

**INEFFICIENCY OF FORESTRY REGULATIONS AND  
MANAGEMENT APPLICABILITY ON ROSEWOOD  
(DALBERGIA. SPP) EXPLOITATION IN MADAGASCAR:  
CASE STUDY OF MAROJEJY AND MASOALA NATIONAL PARKS**

*Tommy Anderson Randriamamonjy,*

Department of Environmental Science,  
Sebelas Maret University, Indonesia

*I Gusti Ayu Ketut Rachmi Handayani,*

Department of Law,  
Sebelas Maret University, Indonesia

*Prabang Setyono,*

Department of Environmental Science,  
Sebelas Maret University, Indonesia

**ABSTRACT**

Madagascar is a country rich in biodiversity. For decades, this biodiversity had already been under pressure due to deforestation. In 2009, Madagascar entered an unprecedented political crisis. The country fell into a chasm; poverty has increased and illegal exploitation of rosewood (*Dalbergia. spp*) deepened further. Thus, thousands of tons of rosewood were operated illegally, and national parks (NPs) such as Marojejy and Masoala have become major victims of such activity. In this present article, we discussed and analyzed the factors driving illegal logging of rosewood in those NPs whether the forest legislation and management are partly responsible or not regarding the illegal logging operated inside the World Heritage. Also it made proposals on what could prove to be the solution to protect national parks from illegal exploitation.

**Keywords:** Forestry, Regulation and Management, Rosewood, World Heritage, Madagascar National Parks.

## **INTRODUCTION:**

Madagascar possesses a land of exceptional endemism for flora and fauna representing 90% of its whole wildlife, which can be considered as one of the highest rates in the world (Annik Schnitzler, 2015). By the splendor of its ecosystem, Madagascar was once called the Green Island. But this name is now changed into the so-called 'Red Island' because of the pressure of population on the environment (Bernard Moizo, 2011). One aspect of that pressure is the illegal exploitation of precious wood, rosewood and ebony. The rosewood known under the scientific name *Dalbergia* of Madagascar (*Dalbergia. spp*), for decades has become the main target of illegal operations. This rosewood belongs to the rainforest type. Rosewood has a lot of function; among the others, it represents the place where animals like Simpona, Indri Indri and many others dwell. Therefore, it is practically important to protect and preserve it against illegal activities, especially if it is associated with World Heritage areas, namely Marojejy and Masoala National Parks (NPs).

Derek S. and Porter P. Lowry II acknowledge an increase rate of illegal logging in the SAVA region, a UNESCO World Heritage Site, where abundant rosewood has been exploited and exported for the last decade (Derek S. and Porter P. Lowry II, 2009). Confiscated wood has been apprehended in both protected areas of Marojejy and Masoala as suggested by various tangible evidences. (Patel, 2007). Besides, poor local people in the vicinity of the parks as well as several well-organized criminal networks have unceasingly seized on forests exploitation (Derek Schuurman and Porter P. Lowry II, 2009). It is illegal because the illegal logging is defined as the harvest, transport, sale or purchase of timber in contravention to national laws (John Innes, 2010). The Malagasy Law No. 97-017 of 8 August 1997 revising forest legislation has clearly cited in article 17 that, strict nature reserves, national parks, special reserves and protected forests in respect of international conventions as well as land and water areas defined in Article 2 are not likely to distraction (Ministry of Water and Forests, 2015) whereas the logging in question is operated inside the PAs. Environmental Investigation Agency and Global Witness has discovered the illegal harvest of rosewood is about 100 to 200 trees per day in northern Madagascar, according to the survey conducted in 2009 (Global Witness and Environmental Investigation Agency, 2009).

