

ENVIRONMENTAL AND SOCIO POLITICAL IMPACT OF OIL PRODUCTION AND CONSUMPTION: CASE OF INDONESIA

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Abstrak

Minyak adalah mesin untuk pertumbuhan ekonomi dan langkah dari pembangunan dunia dimana di abad yang lalu telah terbukti. Menggantikan nasib pada minyak, bagaimanapun, akan mengantar kepada penghancuran pertumbuhan karena minyak bukanlah sumberdaya alam yang dapat diperbarui. Secara umum, makalah ini berusaha untuk menampilkan persoalan produksi dan konsumsi minyak Indonesia dimana persoalan minyak dapat dilihat sebagai persoalan kehabisan sumberdaya alam dengan Indonesia sebagai studi kasus. Dengan menggunakan kerangka kerja keadilan lingkungan, makalah ini terutama memfokuskan pada bagaimana industri minyak berdampak pada keadaan lingkungan dan kehidupan sosial politik masyarakat.

Kata kunci: dampak lingkungan, dampak sosial, produksi minyak, kerangka kerja keadilan lingkungan, Indonesia.

Introduction

Oil is the backbone of Indonesia's economic growth (Steele 2008). Once being a member of OPEC, Indonesia enjoyed the hike of oil price sometime in 1970s and found that oil is a very strategic means to spur economic development (Pallone 2009). Many scholars argues that Indonesia had successfully invested oil rents derived from high world prices into economic development projects that diversified its economy away from oil and helped to prevent the onset of Dutch Disease.

Yet, in contrary to the expected pool of wealth for the whole nation, the oil-led growth could not bring substantial change in the livelihood of most of the populace. Timmer (1994), for instance, shows that Indonesia's economic windfall from oil sector has led to the gradual abandonment of the agricultural sector, leaving the rural-urban terms of trade neglected. Indeed, when economic improvement was materializing through the massive establishment of buildings, roads and other infrastructures, their concentration were primarily in Java, making the island a special destination for urbanization and pooling the best human resources.

Critics unfailingly condemn the making of Indonesia as rentier state which destabilizes political institution, impoverishes its people, and fuels the feeling of antipathy between economically advantaged and disadvantaged

people as much as political distrust between central government and local governments. The hope brought by political transition from Orde Baru (New Order) to Orde Reformasi (Reform Order) falters. New laws which issuance were meant to spur economic development and political authority among the outer islands through decentralization also did not materialize as to the expectation.

The truth of the matter is that natural resources abounds for extractive industries are abused in the hands of either the central government or the local government. This is because, in a rentier state, governments act as mere rent-seeking institutions through the authority vested on them (Budiman 1991). And yet, the crux of the problem is, while the production of oil in Indonesia has been dwindling along with the downturn of actual oil reserves, Indonesia is now coming to terms to varieties of environmental damage and social cost, as a result of prolong consequences of long neglected oil business in the country.

Objective of the Paper

The paper attempts to show the environmental and socio political impact of oil production and consumption by the use of environmental justice framework. Using Indonesia as a case under study, the discussion will be focused on how oil industry has impacted

the state of the environment and the socio political life of the people and the ecosystem within its territory. The use of environmental justice framework is bent on several concerns, including the distribution of control over oil, the distribution of environmental and socioeconomic costs of oil, the hazards and risks from oil, and the politics surrounding it.

B. Environmental Justice Framework

According to O'Rourke and Connolly (2003), "environmental justice framework stresses the need to evaluate power in driving the distribution of benefits and costs of industrial activities." With reference to oil, the definition implies that, instead of ownership, institution in which control over key stages of oil chain rests signify the disproportionate, yet actual, power of world oil production and consumption. Also bearing to this definition is the distribution and regulation of environmental [and health] hazards from oil production and consumption, particularly in the distribution of risk and costs, which largely affected the local inhabitants of the oil reserves and its surrounding ecosystem.

Discussion

1. Power over Oil Reserves in Indonesia

Oil exploration in Indonesia was started in 1871, not long after the first oil discovery in the United States in the mid 19th century. The first commercial production was soon followed in 1885, with the domination of three merged, foreign companies of Shell/BPM, STANVAC, and Caltex. At present, the single largest oil producer is Chevron, which control Caltex Pacific and Unocal's former Indonesian assets. BP, ConocoPhillips, ExxonMobil, and Total

are also significant oil producers in the country, with the current presence of China's state-owned companies PetroChina and China National Offshore Oil Corporation (CNOOC) (Pallone 2009).

