

# Policy Engineering of Forest Fire Prevention in Indonesia

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## Article Info

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## Abstract:

The legal policy engineering in the field of environment starts from the interaction between social change and legal change which raises two paradigms, namely the law serves the needs of society and the law creates social change. These two paradigms give influence to the handling of legal cases in the environmental field. The purpose of this study is to analyze the government's priority efforts in preventing future fires and to analyze regulations that do not take side on sustainable environmental development with case studies of forest burning in Indonesia. The research findings show that the establishment of regulations in resolving forest and land fires was carried out after the occurrence of forest fires. The method used by the government in this case is by using the first paradigm, namely the law serves the needs of society. The regulation of forest fire prevention has fulfilled the indicators of law as a tool of social engineering theory starting with social fulfilment, law in action, law with broad discretion with a goal: social development. Regulation of Act Number 32 of 2009 and Act No. 18 of 2004 do not synchronize vertically and horizontally with the Environmental Minister Regulation No. 10 of 2010 and Central Kalimantan Governor Regulation Number 15 of 2010. The absence of synchronous regulations creates legal uncertainty which raises multi-interpretations, especially for law enforcement officials. The absence of synchronization of regulations vertically and horizontally makes regulatory products contradictory and triggers new problems in the community requiring revisions to regulations in the field of land and forest fires.

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## I. INTRODUCTION

Forest and land fires (Karhutla) in Indonesia have been an annual tradition since 1996 and are increasingly spreading widely. Dry conditions due to El Nino starting in 2015 were the worst fires where 2.6 million hectares of land were burned starting in June and October as the dry season in Indonesia. Forest fires can be caused by natural factors such as lightning strikes to dry forest, long dry season and volcanic activities which causes the flow of lava from the volcano to erupt. However, the main cause is 99% due to human's doing such as land clearing by a company,

throwing cigarette butts carelessly and letting fire in the camp. The research result of Erlinda Ekaputri [1], mentioning that the most responsible parties for forest and land fires are the community (88%), local government (74%), central government, companies and NGOs (48%).

Global Forest Watch Fires analyzes that forest fires tend to be concentrated in agricultural and peat land concessions in Indonesia[2]. As of 2015, WALHI (Indonesian Forum for the Environment) noted that 2.6 hectares of forest were lost, 40 million people were exposed to fire smoke and

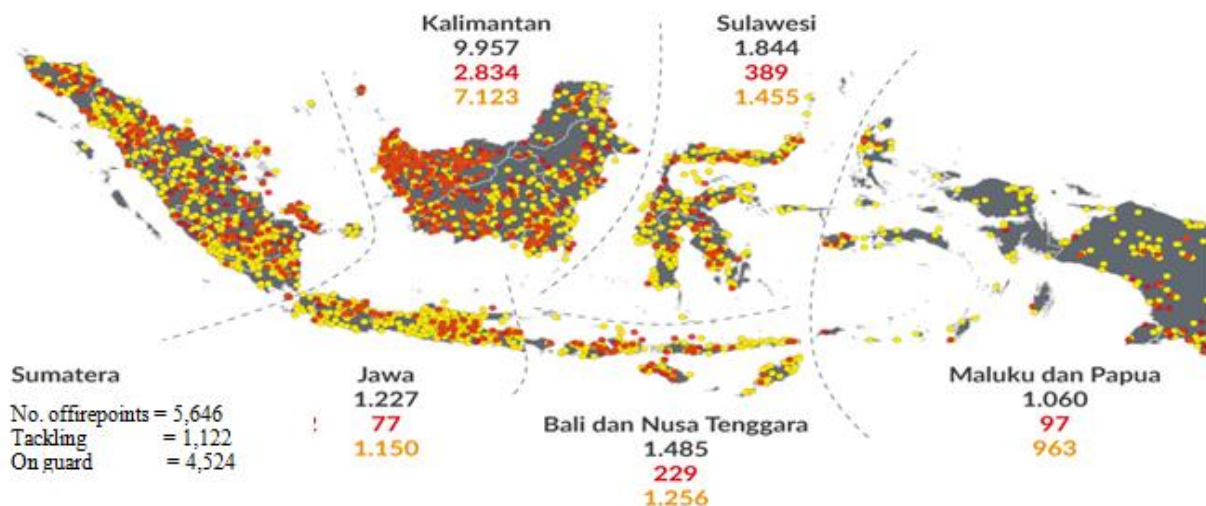
500 thousand of them were attacked by URI (Upper Respiratory Tract Infection)[3].

