

THE CONCEPT OF “POLLUTION DAMAGE” UNDER CLC/FUND’92

by

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ABSTRACT

Pollution of the seas as a result of tanker incidents continues to be a problem worldwide. Most of the tanker incidents cause pollution damage especially in the environment. The pollution damage can be environmental or economic. Some International Conventions provide compensation for victims who suffer oil pollution damage. However, damages can be in various types and only some types of pollution damage can be compensated.

The 1992 Civil Liability and Fund Conventions provide compensation for claimants. In order to obtain compensation, claimants need to submit and prove their claims. Types of pollution damage have also been examined to consider the compensability of them. By this way, victims can be aware of reasonability of claims to obtain compensation.

Turkey has been party to both the 1992 Conventions since 17.08.2001. Implementation of these International Conventions is necessary. The 1992 Civil Liability Convention is based on the strict liability of the shipowner. The 1992 Protocols provide compensation under certain provisions to compensate oil pollution damage. Despite various legal instruments of the national law, provisions for oil pollution incidents under the legal framework of these Protocols should be applied. Claims should be reasonable to be compensable. The criteria have been determined to clarify admissibility of claims by the Fund. A good evaluation of claims is necessary.

ÖZET

Tanker kazaları sonucu deniz kirliliği evrensel bir problem olmaya devam etmektedir. Tanker kazaları çoğunlukla çevresel kirlilik zararı oluşturmaktadır. Kirlilik zararı ekonomik ve evrensel nitelikli olabilir. Bazı uluslararası konvansiyonlar petrol kirliliğinden zarar görenler için tazminat sağlamaktadır. Ancak, çeşitli kirlilik zararlarından bazıları tazmin edilebilir.

1992 Kusursuz Sorumluluk ve Fon Sözleşmeleri, talepte bulunan mağdurlara tazminat sağlayabilecektir. Bu sebeple talepte bulunanlar, taleplerini sunmalı ve ispat etmelidir. Zarar çeşitleri tazmin edilebilirlik açısından incelenmiştir. Bu sayede, mağdurlar, taleplerinin tazmin edilebilir ve makul olduğundan haberdar olabilecektir.

Türkiye her iki 1992 Konvansiyonu'na da 17.08.2001 tarihi itibarıyla taraftır. Bu uluslararası konvansiyonların uygulanması gereklidir. 1992 Kusursuz Sorumluluk Sözleşmesi gemi sahibinin kusursuz sorumluluğunu öngörür. 1992 Protokolleri belirli şartlarda kirlilik zararı için tazminat sağlar. Ulusal hukuk kuralları da bulunmakla birlikte, kazadan sonra oluşan kirlilik zararı için bu Protokoller uygulanmalıdır. Makul talepler tazmin edilebilir. Taleplerin makul olması ile ilgili kriterler Fon tarafından düzenlenmiştir. Taleplerin iyi değerlendirilmesi gereklidir.

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LIST OF SYMBOLS/ABBREVIATIONS

Abbreviation	Explanation
BK	Turkish Code of Obligations
ÇK	Turkish Environmental Law
CLC	Civil Liability Convention
CMI	Committee Maritime International
EEZ	Exclusive Economic Zone
FC	Fund Convention
IMCO	Inter-governmental Maritime Consultative Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
IOPC	International Oil Pollution Compensation
IPIECA	International Petroleum Industry Environmental Conservation Association
ITOPF	International Tanker Owners Pollution Federation
MEMAC	Marine Emergency Mutual Aid Centre
P&I	Protection and Indemnity
SDR	Special Drawing Rights
SKKY	Water Pollution Prevention Regulation
SOPF	Ship-Source Oil Pollution Fund
TCK	The Turkish Penal Code
TTK	The Turkish Commercial Code
USCG	United States Coast Guard

1. INTRODUCTION

Ship sourced marine pollution has a significant place among causes of marine pollution. Ship sourced marine pollution can be caused by oil spills. The ships' voyages have always the risk of accidents. These accidents cause oil pollution. High amounts of oil might have escaped as a result of these accidents. The oil, which can be discharged or escaped, has negative consequences on marine environment. The pollution damage needs clean-up operations after the accident. Some compensation problems may also occur after the accident.

The types of damage can be various as a result of a tanker incident. The damage can be environmental, economic or in other forms. Oil spills may give harm to the balance of the nature. The marine environment and species of the marine habitat can be under the threat of the spills. This type of damage might cause economic loss. The impact of oil can damage fish species. A fisherman may suffer economic loss. Boats or equipment related to the fishery sector, houses near the sea, can also be under the threat of pollution damage.

Some precautions may be needed after the accident. These precautions can be taken to prevent the drifting oil. Clean-up operations start after an accident. Specific amounts are paid for these operations. The costs of expenses are generally higher in major accidents. Some problems in handling of claims can increase in major accidents.

The 1969 Civil Liability and 1971 Fund Conventions include regulations about oil pollution damage. The 1969 Civil Liability Convention was designed to provide compensation to victims who suffer oil pollution damage as a result of marine accidents. The shipowner is liable for the polluting oil which escaped or was discharged (Özçayır, 2000).

The 1971 Fund Convention was adopted because of the inadequacy of the compensation system. These Conventions were amended by protocols. Turkey is a party to certain international conventions related to oil pollution and compensation. The 1992 Protocols of Civil Liability and Fund Conventions revised the conventions. The

amendment was adopted to compensate the damage of victims who suffer from pollution damage. A new compensation regime has been designed by the 1992 Protocols. Actually, the 1992 Protocols are seen as a revision of the 1969 Civil Liability and 1971 Fund Conventions by certain changes of the articles. The Official Gazette of Turkey published the text of the 1992 CLC on 24.07.2001 and the text of the 1992 Fund Convention on 18.07.2001 (Official Gazette, 2001). Turkey deposited the instrument of accession with IMO on 17.08.2001. The 1992 Protocols entered into force on 17.08.2002 (www.itopf.com/clctab2.pdf).

In order to obtain compensation some requirements should be fulfilled. Definitions such as ship, accident or pollution damage should be suitable to the Conventions.

The concept of pollution damage is determined in the Conventions. However, some problems may occur during the application of the Conventions. The Fund prepared guidelines to clarify the handling of claims. The admissibility criteria of the Fund determine whether a claim is reasonable for compensation. A claim should fulfill the criteria of the Fund to qualify for compensation. Problems in application can be eliminated by this way. Victims who suffer pollution damage want to compensate their losses and the Fund evaluates the claims, which have been assessed. Appropriate claims can be settled by the Fund.

Different claims related to the concept of pollution damage need to be evaluated. An accident might be a sample for further decisions. The decisions of past cases would be a sample for similar situations.

2. OIL POLLUTION IN THE MARINE ENVIRONMENT

Marine pollution might occur as a result of ship-based activities and the negative consequence of oil spills is mostly observed as a result of pollution by ship-based sources. Pollution of seas may have specific reasons including the ship-sourced pollution factors.

Sources of marine pollution can be divided into several groups as,

- Air-based and land-based marine pollution
- Pollution of seas as a result of dumping
- Shipping Activities

People's activities, which exceed nature's balance, cause accumulations in near-shore coastal areas. Then these accumulations reach to open seas. Diffusion of gases in the atmosphere is also a cause for marine pollution from air. This may occur as a result of activities on land. These can be pollutants such as discharges of industry directly into the seas or rivers, chemicals relating to agricultural activities. Dumping into the seas is usually preferred as a consequence of land-based activities for the elimination of wastes. That way is the easiest and the cheapest way although there are alternatives as combustion or burying the wastes. Seabed activities as searching and operation of oil or natural gas can also be defined as the sources of marine pollution. Pollution as a consequence of these activities can be seen as oil spills affecting the seas and the marine environment (Tütüncü, 2004).

Carriage of harmful substances and discharge of them into the sea is also a serious problem. The most important and significant reason for oil pollution can be to discharge their oiled water from their machinery or oil pollution from ships as a result of tanker incidents.

2.1. Pollution from Shipping Activities

Shipping activities can also influence the marine environment. These activities can be identified as,

- Discharging of wastes and sewage from ships are examples for one of the sources of shipping activities,
- Pollution from charging fuel oil from ships,
- Discharge of ballast water is included in the sources of ship-based marine pollution,
- Marine pollution because of marine transportation may include two reasons. Pollution as a result of incidents and normal activities caused by discharging of pollutants from ships into the sea that Marpol 73/78 regulated the prevention of the pollution with the annexes (İncaz-Güner et al., 2000). Oil, chemicals, liquid gas or radioactive matter can pollute the sea as a result of incidents. The risk of incidents increases when there is an increase in the number of ships. In addition, to prefer larger ships can cause more serious results after incidents (Churchill and Lowe, 1988).

Oil pollution from ships causes many problems in different fields. Effects of pollution have negative consequences in various sectors. Victims suffer from pollution damage as a result of escape or discharge of oil from tankers. So, claims relating to this damage are required to be compensated.

2.2. Effects of Marine Oil Spills in the Marine Environment

Various types of damages to property or to environment may occur as a result of oil spills in the marine environment. A spill can directly affect areas such as fisheries and mariculture. Boats and gear used for catching marine species can be damaged. People such as fishermen exploit the resources of the sea for fishing activities as an example (www.itopf.org/effects.html). Oil has also an impact on coastal activities. Recreational activities such as boating or diving can also be under the effect of an oil spill. Contamination of coastal amenity areas causes economical impacts. The interruption of coastal activities can cause economic loss. Hotel and restaurant owners may suffer economic loss (ITOPF, 2004/2005).

Oil pollution in the marine environment has negative impacts on certain groups such as:

- Marine habitat,

- Marine tourism,
- The condition of maritime in a state in international level with related establishments,
- People who suffer losses and economic difficulties in their lives (İncöz-Güner et al., 2000).

The chemical components of the oil or its physical nature, clean up operations may all be the effects of oil. Some plants, which could come into contact with a contaminated sea surface, are under the serious threat of oil (www.itopf.org/effects.html).

The effects of petroleum can also be defined as follows;

- the taste of the seafood can also be tainted,
- the oil can damage the reproductive characteristics of marine organisms,
- the situation of marine organisms can be affected as a result of oil pollution. The oil can also kill some species of sea life (Kindt, 1988).

The impact of oil can be seen on marine habitats. The physical, chemical or biological characteristics of a habitat and populations may need to be evaluated. Oil spills can cause damage on fish and shellfish eggs. Whales and dolphins in the open sea are not directly affected but marine mammals which are on shorelines are under the threat of oil spill. Animal and plant populations are various. As an example, large areas of rocks, sand and mud on shorelines are heavily affected by oil. Effective clean up techniques should rapidly be used for beaches and rocky shores (www.itopf.org/effects.html).

3. LEGAL REMEDIES

3.1. In General

Oil pollution as a result of incidents causes damage to the marine environment or other sectors. Two phases of oil pollution are regulated by conventions at national or international level. Conventions to prevent from oil pollution or the other side of the subject is the activities after the incident. Victims suffer from pollution damage as a result of tanker incidents. Response measures that are needed to be taken or pre-spill preventive measures before the incidents are examples of operations after a tanker incident. A liability system at the international level enables to provide compensation to victims of oil pollution damage.

The Turkish legal system has provisions about the liability to polluters and punitive measurements or sanctions which have to be applied to them. Especially, the Turkish Environmental Law covers the liability principle for the shipowner, master and other seamen. As an example, according to the Article 2 of the Turkish Environmental Code, the definition of the polluter has a wide concept (Kender et al., 1990). In addition, Turkey is a party to International Conventions such as the 1992 Protocols for oil pollution liability and compensation. However, these International Conventions should initially be preferred for the application under the framework of them.

3.2. Procedure under Turkish Law

Oil pollution from ships causes damages especially in the marine environment. These damages need to be compensated. The 1992 Fund and Civil Liability Conventions provide compensation for oil pollution damage. The term pollution damage is defined in the Conventions. These International Conventions has been in force in Turkey since 17.08.2002. Any other law cannot be applied under the framework of the 92 Conventions.

Turkish law also has various regulations related to pollution damage and liability. Especially the Turkish Environmental Law has provisions related to ‘polluter pays principle’. The Turkish Environmental Law is advantageous for the claimants. Provisions

of the Turkish Environmental Code can also be applied to marine incidents. According to this law, polluters shall be liable for pollution damage as a result of the impairment and contamination. The Turkish Commercial Law includes the liability of the shipowner (TTK Art. 947). The principle is the liability of the shipowner. However, liability without a limit may cause a heavy financial burden for the shipowner. Costs of damage can be very high and features of the threat at sea can be severe. These reasons may result in financial incapability of the shipowner. The applicable system provides shipowner's liability limited to the freight and the ship (TTK Art. 948; Kender and Çetingil, 1998). The Turkish Code of Obligations Article 55 has also an alternative to provide the liability of the shipowner because of pollution damage. Shipowner can be liable under related regulations but also has the chance to be exonerated from liability. If there is no negligence that to show the necessary care required, no liability occurs under the relevant article. Liability according to the Article 947 of the Turkish Commercial Code also includes exoneration from liability in the absence of seamen's fault in a case. So, The Turkish Environmental Code Article 28/1 has a wider application opportunity for the claimants (Aybay et al., 1988).

The Turkish Criminal Law has also articles related to environmental pollution. Polluter who caused the damage is punished. The offence differs relating to the aim of the polluter. If the polluter contaminates with knowledge, the sentence is more severe (TCK Art. 181). If the polluter acts with omission, the sentence may be less than in the previous article (TCK m 182). The sentence will be much more severe when pollution causes rare incurable diseases on people or animals or effects natural characteristics of animals or plants (TCK Art. 181, 182).

A new act has been ratified relating to marine incidents for Turkish law. This act regulates compensation and response system for oil pollution damage. The act also covers the subject of oil pollution damage in the marine environment.

In the first article of the act, the aim is determined. Provisions for minimization and elimination of pollution damage and response activities, determination of pollution damage, international regulations' application and liabilities under the act are also determined (5312 Numbered Law, Art. 1).

A Committee can be established for the determination of pollution damage. The Committee would be established under the presidency of the Undersecretariat for Shipping. This Committee may appoint national or international experts. Claims for expenses of response operations or compensation can be submitted to the Undersecretariat for Shipping (5312 Numbered Law, Art. 15).

Turkey is a member of the 1992 Civil Liability and Fund Conventions. These International Conventions and 5312 Numbered Law are in contradiction. There is an unclear meaning for claims handling in this act. Article 11 of the 5312 Numbered Law determines the authority of the Undersecretariat for Shipping relating to claims. The claimants will be under an additional obligation. They will follow their own claims. The claimants and the Undersecretariat for Shipping may be seen responsible. This may be not meaningful. The Undersecretariat for Shipping can directly be under obligation for claims handling. The submission of claims to the Committee would be enough (Atamer, 2006).