Currently, with low domestic capacity to find new oil reserves on the one hand and low foreign investment in energy sector on the other hand, the government is trying to entice potential foreign oil companies to set afoot in Indonesia's oil operations. While privatization is seen as the main solution for doing away with the low interests of investments by foreign companies in oil sector, the attempt of current government to impose corporates' obligation concerning people empowerment and planet conservation, in addition to profit maximization, through Law on Oil, Gas, and Mining Industry No. 64/2009 are somehow overlooked with much skepticism. Many considers that the law would lead to nowhere as it will not be of any help to bring the existing environmental problem to an end, while discouraging any companies to invest in country with stricter rule, making the new law subject to review (*Jakarta Post*, 29 April 2012)

2. Environmental Impacts of Oil Production and Consumption

Oil operation covers the "upstream" phase (i.e. oil exploration, drilling, and extraction and "downstream" phase (i.e. oil refinery, transportation and marketing). The physical alteration of environment from these procedures is said to be greater than the alteration caused by large oil spills (O'Rourke & Connelly, 2003: 594). Some of these are sorted in the Table 1 below.

Table 1. Oil production and its impacts on the environment

	Activity	Actual and Potential Impact on Environment
1	Exploration	Destruction of forest land, vegetation, and farm land/human settlement Noise pollution and vibration from seismic shooting, leading to disturbances to flora and fauna habitats

2	Drilling	Accumulation of toxic materials out of drilling materials (i.e. drilling waste and associated waste), causing oil pollution to the sea, beaches, or land The use of radioactive materials during drilling leads to bioaccumulation of oil, mercury, and other products in mammals and fish that human consumes Drilling emissions destruct breeding grounds for some marine fisheries, mutation of fisheries, and kill bottom dwellers Pollution of underground water
3	Production/process	
	(a) plat forms and tank forms	Water pollution from long term cumulative effects of produced water with high salinity Water pollution from salinity waste, used lubricating oil and solid waste, deteriorating marine life
	(b) gas flaring	Air pollution from gas and processing evaporation and flaring. Production of heat kills vegetation around the heat area, affecting to the growth of trees and flowers and reducing agricultural productivity
4	Refining petroleum	Air pollution and waste water impact negatively on human health and ecosystem
5	Oil spillage	Water pollution destructs farmland, fishery and aquatic resources and mangrove ecosystem
6	Tanker loading, both onshore and offshore	Water pollution from blast and tank washing
7	Storage depot	Land pollution from effluent water and solid waste of chemical cans and drums destruct farmland Air pollution from gaseous fumes during loading
8	Transportation	Disruption of sea-bed by dredging for pipeline installation Water pollution from consequences of leaks from fracturing or breaking of pipe caused by metal fatigue, trawlers and dredges or sea floor failures and sabotages Water pollution by transport tankers, impacting marine ecosystem and coastal communities, threatening human health through illness and injuries during the spill, cleanup, and consumption of contaminated fish
9	Marketing	Pollution of immediate environments from retail outlets High hazard potential where located near residential buildings

Source: Orubu, et al (2002), cited in Orubu, Odusula, and Ehwarieme (2004), and O'Rourke & Connelly (2003).

In Indonesia, government subsidy poses the greatest challenge for lessening the burgeoning oil consumption provided the population pressure and the rising economic activity. The energy consumption, along with forestry, count for two major contributions for Indonesia's green house gas (GHG) emission, which is the third after the U.S. and China. Oil alone makes

the most of energy resources being used from 1960s onward, with transportation sector as its main absorbent, as seen in Table 2 below.

Table 2. National oil fuel consumption

No.	Sector	Percentage of Oil Absorption
1	Transportation	51
2	Electricity	17
3	Household	16
4	Industry	15
4	Others	4

Source: The Handbook of Indonesian Energy Economic Statistics, 2010

Since 1970s onward, the growth rate of energy consumption in Indonesia is 7% per annum, and is persistently dominated by fossil-based energy (Kementrian Lingkungan Hidup, 2007). In the meantime, transportation energy consumption alone grew at an average annual rate of 6.3%, creating various problems ranging from air and noise pollution through land use change and imbalance

3. Social Impacts of Oil Production and Consumption

While oil operation causes immediate disruption to sensitive environment (first round effects), the whole process of oil operation triggers adverse, long-term welfare implications. These multiple effects pertaining to economic distribution, political ethics, and legal (second round effects), some of which are shown in Table 3 below.