This means that these woods are from Marojejy and Masoala, and also from the place around the sites. Thousands of trees are cut illegally, and tons of timbers are exported outside the country in the same way. According to the Ministry of Water and Forest, between 87% of the exploited forests, 60% is for the rosewood only (Brodbeck, 1999 cited in Randriamalala and Zhou). Currently, Madagascar is already suffering serious land degradation due to illegal operations inspite of the presentt laws in vigor governing the protection of forest. Since 2009, rosewood trafficking has never ceased growing. The number of exploiters increases, for instance, in 2009, operators were in total of 13, but in 2012, that number has increased from 19 to 103, or 542% (Hery F. Randriamalala, 2013). The vast majority of rosewood exploitation source, representing 98,5% of them are considered as illegal, according to Rakotondramanga, 2002, while Jérôme Ballet et al. 2010, shared the same views emphasizing to an extreme but chaotic illegal exploitation of such invaluable wood since the year 2009. Therefore, this present study aimed to, firstly, analyze the reason why the forestry regulation and management policies on rosewood trees are not effective and stop the problems of forest harvesting in Madagascar. Secondly, it proposes recommendations on how to protect the Protected Areas (PAs) of Marojejy and Masoala from illegal logging.

## **MATERIALS AND METHODS:**

### **DATA COLLECTION:**

The data was collected in Madagascar. The interview was conducted to the citizens living in the SAVA region, especially in Antalaha since this is the place, where rosewood and wood companies abound. Questions consisting of open and closed ones were asked and answered by respondents composed of 55 males and 15 females and then managed by the researcher using Excel Program 2016.

### **DATA ANALYSIS:**

The data was analyzed by using SWOT (Strengths, Weaknesses, Opportunities and Threats), referring to that of Corrado Battisti, Daniel Franco, Luca Luiselli, 2013), overlapping analysis methods (European Commission, 2006; Thrive Washington, 2011), and comparative method (Peter Lor, 2011).

## RESULTS AND DISCUSSION:

### THE INEFFECTIVENESS OF ROSEWOOD FORESTRY REGULATION AND MANAGEMENT POLICY: REGULATION:

The result has revealed that the Malagasy forest legislation has no overlapping problem whereas Brazil and Indonesia do. During the past 500-year-old Brazilian agrarian history, changing land tenure policies resulted into a set of highly complex and overlapping private and public forest tenure regimes (Shen Jinyu et al. 2013). While in Indonesia, the Indonesian law and regulations are inconsistent and overlapping (Nana Suparna, 2001). Moreover, Dr. Dicky Simorangkir and Sumantri referred that the Indonesian forestry law and regulations need to be synchronized and harmonized (Dr. Dicky Simorangkir and Sumantri, 2002).

However, having no overlapping does not mean that the Malagasy legislation has no problem. The research revealed that there are so many inconsistencies, which repeatedly occur as it had already been referred by Hery Randriamalala and Zhou Liu (Hery Randriamalala and Zhou Liu, 2010).

For instance, the 11832/2000 Decree of 30 April, 2000, prohibit the export of rosewood and ebony whereas a new inter-ministerial order No. 17939/2004 stipulates that any wood export has to be only in the form of semi-finished one. The Malagasy Law Structure seems to follow the theory of Hans Kelsen, the Hierarchical Structure of Grundnorm who clearly evoked in his famous work entitled "The Pure Theory of Law". Hans Kelsen said that all norms or rules come under the category of sub-norms, which derived from the basic norms, and the application of higher norms results in creation of lower norms (Hans Kelsen, 2016). Logically as it should be, that the lower norm cannot terminate or cancel the higher one. The Madagascar rosewood regulation though has proven the contrary to that of Kelsen's, that is, his theory. The inconsistency dwells on the non-respect of the legislation hierarchy. A decree is not supposed to be cancelled and terminated by an inter-ministerial order.

And then comes again another inter-ministerial order No 2010- 141 of March 24, 2010 (on cutting, ban, exploitation and export of rosewood and ebony), but the palisander, a rosewood with a scientific name *Dalbergia madagascarensis*, was not included to be protected by this inter-ministerial order. However, the impact generated by this was disastrous, not only to this species itself but also to other plants species in the world heritage.

