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## Conflict Management of Renewable Natural Resources in the Border of Indonesia-Malaysia: Sustainable Environmental Approach

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### Abstract

Limitations and abundance of natural resources have become some of the conflict triggers of renewable natural resources at the border of Indonesia and Malaysia. There are fundamental differences between the conflicts over renewable natural resources and non-renewable natural resources especially in the border area. The renewable natural resource conflict is cyclical, while the non-renewable resources conflicts only apply temporarily in the same location. The analysis uses modification of RAFISH method by using multidimensional scaling (MDS) technique. This index indicates that only economic dimension is sustainable, legal and institutional dimensions are less sustainable and ecological, socio-cultural and technology dimensions are not sustainable. According to leverage analysis, it shows that there are some attributes such as leverage factor to ecological, socio-cultural and technology dimensions.

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## 1. Introduction

Limited natural resources are leading a state to seek a way to expand their territory. Conflicts between neighboring countries tend to be more likely intense and durable [1]. Conflicts over natural resource management across territorial borders have been going on a lot, for example the conflicts about oil in the Gulf War conflict, the conflicts on water consumption between Israel and Arab countries along Jordan and Orange River, the conflicts in Namibia, Lesotho, and South Africa [2].

In the future, conflicts over natural resources will be more massively with the limited natural resources. The need in fulfilling natural resources make each country fight to expand crossing the country's territorial to search and to satisfy its domestic needs. The awareness of the importance of a sustainable environment has started centuries ago, even now it is growing globally as people begin to realize that they live on the edge of resource extinction. The world witnessed the real indication of environmental issues and its effects.

Various forms of power interact and compete not only internationally but also intergenerationally. Environmental problems that occur will bring impact on all aspects of life so there will be no single country spared from it. It will go beyond administrative boundaries and geo-politics of a country and ignores the cause and source of damage.

Philosophically, the early Malthusian approach indicated that human population growth exceeds the availability of natural resources, especially food, which would lead to war, disease and hunger. This condition is a dilemma of civilization. Although nature has a carrying capacity of its own, it is the condition of population growth that exceeds the supply of resources may lead to conflicts [3].

In classical economic perspective on the use of natural resources, Green believes that the system of distribution based on supply and demand could arrange the setting that would effectively be able to cope with scarcity. Simply put, the classical economic perspective assumes as resources become scarcer as the price goes up so it will prevent over-consumption and spur the substitution and the development of technology [4].

Many areas have become the source of dispute or they deemed to have commodities or vital natural resources like mineral deposits, mining, petroleum, water or rich farmland. Certain areas are contested as they provide the access to the sea and to the commercial routes that play an important role in the world trade traffic. The population of a region is also significant to determine whether the region is important. Another remarkable advantage of a region is its contribution to national security.

Ironically, developing countries with abundant natural resources (including Indonesia) often struggle to meet the basic needs of their citizens due to poor natural resources management. Many researchers identified the abundance of resources would be one of the key determinants of natural resource conflicts. Abundance of natural resource for a country is just like misfortune. This is because of its poor natural resources management and the expansion from other countries [5].

The competition of palm oil management between Indonesia and Malaysia will increase along with rising demand of palm oil derivatives, such as cooking oil. Besides economic reason, ecologically Malaysian expansion of investment in Indonesia is the result of some plantation areas conversion in Malaysia into forest ecotourism and also to generate foreign exchange for the country itself. It can be said that Malaysia is a step further than Indonesia in terms of understanding paradigm related to environment. In Indonesia, ecological paradigm has not been implemented in the oil palm plantation opening. Economical and political reasons that overlap between investment and political interests lead the opening of oil palm plantation to meet the needs of palm oil and its derivatives will continue to rise.

Goldmann and Schurman [6] stated in their review, that nature-society that are related with needs, consider the ecological process, political-economic structure of values, component of analysis, and representatives as needed. Other reviews pointed out the political ecology as world system theory, a dependency theory with structural approach in form of concept of control and access to the resource, marginalization, granting the surpluses, and focusing on relation between production and power.

This environmental conflict is elaborated by Peluso [7], she reveals the forest management in Indonesia and Java island in particular. The greatest part of forest in Java is covered by teak forest, one of forest products with high quality and due to its scarcity it becomes an expensive commodity. The way the government manages the forest products causes some problems. Under the guise of sharing the forest products, the farmers have the right to

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