The regulation of the 5312 Numbered Law entered into force on 21.10.2006. This regulation has an objective as the implementation of principles of the related act. Claimants who suffer from pollution damage submit their claims to the Undersecretariat for shipping which will provide compensation for the claimants. However, the duty of the Undersecretariat is similar to the Fund. Especially, in major incidents, it is questionable that claims assessment commissions deal with claims such as the Claims handling offices of the Fund (The Regulation of the 5312 Numbered Law, Art. 39).

The 5312 Numbered Law can be severely criticized. This can be accepted as a national regulation but the Act is in contradiction with the International Conventions. Turkey has been a party to the 1992 Civil Liability and Fund Conventions since 17.8.2001. The 1992 Conventions regulate related subjects. Similar subjects with different regulations may make the people confused.

4. THE 1992 CIVIL LIABILITY AND FUND CONVENTIONS

4.1. In General

International regulations for oil pollution can be grouped in two sections as; conventions for the pollution prevention and conventions to compensate the victim's damage in case of the damage, which could not be prevented. Conventions in the second group include the compensation that should be paid and the limitation of civil liability when the pollution occurs such as the 92 Conventions.

The Torrey Canyon was noticed as a remarkable point in the maritime world. Such a major pollution incident enabled the evaluation of preparedness to such major incidents. Following years, the 1969 Civil Liability Convention (CLC 69) and the 1971 Fund Convention (FC 71) were adopted (Faure and Hui, 2003).

The 1969 CLC and the 1971 FC were the original conventions related to compensation for oil pollution damage. The Conventions were amended by the 1992 Protocols. Statutory liability provisions are settled. Provisions enable the shipowner to carry insurance for oil pollution liability. A claimant has chance to go directly against the insurer under the Protocols (Bundock, 2003).

4.2. The 1969 Civil Liability and 1971 Fund Conventions

The 1969 CLC was needed after the impact of the Torrey Canyon incident. The Convention aims to compensate oil pollution damage suffered by victims. It includes rules to qualify for compensation. The definitions of oil, ship, incident or pollution damage is determined in the Convention including the provisions in order to obtain compensation.

According to the 1969 CLC, the ship owner is strictly liable without any need of proving of fault. Pollution damage suffered by the claimants can be compensated under this Convention. Some terms are not clear in the 1969 Convention. As an example, definition of pollution damage is not clear enough. So this caused confusion in application.

The causal link between the damage and the pollution was subject to national laws (Ünan, 1986).

The limits of liability might not be adequate for the compensation of claims as a result of the 69 CLC. Shipowners were under the heavy burden of oil pollution compensation. For sharing the burden between the shipowners and oil importers, the 71 FC was adopted. It provides compensation under certain provisions which was determined in the Convention. A close link was obvious in application between the 69 CLC and the 1971 FC. Both conventions were in harmony in respect of admissibility of claims as an example (Bates, 1993).

The 1971 Fund is supplementary to the 1969 CLC. The Fund compensates the damages of the claimants in cases of inadequacy of the compensation under the CLC. There are also some conditions that the Fund will not pay compensation. The oil companies in Member States that receive oil according to the Fund Convention make contributions.

On 24 May 2002, the 1971 FC ceased to be in force and it has no member States (IOPC Fund Annual Report, 2004).

4.3. The 1992 Civil Liability Convention

4.3.1. In General

An amendment was needed for the 1969 CLC and 1971 FC. The amendment was agreed as Protocols. However, The US rejected to participate to the Protocols. An obstacle was noticed related to such a requirement. For entry into force of the 1992 Protocols, no requirements were necessary (Bates, 1993).

The 1992 Conventions enable to compensate claims in respect of the pollution damage of claimants. The shipowner and the insurer are under the burden of liability. They also have the right to limit the liability. The amount of compensation may be inefficient to compensate the damages. In such a condition, The Fund provides compensation for victims

who suffer pollution damage. The 1992 Conventions offer new solutions to the Turkish law for compensation of oil pollution damage (Atamer, 2003).

The infrastructure of the liability regime of the 1992 Civil Liability Convention (The 1992 CLC) is based on strict liability. Meanwhile, a causal link is required to be established between the pollution and the damage.

4.3.2. Ship

Both of the 1992 Civil Liability and 1992 Fund Conventions can be applicable to pollution damage in an incident. A spill of persistent hydrocarbon mineral oil from any type of sea going vessel which is constructed or adapted for carrying oil in bulk as cargo can be subject to application (The 1992 CLC Art. I/1, I/2). So spills from tankers, combination carriers (during their carriage of a cargo of persistent oil) and barges are covered by the conventions. Neither the 1992 CLC or 1992 Fund Convention can be applicable to spills of bunker fuel from other types of ships as bulk carriers, container liners or dry cargo ships (IPIECA/ ITOFF, 2004). Care should be taken for the aim of the usage of the ship. The ship has to be used or constructed to be used for the carriage of oil.

4.3.3. Oil

Oil is defined in the article I/5 of the 1992 CLC. The type of oil should be any persistent hydrocarbon mineral oil. The examples are crude oil, fuel oil, heavy diesel oil and lubricating oil which are covered by the Convention. These types of oils have to be carried on board a ship as cargo or in the bunkers of such a ship according to the 1992 CLC (The 1992 CLC Art. I/5).

These types of oils spread and require clean up. Natural dissipation of them is not speedy when they spilled into the sea so they require clean up. The amount of spill and the physical properties have an effect on degrees of persistence of the most crude oils and refined residual oils. Some physical or chemical changes can also affect the persistence of oil at sea. The conventions are not applied to damage as a result of spills of non-persistent mineral oil, such as gasoline, naphtha, light diesel oil and kerosene. When such oils spilled,

they evaporate quickly and clean up is not required for them. So compensation is not provided for pollution damage because of such oil types (IOPC Fund C. Manual, 2005; ITOPF, 1993). Crude oils or fuel oils may cause damage because they persist longer in the marine environment than some other oil types. In comparison with refined oils, evaporation is quickly for them and their effect on pollution damage is minimal (Mitchell, 1994).

4.3.4. Incident

Any occurrence or series of occurrences can have a conclusion such as pollution damage or a grave and imminent threat can be created by these occurrences. Such kind of occurrences having the same origin or any occurrence which is suitable to the definition is defined as incident according to the 92 CLC (The 1992 CLC, Art. I/8).

4.3.5. Application Area of the Convention

The definition of the area that is covered by the convention is widened. The geographical scope is extended and covers the Exclusive Economic Zone. The application area of the convention is categorized for pollution damage and preventive measures according to the article II of the 92 CLC.

The territory, including the territorial sea, of a Contracting State, and the exclusive economic zone of a Contracting State are included in the application area of the 92 CLC. The Convention can be applied to pollution damage caused in this application area. The exclusive economic zone has to be established in accordance with international law. If such a zone has not been established by the Contracting State, the area which is described in the Convention should be noticed. The area beyond and adjacent to the territorial sea of that state determined by that State in accordance with international law and extending not more than 200 nautical miles from the baselines from which the breadth of its territorial sea is determined as the application area if a zone has not been established by a Contracting State. Any area in order to prevent or minimize the pollution damage is applied to preventive measures (The 1992 CLC, Art. II).

4.3.6. Definition of Pollution Damage

Contamination as a result of the escape or discharge of oil from the ship can cause loss or damage outside the ship. The 1992 CLC is applied to such loss or damage under the definition of pollution damage. Losses of profit from the impairment of the environment fall outside the definition of pollution damage. The 1992 CLC enable compensation for reasonable reinstatement measures undertaken or to be undertaken. Loss or damage caused by preventive measures or the costs of preventive measures can also be compensated under the 1992 Conventions.

Damages such as personal injury or loss of life are also covered but rarely occurred in the pollution context. Some additions as environmental damage extended the definition of pollution damage by the 1992 CLC. The addition of such phrases provides a clear and widened definition. Preventive measures that should be taken in case of a grave and imminent threat, to prevent or minimize pollution damage even in the absence of a spill are covered in the 1992 CLC. Such changes in this regime revised the definition of pollution damage.

4.3.6.1. Preventive Measures. Types of preventive measures differ from each other. These measures can be distinguished into groups. Preventive measures, precautionary measures, clean up or salvage operations can be examined. A comparison may be made between them.

The cost of reasonable clean up measures and other measures taken to minimize or prevent pollution damage in a state party can be compensable, wherever these measures are taken under the Conventions. The Conventions would provide compensation for the costs of a response that is undertaken on the high seas or with the territorial waters of a state. The State may not be party to the Conventions. The aim is the prevention or reduction of pollution damage within the territorial sea or Exclusive Economic Zone (EEZ) of a State Party. If there was a grave and imminent threat of pollution damage, expenses for preventive measures are covered even if no spill occurs (The 1992 CLC, Art. I/7, I/8). Costs in connection with cleaning, rehabilitation or capture of wildlife for particular animals are also compensable under the Conventions (IOPC Fund C. Manual, 2005.)

It is clear that the definition of preventive measures under the 1992 Conventions include the operations before the spill. In other words pre spill measures are also covered in the definition of preventive measures in the 92 Conventions.

Problems in applications caused discussions about the distinction between the salvage or the hull and cargo. Preventive measures can be various in an incident of a tanker carrying oil as cargo. It can be discussed whether costs of salvage operations after the tanker incident are compensable under the concept of conventions or not. The International Oil Pollution Compensation Fund (The IOPC Fund) considers the distinction between preventive measures and precautionary measures, when the concept of preventive measures is determined (Abdullayev, 2005).

Salvage operations could be undertaken to save the ship or cargo. The primary purpose is difficult to determine. The real purpose may be to save the ship or cargo or the potential environmental liability of the IOPC Fund and the shipowner (Gauci, 1999). The concept of such measures should be evaluated. The 1992 Conventions may cover salvage operations if the primary purpose of such operations is to prevent pollution damage. If the purpose is to save the ship or/and the cargo, the Conventions may not provide compensation for the costs of such operations. So a dual purpose can be noticed in some cases. The aim of salvage operations can be to save the ship or cargo and prevention from pollution. The distribution of the costs between these different purposes of the measures is another problem. The Fund has a solution such as the assessment of each individual case (Jacobsson, 1993).

4.3.6.2. Property Damage. Property of the claimants can be compensable if their claims are reasonable. Property may be fishing nets of fishermen or the private beach of a hotel. The examples can be widened for kinds of property. The evaluation of repairing, cleaning or replacing property can be done according to the characteristics of the property and degree of loss. Replacement may be preferred instead of repair or cleaning of the property in some cases.

4.3.6.3. Economic Loss. Economic loss can be distinguished into consequential and pure economic loss.

The Committee Maritime International (The CMI) which is the oldest maritime organization and established in 1897, wanted to arrange international norms for oil pollution damage. Unification of maritime law is the object of the CMI. It is a nongovernmental organization that deals with maritime law (<http://www.comitemaritime.org/histo/his2.html>). A Working Group was established by the CMI. This group prepared the admissibility and assessment criteria. The guidelines, which were prepared by this group about oil pollution damage, do not concern personal injury. Economic loss, preventive measures, clean up and restorations are parts of these guidelines. The CMI Working Group also tried to determine the boundary for admissibility of claims relating to economic loss. Different legal systems needed to be examined by the CMI (Özçayır, 1998).

For consequential loss, economic loss of the claimants whose property contaminated because of an oil spill can be compensable. Relating to pure economic loss, the owners of the property as a result of oil pollution can also be compensated in certain circumstances. The costs of reasonable measures such as marketing campaigns can also be compensable. The aim of these measures should be the prevention and reduction of economic losses by encountering the repair effects because of a major pollution incident (IOPC Fund C. Manual, 2005).

4.3.6.4. Environmental Damage. The definition of pollution does not provide the opportunity to compensate all types of environmental damage. There is no definition for the requirement of reasonableness under the Conventions. Reasonable measures of reinstatement are covered by the definition. However, damage against fauna or flora is questionable again in respect of compensation (Ibrahima, 2005).

Environmental damage can especially occur to the marine environment as a result of oil pollution. The damage assessment of such damages is difficult that it may require technical, scientific, legal comments for the problems. Measures are taken for the restoration of the environment by the public authorities. Although claims for damage to the marine environment are not always accepted admissible under the 1992 Protocols, reasonable expenses in order to reinstate the marine environment can be accepted admissible according to the Conventions. A quantifiable economic loss can also be

accepted as an admissible claim if it can be quantified in monetary terms and has been suffered by a claimant. The Fund accepts claims for the impairment of environment if a claimant has suffered a quantifiable economic loss. The limitation to costs of measures actually taken or to be undertaken to compensate the reinstatement of the marine environment should be considered according to the 1992 CLC (Özçayır, 1998).

4.3.7. Liability

According to the 1992 Protocols the shipowner has strict liability for pollution damage as a result of an oil pollution incident under certain provisions. The tanker owner is liable, regardless of whether he has fault on his part or not. Thus, a strict liability occurs instead of a fault liability under the 1992 CLC. However, he has chance to exempt from liability according to certain provisions under Article III/2 of the 1992 CLC. According to this article an act of war, civil war, hostilities, insurrection or a natural phenomenon may cause the damage. One of these can be a reason to exempt from liability for the shipowner (The 1992 CLC, Art. III/2).

The relevant article covers intent to cause damage by a third party. In case of an act or omission with this intent caused the damage, the shipowner would not also be liable. The last condition for exemption from liability is the negligence or other wrongful act of any Government or other authority. Authorities are responsible for the maintenance of navigational aids that have to be in the exercise of that function. For all these provisions, the shipowner is under the burden of proof to exempt from liability (The 1992 CLC, Art.III/2).

4.3.7.1. Channelling of Liability. It is not possible to settle a claim for compensation for pollution damage against the shipowner otherwise than under the provisions of the 1992 CLC. The article also determines the parties other than the shipowner. The list of these parties includes the servant or agents, the pilot, the charterer or any person taking preventive measures such as examples. No claim can be against these parties such as the shipowner. However, this article cannot be applied if there is an act or omission. This act or omission is defined in this article as recklessly with intent to cause damage or with the

probability of damage (The 1992 CLC, Art.III/4). However, the right of recourse of the shipowner against third parties is kept in the Convention (The 1992 CLC Art. III/5).