A Research conducted by twelve researchers from the field of public health and atmospheric modelling from Harvard and Columbia Universities examined that population deaths which is caused by forest fires due to the inhalation of smoke particles of 2.5 particulate Matter (PM). The results of the research state that there are 100,300 cases of deaths caused by forest fires that occurred in Indonesia throughout September to October 2015. Of these deaths, it is

estimated that there are 91,600 deaths in Indonesia, followed by Singapore with 2,200 and 6,500 in Malaysia.[4]

Figure 1 describes the hotspots that exist throughout the Indonesia islands. The hotspots are very potential for forest and land fires. Kalimantan has the highest number of hotspots, requires immediate response and a high level of vigilance followed by Sumatra, Sulawesi, Bali island and southeast Nusa Tenggara and the islands in Papua and Maluku.

### The Spread of Fire Points



Source: [www.beritagar.co.id](http://www.beritagar.co.id)

Figure 1. The Spread of Hotspots in the Indonesian Archipelago

The purpose of this study is to analyze the government's priority efforts in preventing future fires and to analyze regulations that do not take side on sustainable environmental development with case studies of forest burning in Indonesia.

## II. LITERATURE STUDY

The concept of sustainable development is interpreted as development that meets the needs of the present without compromising the ability of future generations to meet their own needs[5]. The intrinsic value implied in the statement above is that the generation living today must be able to be

wise so that the natural resources stretched on land, sea and air can be utilized as well as possible by paying attention to the basic ecological principles: maintaining, caring, utilizing and preserving environment for the life of future generations.

The legal policy engineering in the field of environment starts from the interaction between social change and legal change which raises two paradigms, namely the law serves the needs of society and the law creates social change[6]. These two paradigms give influence to the handling of legal cases in the environmental field. The

synergy between the two paradigms is described as follows:

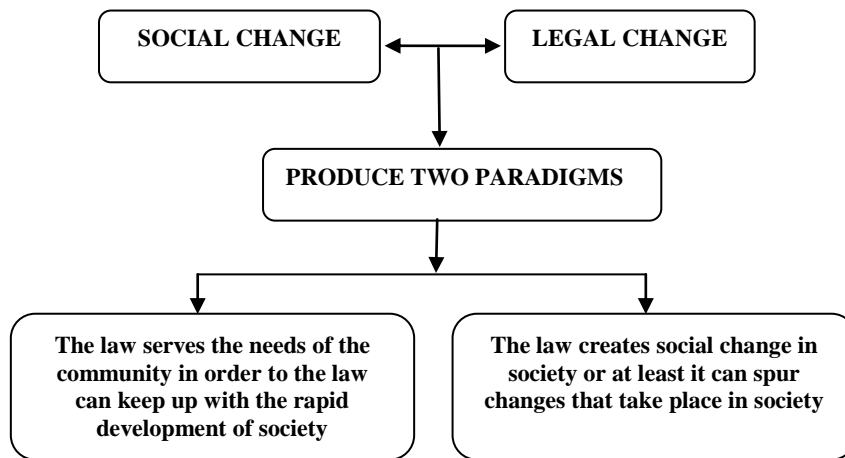


Figure 2. Interaction Between Social And Legal Change

In additin to the two paradigms above, the theoretical indicators of 'Law as a tool of social

engineering from Roscoe Pound' [7] can also be seen from the scheme below :

