

# Implementation of Environmental Law Enforcement in Forestry Crime at Papua Regional Police

Yuvenalis Takamuli<sup>\*</sup>, Irwansyah, Muhadar, Muh. Yunus Wahid Graduate School, Hasanuddin University, South Sulawesi, Indonesia \*Corresponding Author: takamully@gmail.com

#### Abstract

Efforts to overcome illegal logging that rely on penal facilities has ignored other more principled efforts, namely considering social and local culture factors that allegedly untouchable through law enforcement. For that, this research seeks to link law enforcement efforts with the context of social, cultural of the local community and determining whether illegal logging in Papua province is related to the weakness of the criminal justice system. The type of research is socio-legal research. It is conducted by focusing on all districts that have potential forest areas for illegal logging. Results of the research shows that the overcoming of illegal logging crime in Papua province has not been effective, because up to now there are still some illegal logging practices that have not been handled thoroughly, due to lack of supervision from relevant government officials. The level of community participation in an effort to overcome illegal logging in Papua Province is so low. This is due to the difference of perception between the community and law enforcement officers, especially in terms of understanding the existence of forest areas, where the community considers that the forest which is a gift of God, should be utilized to support their lives, not limited to protected forests, law enforcement officials consider that cutting down trees and exploiting forest products without permits, is a crime to be punished.

Keywords: Environmental Law; Law Enforcement; Forestry Crime

## 1. Introduction

Indonesia as a country endowed with abundant natural resources, it should be grateful to all peoples of this nation. The wealth of these natural resources must be preserved, managed and utilized as well as possible. Forests are one of most abundant natural resources in Indonesia. In its position as a determinant of the life support system, the existence of natural resources must be preserved, because forests have a strategic role as a global counterpart and balancer. Based on this, the synergy between agencies involved in the protection and supervision of protected forest areas is absolutely necessary in the effort of forest conservation.<sup>1</sup>

As these conceptions, Article 33 of the 1945 Constitution of the Republic of Indonesia as a constitutional foundation has obliged that the earth, water, and natural resources contained therein shall be controlled by the State and used for the greatest prosperity of the people. Therefore, the implementation of forest management must always contain the soul and the spirit of the just and sustainable democracy. For that reason, the management of forest resources and the principles of sustainability, popular, justice, togetherness, openness, and integrity with the basis of noble and responsible morals.

The government is authorized to issue licenses and tenure rights to other parties to engage in forestry activities. However, for certain matters and very important, scale and wide-impacted, and strategic value, the Government must pay attention to the aspirations of the people through the legislatives. To maintain the fulfillment of the balance of environmental, socio-cultural, and economic benefits, the government establishes and maintains sufficient forest area in watersheds and or islands with a proportional distribution.

The utilization of forests areas shall be adjusted to their essential functions, i.e functions of conservation, protection and production. In order to maintain the sustainability of the main function of forest and the condition of the forest, forest and land rehabilitation and reclamation are also carried out, aimed to restoring the forest quality as well as enhancing the empowerment and welfare of the community, so that community participation is the core of its success. The compatibility of these three functions is very dynamic and the most important is that in its utilization should remain synergy. To preserve the quality of the environment then in the utilization of forest as far as possible avoid conversion and natural forests that are still productive to plantations.

In a study between the United Kingdom and Indonesia in 1998 indicated that about 40% of all logging activities

<sup>&</sup>lt;sup>1</sup> Muh. Yunus Wahid, Naswar Bohari & Achmad. (2015). "Penegakan Hukum Lingkungan di Sektor Kehutanan (Studi Kawasan Hutan Lindung di Kabupaten Sinjai, Sulawesi Selatan)". Hasanuddin Law Review, 1(1), 61-73.