In the Civil Liability Conventions, victims can claim compensation for pollution damage only from the registered owner of the ship. Claims against the servants or agents of the ship owner are prohibited under the 1969 Civil Liability Convention. The prohibition is expanded in the 1992 Civil Liability Convention in addition to the prohibition of claims against the servant's or agents of the ship owner, if the pollution damage resulted from the personal act or omission of the person concerned, committed with intent to cause such damage or recklessly and with knowledge that such damage would probably result, there is no need to apply the prohibition (IOPC Fund Annual Report, 2004).

4.3.7.2. Limitation of Liability. The amount of the ship owner's liability which is determined by the size of the ship in the 1969 CLC is less than the amount in the 1992 CLC. The amounts are determined in the article V of the CLC 92 (The 1992 CLC Art.V/1).

The Legal Committee of the International Maritime Organization (IMO) decided to increase the limits under the 1992 CLC by 50.73% for incidents occurring on or after 1 November 2003. Related to this increase, the tacit amendment procedure that is a special procedure was used (IOPC Fund Annual Report, 2004). Limits of liability are amended by tacit amendment procedure. The procedure facilitates the amendment of limits under the protocols. The amendment procedure is used for most of the IMO's technical conventions. The procedure enables keeping up the conventions up to date. Adoption of amendments can be easily applied by the procedure (www.imo.org).

The owner has no right to limit the liability under certain circumstances. If there is a personal act or omission of the shipowner, committed with the intent to cause such damage, liability cannot be limited. Limitation of liability is not possible if the shipowner committed recklessly with knowledge that such damage would probably result (The 1992 CLC Art. V/2).

For the limitation of liability right of the ship owner, some subjects in accordance with the determination under the 1992 CLC can be emphasized. Claimants are under the

burden of proof according to the 1992 CLC. Limitation of liability is more advantageous for the ship owner. There should be a personal fault or omission of the ship owner to be deprived of the right of limitation of liability. The personal act or omission of the ship owner committed with intent to cause such damage, or recklessly and with knowledge that such damage would probably result should cause the pollution damage for deprivation of the limitation right (The 1992 CLC Art. V/2; Abdullayev, 2005).

In addition to the opportunity to limit the liability, this system is considered to cause inefficiency of compensation according to the European Union. After the major incidents such as the Prestige or the Erika, efficient compensation could not be obtained. So, insufficient compensation was due to the limited amounts of liability (Faure and Hui, 2006).

Different from the 1969 CLC, the 1992 CLC revised Article V/3 of the 1969 CLC. The article under the 1992 CLC provides the constitution of a fund by the shipowner. This fund represents the total sum of liability of the shipowner. There can be options for the constitution of the fund. The sum can be deposited or a bank guarantee or other guarantee can be produced to establish the fund (The 1992 CLC Art. V/3).

The constitution of a limitation fund should be optional for quick payment of the compensation. The ship owner may constitute the fund under certain conditions (Abdullayev, 2005).

4.3.8. Compulsory Insurance

Tanker owners carrying more than 2000 tonnes of persistent oil in bulk as cargo are required to maintain insurance or other financial security. They also carry the certificate on board; to meet the financial obligations of them (The 1992 CLC Art. VII/10,11). Claims for pollution damage, which has suffered, by anyone can be brought directly against the insurer or provider of financial security including the liability of the ship owner under the 1992 CLC. Oil pollution insurance is arranged by ship owners mostly with a Protection and Indemnity Association (IPIECA/ITOPF, 2004).

The revision about the certification of compulsory insurance clarified the related subject by Article VII/2 of the 1992 CLC. A certificate for the insurance or other financial security can be issued to each ship. The certification of insurance under the 1992 CLC, Article VII/2 also explains the particulars that have to be contained in the certificate. This certificate should be in accordance with the provisions of the Convention. The registration of a registered and non-registered ship in a Contracting State is determined in the article.

4.4. The 1992 Fund Convention

4.4.1. In general

The 1969 Convention was not efficient enough to compensate the pollution damage suffered by victims. It was an important step to prevent victims from pollution damage but the liability was limited. The capacity of the insurance system needed to be evaluated. It was considered that Torrey Canyon was not the biggest tanker. The 1971 Fund would be insufficient in further incidents. It would also be disadvantageous for the ship owners of the non-party States. Trade activities of these ship owners would be under threat because of the financial burden. That was a heavy condition for the ship owners as a result of assuming compensation solely. Actually in spite of the liability of shipping industry because of pollution damage, it would be unfair and inappropriate not to be under the financial burden (Abdullayev, 2004).

The 1992 Fund Convention provides compensation in cases of valid claims exceeding the tanker owner's limit of liability under the 1992 CLC (The 1992 FC, Art.4/1). Companies in the Member States of the 1992 Fund receive crude oil and heavy oil by sea. Their contributions enable financing the 1992 Fund for the payments of compensation (The 1992 FC, Art.10).

The majority of compensation paid by oil importing companies is not dependent on the area of the spill occurred (ITOPF, 2004/2005).

The terms such as ‘ship, oil, pollution damage or incident’ have the same usage as in the 1992 CLC. Other terms, which have the same usage as in the 1992 CLC, are also determined in the 1992 Fund Convention (The 1992 FC Art.1/2).

The International Oil Pollution Compensation Fund is established as an intergovernmental organization. The Fund has an Assembly which consists of the Member States. The Fund also has a Secretariat with a Director (The 1992 FC, Art. 16, 17). In case of higher claims, especially in major incidents, approval of the settlement of claims is required from the Executive Committee by the Director (Jacobsson, 1993).

4.4.2. Compensation under the 1992 Fund

The 1992 Fund was established to compensate the costs of victims suffered pollution in cases of inefficient prevention of the 1992 CLC. Provisions about the compensation for pollution damage suffered by victims have the same concept on the 1971 Fund (The 1992 FC, Art.1/3). Evaluations from the 1971 Fund can also be accepted valid by the 1992 Fund (Abdullayev, 2005). As a consequence, when the ship owner or the insurer is unable to pay compensation to victims suffering oil pollution damage under the CLC 1992, they can obtain compensation from the IOPC Fund under certain conditions described according to the Convention;

If there is no liability according to the 1992 CLC, Fund Convention can be applied. Exceptions of liability are described in the 1992 CLC (The 1992 FC Art.4/1). The insurance can be insufficient or may not cover the pollution damage. The shipowner may not be capable of meeting financial obligations under the 1992 CLC (The 1992 FC, Art.4/1). The IOPC Funds pay compensation in such cases for valid claims suitable to the admissibility criteria (IOPC Fund Annual Report, 2004).

Some exceptions are determined for compensation under the 1992 Fund Convention. The 1992 Fund will not be under obligation of paying compensation in some conditions. Article 4/2 of the 1992 Fund Convention determines exceptions of liability for the 1992 Fund. The Fund will not pay compensation if an act of war, hostilities, civil war or insurrection caused the pollution damage. If the pollution damage resulted from oil from a

warship the Fund will not be under obligation. The claimant should prove claims of pollution damage (The 1992 FC, Art. 4/2). The pollution damage should have occurred in a Member State. Otherwise the Fund will not compensate the damage (The 1992 FC, Art. 3).

4.4.3. Contributions to the 1992 Fund

A quantity more than 150.000 tonnes of crude oil and/or heavy fuel oil annually received by any private company or other private or public entity in a 1992 Fund Member State is subject to these contributions. Contributions from these entities or companies finance the administrative expenses and payments of compensation of the 1992 Fund. Receipts after coastal movements of crude oil and heavy fuel oil are also accepted as contributing oil imported from other countries. The compensation payments made by the 1992 Fund have an influence on the fluctuations of the level of contributions from year to year (IPIECA/ITOPF, 2004).

Total quantities exceeding 150.000 tons of oil should make contributions to the Fund. Annual contributions are made in the port or terminal installations in the territory of a Contracting State. Discharge in a non-contracting State has provisions under the article (The 1992 FC, Art. 10/1).

The oil can be imported from a foreign country as well as being carried from one port to another in the same country. Furthermore, oil taken from the transportation to another port or transported by a pipeline is also accepted as contributing oil. So, contributions should be made to the Fund for oil received in a Member State (The 1992 FC, Art. 13).

The total amount of compensation in respect of major incidents and the general operative expenses of the 1992 Fund are assumed for each year. These are determined by the Fund. The calculation of the required levy per tonne of contributing oil is made by the Secretariat. It is determined by the Secretariat by reference to the total quantity of contributing oil received in all Member States. In order to determine and to give the total amount that should be paid by the contributor, the quantity of oil taken by each contributor is multiplied by this amount per tonne. Relating to the largest contributions, oil-receiving companies in Japan can be accepted as the largest contributors to the 1992 Fund. Invoices

to the individual oil receiving countries and other entities in Member States are also issued by the Secretariat (The 1992 FC, Art. 29; IPIECA/ITOPF, 2004).

4.4.4. A Revision to Facilitate the Compensation Regime Under the 1992 Fund

In certain situations, the 1992 Fund pays compensation in spite of the absence of a fund for the limitation of liability. According to Article 4/6 of the 1992 Fund Convention, compensation can be paid to claimants although the ship owner has not constituted a fund (The 1992 FC, Art. 4/6). It would be necessary to speed up the compensation system that would be more beneficial for the claimants. Therefore, delays can be prevented in case of a major incident resulting in significant pollution damage (Abdullayev, 2005).

4.5. The Process of Amendments

4.5.1. The 1969 Convention

Adequate compensation was available to persons who suffered damage because of oil pollution. The compensation system was adopted by the 1969 CLC as a result of escape or discharge of oil from ships. The international rules and procedures on oil pollution liability and compensation system were also aimed by this convention (Özçayır, 1998).

Some terms as ship, oil, incident or pollution damage should be acceptable in order to be suitable to the 1969 CLC. The liability is strict for the ship owner under the 1969 CLC. There are also some exceptions for limitation linking to the liability of the ship owner.

Three important factors can be determined by the 1969 CLC. These factors can be defined as strict liability, high liability limits and compulsory insurance. Two objects were emphasized in the 1969 Convention. These objects were to guarantee adequate compensation and to provide uniform rules about liability and procedures (Kara, 2005).

4.5.2. The Protocol of 1976

The applicable unit of account was poincaré franc, based on the official value of gold for the 1969 Civil Liability Convention. A new unit of account was determined by the 1976 Protocol because the conversion of this gold franc into national currencies was difficult. A new unit of account based on Special Drawing Rights (SDR) has been used. This was preferred as used by the International Monetary Fund. An alternative monetary unit based, as before, on gold can be used if it is not applicable to use of the SDR in some countries or in states that are not members of the International Monetary Fund (IMF) (www.imo.org).

4.5.3. The 1984 Protocols

In 1984, some new developments in the marine pollution compensation are required to be discussed in a conference. These new developments were also related to the oil sector of the shipping industry. Protocols were adopted to amend the civil liability and for the establishment of an International Fund for this purpose. They were such as amendments for the 1969 CLC and 1971 Fund Convention. The language of the 1976 Protocol affected the new protocols (Gold, 1985).

There was a need to increase the limits of liability because the limits of liability were not efficient to provide adequate compensation. In the event of a major pollution incident, the limits were too low to compensate the damage. However the reluctance of the United States affected the 1984 protocol not to enter into force. The major factor was the effect of the United States as a major oil importer. The United States established its Oil Pollution Act of 1990 including a system of unlimited liability. This system is different from the international compensation system. So, in spite of increased limits of liability the 1984 Protocol was superseded by the Protocol of 1992 (www.imo.org).

4.5.4. The 1992 Protocols

Draft Protocols including the substantive provisions of the 1984 Protocols was considered by the IMO Conference. The Conference was held in November 1992. The

1984 Protocols would never enter into force. Two protocols for the amendment of the 1969 Civil Liability and 1971 Fund Conventions were adopted by IMO. Compensation limits are higher in the new Protocols and a wider scope of application is obtained by the new Protocols in comparison with the old regime. The 1992 protocols containing substantive provisions and requiring ratification by four States, entered into force on 30 May 1996 (Özçayır, 1998).

Compensation is paid by the contributions of oil companies under the 1992 Fund. The ship owner and the insurance club are liable to pay compensation in the 1992 CLC. As a result of the deficiency of obtaining compensation from the ship owner or the insurer reference to the 1992 Fund is possible. The 1992 Fund is financed with the establishments of oil industry (Atamer, 2003).

Some revisions have been made in this regime. Changes between the two regimes explain main differences. As examples, the definition of pollution damage is clarified by an addition to environmental damage. Preventive measures can also be accepted even when no spill occurs.

4.5.5. The 2000 Amendments

The compensation limits of the 2000 Amendments are higher than the 1992 Protocol. The compensation limits were raised by 50 percent compared to the limits set in the 1992 Protocol (www.imo.org).

- The limit of liability was 3 million SDR in the 1992 Protocol, but the liability is limited to 4.51 million SDR for a ship not exceeding 5000 gross tonnages,
- The limit was 3 million SDR plus 420 SDR for each additional gross tonne under the 1992 Protocol, the new limit of liability is 4.51 million SDR for 5000 to 140.000 gross tonnage plus 631 SDR for each additional gross tonne over 500 according to the 2000 Amendments and,
- The limit of liability was 59.7 million SDR under the 1992 Protocol. Liability is limited to 89.77 million SDR for a ship over 140.000 gross tonnages according to the 2000 Amendments (www.imo.org).

4.5.6. The Supplementary Fund 2003

After major incidents such as Erika or Prestige, the compensation system of the CLC and Fund Convention was considered ineffective. IMO adopted a protocol to establish a Supplementary Fund in 2003. The Protocol that entered on 3 March 2005 created a Supplementary Fund. A State may become a member of the Supplementary Fund 2003 if it is party to the 1992 Fund. The maximum amount of compensation is 750 million SDR for one incident. The amount includes the payment under the 1992 Conventions. The Fund pays compensation within the amount which was proposed by the European Union. Some other provisions were also determined for the Supplementary Fund (IOPC Fund Annual Report, 2005; Faure and Hui, 2006).

4.6. Comparison of the 69/71 and 92 Regimes

A comparison can be made between the old and new regime by the following factors. The 1992 Protocols include some additional phrases and changes. The differences between the old and new regimes are also determined by the Fund and Ship Source Oil Pollution Fund (SOPF) in the annual reports;

Pollution damage is one of the expanded phrases in the 1992 Conventions. Loss or damage caused by the contamination is the definition of pollution damage in the 1992 Conventions as the original conventions. The basic wording retained. A phrase was added to clarify the limitation of compensation for environmental damage. Compensation should be limited only to the costs incurred for reasonable measures actually undertaken or to be undertaken. These measures should aim the reinstatement of the contaminated environment in the concept of pollution damage (The 1992 CLC Art. 6/1). The costs of reasonable preventive measures as minimizing or preventing pollution damage are included in the pollution damage.

