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Case Study Report Sample

BP Oil Spill Environmental Case Analysis

Subject: Environmental Studies / Case Analysis | Assignment type: Case study report | Citation style: APA 7 | Academic level: Undergraduate / Graduate-ready

Sample purpose:

This downloadable sample demonstrates how a case-study report can introduce a real-world incident, describe case background, analyze impacts, connect evidence to mitigation concerns, and present a structured academic report.

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What this sample demonstrates:

- Case background framing
- Evidence-supported incident description
- Environmental impact analysis
- Policy and accountability discussion
- Report-style organization
- APA-style reference handling

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Introduction

Green criminology encompasses the study of green crime, harms, injustices, and law; the causes of these harms or crimes; as well as the different living entities or species that are victims of green harms and crimes. Green crimes are classified into four categories namely; water pollution, deforestation, species decline and animal rights, and air pollution (Walby & Gorkoff, 2023). An oil spill can be regarded as a serious green crime and the government, relevant agencies, and policymakers must come together and ensure that all forms of green crimes are averted. An oil spill can cause serious harm to mammals and birds in various ways: toxic contamination, direct physical contact, destruction of habitats and food sources, and reproductive problems (Walby & Gorkoff, 2023). Humans have used oil or petroleum for decades in weapons of war, medicine, and to run industries. However, serious destructive spills have taken place with BP's Deepwater Horizon Oil Spill (2010) being the largest. This discourse will present an analysis of the BP oil spill, the implications of the disaster, and propose mitigation measures

Description of the Case Study

On 20th April 2010, global television networks were interrupted by the chaos and consequences that followed shortly after an explosion of the Deepwater Horizon oil rig in the Gulf of Mexico (Global Citizen, 2023). 11 crew members lost their lives. Additionally, about 3.19 million barrels of toxic oil were pumped out a mile below the surface of the ocean for a record 87 days before the leak was controlled (Global Citizen, 2023). It is worth noting that the BP oil spill was the worst in the history of the United States more so after surpassing the Exxon Valdez oil spill that took place in 1989 which needed about 2 years to clean up the spillage that involved 250, 000 barrels of oil. More than a decade after the 2010 BP oil spill took place, the effects still linger and the recovery has been very slow (Global Citizen, 2023). The coastline and

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gulf marine ecosystems were severely messed up since 35,000 hatchling sea turtles, 80,000 birds, and more than 500 million pounds of oysters were lost. In the largest settlement ever for a company, BP agreed to pay the United States federal government and the states of Alabama, Florida, Louisiana, Texas, and Mississippi a colossal 18.7 billion U.S. dollars for the damages.

Billions of monies were also compensated in the payouts to the private citizens as well as the criminal charge penalties – 12 crimes for failure to divulge information to the U.S. Congress and negligence (Global Citizen, 2023). However, the BP was aware that the damage control was not enough. In the same year that the disaster occurred, the British multinational oil and gas corporation willingly devoted to offering 500 million U.S. dollars to a board of 20 autonomous researchers for a period of 10 years to research the ecosystem and assess the scope of the damage that occurred. Moreover, the Gulf of Mexico Research Initiative pumped a lot of resources into the projects including a study of the physics of the oil droplets and the ways in which the chemicals that are found in the oil impact the sex hormones of the fish (Global Citizen, 2023). Among these projects was also the 'Deepend Consortium' that has a particular intent of pinpointing as well as discovering species that thrive within the Gulf region. It was later determined that there are more than 60 species of fish that were not even known by scientists previously that they live in the region (Global Citizen, 2023).

The Cleanup Efforts

Before the petroleum that leaked from the well was sealed, it formed a slick that extended more than 149, 000 square kilometers of the Gulf of Mexico. In order to clean the oil from the open water, about 1.8 million gallons of dispersants were aerially applied to the slick in order to promote easier metabolism by the bacteria (Scientific American, 2014). After that, booms to the corral portions of the slick were used and then the contained oil burned or siphoned off. By May,

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the oil had started to contaminate beaches in Louisiana and hence was manually removed. However, the state's estuaries and marshes were harder to clean because the topography had become knit together by delicate plant life. The tar and oil balls had made landfall on the beaches of Florida, Alabama, and Mississippi (Scientific American, 2014). The shoreline area that was polluted was 1, 770 km. The National Response Team helped to coordinate the cleanup efforts, a group of government agencies that headed the Environmental Protection Agency and the U.S. Coast Guard. Transocean, BP, and other firms were held liable for the billions of dollars accrued (Scientific American, 2014).