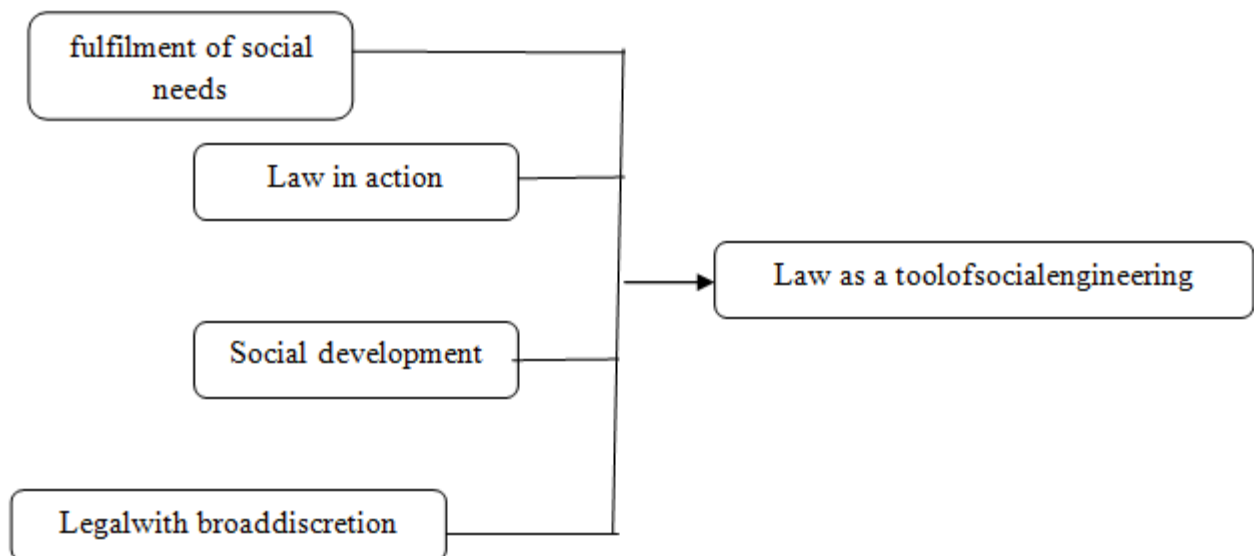


Figure 3. Law Is A Tool Of Social Engineering Theory

### III. RESULTS AND DISCUSSION

Regulations that provide environmental legal protection, especially to the prevention of forest

fires in Indonesia can be seen from the scheme in Figure 4.

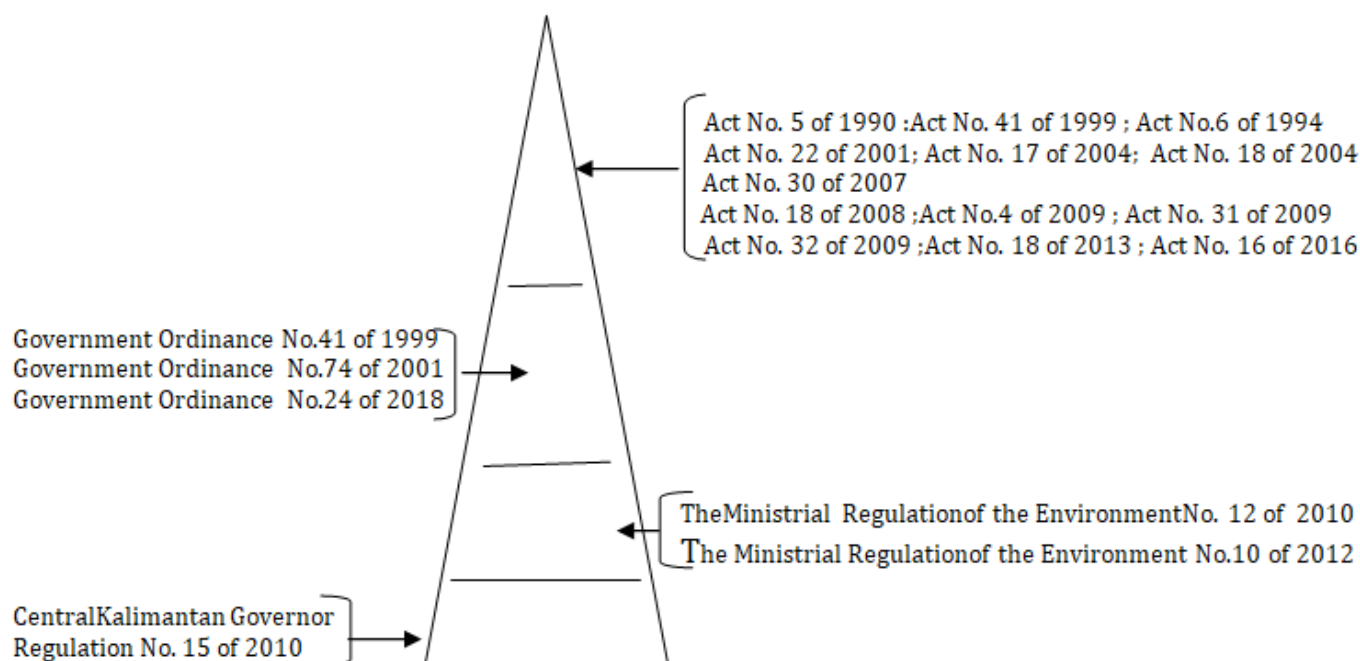


Figure 4. Regulation Hierarchy of Forest Fire Management

Analyzing to the existence of the regulations regarding legal protection for the prevention of forest fires above, it can be reviewed that the establishment of regulations in resolving forest and land fires was carried out after the occurrence of forest fires causing various consequences such as: human mortality, URI (Upper Respiratory Tract Infection), disruption of the ecosystem, economic losses for small communities and plantation companies, decreasing rates of hotels accommodation and flights, traffic accidents,

decreased economic growth, and the decrease of trust level to the government.