Again, an order of August 8, 2011, came out prohibiting the cutting down, transportation, operations, marketing and export of rosewood and ebony (art. 1), cancels all export licenses in force (art. 3), cancelling any previous legislation contrary to that order (art. 14). The order is very clear, and finally it seemed that Madagascar has already made a great step forward in the context of protecting its precious wood mainly those inside the NPs. But the government released a decree on January 18, 2012, authorizing the export of all species in all their forms (art. 4) and grant an export license to anyone who requests it in conformity with the art. 5, 6 and 7. The list of similar cases abound regarding the problem of inconsistencies. The inconsistencies are mainly occurred due to the ability of the authority that should be able to manage the regulations as per authority's wish.

Power abuse perpetrated by some high ranking people prevails and in result hampering the sound conservation effort of rosewood which can be interpreted that environmental law in Madagascar is undermined. The result of the survey confirmed that the numbers of people who practice illegal activities are aware of the existence of laws protecting rosewood and also the consequences could be brought by the violation of laws. During the interview, the majority of respondents acknowledge their awareness of law protection over rosewood species saying, "we know that there is a law protecting the nature within protected areas but due to hardships, we recourse into seizing on wood as source of income". This justify that the poverty and the involvement of large numbers of authorities in the illegal rosewood case are encouraging more and more people in this illegal activity. And this involvement constitutes a problem of law application, which can be interpreted as synonym of law inefficiency. To this end, several tons of rosewood are exploited unsustainably from national parks and exported to other places.

### MANAGEMENT:

In Madagascar, national parks are managed by a private association, 'Madagascar National Parks' but still under Command and Control from the government, precisely those who hold the executive power. The Madagascar National Parks provide good management plans as the creation of protected areas, conservation of biological species etc. But the implementation of its plans was offset by other Machiavellian plans that harm the environment, that is, the regulation manipulation.

Besides, the problem of management lies also on the problem of security. This research has conducted us to find

out the lack of patrol guard in the PAs. One forest guard guards for example 25.000 hectare, only (Raharison, 2006 cited in Pierre Montagne et Bruno Ramamonjisoa, 2006). And what can one person do to monitor such a big and huge area? And how about his own safety realizing that the precious wood's criminal operates in-group? Because 100% of respondent who were interviewed stated that the criminals worked in-group of 3 persons minimum.

#### **SOLUTION:**

#### **LEGISLATION:**

The analysis has revealed that one of the factors, which encourage the illegal rosewood harvesting in Madagascar, is the law itself, the law in its broad sense. The law and regulations regarding the forest conservation especially for rosewood are far from being mature. Nor the government neither the population respects the law and regulations. So, what has to be done is to enforce the law and regulations in Madagascar. In a study concerning regulations on the sustainability of forest in Indonesia, the authors stated that to eliminate the problem facing Indonesian forest, among several alternatives, the rules and regulations are likely to be the most probable alternative (Dr Bramasto Nugroho et al. 2012). Here, not different from that perspective, the study is emphasizing the importance of legislation in protecting the world heritage of Madagascar.

Law enforcement includes prevention, detection, and investigation of the crime, and the apprehension and detention of individuals suspected of law violation (Bureau of Justice Statistics, 2016). Abraham Lincoln once said "Law without enforcement is just a good advice" and currently this is the status quo in most parts of the world with regard to illegal logging legislation (Eleanor. E Darmontt et al. 2015).

According to the theory of Lawrence M. Friedman, there are three (3) pillars to follow to strengthen and enforce the law (Djawahir Hejaziey, 2015), namely: the Structure of Law, the Substance of the Law and the Legal Culture. Here, we are going to refer these pillars into the condition of Madagascar's law.