Damage caused or measures taken after oil has escaped or been discharged are covered under the 1969 and 1971 Conventions. However, in case of a grave or imminent threat of pollution damage, costs incurred for preventive measures are recoverable under the 1992 Conventions. These costs are recoverable even in the absence of an oil spill.

The exclusive economic zone or equivalent area of a contracting state is included for an extended geographical scope of the Conventions' applications (The 1992 CLC Art. II). The 1969 and 1971 Conventions are applicable in the territory (including the territorial sea of a state party) for pollution damage. So it can be considered that the application of the geographical scope in the 69 and 71 Conventions is narrower than the 1992 Conventions.

Spills from tankers during ballast voyages are not covered by the 1969 and 1971 Conventions. Spills of bunker oil from ships other than tankers are covered by neither 1992 Conventions nor the 1969/1971 Conventions. The application is limited to ships, which actually carry oil in bulk as cargo as laden tankers, in the 69 and 71 Conventions. However, the 1992 Conventions apply to pollution damage covered by spills of bunker oil and by cargo residues from unladen tankers on any voyage after carrying a cargo in certain circumstances (The 1992 CLC Art. 1).

The ship owner has no right to limit his liability under the 1969 CLC if the incident occurred as a result of the owner's actual fault or privities. Under the concept of the 1992 Conventions, he cannot limit his liability only if it is proved that the pollution damage resulted from the ship owner's personal act or omission, committed with the intent to cause such damage or recklessly and with knowledge that such damage would probably result (The 1992 Fund, Art.V/2).

Under the Civil Liability Conventions, claims for pollution damage can be made only against the registered owner of the ship concerned. Claims against the servants or agents of the ship owner are prohibited under the 1969 Civil Liability Convention. Claims against the pilot, the charterer (including the bareboat charterer), manager or operator of the ship or any person carrying out salvage operations or taking preventive measures outside the convention are also prohibited under the 1992 CLC (The 1992 CLC Art. III/4). This prohibition is an addition to the prohibition of claims against the servants or agents of the shipowner.

The limit of compensation payable by the 1971 Fund in respect of incident is an amount of 60 million SDR. The maximum amount of compensation payable by the 1992 Fund is 135 million SDR or incidents occurring before 1 November 2003. An increase in

the maximum amount was determined to 203 million SDR for incidents occurring on or after that time including the compensation payable by the ship owner under the applicable CLC.

There was a further increase in the limits under the 1992 CLC that was also higher than under the 1969 Convention. The further increase was determined for incidents occurring on or after 1 November 2003 by the Legal Committee of the International Maritime Organization (SOPF Annual Report, 2000-2001, IOPC Fund Annual Report, 2000, 2004).

5. THE TYPES OF POLLUTION DAMAGE

5.1. Preventive Measures and Clean up

In addition to the costs of clean-up measures at sea, in coastal waters and on shorelines, the costs of removing oil as cargo or oil having a serious pollution threat from a damaged tanker are examples in the category of claims about preventing or minimizing pollution damage (ITOPF, 2004/2005).

For example, the Panamanian tanker Santa Anna grounded on the Devon (United Kingdom) on 1 January 1998. As a consequence of this grounding, several cargo tanks of the ship were punctured the same day of the incident. An emergency-towing vessel under the contract with the United Kingdom government reflected the ship. Although Santa Anna was in ballast, the ship had 270 tonnes of heavy fuel oils and 10 tonnes of diesel oil in bunker tanks. The United Kingdom Authorities mobilized oil combating equipment and surveillance aircraft. There was no oil spill as a consequence of the grounding and reloading operation (IOPC Fund Annual Report, 1998).

In this incident, it is considered that no claim was possible under the 1969 and 1971 Conventions by the notification of the United Kingdom Government. The reason was that these conventions did not concern pre-spill preventive measures. The Panama registered ship was party to the 1969 Civil Liability Convention but not party to the 1992 Civil Liability Convention. So presentation of claims for compensation against the ship owner was not possible. The reasonable measures from an objective technical point of view are examples for the admissibility criteria, which would be applied. Related to the applicability of the 1992 Conventions in this incident, a grave and imminent threat was considered by the Committee. However, the ship was under obligations in relation with the provisions of the 1969 CLC (IOPC Fund Annual Report, 1998).

All measures including clean up or preventive measures taken by claimants are required to be reasonable. A discussion might be made related to the reasonableness of claims in the national courts. Preventive measures to avoid pollution and measures for

clean up and restoration after the incident both might be subject to evaluations for reasonableness (CMI's Working Group on Environmental Damage Assessment, 1993).

On March 1998, The United States Coast Guard intercepted the Belize registered control tanker Milad 1 which was carrying 1500 tonnes of mixed diesel crude oil, 25 nautical miles north east of Bahrain. A crack was in the hull allowing seawater into ballast tanks, nearly 6 meters long. The United States Coast Guard (USCG) placed damage control experts on board. They stabilized the tanker, using pumps against floating and taking to a more control location in the gulf. It is considered by the USCG that a grave and imminent threat of pollution to the coast of Bahrain was posed by the Milad 1 that was in danger of sinking. In addition to these, another tanker was sent by the ship owner to lighten the Milad 1. So, some pre spill preventive measures were applied. In order to prevent the risk of pollution by undertaking emergency repairs to the Milad 1, a contractor was engaged by the Marine Emergency Mutual Aid Centre (MEMAC) in Bahrain. There was no oil spill during the lightering operation and the vessel had the sailing ability (IOPC Fund Annual Report, 1998).

The determination of a grave and imminent risk of pollution damage to the territory, territorial sea or Exclusive Economic Zone of a 1992 Fund Member State requires to be investigated. The Executive Committee instructing the director considers this as a need. The admissibility of the claims for the cost of the temporary repairs was another important factor. Some factors about definitions of the ship and incident were also discussed within the incident (IOPC Fund Annual Report, 1998).

The use of specialized equipment and materials such as booms, skimmers, dispersants or non-specialized boats, vehicles and labor may be required by such measures (IPIECA/ITOPF, 2004). Many technical options are present to choose the best strategy. The most appropriate measure should be selected for the application. The nature of the accident and local conditions are important factors in order to determine the most appropriate techniques. Pollution damages as a result of accident differ from each other; so only one appropriate method may not be named at the first stage of the incident (Yücel, 1996).

The preventive measures would cause consequential loss or damage, so the costs of associated debris and recovered oil disposal are also covered. Deductions for normal wear and tear are accepted like admissible claims as the cost of any work carried out to repair the damage to a road, pier or embankment caused by clean up operations (IPIECA/ITOPF, 2004). The claims should not involve improvement in order to be accepted if it is for the repair of damage resulting from a spill (IOPC Fund, C. Manual, 2005).

Both the costs and preventive measures need to be reasonable to qualify for compensation under the conventions. An expert technical appraisal at the time the decision was taken in conformity with the measures taken or equipment used in response to an incident to minimize or prevent pollution damage successfully shows the meaning. If the measures would be ineffective, a claim may be rejected (ITOPF, 2004/2005).

In spite of full technical evaluation, the boundary between reasonable and unreasonable measures is not definite. It is also considered that oil spill clean up techniques and the practical limitation of them have been in existence worldwide during incidents. There is also a possibility of becoming inappropriate of a particular response measure that may be technically justified early in an incident. Weathering of the oil and other changes in circumstances may be the reasons of being inappropriate. Experienced personnel monitor all clean up operations in order to evaluate their effectiveness on an ongoing basis. The method has to be stopped if it causes a disproportionate damage or it is not working satisfactorily (IPIECA/ITOPF, 2004).

Experts are needed to observe and examine the operations including clean up. For example Korean experts assisted with assessment of claims related to compensation for pollution damage and monitored the clean up operations in the incident of the Korean tanker Jeong Yang. In addition to Korean experts, in December 2003, a representative of International Tanker Owners Pollution Federation (ITOPF) visited Korea (IOPC Fund Annual Report, 2004).

In another example related to clean up costs, the Maltese tanker Alambra that had passed the area at the same time of the oil spill on a ballast voyage could have been the source of discharged oil. Analyses of oil samples taken from the Alambra matched those of

samples from the polluted islands, depending on the view of the coastguard. On the other hand, the Alambra was not the source of the pollution according to the ship owner and the insurer. The coastguard and the Rescue Service Agency maintained their claims for clean-up costs together with local authorities. The damage was resulted from an incident involving a ship as defined in the 1992 CLC. Their claims should have been proved in order to obtain compensation from the Fund. Some legal actions were taken. The Swedish Government has commenced legal actions against the ship owner and the London Club (the insurance club). Legal actions were taken to obtain compensation for clean-up costs. The Alambra was the source of the pollution according to the Swedish Government. The legal actions prevented the claims from being time barred. The postponement for negotiation of an out of court settlement was granted by the court (IOPC Fund Annual Report, 2005).

5.1.1. Clean-up Measures and Contractors

Contractors are generally engaged for preventive measures. Ship owners may need them for prevention from oil spills or clean up measures. Contractors may be helpful in case of removal of a remaining cargo or a shoreline clean up operation.

There was an oil spill on 30 August 2003 in the river from the tanker Victoria that was loading crude oil. It was estimated that there was an unknown but a significant quantity of oil. An explosion and a fire were occurred at the terminal near Syzran on the Volga River (Russian Federation) because of the Russian tanker Victoria when it was loading crude oil. 1992 Fund and the International working group would require experts and surveyors to examine the clean-up operations. Experts are also needed for the assessment of claims for compensation related to pollution damage (IOPC Fund Annual Report, 2003).

Some contractors were engaged by the ship owner for the prevention of oil escape from the vessel. These contractors also undertook clean-up operations. All remaining cargo on board the vessel was also transferred. Although there had not been any secondary clean-up for the stranded oil along the shores and river banks, a small amount of oil was observed remaining on the river. That situation was monitored during the time of ITOPF

expert's visit to the site. Clean-up operations including some further measures were determined subject to the expert's view to the authorities. In spite of the threat of being frozen and before the river had frozen over, these operations were completed in December 2003. Claims related to the costs of preventive measures and clean up were anticipated. The questions about being a ship under the 1992 Conventions and the location of the pollution damage were discussed whether the 1992 Conventions would be applicable to pollution damage in the inland, non-tidal reaches of rivers. Both of the 1992 Conventions accepted to be applicable to the Victoria incident according to the decision of the Executive Committee (IOPC Fund Annual Report, 2003).

For instance, in the incident of Korean tanker *Kyung Won* which was stranded on the breakwater of a village, nearly 100 tonnes of fuel oil escaped from a cargo tank and a contractor was engaged for sealing the crack and transferring the remaining oil. The barge was then towed to a shipyard in Bussan. A private clean-up contractor also worked with the Marine Police and the Korean Marine Pollution Response Corporation. This cooperation was to undertake at sea clean-up operations. They deployed response vessels in order to undertake at sea clean-up operations. Shoreline clean-up operation carried by local labor drawn from the impacted fishing communities were organized by two private clean up contractors (IOPC Fund Annual Report, 2004).

In the incident of another Korean tanker *Duck Yang* as an example, the Navy, The Marine Policy and several commercial contractors mobilized pollution response vessels. The aim was to combat the escaped oil. Cleaning of piers, breakwaters and other man-made structures was not terminated until mid-October but clean-up operations on water were completed by September 2003. Claims related to the costs of clean-up operations and preventive measures were accepted to qualify for compensation (IOPC Fund Annual Report, 2004).

It is clear that working with contractors is usual and they can be efficient in such an incident especially for clean-up operations. Contractors may speed up such an operation.

5.1.2. Animal Welfare

Birds are mostly under the effect of oil spills. Oil can be seen especially on the feathers of sea birds. This can be dangerous that after being oiled, the body heat of the birds can decrease rapidly. Death will be inevitable especially for sea birds in such cases. In another condition, when they stay on land, lack of food and starvation may cause death. In addition to these, oil can transfer from contaminated birds to their eggs. A reduction can be seen in the amount of eggs. Eating oiled prey is another possibility that may cause death. It may be dangerous and cause death because of ingestion of oil (Fingas, 2001).

Oil spills especially cause internal damage to sea birds because of ingestion of oil. Their feathers' ability can be destroyed after the contact with oil (Mitchell, 1994).

Trained personnel are essential for the capture, cleaning and rehabilitation of oiled wildlife. Special interest groups including volunteers work, for the cleaning of contaminated animals especially oiled reptiles, birds and mammals. The interest groups to avoid duplication of effort should carefully and properly carry out cleaning and rehabilitation activities. Cleaning has some disadvantages as being difficult, slow and causing the animal's further distress. If there is a reasonable chance of animals' survival, to undertake the process will be meaningful. Expenses associated with the provision of reception facilities appropriate to the scale of the problem can be compensated for admissibility of related claims. Medication and food, like accommodation and food costs of volunteers are generally compensable (IOPC Fund C. Manual, 2005).

5.1.3. Oil Removal from a Damaged Tanker

There would be a risk of losing oil from a tanker and the removal of oil would be necessary. Some factors should be taken into consideration related to oil spills.

- Weather and sea conditions during operations,
- Clean up operations or preventive measures,
- the characteristics of the affected area,

- the type and amount of oil all affect the nature of oil spills and also the oil removal operations (ITOPF, 2004/2005).

In the example of an incident on 5 November 1999, the Dominica registered ship Dolly, carrying 200 tonnes of bitumen, sank 20 meters depth in Robert Bay, Martinique. The area is used for artisan fishing with a national park, a coral reef and mariculture near the grounding site. The escape of bitumen caused fears that an impact would be on fishing and mariculture (IOPC Fund Annual Report, 2005).

Several salvage companies were asked for information to determine how to eliminate the pollution threat by bitumen. The removal of 3,5 tonnes of bunker oil were arranged by the French authorities. These companies submitted some diving inspections of the wreck. Preventive measures as defined in the 1992 Conventions would be constituted by an operation to remove the pollution threat by bitumen, because of the wreck's location in an environmentally sensitive area. The Fund would not approve the operation's cost in advance of the work. Claims of the French authorities related to operations on the wreck of the Dolly would be considered against the admissibility criteria of the Fund, the Director also mentioned the view of the Fund's experts (IOPC Fund Annual Report, 2005).

In the example of the Al Jaziah 1 tanker incident that was on 24 January 2000, in order to remove the remaining oil on board and to stem further oil leaks from the wreck, a local salvage company was appointed by the Federal Environment Agency of the United Arab Emirates. On 7 February 2000, the oil removal operation was finished. The amount of removed oil from the sunken vessel was 430 tonnes. The salvors reloaded the sunken vessel to the Abu Dhabi Freeport. The claim from the local salvage company was settled. The claim which was related to the operations for stemming leaks and removing oil from the sunken wreck and reloading the wreck was settled (IOPC Fund Annual Report, 2001).