are wild, with a value of up to US365 million. A more recent study compares legal logging with domestic consumption and exports indicates that 88% of all logging operations are illegal logging. Malaysia is a major transit point and illegal timber products from Indonesia. Meanwhile, according to Ministry of Forestry in 2012, the area of damaged and non-functional forest has reached 59.6 million hectares from 120.35 million hectares of forest area in Indonesia, with the deforestation rate in the last 5 years over 2.83 million hectares per year. If such a condition is maintained, where Sumatra and Kalimantan have lost their forests, then Sulawesi and Papua forests will experience the same thing. According to World Bank's analysis, forests in Papua are expected to lose in 2012. Illegal logging practices and forest exploitation that ignore sustainability result in the destruction of forest resources, community life and the loss of timber worth US\$ 5 billion, one of them the State revenue is approximately US\$ 1.4 billion annually. These losses have not yet accounted for the loss of biodiversity value as well as environmental services that can be generated from forest resources.

The forest area in Papua province will be reduced by 19 percent following the revision of the national spatial design.<sup>3</sup> According to data, the depletion of forest area is due to land conversion and the overlap of area-ownership in the field. In Papua, there is still a lot of forest destruction in various forms, including forest encroachment, illegal logging and mobile agricultural by communities.<sup>4</sup> A case of illegal logging in Papua province is interesting to examine from a criminological perspective because to get a description of the factors that cause illegal logging and how to overcome it. The results of interim research indicate that from year to year forest destruction or illegal logging is increasing.

The government of Papua province has also taken action to anticipate illegal logging by conducting forest security activities, increasing public awareness and law enforcement but illegal logging is still ongoing and there is a trend of increasing frequency despite the seriousness of local government to overcome illegal logging. Data from the regional police of Papua, based on the handling of case in 2004 (21 cases), 2005 (23 cases), 2006 (60 cases), 2007 (114 cases) and 2008 (51 cases).

As a social phenomenon, the trend is increasing of illegal logging in Papua is not a mere legal issue let alone solved or explained legally as a social issue, the issues surrounding it are certainly complex, and very likely to be beyond the reach of the law, including criminal law. There are many factors or have a cause and effect with the phenomenon referred to the cultural, social, political, economic and legal factors.<sup>6</sup>

During this, efforts to overcome illegal logging that rely on penal facilities has ignored other more principled efforts, namely considering social and local culture factors that allegedly untouchable through law enforcement. For that, this research seeks to link law enforcement efforts with the context of social, cultural of the local community and determining whether illegal logging in Papua province is related to the weakness of the criminal justice system. The type of research is socio-legal research. It is conducted by focusing on all districts that have potential forest areas for illegal logging.

### 2. Forest Management Based on Sustainable Forestry Principles in Papua province

Papua province has a relatively large number of natural resources and is rich in local values. This potential must be utilized with wisdom through a sustainable development approach, based on a populist-based environment. Therefore, development policy should be directed to efforts to optimize natural resources and the environment, while maintaining the carrying-capacity and sustainability, in order to give maximum to the peoples and generation to generation.

On the other hand, in the implementation of sustainable forestry management, it also faces problems that are not much different from other regions, as has been expressed by the Head of the Papua Forestry Service<sup>9</sup> which emphasizes that the forest area in Papua based on the Regional Regulation reaching 31.727.069.00 Ha, but after

<sup>4</sup> Data of Forestry Officer of Papua Province in 2004 "Based on temporary data, forest destruction or illegal logging in Jayapura District of Papua province during 2000 until 2004 reach 1363 Ha and in detail as follows: that caused by shifting cultivation is 753 Ha, while by forest illegal logging is 610 Ha. In a case of illegal logging, it conducted by cutting the protected forest

<sup>&</sup>lt;sup>1</sup> Source: http://hukum.kompasiana.com/2010/07/24/pembalakan-liar-dalam-prespektif-hukum-administrasi/

<sup>&</sup>lt;sup>2</sup> Suhendang, E. 2002, *Pengantar Ilmu Kehutanan*, Yayasan Penerbit Fakultas Kehutanan, Bogor.

<sup>&</sup>lt;sup>3</sup> Ibid

<sup>&</sup>lt;sup>5</sup> *Ibid*, Pages 88-90.