#### **THE SUBSTANCE OF LAW:**

Generally, in Madagascar the officers of law enforcement's moral are very low: police officers, lawyers and judges sometimes are working with the barons (usually the economic operators and exporters) and some political actors. In the other words, we can say that corruption is part of culture in Madagascar. Many cases showed during trial on the issue of rosewood for instance, only the ordinary people have been incarcerated, imprisoning them while the big thief is released easily, stated Leroa (<http://www.midi-madagasikara.mg/> 2016). While many are proofs revealing the name of the big thief.

The ordinance 2011-001 of August 8, 2010, brought out by the Madagascar government, which weighs heavy criminal penalties on those who continue any form of activity with regard to the rosewood chain, has not been applied accordingly. What should be done is to apply it firmly to those who break the rules regardless of their social status, respecting the law related to the protection of national parks. This means that the law should be used impartially to everyone. In this case, one of the seven distinctive regulatory enforcements referred by Neil Gunningham, which is the most suitable to be used is the rules and deterrence (Neil Gunningham, 2011). Indeed, regarding the protection of the environment (PAs and species in depletion), several studies have been conducted in several countries that have emphasized the use of rules and deterrence approach. Related to that, Dr Michael Watson declared in his work that, in order to better protect the environmental infringement problem, which occurred in the United Kingdom, it is imperative to apply sanctions against law violators (Dr Michael Watson, 2005).

In Brazil, to protect the *D. nigra*, the government has resorted into using the same strategy that is, sanctioning those who practiced illegal exploitation of this Brazilian's rosewood. For instance, 23 people were arrested in 2005 because of illegal extraction of rosewood (Victoria Taylor et al. 2012).

And similarly, the Indonesian government, to be more precise, the Ministry of Forestry, in protecting the national environment, wildlife and resources, recurses to the use of rules and deterrence of law enforcement. The government works closely with *Interpol* based in Jakarta. On the issue of protecting its environment, Indonesia can be considered as a force to be reckoned (*Interpol*, 2016).

One of the most important ideas in the theory of Lawrence M. Friedman on Law Enforcement regarding the institution of law implementation is missing in Madagascar since the local government is still unwilling to fight against criminal activities on illegal logging in the protected areas. The country though should follow the example or model of countries cited above in hope to gain full control of its ability to implement it.

### THE STRUCTURE OF THE LAW:

Some of the high ranking people within the Malagasy government manipulated the rosewood regulations in the way they want it and that is the reason proving of the existence of inconsistencies, the disrespect of legislation hierarchy and the power of abuse. Regulations happen for a reason and they are designed to protect consumers, workers, citizens and the environment (Thrive Washington, 2011). But as it has already been mentioned, the regulation in Madagascar is completely taken for granted.

Thus, one of the strategies that must be taken into account, other than those inconsistencies and its recurrence, it is opted to enforce the regulations by revising them first while cancelling those which had permitted the export of all species, and introducing the grant of export license to those who request it. Besides, it is strictly important to limit the MPs parliament immunity as well. Increasing the efficiency of regulation by streamlining processes can and should be accomplished to preserve important environmental protections (Thrive Washington, 2011).

### THE LEGAL CULTURE:

The legal culture is related to the people behavior on the law itself. The most important thing in legal culture is the understanding of the law. But in Madagascar, a high rate of law ignorance is evidently noticed. The community ignores or does not know a lot about the meaning and the work of criminal forces, and even sometimes the criminal forces themselves have no idea of their work and their rights. These can also be the origin of the weakness of the law enforcement. Without knowing the exact meaning of the law, how can it be possible to apply it correctly? This can lead into a wrong application of the law. The problem dwells on the low education of the population in general, which explains the high rate of law ignorance, even for police officers themselves because in Madagascar most of them left school at high school level or below.

So, there is an urgent need to promote and make the law easier and more understandable for the population. A popular adage stated that none is supposed to ignore the law. In order to achieve this, the government must undertake a huge effort to make it much clearer for the community and the law officers as well so that the law can be applied adequately.