On 12 September 2003; the Korean tanker Duck Yang was affected by a typhoon that the mooring ropes of the tanker parted in the Bussan Port (Republic of Korea). One of the cargo tank's shell plating had pierced and manhole covers of another one were open. 300 tonnes of heavy fuel oil escaped from the two cargo tanks (IOPC Fund Annual Report, 2004).

In this incident, the insurer engaged a local salvage company. The vessel was lifted out of the water. The transfer of the remaining oil on board was done to another tanker in the second phase. Claims for the costs of clean-up and preventive measures were also accepted and settled (IOPC Fund Annual Report, 2004).

5.1.4. Oil Recovery at Sea

Recovery operations at sea are difficult and expensive techniques. The type and condition of an oil spill is important for response operations. The methods of oil recovery at sea can be done by using dispersants or mechanical recovery. Booms and skimmers are devices for mechanical recovery (Hammoud et al., 2003).

In the example of the incident in Bahrain, in March 2003, oil affected the seawater intakes of two-power stations/desalination units and a further desalination unit. 100 tonnes of oil polluted 18 kilometers of shoreline. Some oil, within the causeway linking Bahrain with the mainland, also influenced the coastline of the Kingdom of Saudi Arabia. Clean-up operations required some equipment as booms or skimming vessels for at sea recovery. Clean-up operations at sea were carried out in March 2003 for this incident. The Public Commission for the Protection of Marine Resources, Environment and Wildlife carried out the operations with the assistance of the Bahrain Coast Guard. In the same month, an oil containment boom and a skimming vessel were provided by the Presidency of Meteorology and Environment of Saudi Arabia (IOPC Fund Annual Report, 2004).

On 24 January 2000, the tanker Al Jaziah 1 which was owned by a company based in Abu Dhabi and Dubai and laden with fuel oil, sank in about 10 meters of water five miles north east of the part of Mina Zayed, Abu Dhabi (United Arab Emirates). Nearly 100-200 tonnes of cargo escaped from the wreck. The impact of strong winds towards the nearby shorelines polluting some small islands, sand banks and some mangroves was monitored. At sea recovery might be a necessary measure in such a threat of extension of the oil. Local oil companies using various sources arranged the response to the spill. Some equipment was from the stockpile of Oil Spill Response Limited in the United Kingdom or from an industry stockpile located in Abu Dhabi including their resources (IOPC Fund Annual Report, 2001).

Those who had suffered pollution damage had the right to obtain compensation according to the Fund's decision. It shows that the ship owner had not intended to pay compensation. Further evidence was subject to the incidents and the losses. Some related government authorities issued documents. These documents were presented to the court by the Fund. Experts were appointed in order to investigate the incident's nature and the payments were made by the Fund. The Funds provided the requested information. The new expert's report is expected by the Fund (IOPC Fund Annual Report, 2005).

For preventing the diffusion of oil usage of booms can be effective. The oil expansion can be limited by using booms. There is an option for clean up at sea such as using booms on the sea surface. As an example, sorbent boom which is a boom type can absorb the oil at sea. Some type of booms can be used several times. Choosing the most suitable booms depends on the amount of spilled oil in the polluted area (Öztürk, 2005).

Usage of a boom can be seen in such an incident that two cargo tanks of the laden tanker Jeong Yang were holed and caused the spillage of some 700 tonnes of heavy fuel oil. This was happened as a result of the incident. Then the Jeong Yang stranded on a muddy shore, reloaded and the remaining cargo was offloaded. The oil got thick because of some factors as its high pour point and the sea temperature. In such a case, the usage of the booms was necessary. The terminal personnel using a deployed boom controlled most of the oil. Booms were also used to control the oil around the seawater intakes of three power stations and a steel plant (IOPC Fund Annual Report, 2004). The condition of oil is important to choose the best recovery option. Booms were chosen for at sea recovery for this incident. Booms have important capability of oil containment and deflection. Its behaviour in relation to water movement and its flexibility are also important factors. Booms need to be selected carefully. They should be easily handled with appropriate size and length (ITOPF, 1993).

The laden tanker Jeong Yang spilled a high amount of oil. Some vessels as fishing vessels and specialized pollution craft were mobilized for combating oil on the water. Some methods as mechanical collection methods including the usage of grab buckets and front-end loaders mounted on barges were arranged. These methods were necessary because of the nature of oil. Then the oil was controlled in the boom at the terminal. The

other amount of oil, which was floating, had been recovered and the equipment's cleaning and demobilization had started. Claims for the costs of preventive measures and clean up operations were also accepted and settled for this incident (IOPC Fund Annual Report, 2004).

5.1.5. Dispersants

The application of dispersants is a useful method for response facilities. In some circumstances, using this method may be inappropriate or unnecessary. In such a case, dispersant's usage should be reduced and other options should be evaluated.

In the incident of Al Jaziah 1, some defensive booming of sensitive areas was undertaken. The application of dispersants from supply vessels and helicopters was one of the initial applications. Usage of dispersants was considered ineffective and reduced for this incident (IOPC Fund Annual Report, 2001).

General equipment and personnel should be carefully determined for application. In addition to this, weather conditions, limitation of time and the scope and the location of the incident are subjects that should be taken into consideration. Appropriate planning is needed in every phase of transportation and receiving of dispersants (Yücel, 1996).

- The condition of spraying equipment is so important that cleaning of the equipment should be done in night hours.
- Small planes or helicopters are preferred for spraying because of their efficiency.
- The requirements of fuel should be met during operations not to cause any delays and obtaining fuel can be dealt with an urgent plan.
- The amount and the capacity of equipments of dispersants should be taken into consideration.
- Appropriate communication channels should be provided in order to prevent delays (Yücel, 1996).

In some type of beaches as shingle beaches this option can be feasible. The only possible operation is applying dispersants and to rely on wave action to turn over the shingle mass to release (Cormack, 1999).

Dispersants can cause damage to fishes. It may cause deterioration of cells or difficulty in respiration. Toxicity of these chemicals can penetrate into the gills of the fishes. Dispersants can have a limited application. Their usage depends on permission (Öztürk, 2005).

Environmental effects of dispersants can be more significant than the effect of oil. This subject should be discussed in struggling with oil. If the decision will be to use them, some points are required to be examined as:

- Rocky or shingle beaches can be suitable to use dispersants because of the need of extra cleaning.
- The efficiency of dispersants has to be evaluated.
- Dispersants can be used manually or with special equipment and they can be applied from land or sea.
- Dispersants should not be used in sensitive areas because of the threat of damage.
- It can be an additional method for response operations (Yücel, 1996).

Usage of dispersants or other similar chemicals is prohibited other than threat of fire after an incident (SKKY Art. 24/3). The prohibition is important and should not be forgotten (Kender et al., 1990). Dispersants should be carefully used. If it will be an efficient operation, the usage can be preferred as a clean up response.

In the example of the Zeinab incident, which had been on 14 April 2001, a high amount of oil contamination was observed. The oil reached the shorelines and drifted towards shorelines in Dubai (United Arab Emirates). The Dubai Port Authority coordinated the clean-up operations. Dispersants were used and applied from vessels or from aircraft. Booms and skimmers were used for collection and containment of floating oil. Dispersant usage was the initial operation in this incident. Local authorities mobilized

local laborers and mechanical equipment. All major clean-up operations including clean-up of amenity areas were rapidly completed (IOPC Fund Annual Report, 2001).

The United Arab Emirates was party to both the 1969/71 Conventions and the 1992 Conventions at the time of the incident. The liabilities distributed between the 1992 Fund and the 1971 Fund on 50:50 bases. The application of both Conventions was possible to the incident. Claims subject to pollution prevention measures and clean-up operations were settled and paid (IOPC Fund Annual Report, 2004).

5.1.6. Aerial Survey

Access is limited for some areas of shorelines. It is a useful method for difficult conditions of surveillance. The character and location of oil need to be determined by using maps or such useful equipment. An aerial survey can be beneficial to monitor the distribution of oil. The character of the oil and shoreline type can be determined (Owens and Smith, 2003).

If the appropriate operation is carried out, aerial surveillance will be successful in the following results;

- The amount of the spilt oil,
- The condition of the pollution,
- The extension of the pollution,
- The evaluation of the pollution damage,
- The preference for the appropriate equipment,
- The determination of the efficiency of appropriate methods,
- The determination of the area under threat (Yücel, 1996).

Movement of oil slicks or the behaviour of oil at sea can be conducted from the air. However, some properties should be taken into consideration. For example, good round vision is necessary for aerial observation and suitable navigational aids should be carried. Essential precautions should be taken for extensive surveys (ITOPF, 1993).

Untrained personnel in many events carry out aerial surveillance. This causes incomplete or insufficient reports. The technique should be well organized in order to get maximum benefit from it. Factors that should be taken into consideration can be determined as:

- A flight plan should be prepared in order to avoid any loss of time.
- The personnel should have the region's plan and organize the sections of the plan.
- Planes should be used for the surveillance for open seas and helicopters for coastal surveys.
- The surveillance of spilt oil on the surface of the sea should be systematically investigated.
- Aircraft should have good visibility (Yücel, 1996).

5.1.7. Shoreline Clean up Operations

Oil sometimes reaches shorelines. It may be not recovered or contained completely. Clean up operations can be required for oiled shorelines. It can be considered that at sea recovery is easier than clean up operations on shorelines. Socio-economic, aesthetic and ecological factors should carefully be evaluated relating to clean up operations and restoration. Some factors as shoreline types and their sensitivity to oil spills should be examined. Shoreline protection measures or the behavior of oil in shoreline regions are important. The damage assessment and clean up methods are also important factors (Fingas, 2001).

The aim of clean up operations on shorelines can be to eliminate the spill from the shorelines. However, efficient techniques should be preferred. Claims for clean up costs including shoreline clean up should be reasonable.

In some cases, a clean up operation may not be enough to eliminate the oil from the shore. In such a case it will be better to continue the operations. The solid nature of the oil prevented spreading on surfaces and penetration in beach sediments in the Jeong Yang tanker incident. It was not difficult to clean up the shorelines. So manual cleaning of the shorelines continued quickly depending on this advantage. However, in March 2004, new

oil sediments, which were originated from the tanker Jeong Yang, were seen on shorelines of the affected area. So further clean up operations were commenced according to the order of the authorities. In spite of a secondary clean up, trapping of some oil during the summer months within the structures of breakwaters were continued. Escape of seawalls because of high temperatures was posing a threat to nearby amenity beaches. All claims related to costs of clean up and preventive measures were settled (IOPC Fund Annual Report, 2004).

The type of shore and environmental situation should be evaluated carefully to select the most appropriate method (Yücel, 1996).

The best techniques should be chosen for different types of beaches in order to get maximum benefit of response operations. Removal activities on water surfaces are different from solid surfaces, so a cleaning problem occurs (Cormack, 1999).

Shoreline clean up method can be the most essential method of response activities. In all phases of a response operation, overuse or inappropriate use of a technique should be avoided. Costs of unnecessary operations can be considered unreasonable according to the reasonability criteria.

Extensive shoreline clean-up operations were undertaken in the incident of Bahrain. The Ministry of Municipalities and Agriculture and the Bahrain Petroleum Company disposed the oily waste. Some chemical analyses, trajectory analyses or satellite imagery were used to determine the source and behavior of the oil. The Director satisfied that a ship carrying oil in bulk, as cargo was the source of the pollution. The decision was supported by evidence. It was also accepted that this incident's claims for pollution damage were covered by the 1992 Conventions. The Fund was liable to pay compensation in spite of the absence of a clear identification of a specific vessel as the source (IOPC Fund Annual Report, 2004).

One of the most difficult shoreline types are shingle beaches. Sandy beaches and shingle beaches both require regular clean up operations. Grader sand elevating scrapers can be used as clean up equipments. This technique has some difficulties. As an example, a small amount of oil can be removed by handling and transporting a large amount of sand.

If the beach is a shingle type beach, it is more difficult to apply the techniques. Such beaches can be cleaned by natural cleaning and through wave action. Running through the shingle to considerable depth is the problem especially for mobile oil as the seawater recedes. It is hard to use heavy vehicles on shingle beaches. Sieving tar balls out of shingles can be applicable. Methods as scraping and grading are not useful for such beach types (Cormack, 1999). The aim is to apply the most suitable and reasonable operation. Such advantages and disadvantages of various techniques for different shoreline types should be carefully considered.

In September and October 2000 some persistent oil stranded on the shores, some islands in the Baltic Sea and on a number of islands in the Stockholm archipelago. Some amounts of oil from the sea and from the shore were collected as a result of this incident. Clean-up operations for this incident were undertaken by the Swedish Coastguard, the Swedish Rescue Service Agency and local authorities (IOPC Fund Annual Report, 2001).

On 14 April 2001, the Georgian registered vessel Zeinab suspected of smuggling oil from Iraq. The vessel was being escorted to an area in international waters. The vessel was escorted when its stability was lost about 16 miles from the Dubai Coastline (United Arab Emirates). The vessel sank in 25 meters of water. 400 tonnes of fuel oil were spilled during the incident. The vessel was carrying a cargo of 1500 tonnes of fuel oil but an amount of oil was spilled. The oil reached the coasts of the northern Emirates and moved towards the nearby shorelines in Dubai (IOPC Fund Annual Report, 2001). Without any further oil spill, some amount of remained cargo in the unbleached tanks was removed from the sunken vessel. Claims for clean-up measures covering oiled shorelines and pollution prevention measures were submitted and settled at an amount but further claims became time-barred (IOPC Fund Annual Report, 2004).

5.1.8. Disposal of Recovered Oil and Associated Debris

Oil can be mixed with associated material such as sand, algae or other type of material. The amount of the debris will increase by this way. Sand grains and organic debris can effect the oiling on the water column and the coastline (Davis, 1990).

The costs to store and dispose the collected material should be reasonable in order to be compensable. The proceeds would normally be deducted from any compensation to be paid, if any extra income had been received by the claimant (IOPC Fund C. Manual, 2005). Debris of the oil has to be disposed carefully.

5.1.9. Claims Presentation for the Costs of Preventive Measures

Good record keeping has a big role in the success of recovery of costs. It is important to determine whether the actions taken are linked with the expenses of the operations or not (IOPC Fund C. Manual, 2005). The claimant to the 1992 Fund and the Protection & Indemnity (P&I) Insurer should provide an information including analysis. Keeping records of the content, place, reason and the time of the incident is necessary to determine the subject of the recovery of money relating to clean up operations. In addition to these, for coordinating expenditure and working related to the maintenance or the records, appointment of a financial controller would be beneficial (ITOPF, 2004/2005).

