kong, Libya etc. Many of these states could not be technologically abled or motivated to deal with a disaster of similar or greater magnitude. Government regulators in the US admitted that they would still depend on the industry and found it hard to keep up with innovations. Several public policy scholars approved that dependency on industry is a desired practice. Privatising commercially attractive federal lands and instituting a strict liability regime for damage to third parties in lieu of regulatory oversight was the only way for reform. This made offshore drilling more expensive. Bigger companies with expertise and reputation were better suited to follow safety rules. Critics, however, were of the opinion that the industry could become complacent again. Lower oil prices could force cost-cutting measures. The hunger for oil could lead to some stakeholders pursuing offshore energy without adequate legal structure, liability laws, and safety mechanisms in place. For Nigerians the efforts to stop the Gulf leak was a big deal because an amount of oil roughly equivalent to the *Exxon Valdez* spill entered the Niger Delta every year and no concrete steps were taken to solve the issue. This affected people's health, contaminated water, destroyed agricultural lands and hurt fishing. In the first week of May 2010, a ruptured ExxonMobil pipeline spilled more than a million gallons into the Niger Delta over seven days. In 2009, a Thai-owned West Atlas

drilling rig caused a blowout in the Montara field in Australian waters. It spewed around 30,000 barrels crude that drifted over 90,000 km to Indonesian waters over 74 days before a relief well plugged it. According to the Australian government, the company's systems and processes were deficient and key personnel lacked basic competence. There was no compliance with the basic safety standards. Indonesia demanded \$2.4 billion in compensation which was rejected by the company. The only way such mishaps could be curbed was to reform the safety rules of offshore and natural gas excursions. The US could take cue from the European Union. The oil and gas companies had to submit emergency response plans and special hazard reports for approval before the EU to begin an offshore operation. They were also required to prove their ability to cover potential liability to the environment and economy of the area within 230 miles of their sites. There were no similar legislative moves in the US till now (Katelyn 2013).

The 2010 disaster rekindled the discussion regarding a gradual retreat from oil. Biofuels were discussed to be one of the alternatives and efforts were being made to make them more financially viable. According to the Brookings institution report, biofuels had the potential to replace 25-70 per cent of US oil consumption by 2025 (David 2007). The Obama administration also promoted research on advance energy technologies, increased public funding for energy R&D to about \$12 billion in 2009, a rise of nearly 200 per cent compared to 2008 funding. (Roach et al 2010: 29). There was a twenty-fold increase in solar electricity generation and three times increase in wind electricity generation. The administration was also working to make solar energy more cost-competitive with traditional energy. There had been attempts to reduce energy waste and deploy more renewable energy. Another alternative was to develop cap and trade policies, carbon tax and gasoline tax. In July 2010, the proposal for a nationwide carbon cap and trade system, Waxman-Markey climate bill was killed in Senate on the grounds that it would lead to rise in energy prices. The cap and trade is a market based mechanism that taxes fuels effectively raising their prices. This could prompt consumers and producers to concentrate on more efficient technology or alternative energy. The dependency on oil cannot be tackled overnight. The world needs a variety of approaches to be followed over an extended period of time in order to create energy policies that are economically profitable and environmentally sustainable.

Disasters do not discriminate between nations— big and powerful or weak and small states; all face natural disasters. Significantly, same is true in case of human induced disasters as well. Public and policy makers do take steps to respond to disasters and try to get more prepared for similar disasters in the future. However, human greed, politics and policy paralysis do come on the way when natural or human induced disasters visit periodically to various regions of the world. Despite being technologically most advanced and economically prosperous, when the oil spill occurred in the Gulf of Mexico, the United States was afflicted with all these limitations. Politics, greed, and short public memory were responsible for inadequate responses by the stakeholders to the disaster and no new initiative or innovative methods of addressing similar problems in the future was taken.

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