As a result, legal arrangements is strongly needed in order that there is no legal lag because of the rapid development of society. Government policy by preparing regulations related to forest fire prevention has fulfilled the indicators of 'law as a tool of social engineering theory' following step by step. the steps taken by the government can be seen in the following scheme:

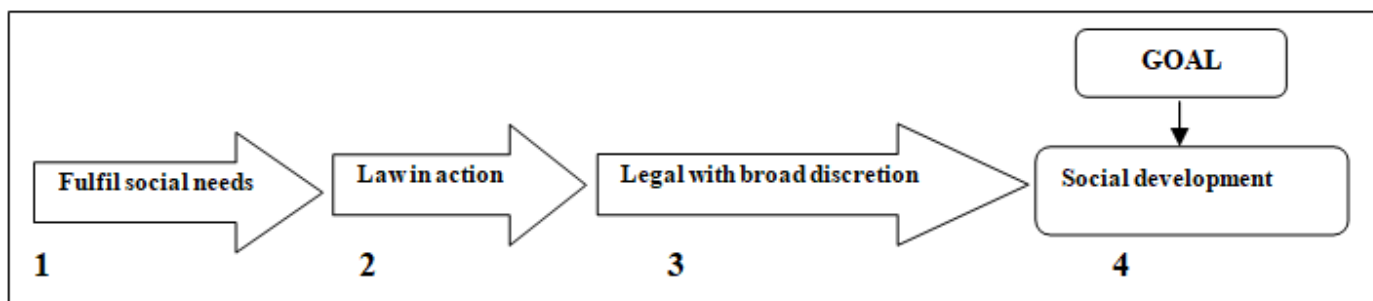


Figure 4. Implementation of the theory 'Law as a tool of social engineering' in Resolving Forest Fire Cases

Based on Act Number 32 of 2009 concerning Environmental Protection and Management in Article 69 paragraph 1 letter (h), it is explained that every person is prohibited from clearing land

by burning. However, in Article 69 paragraph 2, the provisions referred to in paragraph 1 letter (h) by clearly pay close attention to local wisdom in their respective regions. For those who violate the

rules will be subject to 3 years and maximum 10 years imprisonment and 3 billion to 10 billion fines. This is reinforced by the regulation in Law No. 18 of 2004 concerning Plantation in Article 26 which reads : Every plantation business actor is prohibited from opening and / or processing land by burning which results in pollution and damage to environmental functions. Every person who intentionally opens and / or processes land by means of burning which results in pollution and damage to environmental functions as referred to in Article 26, is threatened with imprisonment of 10 years and a maximum fine of 10 billion[8].

In the regulation above there is a sentence 'by clearly pay close attention to local wisdom in their respective regions', then this provision becomes the basis for the issuance of Article 4 paragraph (1) of the Environment Regulation No. 10 of 2010 that reads: Indigenous people who burn land with a maximum land area of 2 (two) hectares per family to be planted with local varieties must notify the village head. This provision forms the basis for the Central Kalimantan Governor's Regulation Number 15 of 2010 concerning Guidelines for the opening of Land and Grounds for people in Central Kalimantan which states that anyone who conducts land clearing and yard activities by burning must be carried out in a limited and controlled manner after obtaining permission from the authorized officials.

Practically, there are still land clearing activities by burning that are contrary to regulations. the granting permission for land clearing in the regulation greatly triggers problems in the community causing no legal certainty. The values of different local wisdoms in each region have not been fully explained in the regulation, so that the regulation of the Central Kalimantan Governor Regulation Number 15 of 2010 is very contradictory and out of sync with the provisions of the higher Law.

There needs to be a comprehensive revision of regulations concerning the handling of forest fires in Indonesia. This is based on the existence

of the regulation which gives rise to legal uncertainty creating multi interpretations, especially for law enforcement officials. The out of sync-regulations vertically and horizontally makes regulation products contradict each other and triggers new problems in the community so that it requires to revise regulations in the field of forest and land fire prevention.

#### IV. CONCLUSION

The regulation of forest fire prevention has fulfilled the indicators of law as a tool of social engineering theory starting with social fulfilment, law in action, law with broad discretion with a goal: social development. Regulation of Act Number 32 of 2009 and Act No. 18 of 2004 do not synchronize vertically and horizontally with the Environmental Minister Regulation No. 10 of 2010 and Central Kalimantan Governor Regulation Number 15 of 2010. The absence of synchronous regulations creates legal uncertainty which raises multiinterpretations, especially for law enforcement officials. In addition, the absence of synchronization of regulations vertically and horizontally makes regulatory products contradictory and triggers new problems in the community requiring revisions to regulations in the field of land and forest fires.

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- [5] WCED (World Commission on Environment and Development) is a world-reputable institution founded by the United Nations. In 1987, they reported about Our Common Future as follows: "Developing that meets the needs of the present without compromising the ability of the future generation to meet their own needs". This term is paired as sustainable economic development. Caring for the Earth as a substitution document of The World Conservation Strategy made by The World Conservation Union (IUCN) in 1991 is also underlined the term "sustainable development".
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