Documentation is important for expenses. As an example, the assessment of claims can be facilitated by a brief report describing the response activities in connection with the expenses. Some information is needed as described by the IOPC Fund below:

- The explanation of the reason for selection of method with the description and justification of the work coordinated at sea on shore or in coastal waters with the summary of events,
- Work carried for each site should be properly dated,
- Expenses for labor at each site with working days or hours, employers names, personnel's number and categories for the response activities, payments regular or overtime rates, calculation methods or pay and other costs' basis of rates,
- The detailed description of heavily contaminated areas with the extent of pollution of the affected area supported by video tapes, photographs or other recording media with help of nautical charts or maps,
- Expenses for the accommodation, living and travel of the response personnel,

- Evidence such as chemical analysis of oil sample, relevant tide, wind and current data, floating oil movements' plotting or observation to prove that the oil pollution is associated with the ship involved in the accident,
- Expenses for the equipment with detailed information as purchase or hire cost, calculation method for hire, its type, usage period,
- Information as equipment's type and age, the person who supplied, cost of purchase and replaced equipment with the support by recording material again for the situation of damage,
- Materials accepted as consumable as by whom supplied, usage place, unit cost, quantity and description,
- The information of any remaining value subject to the equipment and materials purchased specifically for use in the incident in question at the end of the incident,
- Age of equipment used in that incident, but not purchased specifically for use in the incident in question,
- Used vessels or aircraft, vehicles' number and types, operation days or hours, hire rates or costs for operating, calculation methods for claimed rates including as in costs for transport,
- Calculation method of rates, unit cost, disposed quantities in addition to the final disposal or temporary storage costs of recovered oil and oily material if applicable (IOPC Fund C. Manual, 2005).

5.2. Loss of Life and Personal Injury

The term pollution damage includes damage as a result of oil contamination. The definition of pollution damage in the 1969 and 1992 Conventions includes also the damage such as personal injury or loss of life. In comparison with the other damage types, these types of pollution damage are not usual. Claims are rarely compensated for these damages. The definition of pollution damage includes claims for preventive measures and damages as a result of preventive measures. Loss of life or personal injury can also occur because of preventive measures. Claims related to this subject can be compensated in some cases (Kara, 2005).

Claims for loss of life and personal injury can be seen less frequently than other types of damages. No significant claims have been claimed and compensated especially after the 1992 Conventions. In comparison with other claims for damages such as property damage or economic loss, the application is limited for such claims. The most noteworthy example can be the Braer incident for such claims because of the effects of the oil spill on health.

5.3. Property damage

Replacement of the damaged property can be approved with a reduction for normal wear and tear in some cases where an operative cleaning is not possible because of a serious contamination of fishing and mariculture equipment. The cost of cleaning contaminated fishing equipments, industrial water amounts, yachts, mariculture installations would be subject to the claims for the damage to property (ITOPF/IPIECA, 2004).

In other words the costs of damage cleaning the intakes, equipment and machinery of industrial installations that abstract seawater, such as desalination units or power stations are all subject to the change of property. The age of the property and its expected durability need to be considered associated with the costs of replacing old items with new ones. So the full costs of replacement of old items with new ones are not acceptable in the example of a two year old fishing net would have needed replacing after use of three years with the compensation of one third of the replacement cost if it has to be replaced because of heavy contamination (IOPC Fund C. Manual, 2005).

5.3.1. Damage to Ships and Boats

Ships and boats of fishermen can be damaged as a result of a tanker incident. Damage to boats of fishermen can cause both economic loss and property damage. In March 2003, the oil 20 miles off the north coast of Bahrain had been reported by The Air wing of the Bahrain Ministry of Interior. The oil started stranding on shorelines on the north coast of the Kingdom of Bahrain. The oil continued stranding. Further oil took place on the east and west coasts of an island. Pollution began to cause damage in some places. The pollution damage affected a fishing harbor. The oil entered a port in the affected area.

Fishing vessels and gear were damaged. Over four hundred fishermen suffered property damage and economic losses. At the end of this incident, claims of the Directorate of Marine Resources for these fishermen were settled (IOPC Fund Annual Report, 2004).

5.3.2. Damage to the Fisheries Sector

Oiled nets and other items of fishing gear need to be cleaned or replaced after an incident. Especially nets, floatation gear and traps are vulnerable. In general cleaning and replacement have the aim of mitigation of earnings. Using this method should reduce existence of consequential loss. As an example, a fisherman's disablement of using the net would prevent him from fishing (De La Rue and Anderson, 1998). The choice of cleaning or replacement of the property depends on the situation of it after the damage. Nets can be replaced but this may not be suitable for all damaged property. Cleaning would be preferred in some cases.

Fish cages or other types of fishing gear are also under the effect of damage. Similar issues affect them. Different from other fishing industry claims associated with the claimant's interest in the stock, claims for loss of income may occur with the contamination of the caged stock (De La Rue and Anderson, 1998).

As examples; crabs are vulnerable to heavy oil spills. Especially oiling can be seen for a long period. Coastal inlets can be the location of fish farms and Salmon Rivers. If the oil reaches these inlets, threat of damage may occur. However, that does not pose a threat or a serious effect on salmon farms. Factors such as timing and the degree of effect of the oil should be evaluated (Davis, 1990).

5.3.3. Other Property Damages

Selling real property can also be affected by the incident at its pre-spill value. Loss of market value can be evaluated to get compensation. Some cases that many other factors unrelated to the incident could have influenced the sale of the property according to the decision of the Fund. However, if the costs of remaining operating difficulties at the farm had influenced and reduced the price, the claim would be admissible. In some

circumstances, as an example houses, which were contaminated by strong moisture laden winds acting on spilt oil, needed cleaning. The costs for cleaning should have been accepted by the Fund. Claims should be reasonable and supported by evidence (De La Rue and Anderson, 1998).

5.3.4. Presentation of Claims for Property Damage

Evidence of the damage to claimants' property and invoices for the repair, replacement or cleaning should be proved to be covered. The efficient information is itemized in the Fund's Claims Manual as:

- (a) Boats, fishing gear, roads or clothing are items damaged, destroyed, needing cleaning, repair or replacement,
- (b) Description of the occurrence of the damage and property damage because of pollution,
- (c) Expenses of cleaning, replacement or work of repair,
- (d) Damaged, replaced items' age,
- (e) Restoration costs after examples as repair of roads, piers and embankments damaged by clean-up operations including information on normal repair schedules (IOPC Fund C. Manual, 2005).

5.4. Economic Loss

If the reason is oil contamination for loss or damage, claims for pure economic loss are admissible. A reduction in tourism or prevention of fishing activity can occur as a result of spills. Consequential loss may be direct to a claimant's property as a result of physical damage. The contamination of his boat or fishing gear by oil is an example. Another type of economic loss can be pure economic loss, which may occur without any damage to the claimant's property. He is prevented from fishing because of water in order to avoid damaging his property (ITOPF, 2004/2005).

In comparison with consequential loss claims, it would be difficult to evaluate pure economic loss claims. Consequential loss claims are usually accepted to be compensated.

Without any damage to a fisherman's property, compensation can be obtained as a result of loss of income (Özçayır, 1998).

Another important point is the degree of geographic and economic proximity between the loss or damage and the contamination.

5.4.1. Claims for Economic Loss in the Mariculture, Fisheries and Fish Processing Sectors

Contaminants such as oil accumulate in the organisms at sea. Organisms feed themselves with sea water and fishes eat these organisms. So people are under the threat of cancer by eating oiled fishes. Oil has direct toxic lethal effect on marine organisms. Crabs, lobsters and shrimps are the most vulnerable marine organisms (Denizcilik Müsteşarlığı, 2000).

Chronic oil effects cause long term harm to shellfish, fish or other organisms of sea life (Mitchell, 1994).

Fishermen may suffer an economic loss until the equipment such as oiled boats; nets and other gear are replaced, repaired or cleaned. If it is accepted as a preventive measure, staying in the ports without any physical damage to property may also qualify for compensation. Loss of profit for this period can be compensable. Claims for compensation need evaluation. This evaluation depends on the satisfactory evidence such as the level of earnings and normal costs. Careful investigation with detailed knowledge is required in such cases because it can be a short term interruption or may be more significant depending on a limited fishing season. Oil spill may also cause mortalities, tainting or impaired growth (De La Rue and Anderson, 1998).

On 12 September 2003, the oil becomes scattered within the Bussan Port (Republic of Korea) in the incident of the Korean tanker Duck Yang. The hulls over 100 vessels were contaminated. Accessibility between vessels and quay walls was restricted so this caused difficult cleaning of the hulls of some vessels. Changes in freeboards of vessels as cargo was loaded or discharged also have an impact on difficult cleaning of the vessels. There

was a heavy contamination of vessels and the vessels were prevented from going until the clean-up had been completed for them. The oil also caused business interruption of some seafood restaurants when they abstract seawater into their holding tanks by the impact of the presence of oil. In general, impact on fisheries was not so severe because of the confinement of water in port areas. Clean-up costs of the hulls over 100 vessels and other clean-up and preventive measures' costs were accepted and settled. Claims such as property damage or economic loss related to the interruption of vessel operations in the Bussan Port were also settled (IOPC Fund Annual Report, 2004).

Governments may impose temporary fishing and harvesting bans because of human health concerns. These bans are imposed as a consequence of oil contamination of natural and cultivated fish, shellfish and other marine products. Contamination of equipment and promises of shortages of supply cause an interruption. The interruption of fishing and mariculture activities may cause losses to owners of fish processing facilities. The interruption of growing, feeding or normal stocking cycles may also cause losses to owners of mariculture facilities. Temporary bans to protect markets may be imposed by fish cultivators and fishermen, if the level of contamination is not sufficient to health concerns (IOPC Fund C. Manual, 2005).

Fishery related claims and claims related to the losses because of the interruption of vessel operations in ports are being assessed (IOPC Fund Annual Report, 2004). Most of these claims enable to compensate the costs of fishery related economic losses. These claims are accepted provided that they are suitable to the admissibility criteria of the Fund.

On 30 August 2003, The Russian tanker Victoria which was loading crude oil caused an oil spill. The free oil was present on the river. Activities of a local fishing and fish processing company were interrupted because of the oil. The local fishing and fish processing company has exclusive commercial fishing rights in the waters of the incident's location. A group of full-time fishermen, who are not allowed to sell their catches, operate in the impacted area. So they were all suffered economic loss depending on the interruption of their works because of the spill. Claims by the local fish processing company for the economic loss or in other words, loss of income were being assessed (IOPC Fund Annual Report, 2003).

Floating or stranded oil do not generally come into direct contact with commercially important stocks. The effect of oil spill on fisheries is usually short-lived. A catch may be spoiled or fishing gear may be contaminated even by small quantities. However, long-term impact can be possible if the impact of oil sunk in deeper waters (De La Rue and Anderson, 1998).

In the incident of the tanker *Kyung Won*, in September 2003, some fishing and mariculture activities suffered the direct effects of the typhoon and the impact of the spill. Inshore fishing with vessels and set nets, harvesting of marine products, shellfish culture farms and onshore hatcheries producing a range of marine products were activities undertaken along the affected coast of the island. Claims in respect of fishing and mariculture were settled for this incident (IOPC Fund Annual Report, 2004).

If the reason of the loss is contamination, claims from sectors which are subject to fisheries and mariculture activities such as suppliers of fuel and ice, fish wholesalers, fish porters and retailers qualify for compensation. Occurrence of a pollution incident is not enough for a claim to be accepted. The effect of the pollution should be evaluated. It is obvious that satisfying the general criteria set out by the Fund is important for all claims in related sectors. The following factors are considered to determine the link of causation between the loss or damage and contamination for pure economic loss to be compensated by the Fund;

- (a) Geographic proximity between business activities of the claimant and contamination such as in the example of operations of fishermen in a significantly contaminated area or close location of a fish farm or processing facility to the affected coast,
- (b) Degree of economical dependence between the affected source and the claimant's activity; in the example of usage of an unaffected or alternative fishing ground without any economical disadvantages,
- (c) Using alternative supply or opportunity as a fish processor who is able to find alternative fish sources,
- (d) The extent to which a claimant's business is an integral part of the economic activity; as in the example of a claimant providing employment for people living there and the location of the business (Ornitz and Champ, 2002; IOPC Fund C. Manual, 2005).

If fishing or harvesting bans to prevent the destruction of marine products were reasonable, claims subject to these losses are accepted. Scientific or other evidence should be provided if farmed fish or shellfish are destroyed. The reasonability of a ban depends on some factors itemized by the Fund:

- Contamination of the produce,
- The evaluation of the time that the contamination would stop before the normal harvesting time,
- Whether production would be prevented because of the retention of the produce in the water,
- The probability of marketability of the produce at the time of normal harvesting (IOPC Fund C. Manual, 2005).

5.4.2. Presentation of Claims for Economic Loss in the Fisheries, Mariculture and Fish Processing Sector

Claims should be carefully submitted not to be rejected. Braer incident includes an example of such a claim. Employees in the fishery sector suffered reduced work hours. Claims from employees of fisheries were not accepted by the Fund (Ornitz and Champ, 2002).

The information is required to substantiate the loss of the claimants:

- (a) Nature of loss and evidence for the loss as a result of contamination,
- (b) Monthly breakdown of income associated with the time over previous three years and the loss period,
- (c) Monthly breakdown of the amount of each marine product caught, harvested or processed for the loss period and over three years if possible,
- (d) Normal valuable expenses including saved overheads,
- (e) Loss calculation method (IOPC Fund C. Manual, 2005).

Some oil trapped in intertidal mud as a consequence of the oil spill affected some important clam fisheries in some locations in an incident. There were two options for this

situation. One of them was excavating the mud for the oil removal that would be harmful to the clam fishery for long-term damage. The other option was to allow the oil degrade naturally. The Co-operative preferred the second option because the rate of biodegradation would be slowed down by the lack of oxygen in the subsurface layers of mud. The levels were low enough to reopen the fisheries; the oil concentrations in the sediment and in the clams were required to be determined. The Korea Ocean Research and Development Institute examined these subjects. The Institute with the support of the Fund did the study. The clam fishery was re-opened as a result of collecting the samples of the sediments and clams in April 2004 at one location. The results of the samples of the second location were not similar to the samples of the first location. The fishery remained closed in the second area because of the samples containing elevated hydrocarbons levels compared with background levels. The sediments retained high in levels but a decrease of the hydrocarbon levels were monitored by further sampling of the clams and sediments, so the fishery was re-opened according to the decision of the Namhae Fisheries Co-operative (IOPC Fund Annual Report, 2004).