<sup>&</sup>lt;sup>6</sup> Talcott Parsons, 1991, *The Social Systems*, New York: The Free Press, Page 4

<sup>&</sup>lt;sup>7</sup> Bernard L. Tanya, "Dialog Antara Budaya dan Hukum Pidana." Thesis: Graduate School, Universitas Indonesia, Page 29 (unpublished).

<sup>&</sup>lt;sup>8</sup> J.E Sahetapy, 1989, "Beberapa Azas Baru dalam Konsep KUHP Nasional" Bahan Penataran Hukum Pidana Nasional III, held in Kupang dated 1-20 August Page. 10.

<sup>&</sup>lt;sup>9</sup> Interview with Ir. Yan Yap Ormuseray as Head of Forestry Service of Papua Province in Jayapura, 6 August 2017



it was reviewed in relation to the revised spatial plan, the area was reduced to 30.387.498.00 Ha or decreased by 0.16 percent.

Furthermore, the reduction of forest area in Papua is partly due to the land conversion and the overlap of areaownership in the field. This condition makes the Government of Papua to propose the release of area and allocation change of forest area to the Ministry of Forestry of the Republic of Indonesia. The goal is to avoid conflicts between communities and local stakeholders and it is also a district and municipal proposal. And also, the Head of Papua Forestry Service exemplifies that the change in forest function becomes resident settlement and offices have occurred in Keerom district, similar conditions occurred in Mambramo Raya, Sarmi and it is almost occurs in all areas that have forest areas, it found similar cases. According to data from the Papua Forestry Office on changes in forest area can be seen in Table 1.

Table 1. Changes of forest area in Papua province

No.	Forest Area Function	Initial Forest Area (Ha)	After Conversion (Ha)
1	Jayapura district	386.662,00	313.531,39
2	Nabire district	1.142.397,00	1.062.115,11
3	Mimika district	1.779.768,00	1.756.660,11
4	Sarmi district	1.278.281,00	1.244.582,66
5	Keerom district	840.707,00	596.470,24
	Total	5.421.815,00	4.973.359,96

Source: Papua Forestry Office, 2016

The table shows that the natural forest reserves that initially a width of 4.973.359.96 Ha after conversion become 4.373.359.98 Ha. Based on re-calculation by using Geographic Position System (GPS), the area of Papua Province also changed from 5.421.815.00 Ha to 4.973.359.96 Ha. So far, it is obtained from Head of Forestry Office. Furthermore, limited production forest also changed from 1.476.316 hectares to 1.349.640 hectares, production forest now only remaining to 273.986 hectares and initial area 500.589 hectares. In addition, conversion production forest changes become 162.446 from the initial area of 251.865 hectares.

As results of re-calculation by using Geographic Position System (GPS), the area of Papua Province also changed from 5.421.615.00 hectares to 4.973.359.96 hectares. So far, based on the information obtained from the Head of the Papua Forestry Service as described above, the plan for revision of the Papua area has not been approved by the central government, because there is still supporting data that must be complemented by the proposer, the district/municipal government in Papua Province. Then, another social phenomenon is the destruction of forest area caused by wood theft in the forest that became the main problem in the forestry sector, and the factors that cause illegal logging.

A number of factors causing illegal logging practices are described as follows: The first, community factor - illegal logging that occurs at the community level is generally done for economic reasons and the influence of entrepreneur, clearing forest area for the garden and agriculture, either for own-use or for sale to the outside community, the wood resulted from the clearing of the forest area is sold to the community or industry-owner without completed documents. The proceeds of such sale as the authorized capital to continue the plantation and agricultural; the second, timber industry, for small-scale timber industry, illegal logging occurs because self-harvesting, this occur because they cannot afford to buy raw materials from HPH and IPKH with certain price standard, so utilize the community as a worker (loggers).

The forest area of Papua province is currently experiencing heavy pressure, due to widespread illegal logging practices under the plantation projects and the opening of roads between districts. Openly, the project contractor company began to expand in some forest area especially the conservation forest area. Just look at the trend of some cases that occurred lately, leaving the problems surrounding the management.