Table 3. Oil production and its impact on society

	First round effects	Second round effects
1	Deforestation and land clearing for access roads	Loss of territory and displacement of indigenous groups, threaten their survival Unfair compensation below market value opens up long-term socioeconomic tensions Competing interests between logging and mining actors to enter indigenous communities and colonize the area, often transmitting infectious diseases previously unexposed native populations
2	Supply of cheap (both skilled and non-skilled) foreign labor	Exposure of wealth disparities within the corporation and between those who bear the cost and those who benefit from oil production Questions over basic workplace rights and health and safety protection among workers themselves Social unrest due to denied legitimate claims to wages, benefits, and compensation

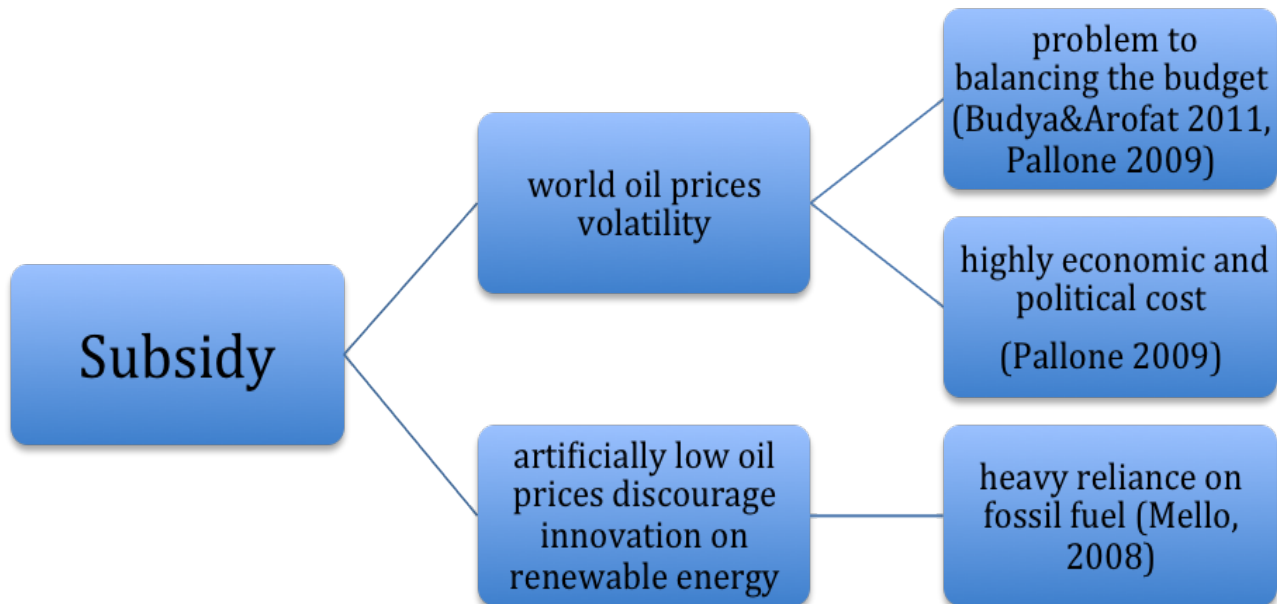
Source: O'Rourke & Connolly (2003)

As seen in Table 3, oil production has dire consequences for both environment and society, ranging from the loss of territory and displacement of indigenous people due to land procurement to competing interests between logging and mining actors in clearing the land and extracting what they want each. Other problems, such as the exposure of wealth disparities between those who bear the cost and those who benefit from oil extraction on the one hand, and questions over the implementation of basic rights and protection among oil company workers themselves, will eventually lead to social unrests both vertically

and horizontally.

Until August 2013, the government was pressurized to subsidize oil due to the low purchasing parity of majority of the people. Altered by the new policy of free floating price, the subsidy policy had inevitably caused tremendous impact to the life and the culture of invention of its people (see Graph 1).

Graph 1. The unintended effect of subsidy



Indeed, with 240 million people and rising economic activity on the one hand and the maturation of oil fields on the other hand, Indonesia finds itself vulnerable when keeping oil supply through import and ensuring the reasonable price of oil in the domestic market. By economic estimation, the adjustment oil price policy will save the budget from inefficient spending due to misguided public spending. While the lifting of the subsidy policy is aimed at improving the life of the people through social safety net, the implementation of the policy itself required concerted action from all government bodies and related stakeholders. Otherwise, the currently approved policy ends up in vain, just like the preceding policies of oil extraction and subsidy.

Conclusion

The above discussion provides a case of Indonesia's challenge with regards to oil, as both energy resources and market commodity. It also shows interesting picture of oil production and consumption, because of its change of status from being a net exporting country to net importing country, each with its own impact on the environment and the socio political life of its people. The impact can be immediate, especially for those people living in adjacent area, or even multiplier one in as much as it affects the whole nation and the living ecosystem in a much longer term.

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