The Aftermath and Implication

Effect on the Marine Species

The main impact of the BP Oils Spill was on marine species. Eight of the national parks in the United States were threatened and more than 400 species that reside in the marshlands and Gulf islands were at risk including the leatherback turtle, hawkbill turtle, and green turtle among others (Vizcarra, 2020). In some of the national refugees with the highest number of endangered species, about 34, 000 birds were counted and 8, 332 species of animals had been affected including 1, 200 fish and 1, 500 crustaceans. Research shows that 4 million barrels are enough to wipe out all the marine life near the leak and other parts of the leak (Vizcarra, 2020). The oil has a direct harmful impact on the fish and the microbes used utilize oxygen and can lead to a significant reduction in the level of oxygen in the water. The ecosystem would need many years to recover from this form of disaster. The damage to the floor of the ocean would also pose a serious danger to the Louisiana pancake batfish specifically the ones its range is usually contained in the area that is affected by the oil spill (Vizcarra, 2020). The Journal Conservation Letters published that the actual number of mammals that have taken place as a result of the spill

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was 50 times more as compared to the number of carcasses that were recovered. The report showed that the damage to the environment was much worse than what was reported.

Evidence was presented on October 22, 2010, about the presence of miles-long strings of weathered oil that was moving toward the marshes on the delta of the Mississippi River. A humongous number of geese and ducks come to this delta to spend the winter there (Vizcarra, 2020). Just two years later from the time the Deepwater exploded, the migratory birds were found to have carried oil toxic chemicals from the oil spills all the way to Minnesota. A sample of the pelican eggs was taken and after being tested, it was found to contain 'petroleum 'compounds and Corexit' (Vizcarra, 2020). By November 2, 2020, about 6, 814 dead animals had been collected, including 100 dolphins and other mammals, 609 sea turtles, 6, 104 birds, and other mammals, as well as 1 reptile. The U.S. Fish and Wildlife Service had not determined the cause of death of these animals. Many dolphins were also found dead with many having premature calves.

The corals also died in large numbers showing how the oil spill adversely impacted the deep-water ecosystem. The crude oil that was being discharged contained 40 percent methane gas by weight as compared to the 5 percent that was found in the oil deposits (Vizcarra, 2020). The impacts of methane are severe as it is known to suffocate marine life and also created dead zones where oxygen levels are cut off. The food chain was also disrupted because the oil dispersants used broke the oil into droplets allowing it to enter the shells of tiny blue crab larvae and other primary consumers in the food chain (Vizcarra, 2020). Zooplankton which are major producers in the marine ecosystem were also affected raising eyebrows on the impacts they would produce in the food chain with time. To make the matter worse, from the carbon isotopic

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evidence, the oil from the disaster was found to have entered the land animals and birds causing a decline in the reproductive success of some of the species (Vizcarra, 2020).

The Effect on the Beaches and Vegetation

The oil affected about 1300 miles of the coastline in the United States around the Gulf of Mexico and severely catalyzed land erosion since it had already caused death of the most of the marsh vegetation. Research that was done in 2012 on the sand in the beaches and marshes that had been contaminated showed a reduction in an array of organisms (Croisant & Sullivan, 2019). The only living organisms that survived were those that could tolerate poor living conditions and also tend to consume hydrocarbons. This had a dramatic adverse effect on the ecosystem and even in the future. The areas were colonized by a high number of fungal species posing many threats to organisms and human beings (Croisant & Sullivan, 2019). Some traces of metals such as arsenic and mercury deposits found in crude oil was also feared to have a devastating impact on humans and wildlife. The use of dispersant was also found to make oil sink more deeply and in a faster way and some studies showed that there was a possibility of the groundwater being contaminated (Croisant & Sullivan, 2019). The oil clean-up exercise also caused damage to the fragile setting. For instance, in Orange Beach Alabama, erosion at the beach and disruption of the animal and plant life cycles continues into the year 2011, in spite of repeated requests by the local officials and mayor to leave the area.

Analysis of the Case and Actions Required

One of the key aspects that come from this oil spill case is the spotlight on the need to have new and enhanced prevention as well as response plans. The BP response plan for the disaster created glaringly obvious issues for the Gulf of Mexico (Lewis & Ricker, 2020). The most noticeable is the part where it discusses the likely effect on the local wildlife which lists

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walruses, seals, and sea lions, none of which are found in the Gulf of Mexico. The Minerals Management Service (MMS) was responsible for the ratification of the 583-page documentation, and the organization is in charge of supervision of how offshore drilling is done (Lewis & Ricker, 2020). Nevertheless, it was found that the document had several issues including the 'worst case discharge' part that utilized an unrealistic optimistic case for the highest spill size and the involvement of the equation for appraising the spill size that underestimates the oil's thickness. When the prevention mechanism fails, response plans are implemented (Lewis & Ricker, 2020). Effective construction of these plans enables the organizations to reduce the damage that is caused to the wildlife, the environment, and the surrounding regions where the oil spillage takes place.