The role of the Regional Police, the Forest Service and the Natural Resources Conservation Agency of Papua Province is very important to reduce the rate of deforestation in Papua. Some cases have been described above, such as in the case of illegal logging on the opening of road Sarmi-Jayapura, illegal logging in the Protected Forest area Afiar in Keerom district, Legari in Mimika district, the Protected Forest of Nabire, Bulu Hulu in Mamberamo Raya district, and several other cases that have reached the decision of the court, among others the decision of the case No. Reg 93/Pid.Sus/2015/PN.Jpr.

The Forestry Service, the Natural Resources Conservation Agency and also Walhi have reported the violations to the police and until now continue to oversee the process, so that the perpetrators of environmental crime is not easy to escape from the law. As several descriptions above it appears that the urge to exploit the forest area is



getting bigger. To realize the plan they will resort to various immoral ways, violate the rule of law and ignore the aspirations or interests of the community.<sup>1</sup>

In fact, from any aspect, efforts to change the function of protected forest areas more to lose than the benefits gained. Economically, the use of protected forests is only enjoyed by a few people. Communities that have been living dependent on protected forests or from conservation forest areas are increasingly marginalized. While the environmental damage caused by landscape changes is a disaster that can threaten anyone. Therefore, the wisest choice and solution to the problems described above are:

- a) The government should re-evaluate various licenses that have been issued, either in the form of IPK or IUPHHK already issued and the moratorium on the application of new licenses;
- b) The related agencies which have the authority to exercise oversight, such as the Forest Service, the Natural Resources Conservation Agency and the police, should be able to perform their duties and functions properly;
- c) The public should always criticize government policies, especially those related to the functional status of forest land use, and actively engage in the struggle for environment sustainability in order to save the fate of present and future generations.

# 3. The Overcoming of Illegal Logging in Papua Province

Although efforts by law enforcement agencies in handling illegal logging crimes in Papua Province have not been so optimal and adequate, it must be acknowledged that there have been actions and measures taken, both preventive and repressive.

Overcoming measures is preventive, which is defined as any effort made before the occurrence of forest destruction by doing prevention, so that the act of forest destruction is not occur. This preventive measure has been done by the government by conducting socialization and counseling about the importance of forest area existence for the life of society, nation and state. The measure is done by providing illumination about the negative impacts of actions taken, either directly or indirectly that could damage the forest area.

In addition, the government has also conveyed to the communities about the criminal threat applied to the perpetrators of illegal logging. In conducting counseling to the community, the government (counseling officers) is experiencing various obstacles, especially the level of community awareness that so far is very low. This low level of community awareness is due to their relatively low level of investigation. Therefore, in order for the extension activities to be achieved as expected, it needs to be done patiently, regularly, directionally, simply, and continuously.

Another inhibiting factor is forest cultivator shifting especially isolated communities, always try to distance themselves from the officers, making it difficult to meet and gather in a place in the counseling program. Furthermore, overcoming measure is repressive, it is defined as an attempt made by giving action against a person who has committed an offense or a crime. The perpetrators of such crimes are people who commit illegal logging in Papua. To determine whether an act by a person suspected of being a criminal act of illegal logging to which sanctions can be applied, here the role of law enforcers is crucial.

If one of the elements of law enforcement cannot perform its duties properly, then this will give effect to other elements. A judge for example cannot impose criminal sanctions on a person alleged to have violated the law; if no claim has been filed by the prosecutor, the prosecutor shall not prosecute a person suspected of violating the law before the court, if the investigator does not transfer the case to the prosecutor's office, as well as the investigating authorities, cannot investigate someone who has violated the law, if the investigator does not report the alleged crime. Regarding the process of working such a law, Fuller argues that:<sup>2</sup>

A law should be seen as a human effort directed towards a goal. The success of these efforts will depend on the energies, views, intelligence, and perseverance of those who practice the law. Since the success of the law depends on the existence or operation of these factors, there are various possibilities that will occur. With these possibilities, it is intended that the law in a country can be truly successful, less successful or unsuccessful at all.

