

Estimating the Economic Loss of Marine Pollution (Oil Spills) caused by Sinking several Oil Tankers in Boushehr Province to Regional Economy by using I-O model

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Abstract

Oil spill is a form of pollution that occurred due to human activities. An oil spill is the release of liquid petroleum hydrocarbon into the marine areas which has a lot of negative effects on ocean and coastal waters. According to last century, oil tankers are the main cause of oil pollution in marine areas all over the world. Thousands of oil spill is happen each year that most of them are small scale but some of them are large scale and really harmful for environment. As oil spill could spread easily in water and land, so the cost of cleanup is very high.

Persian Gulf and Oman Sea are faced with large pollution because of the high traffic of ships and oil tankers. In this region Nayband Bay National Marine Park is located in south of Iran and north of Persian Gulf which is one of the most valuable protecting areas with important coastal and marine ecosystems. This area is supporting the fisheries of Boushehr Province which has the important role in fishing and aquaculture industry in Iran. In 2010 two oil tankers were sinking in Nayband Bay area that caused to leakage of more than 40 thousand liters of oil to the sea. This has led to economic losses to the region. So in this study the aim is to estimate the amount of loss in money terms in economic activities related to fisheries and then on total economic sector of Boushehr Province. For doing that we have applied regional Input-Output table with semi-log method. In second stage because of the importance of fisheries sector and the direct effect of oil spill in this industry, we used this sector as an exogenous shock to the model.

Polluted area was close to one of the harvesting point in the region and according to fishing data, the fish caught has been reduced about %9 in next year 2011 which could be the reflect the harm effect of pollution in nursing and fishing in that year. By using of this reduction in accordance with I-O table the result shows that total economic loss to the regional economy is at least \$175 000 for 2011.

It should be mentioned that this is just for economic sectors and environmental loss should be added to this number. So cleanup cost could diminish total economic loss in long run.

Keywords:

Oil pollution, Input-Output Table, Regional Input-Output model, Nayband Bay National Marine Park, Boushehr, Iran