Evidence to prove the loss can be necessary but conditions of fishery sectors may be different. Any suitable information such as statistics can be used for evidence. Government statistics or other published information and field surveys of the affected fishery and similar unaffected fisheries are used as relevant information. This information is necessary for claims in some circumstances, because records of catches or income may not be maintained. Supporting the claims with documentary evidence will not be easily submitted. These are circumstances of some fishery and mariculture sectors which are at subsistence or semi commercial level or operating in a small area (IOPC Fund C. Manual, 2005). Preserving the samples and usage of photographic or other recording material are needed for proving the claim. Demonstration of the extent and nature of the loss is required for evidence of losses related to the mortalities in fish and aquacultural stock as a result of an incident (White, 2002).

5.4.3. Claims for Economic Loss in the Tourism Sector

Oil spills have an obvious effect in tourism sector. People who have businesses linked to this sector may suffer damage because of loss of earnings. In many incidents, examples

show claims especially by hotel or restaurant owners depending on the pollution. Other claimants who work in tourism sector may submit claims to get compensation.

Claims for pollution damage should fulfill the admissibility criteria to be reasonable. These criteria are set up by the Fund. In order to qualify for compensation, a close link of causation between the contamination and the loss or damage is essential. Following criteria should be evaluated within the link of causation in the Fund's Claims Manual;

- (a) Geographic proximity between the contamination and business activity of the claimant as an example of the area of a restaurant, tourist hotel or campsite,
- (b) Degree of dependence between the affected area and claimant's business as in the example of the location of the hotel or restaurants close to the affected area,
- (c) Alternative sources or opportunity for the claimant,
- (d) The extent to which the business of the claimant is an integral part of the activity in the affected area as in the example of environment of the people who live there or the location of the business (IOPC Fund C. Manual, 2005).

Claimants who have businesses in the polluted area are affected by a reduction in visitors to the area because of an oil spill. They sell goods or services directly to tourists such as the owners of the hotels, restaurants, bars and campsites. The owners and those providing goods or services to other businesses in the tourism industry but not directly to tourists are different from each other. Claims of the second category will not generally qualify for compensation in principle because there is not a sufficient link of causation between the contamination and any losses suffered by claimants (IOPC Fund C. Manual, 2005). For example, the earning of a hotelier decreases after an incident. Especially hotels along the coast can obtain compensation for their loss of earnings. As a result of this event, some of the employee may be released from the hotel. However, claims from such employee are not compensable because there is no causal link between the incident and economic loss (Chao, 1996).

In the Erika incident, the owner of a property suffered loss of income in the affected area. The claim was not directly related to tourists. It had not been accepted by the Fund

because it was a second-degree tourism claim. The claim was not appropriate to the admissibility criteria of the Fund (IOPC Fund Annual Report, 2005).

5.4.4. Presentation of Tourism Related Claims

The most important point is the economic loss, which has been suffered by the claimant's business as a whole because of oil contamination. A comparison between the actual financial results during the claim period and these for previous periods need to be evaluated. The assessment of claims is not based on the budgeted figures. In order to determine the revenue that could have been expected during the period, the past economic performance of the claimant's business required to be searched. Usage of historical financial results such as audited accounts or tax returns of the individual claimant for some years before the incident can be necessary. The average reduction of similar businesses in the affected area can be used for new businesses. Incomplete or no trading records of new businesses suffer a similar downturn (IOPC Fund C. Manual, 2005). New businesses may have insufficient documentation. They would not have a historical result of their financial conditions or a documentation of past years' accounts. So an observation of similar businesses in the affected area can be beneficial.

Losses are proved with appropriate evidence including some information, which is determined by the Fund:

- (a) Evidence and nature of the alleged loss because of the contamination,
- (b) Information of income both for the loss period and the same period for the previous three years,
- (c) Monthly breakdown of sold units and for previous years such as the number of bedrooms let for hotels or the number of meals for restaurants or a breakdown of income required for other businesses,
- (d) Changes in opening hours and prices in the year in which the loss occurred and for the previous three years for comparison and changes in capacity of the business as the number of hotel's bedrooms in detail,
- (e) Normal expenses including several overheads,
- (f) Loss calculation method (IOPC Fund C. Manual, 2005).

5.4.5. Claims to Prevent Pure Economic Loss

The aim of such measures is to act against the negative impact of pollution problems in fishery and tourism sectors. The claims would qualify for compensation under the convention if the measures fulfill the requirements determined by the Fund:

- (a) Reasonability of the cost of the measures is necessary,
- (b) The measure's cost will not be disproportionate,
- (c) The measures have to be successful and appropriate,
- (d) Targeted markets should be related to the measures for marketing campaigns (IOPC Fund C. Manual, 2005).

Fishermen's claims have qualified for compensation for lost catches usually when boats and fishing gear have become oiled. The fishermen staying in the harbor and suffering no physical damage to their property can obtain compensation. It would be unfair if such a claim would not be eligible for compensation. Not to risk gear and catch contamination can be accepted as a preventive measure and an alternative decision. Within the reasonability of the preventive measure, a claim for lost catch could be admitted and the measure would not be subject to an oil contamination test (De La Rue and Anderson, 1998).

5.4.6. Presentation of Claims

Image of a site after an incident can be affected significantly. The effect of the incident can be seen for loss of earnings obviously. Actually, there may not be a direct effect of the incident on the damage. As an example from the fishery sector, the negative effect of media may cause a reduction in economic loss in this sector (Chao, 1996). Similar effects can also be seen in the tourism sector. Influences of negative news which cause economic loss, have to be taken into account. So, a way of elimination of these negative impacts can be marketing campaigns. Marketing campaigns can be advantageous if they are carefully carried out. The measures of these campaigns should be appropriate and reasonable and also fulfill the requirements determined by the Fund.

- (a) Information of the costs supported by documentation/invoices which are subject to marketing campaigns or strategies to mitigate economic loss because of the incident in detail,
- (b) The purpose, nature, timing and target group in connection with each marketing activity in detail,
- (c) Normal marketing campaigns and strategies of the claimant including the costs of them in detail,
- (d) Measurable and available results of additional marketing activity (IOPC Fund C. Manual, 2005).

5.5. Environmental Damage

An economic loss, which can be quantified in monetary terms, can be subject to the claims for the impairment of the environment. Claims for the costs of reasonable measures for reinstatement or restoration would be compensable. Some criteria such as being technically feasible, enhancing natural recovery need to be demonstrated. In addition to these, the reasonability of the costs and not being disproportionate to the expected results need to be admissible. However, claims based on theoretical and speculative models or formulae will not be considered admissible (ITOPF, 2004/2005).

Some studies may be required to determine whether reinstatement measures are necessary or feasible or not and to establish the nature and extent of environmental damage caused by an oil spill. Some scientific studies should be conducted with professionalism, scientific rigor and balance. Studies should concern damage which falls within the definition of pollution damage in the conventions (IPIECA/ITOPF, 2004).

In the Jeong Yang tanker incident, the research institutes were chosen to carry out the required studies. The ship owner was provided with the names of several institutes by the Korean authorities. Post spill environmental impact studies including the description of the natural environment and the impact of the oil on ecosystems, the socioeconomic environment and marine products were carried out. Fund's Claims Manual and the admissibility criteria for the post spill studies should be taken into consideration. It should be preferred to decide on a case-by-case basis instead of deciding on the basis of a specific

spill quantity and surface coverage. The marine environment was not heavily affected because of the location of the designated port. The port where most of the oil spilled from the Jeong Yang had been covered or contained was in a heavily industrialized area. The research institutes prepared some detailed reports. This preparation was carried out to undertake studies including the related areas. Most of the Fund's concerns regarding the nature and extent of the sampling and analytical regime and the examination of the spill's socioeconomic impact were addressed in the revised proposal. The proposal was prepared by one of the institutes. According to the revised submission, the cost of the study was admissible in principle by the Fund and the insurance club (IOPC Fund Annual Report, 2004).

5.5.1. The Evaluation of Environmental Damage

Oil spills in low energy movements such as marshes; mangroves or beaches may lead to long term environmental impacts, whereas significant long term disturbances to ecosystems may not be posed by spills in high energy environments as open oceans or rocky shores. Mangroves, salt marshes, sea grasses, coral reefs and polar habitats are ecosystems which are particularly vulnerable and sensitive to oil spills and recovery may take years (Ornitz and Champ, 2002).

In August 2003, a significant impact of oil spill was observed because of the tanker Victoria. Oil had an impact on a number of islands. One bank of the river Volga that is 10 kilometers wide at the incident location was also affected. The heaviest oiling occurred with a distance of some kilometers of the terminal with distance from the source, the level of contamination decreased. Marshes surrounded the islands which are charted or uncharted over this length of the river. In spite of light staining of vegetation in some places, oil contamination has no impact on most of the marshes. In view of free oil floating between the plants, severe effect of oil contamination of some marshes was monitored. Some amenity areas as slipways and piers of recreational boat clubs, public or private beaches were contaminated by oil because of the oil spill directly or during clean-up operations within the vicinity of Syzran. Claims subject to the costs of preventive measures and clean up were anticipated (IOPC Fund Annual Report, 2003). Claims related to environmental damage includes a principle of restoring the damaged environment. In order

to bring the damaged area back to its ecological situation, clean up measures can be needed.

Barnacles and limpets are examples of species with large natural recovery capacity. The aim of reinstatement is to speed up the process of natural recovery that is the best response for them. Reinstatement activities can be appropriate and feasible in cases of threatened species (Ornitz and Champ, 2002).

Oil has various effects in the marine environment. The characteristics of oil covering the sea surface pose a serious threat. The ecological impact of oil can be seen in different conditions in the marine environment. The damage includes physical and chemical changes. It may also change physical characteristics or growth capability of an organism (Bilgin, 2003).

The most specific environmental impact can be shown such as the effect on sea birds.

Marine ecosystem is affected by oil spills under certain conditions. The amount of oil, the extension area and the location of the area are important factors which can determine the evaluation of damage (Öztürk, 2005). Recovery or reinstatement measures may be better chosen with knowledge of the link between the spill and the damage.

The marine environment, which has a great potential for natural recovery, is highly strong to short-term changes. A major oil spill will not cause permanent effects to the marine environment. The ability of environment repairing itself in a certain period of time and the transient nature of effects should be recognized. The value of environmental damage for the payment from the spiller can be quantified. Natural recovery after an oil spill can speed up through reasonable reinstatement measures within the limits to the measures for the improvement on natural processes. Such measures' costs should be acceptable for compensation (De La Rue and Anderson, 1998; IOPC Fund C. Manual, 2005).

It will be more appropriate to characterize reinstatement related to clean up action. Reinstatement can be seen as a new concept for the IOPC Funds or it can be considered

that reinstatement of the environment is a limited concept under conventions. Replacement of sand on a beach has known as the best known and compensated actual reinstatement activity. Different from the fixed concept of reasonable measures of reinstatement actually undertaken or to be undertaken for the impairment of environment, there is an argument about broadening the concept of natural resource damages (Ornitz and Champ, 2002).

5.5.2. The Extent of Compensation

The goal of reasonable reinstatement measures has to be the reinstatement of a biological community. However, to bring a damaged site back to the same or previous ecological state is impossible. The recovery of the environment's damaged components that would be enhanced through reinstatement measures related to the damaged area may be acceptable. The definition of pollution damage under the 1992 Conventions is important to underline the link between the damage and the measures (IOPC Fund C. Manual, 2005). Reinstatement of the damaged site to its former position can be preferred such as using a method of re-planting. Restoration of the damaged site is an option. Another option such as restoration at an alternative location can be preferable (CMI's Working Group on Environmental Damage Assessment, 1993).

The following criteria are needed in order to qualify for compensation:

- The recovery measures will be technically feasible.
- The actions of reinstatement should speed up the natural recovery process.
- The measures should be successful in preventing additional or distant damage because of the incident.
- The measures' cost for recovery should be beneficial and have not to be out of proportion to the extent and duration of the damage.
- Any adverse consequences for other nature and economic resources or degradation of other habitats will not be the results of the reinstatement measures (IOPC Fund C. Manual, 2005).

The toxic effects can be regional and short termed at the initial stage of an oil spill. However, the location of the spill, the season, the amount of spilled oil may affect the time.

Effects of the pollution may continue for years in the marine environment. Reinstatement measures can be difficult in some areas. Some beach types are cleaned with difficulties. Winds and currents can cover the oiled surface with sand in coastal areas. So the oil under the sand can be seen on the surface later again. Reinstatement measures should be suitable for the extent of environmental damage (Bilgin, 2003).

Reasonable measures of reinstatement actually taken or to be undertaken are available to qualify for compensation. The available information is important for claims assessment in case of the reinstatement measures, which were undertaken. Claims calculated on an abstract quantification linked to theoretical models are not acceptable to be paid for compensation. Compensation is also not paid for damages of a punitive content on the basis of the fault degree of the wrong doer. Each claim is decreased by the same percentage if the available total amount is less than the total amount of established claims (IOPC Fund C. Manual, 2005, Ornitz and Champ, 2002). Loss of use of enjoyment of the natural resources, loss of services recognized or acquisition of equivalent resource or habitat is not accepted for compensation under the 1992 Conventions (Ornitz and Champ, 2002).

If there is an evidence of significant environmental effect, some studies will generally be necessary and appropriate in case of major incidents. The measures should be necessary and feasible. These studies are beneficial for the determination of measures. The expenses of such measures should be reasonable. The damage should fall within the definition of pollution damage under the 1992 Conventions. Contributions can be obtained from the Fund for reasonable measures. Professionalism, scientific rigor, objectivity and balance are essential factors when the studies are carried out. It is better to establish a mechanism to coordinate such studies within the affected member state. Useful and reliable information is also needed in respect of post-spill studies to be compensable (IOPC Fund C. Manual, 2005).

Reasonable reinstatement measures are considered as appropriate claims in order to provide compensation according to the 1992 CLC. To prevent the submission of inappropriate or unreasonable claims, the reasonableness test will be necessary. However,

any definition to clarify the measures of reasonable restoration or reinstatement measure is indicated in the Convention (Ibrahima, 2005).

Unquantifiable elements such as the loss of income to persons depending directly upon income from sea related activities, damage to the marine environment based upon theoretical models are kept out. Intrinsic environmental benefit or passive uses are not accepted as compensable for environmental damage. Quantifiable elements; for example the loss of income to persons depending directly upon income from sea related activities are appropriate for compensation (Ornitz and Champ, 2002).