Relating to the opinion of Fuller above, the issue of Article 78 paragraph (2) and paragraph (7) of the Forestry Law shall be applied or not to the perpetrators of illegal logging, especially the perpetrators of shifting cultivation and the perpetrators of the encroachment of forest areas as contained in Article 78 paragraph (2) and Article 78 paragraph (8) of the UUK, are highly dependent on those who practice the law.

As described before, it clear that the officers of Ministry of Forestry both at Provincial and District levels have

<sup>&</sup>lt;sup>1</sup> Finnis, J. (2011). Natural Law and Natural Rights. Second Edition. Oxford University Press. New York.

<sup>&</sup>lt;sup>2</sup> Satjipto Rahardjo,1983, Aneka Persoalan Hukum dalam Masyarakat, Alumni, Bandung, Page. 145.



not intend to recruit the perpetrators of criminal acts of forest destruction to the court, this means that repressive action through the application of Act under article 78 paragraph (2) and 78 paragraph (8) Forestry Acts has not been implemented seriously. However, the government has carried out other repressive measures by conducting joint forest security operations. It is a way to overcome the forest security disturbance that has been implemented since 1987 until now.

The government conducted a joint forest security operation, since it was realized that disturbances to the forest as a result of the actions of unauthorized parties in various regions are known to continue. These actions have created various vulnerabilities and disadvantages for a State that is not small and cannot be allowed to continue. Therefore, it needs constantly programmed, integrated, continuous and complete measures. That is why the government tries to overcome the forest destruction by involving various related agencies in the Forest Security Coordination Team (TKPH – Tim Koordinasi Pengamanan Hutan). The agencies involved in the team are the Head of Forestry Service at Provincial, District and Municipal levels, District Military Command, Police and prosecutor.

Basically, the establishment of an integrated forest security team aims to secure the forest, but the reality shows that the presence of this team to be less profitable. This unfortunate reality is caused by an integrated forest security apparatus incorporated in TKPH also comes from an agency in the Ministry of Forestry, which has different authorities.

The involvement of external agencies has interfered the authority of forestry management which is actually the authority of the Ministry of Forestry. The integration between the various agencies in this TKPH has been detrimental to society, businessmen and the government itself. If the authority that has been held by other agencies should be returned all, then not necessarily will bring profits as well as, and instead causing greater losses. For example, regarding the authority to investigate the processing of cases of forest destruction, it is impossible to submit to the Ministry of Forestry itself.

The contradictions as described above should do not happen, if the conception of Weber's 1 bureaucracy is really understood. The involvement of various agencies in law enforcement efforts in the destruction of forests must actually be legalized in order to achieve the objectives of the bureaucracy itself, namely the achievement of efficient and effective task execution. Each relevant agency, according to Weber's bureaucracy, must be aware of its own duties and responsibilities without interfering with the duties and obligations of other agencies.

The involvement of other agencies does not necessarily mean working separately but rather the execution of duties and obligations and each agency must be coordinated in an integrated manner so that the law enforcement organizations of forest destruction can actually achieve efficient and effective. Thus, during each agency works independently and is not well coordinated according to the extent of its duties and authorities, then the concerns expressed by Ir. Soedarto above can be understood. But that opinion is not entirely correct, because the agencies involved actually aim to uphold the law that has been going on. Noteworthy is how far these agencies work together in a hierarchical structure whose tasks and authorities are clear and non-overlapping.

## 4. Participation and Public Culture for Overcoming Illegal Logging

The isolated tribe people (*tolare*) in some inland districts of Papua Province have a unique pattern of land ownership and economic activity area. But before explains the pattern of *Tholare* land ownership, it can first be expressed their perception of land and forest. They have a perception that that land and forest are an integral part of the cycle of daily economic activity.

For *Tholare*, land ownership for the cultivation land is vital for their survival. Therefore, they always try to own the land as cultivation land. To own the land, it can be done by opening the primary forest (*Pangale*). However, before clearing the forest, it should seek permission from the person who supervises the land such as the head of the tribe, the village head or the person authorized by the village head to supervise the forest. By opening a field in the primary forest, the person clearing the forest is automatically recognized as the owner of the land which can be inherited to the offspring.