### THE MANAGEMENT POLICY:

The problem of NPs management is very linked with security problem; other than that, its management itself still remains under the government order (the executive power is the only entity able to authorize the exploitation of rosewood), which means that the planning and management received less attention or quite ignored. The government command and control approach in Madagascar has a *raison d'être*, an approach meant to harvest the rosewood in the Marojejy and Masoala national parks. This leads to the failure of the plan already adopted by the PAs manager. Indeed, PAs are considered to be an effective conservation strategy in case that no gross ecological changes or habitat destruction prevail (Ahrends et al. 2010 cited from Fiona Leverington et al. 2010). The overall goal of environment policy is to having sustainable and equitable resources without its degradation or any health hazard in hope to preserve the essential biological diversity and its ecosystem unique ability (Daniel Marisho Pallangyo, 2007).

The policies should involve more community in taking part of the national parks management, in other words, shifting the government command and control approach into participatory approach because it is now considered as obsolete; getting rid of it would be necessarily viewed as the best solution for national parks conservation (Leverington et al. 2010 cited in Brooke P. Shields et al. 2016).

Also, the lack of forest guard constitutes an undeniable proof of poor human resources enrolled in the management of the PAs. On this issue, Madagascar contrary to Indonesia is still far lagging behind. In Indonesia though, in order to protect its national heritage, the Ministry of Forestry employs 14.000 people (which represents 0,063% of all Madagascar's population), among which, using more than 1.000 law enforcement officials operating in two different categories, including uniformed high-visibility laws enforcement and detectives who are investigating crimes against wildlife and the environment (Interpol, 2016). The Indonesian natural resources protection is highly sophisticated since it is strongly governed by the applicability of its law enforcement which is vividly in vigor.

Participatory resource management is viewed as a solution to a number of problems linked to state management of natural resources, such as information asymmetries, incentive incompatibility, lack of effective monitoring and maintenance, etc (Bhim Adhikari, 2005). The only effective management of local natural resources is based on local community learning process (Reed, 2008; Secco et al. 2011; Southern et al. 2011 cited in Corrado Battisti et al. 2013). To this concern, it is advisable to involve the local communities living around the world



heritage in Madagascar to become part of the staff or patrol members, for instance. The participatory policy will enhance the level of awareness of the community in understanding the right value of the environment.

Besides, one of the solutions that should be done is to reforest the PAs that are already in precarious condition due to illegal logging activities since the illegal exploitation has considerably decreased the width of the dense forests within the parks. The restoration of forest is a must and the only way that should not be neglected but instead prioritized (Samias S. Nunes et al 2014). Thus, it is a must to restart planting rosewood trees in abundance because not only it takes time to see it growing but also can only grow in tropical areas. Plus, its plantation should not only be done within the parks itself but also outside. Besides, we must also reforest other species of plants even though our focus is based upon the rosewood itself for the destruction of those other plants face disastrous case.

## CONCLUSION:

The forestry regulations and management policies cannot resolve the problem of deforestation in Madagascar, particularly on rosewood issues because there are lots of inconsistencies of regulations applicability since some high ranking people manipulate them by encouraging the locals to practice illegal exploitation of rosewood species, which in turn constitute obstacles of the good management of NP's apart from the lack of forest rangers patrolling the forest. As a result, lots of rosewood and other plant species have been degraded or in decline in spite of the Malagasy Environmental Law No. 97-017 of 8 August 1997 revising the forest legislation which stipulates reserves or parks into strict natural reserves, national parks, special reserves and protected forests in the respect of international conventions as well as land and water areas defined in article 2 banning any distracting activities.

The proposed strategies that can be recommended to the Malagasy government for the best management of rosewood in order to conserve the world heritage in the country while shifting the government command and control approach into participatory approach in order to increase awareness of the population in general. Besides, it is a must to reforest the rosewood and other plant species inside or even outside the parks. In addition to that, it has been evident that those strategies above are insufficient to meet the targeted aim since the law enforcement can also be considered to be one of the important keys to protect the PAs.

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