Necessity of a post spill environmental study after an incident should be determined with the participation of the Fund by an invitation at an early stage. Any measures of reinstatement later undertaken or purposed will not be always compensable in accordance with the participation of the Fund. Any post spill environmental study does not unnecessarily repeat with the important role of the Fund. The Fund has to become involved in establishing and planning the study, which is agreed to justify. Clear and important documentation of the results and monitoring the progress is significantly needed also for the data by the Fund for future cases. The employments of eligible experts and techniques can be done by assistance of the Fund (IOPC Fund C. Manual, 2005).

The costs of measures should be admissible and appropriate relating to the expected results. The measures should also be successful and reasonable. Some measures for reinstatement may not be compensated. A creation of a plant habitat, as a replacement in a different location instead of the oiled one may not be compensated. Cost method for the reinstatement depends on the damage assessment and evaluation methods (Gauci, 1999).

5.5.3. Claims Presentation Related to Environmental Damage

Factors that should be included in claims subject to the reinstatement measures:

- (a) Several types of evidence for the connection between the oil pollution and the ship in an incident,

- (b) The exact description of the spill affected area with the description of the situation, the extent of the pollution with the oil affected resources,
- (c) The breakdown of related costs and studies' details with the results, which were undertaken for the consideration of environmental damage and observation of proposed reinstatement measures,
- (d) The breakdown of related costs with the information for the description of reinstatement measures undertaken or to be undertaken in a detailed form (IOPC Fund C. Manual, 2005).

The biological effects of the oil spills can be determined in fauna or flora physically. Impacts on fauna and flora can be defined as lethal or sub lethal toxic effects. As in the oil incorporation into sediments, physical and chemical change can occur in natural habitat.

In the case of Victoria incident, marshes surrounded many charted or uncharted islands. However, staining of vegetation had occurred in some places. Most of them were not polluted by oil. The floating oil significantly affected a number of marsh areas. Free oil floating between the plants remained one month after the incident (IOPC Fund Annual Report, 2003).

Physical and chemical properties can be seen in different crude oil and oil products (Dicks, 2005).

Year and time are important for oil spills. Winter and summer has differences in the effects of a spill. Oil may have an influence on wintering seeds and reduce germination, oil can damage new growth in spring or summer (and also decrease in flowering) (Dicks, 2005).

Another side of oil spills is the probability of freezing before clean-up efforts. As in the incident of the Russian Federation tanker Victoria clean up competed before the river had frozen over in early December 2003 (IOPC Fund Annual Report, 2003).

6. ASSESSMENT OF CLAIMS

6.1. Assessment and Settlement of Claims

In case of submission of claims, some questions surfaced such as the identification of the claimant and where this claim should be presented. These are questions related to the submission of claims. According to the 1992 Conventions, anyone who has suffered pollution damage has right to present a claim for compensation. Public authorities, private individuals, companies, partnerships or private organizations may all be examples for claimants. In some events, coordination of claims can be seen between some claimants who suffer similar damages. That kind of an assessment may be easy for both parts of claimants (IOPC Fund C. Manual, 2005).

Documentation is necessary for the settlement of claims. The Fund pays compensation for proved claims. So there is a need of proving the claims by using some documents such as receipts invoices, explanatory notes or other related materials (Jacobsson, 1993).

Claims may be made against the ship owner and his insurer and the 1992 Fund if the damage is occurred in a state, which is party to both the 1992 Conventions (Civil Liability and Fund Conventions). However, for States, which are only party to the 1992 CLC, claimants can make claims against the ship owner and his insurer (IOPC Fund C. Manual, 2005).

Experts can be used for the assessment and settlement of claims. The IOPC Fund and the Protection and Indemnity Insurance Club (P & I Clubs) decide together for the investigation of claims. Surveyors are appointed by them for clean up operations, assessment of the incident and evaluation of the costs (Jacobsson, 1993).

6.2. Time Bar for Claims

It takes a short time to settle the claims in general. If the documentation is insufficient, the claims are settled in a longer period. In most cases, settlement of claims and payments of compensation are possible (Jacobsson, 1993).

Claimants should submit claims as soon as possible after the occurrence of the damage. Time limits are important for claims under the 1992 Conventions. A claimant can maintain a claim at a later stage so the 1992 Fund and the P&I Club should be notified. That would be applicable if it is not possible to make a claim shortly after the incident (IPIECA/ITOPF, 2004).

If legal action is not brought against the 1992 Fund and the ship owner and his insurer within three years of the date when the damage occurred, the Civil Liability and Fund Conventions cannot provide compensation to claimants. Claimants should also bring legal action in any event within six years of the date of the incident not to be time barred (The 1992 FC, Art.6).

6.3. P & I Clubs

Liability, fines and losses as a result of discharge or escape of oil from tankers are generally covered under the P&I policy under certain provisions. As an example the losses which include damage, expenses and costs are evaluated within the limits of liability of the Conventions. Change of conditions is possible and depends on the P&I Club and time (Gold, 1985).

Mutual protection associations were set up by shipowners. They wanted to share risks and difficulties together by forming these protection associations. There were many risks such as damage to shore installations or claims related to death or personal injury. In the following years, shipowners' liability for the losses of cargo was needed to be shared. Mutual indemnity associations were established and continued as the Protection and Indemnity Clubs (Hudson and Allen, 1996).

The ship owners are insured against third-party liabilities concerning oil pollution by the P&I Clubs. These insurance clubs are mutual, non-profit making associations. The pooling of large claims by the major P&I Clubs that are members of the International Group extended the scope of mutuality. Each club sustains the first part of any claim. In case of a very high amount, International Group Clubs on the world's insurance markets placed excess insurance in the event of catastrophic claims above the limit of the pool. This would be available in rare circumstances such as loss of right to limit the ship owner's liability under the CLC in a very expensive case (IPIECA/IOPF, 2004).

The P& I Clubs, which insure the third-party liabilities of shipowners concerning the liability for oil pollution damage, cooperate with the 1992 Fund in handling of claims. Claimants should first submit their claims to the ship owner or his P&I Club. In case of an incident, if the payment of compensation will be appropriate and admissible under the Conventions, claims for compensation may be submitted. Claimants may send their claims with the necessary documentation to either the Fund or the P&I Club (IOPC Fund C. Manual, 2005).

However if the register of the ship owner is not good, the Clubs have right to take some precautions against such ship owners such as higher insurance premium or to finish the membership in the Club, in worse conditions (Kara, 2005).

Full time managers of P&I Clubs are assisted by a worldwide network of commercial representatives who act as the Club's local contact of an incident's site and deals with their day-to-day businesses (IPIECA/IOPF, 2004).

A uniform interpretation for the definition of pollution damage is important and essential according to the Fund. It is necessary for proper functioning of the compensation regime of the Civil Liability and Fund Conventions. The insurance for the ship owners obtain the insurance under the CLC in connection with the link between the Clubs and the IOPC Fund. The CLC applies to claims for pollution damage that always need to be reasonable. These claims may be settled and paid in accordance with the limits and other provisions of the Conventions. A distinction should be made between the recoverable claims and claims which are not admissible according to the decisions of the Clubs. The

criteria for preventive measures are examined at the time of the consideration of pure economic loss. The claim for environmental damage is payable when the claim is quantifiable concerning an actual economic loss and accepted by the clubs (Özçayır, 1998).

6.4. Examples

6.4.1. Pollution Damage in the Erika Incident

The Erika incident caused various types of pollution damage. A cargo of 31.000 tonnes of heavy fuel oil was being carried by the tanker, which broke in two in the Bay of Biscay. A high amount of oil was spilled during the incident. The oil removal operations from the two sections of the wreck were carried out without any significant escape of oil. The oil affected 400 kilometers of shoreline. Stranded oil needed secondary cleaning but it did not take a long time to remove the bulk of the oil from shorelines (IOPC Fund Annual Report, 2004).

6.4.1.1. Claims Handling Office. In major incidents claims handling office is beneficial for handling of claims. Establishment of such an office would help for an easy settlement of various types of claims subject to the pollution damage in major incidents as Erika.

In the Erika incident, a claims handling office in the 1992 Fund and the Steamship Mutual were established in Lorient. Clean up, fishing, mariculture or tourism related experts have examined claims. The aim was to serve as a link between the technical experts and the claimants relating to compensate the claims for pollution damage (IOPC Fund Annual Report, 2005).

6.4.1.2. Assessment and Settlement of Claims. Various types of claims have been assessed relating to the Erika incident. Pure economic loss claims were submitted for loss of earnings suffered by persons whose property had not been polluted. Issues to admissibility of these claims are examples to subjects of the majority of claims' types rendered in French courts (IOPC Fund Annual Report, 2005).

A distinction may be needed between the actual financial results for previous periods and results of the individual claimant during the claims for pure economic loss (IOPC Fund Annual Report, 2005).

For claims relating to the tourism sector, claimants who provide goods or services to other businesses in this sector but not directly to tourists differ from the group of claimants whose businesses are affected by a reduction in visitors to the area influenced by the spill. There is a difference between the two types of claimants. One of them sells services or goods directly to tourists and under the direct impact of the oil spill. However, the other one is not under the direct effect because there may be no close link of causation between the contamination and the losses. The Fund may not agree to compensate such claims in the absence of a close link of causation (IOPC Fund Annual Report, 2005). For example the Fund did not accepted a claim of a wholesale business operating from various locations in Brittany supplying bottled drinks to cafe's, hotels and campsites (not directly to tourists) in other areas and in the area affected by the spill. It was a second-degree tourism claim and related loss of revenue, so it was rejected by the Fund (IOPC Fund Annual Report, 2004). It is important to determine the proximity of the losses. If there is a causal link between the damage and pollution after an incident, economic loss should be evaluated. A reasonable proximity is taken into consideration. The concept of economic loss can be extended but includes all economic loss claims reasonable and acceptable (CMI's Working Group on Environmental Damage Assessment, 1993).

A claim for moral damages relating to stress suffered because of the incident and loss of revenue, which had been submitted by the owner of a grocery store located 200 meters from the shore. The claim for loss of revenue had been accepted by the Fund at an appropriate amount but the other claim had been rejected. A clear decision was necessary for moral damages under the scope of the 1992 Conventions. Claims for moral damages fell outside the content of the 1992 Conventions. Such claims are not appropriate to the admissibility criteria of the Fund (IOPC Fund Annual Report, 2004). The judgment clarified such claims as moral damages would not qualify for compensation. It would be a sample decision for other claims such as moral damages.

6.4.2. Pollution Damage in the Prestige Incident

An amount of oil was being listed and leaked from the Bahamas registered tanker Prestige. The vessel broke in two and sank in Spain. The vessel was carrying heavy fuel oil and 25.000 tonnes of cargo were released from the vessel. An amount of cargo remained in the wreck. The oil affected the coast of Spain and France. The oil released and drifted with the effect of winds and currents. At sea and onshore clean up operations were preferred in this incident in the affected area such as France or Spain (IOPC Fund Annual Report, 2004).

6.4.2.1. Assessment and Settlement of Claims in the Prestige Incident. Many claims were made to the Claims Handling Office in Spain. Associations represented shellfish harvesters and fishermen. At sea and onshore clean up operations, tax relief for businesses were all affected by the spill. Costs relating to publicity campaigns or compensation payments to fishermen and shellfish harvesters are examples for claims. There were also claims relating to tourism, mariculture or property damage (IOPC Fund Annual Report, 2004). As an example to the environmental damage claims, the International regime was criticized. The IOPC Fund provides compensation for reasonable costs of restoration. However, ecological damage or damage to biodiversity may not be compensable. Environmental damage is not actually compensated enough according to the European Commission. However, this may be a result of economic reasons (Faure and Hui, 2003).

The cost of the operations to remove oil from the wreck of the Prestige was €109 million. The claim relating to this cost was evaluated and the admissibility of this claim was examined. Claims should fulfill the Fund's admissibility criteria. The claim was not suitable to the admissibility criteria according to the view of the director. Some delegations had agreed but some other delegations had disagreed with the decision. The costs were divided into two groups as costs incurred in 2003 and costs incurred in 2004. The claim for the costs incurred in 2004 was accepted inadmissible according to most of the delegations. A decision was also taken about the admissibility criteria. The criteria should be clarified and examined. Some of the costs incurred in 2003 were accepted admissible according to the decision of the Executive Committee (www.iopcfund.org/prestige.htm#wreck).

7. CONCLUSION

Pollution of the seas is a continual problem. In spite of conventions and precautions, marine incidents have not been stopped. The incidents cause pollution damage as a result of the effects of oil pollution. So, various precautions are required to be taken after the accident.

The International Conventions such as the 1992 Civil Liability and Fund Conventions regulate the compensation system. Victims who suffer pollution damage have the chance to obtain compensation under the Conventions. However, the implementation of the international regulations is necessary. These international regulations should not be in contradiction with the instruments of national law of a state.

Turkey is a party to the 1992 Protocols of the CLC and FC. Turkey is one of the most significant contributors of the Fund. These protocols can be beneficial to compensate the losses as a result of pollution damage. There were significant marine incidents in the past. Such conventions are necessary for oil pollution in Turkey. Implementation of the International Conventions might be required for oil pollution in Turkey. Implementation of the International Conventions into Turkish legal system can also be examined. A new act including similar subjects has been designed by the Undersecretariat for Shipping. Such acts should be carefully adopted not to be in conflict with the International Regulations.

Turkey may be a member of the 2003 Supplementary Fund. Seas are under the threat of incidents which can occur as a result of tankers' voyages. Supplementary Fund includes raised compensation limits. Compensation with increased levels will be beneficial for claimants. Losses of victims who suffer pollution damage can be compensated by the high amounts of the Supplementary Fund. It can be an additional compensation for oil pollution damage. It would be beneficial for victims who suffer pollution damage. Turkey's ratification to the Supplementary Fund 2003 would increase the levels of compensation.

Pollution damage has various types. The balance should be carefully found between the payments and the claims. Inappropriate claims are eliminated and not compensated by the Fund. Different groups of pollution damages and examples may help claimants. All

claims are not accepted by the Fund. Reasonable claims are suitable to the admissibility criteria of the Fund. Such claims can be settled by the Fund. The admissibility criteria are important for the assessment of claims in order to pay compensation. However, there are still questions about some claims. Claims have to be proved by the claimants. The source of the pollution should be the incident. Other provisions are determined in the Protocols.

The admissibility criteria of the Fund may be not enough. As an example, a claim in relation to environmental damage includes concerns in application. It is questionable that natural resources damages or damage to biodiversity may not be found compensable. Various claims in different groups of pollution damage may require an evaluation. A decision of the Fund related to a claim can be assumed as a sample for similar claims. Examples from incidents can be used for assessment and evaluation of claims.

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