Presently, there is much heavier scrutiny on the oil firms and other companies that work closely with oil corporations in the creation of prevention as well as response plans, and even organizations that ratify this plan. The commission that was tasked to investigate the Minerals Management Service after the spill lacked the technical training and experience in petroleum engineering which is key when it comes to making sure that offshore drilling is done in a responsible and safe way (Lewis & Ricker, 2020). It is also worth noting that for a regulatory agency to fall short of its important safety mission cannot be excused. Just a year after the BP oil spill took place, the Minerals Management Service was rebranded and a new director was appointed. It is currently referred to as the Bureau of Oceans Energy Management, Regulation, and Enforcement, allegedly increased regulations though there is criticism that changes are only superficial and the company is close to individuals to regulate and remain autonomous (Lewis & Ricker, 2020). The previous norms have been readjusted to avert such cases of negligence evidence in the BP oil spill. The exacerbated implications come from the increased awareness of

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the general public on issues of prevention as well as a response when it comes to oil spills and the new benchmarks being set in the sentencing of and other associated parties.

BP has not sufficiently paid for the damage that was caused in the Gulf of Mexico and the surrounding environs and also did a lousy job in terms of taking accountability for its actions. BP first created a cover-up for the events that happened when the oil spillage took place more so the scope of the damage that happened to the environment and only came forward after the truth came out following an investigation into the matter (Zengel et al., 2022). Large corporations such as BP act as if they are above the law or even immune and yet the present regulatory systems allow them to do so. After the company was charged in a court of law, the 4 billion U.S. dollars it was charged with and fines imposed for the green criminal activities were not even a dent to the annual profit the company made in the year 2012 of more than 11.8 billion U.S. dollars and the amount they spent on relief programs was not even included (Zengel et al., 2022). To make the matter worse, only one of the executives in the BP company was charged with a green crime with the possibility of jail time.

If an organization that killed 11 crew members, caused countless loss of marine life and habitat, and forever transformed the makeup of the ecosystem in a negative way is only facing a petty fine and the possibility of one executive member being jailed, then this is a clear message to the other companies in the industry that the implications of messing with the environment are profit maximization with the bare minimum as far as the social and environmental impact is concerned. The company never even attained the required threshold in terms of conforming to environmental regulations (Zengel et al., 2022). The message to the government, therefore, is to act swiftly and establish tighter controls on the companies operating in the oil and gas industry to

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prevent the prospect of such instances ever taking place in the future. We cannot afford to have a similar incident.

Following this incident, the European Union has taken incredible measures to reform its safety rules for offshore natural gas and oil excursions (Zengel et al., 2022). The European Parliament ratified legislation that demands all the organizations that are operating in the oil and gas industry to submit their emergency response plans as well as reports about special hazards for approval before an offshore operation is allowed to commence (Zengel et al., 2022). Additionally, the firms are supposed to issue proof of the capacity to cover potential liability to the economy and environment of the area they are operating in, 230 miles from their sites. Unlike the European Union, the United States has not made the same legislative moves to enhance safety in the oil sector in spite of increased scrutiny (Zengel et al., 2022). Several recommendations were issued by the National Commission on the Deepwater Horizon Oil Spill and Offshore Drilling.

First, the commission proposed boundless responsibility for oil spillage as a deterrent against risky behavior and utilization of 80 percent of the fines imposed from the oil spills towards rehabilitation efforts (Frasier et al., 2020). Second, it recommended an increase in the role of the scientific experts in the United States Coast Guard and National Oceanic and Atmospheric Administration when it comes to the process of decision-making of where the new drilling of oil was supposed to be conducted. The commission demands the government implement worst-case scenarios for the oil companies to use when making their response plans about oil spillage (Frasier et al., 2020). The commission also proposes investments of funds into research and development for cleaning up oil spillage and implementation of new standards for blowout preventers, cementing practices, as well as well design. The 500 million U.S. dollars in

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penalties and fines from Transocean and BP needs to have been pumped into the improvement efforts of oil spill prevention and response efforts via training, education, development, and research as a part of a reform program to avert such cases in the future (Frasier et al., 2020). If the government and oil corporations fail to utilize their funds in efforts to protect the environment, then it means that we have learned nothing from this tragedy.

It is also worth noting that large companies like BP, have robust legal teams that are tasked to exploit loopholes in the law and ensure that companies are exempted from heavy fines and laws imposed significantly reduce the financial impact of such companies to operate. Policies and statutes that surround the liability of large companies for actions that have negative implications on individuals and society must be amended and revised to avert the utilization of loopholes that diminish accountability irrespective of the political clout

Conclusion

In a nutshell, the loss of control that contributed to the well entrance gap can only be described as a serious issue characterized by negligence and demands attention. There is a need for the crew members to be subjected to meticulous training to re-establish control as well as control the existing errors before the occurrence of a disaster. It is also important for the workers to have skills and knowledge in handling dangerous situations for safeguarding the rig, themselves, and, other members of the crew. The disaster created room for scientists and biologists to discuss ways in which oil breakdown takes place on the surface of the ocean. However, the key takeaway is how the amendment of policies and laws that revolve around environmental pollution should be amended and implemented. The perpetrator of such crimes should not just throw cash and go for free, unpunished, and not take accountability. The future of green technology is in our hands, and we can shape or destroy it.

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