In an economic aspect, it important to be known that *Tholare* has a livelihood of hunting, gathering, fishing in rivers and farming. Thus, they utilize several areas for economic activity such as: forest, swamp, and river areas. The forest area is used as a hunting ground for a variety of animals, used as a place to mix forest products such as rattan, fruits, medicines, vegetables; and also used as source of building material of house; and for open cultivation area. The forest area is predominantly state-owned productive primary forest and most of which are

<sup>&</sup>lt;sup>1</sup> Dennis Wrong, (ed.), 1970, Max Weber: Makers Of Modem Social Science, Prentice Hall, Inc. Englewood Cliff, New Jersey, Pages 141 – 143.



secondary forests deemed to belong to the cultivators in the area.

In every society, there are habits and rules about the kind of work done by each tribe. Similarly, the habits and rules applied by the isolated tribe (*Tholare*) are related to the utilization and management of natural resources, especially the production, distribution and consumption activities. These activities are the drivers of guidelines for community members in their livelihood activities. This is reflected in their efforts to meet their needs through cooperation (mutual assistance) between members of relatives in a settlement, whether farming, hunting, mixing sago and rattan, or in collecting food, vegetables and medicines.

A directed social activity is cooperation in farming or cultivation, which is an activity that becomes an isolated tribal tradition (*Tholare*), if there is one of its members who will open a field or an area, plant seeds, harvest and post-harvest, and other traditional ceremonies related to resource utilization natural. Forms of cooperation in farming activities, the form of cooperation in this economic activity is rotating every cultivator assisted in working the fields on certain days agreed upon and led by the head of the group or head of the tribe.

Such cooperation ultimately creates a sense of solidarity in the tribal life, which initially occurs only in groups of relatives and gradually turns into a pattern of work within groups of peasant members and other relatives. Each working group is obliged to assist other relatives in farming activities such as opening fields, planting seeds, maintaining crops and harvesting. The purpose of this group work is to ease the completion of the work, as well as if there is a post-harvest ceremony; each member is obliged to donate some of the crops according to their respective abilities.

The principle of cooperation that applies to the isolated tribe *Tholare* is a principle of help in the form of mobilization of workers such as open a new field or cut down trees in the primary forest for the garden. This assistance is done because it is driven by a spontaneous desire to worship their fellow citizens, with the expectation that someday they will be rewarded for similar assistance if their turn comes. Although the principle of wage employment also applies to the isolated tribe, it is still limited in relationships with outsiders or occupations that are considered non-traditions. They began to recognize the wage system since the entry of forest entrepreneurs in their area. For example, cutting down large trees using axes or and other cutting tools.

The principle of solidarity as described above also applies in the consumption of hunting or mixing results that are given to members of a relatives' work group or other people in great need. Therefore, members of other relatives also feel the food given it, as well as to overcome the needs of household consumption. Field observation proves that when an isolated tribe (*Tholare*) success to catch a deer, then cut and the meat distributed to other relatives. Such conditions also apply to make roofs of leafy or enraged leaves, although most are done by housewives, but the results of the work after being sold to the villagers, the wages are distributed to them according to the amount of income.

# 5. Conclusion

The overcoming of illegal logging crime in Papua province has not been effective, because up to now there are still some illegal logging practices that have not been handled thoroughly, due to lack of supervision from relevant government officials. At least, factors that inhibit illegal logging overcoming in Papua Province are influenced by 3 (three) factors: *Firstly*, the lack of human resources of law enforcement officers, especially in terms of the limited number of personal and professional skills; *Secondly*, insufficient support facilities for law enforcement process; and *Thirdly*, the low level of public legal awareness.

The level of community participation in an effort to overcome illegal logging in Papua Province is so low. This is due to the difference of perception between the community and law enforcement officers, especially in terms of understanding the existence of forest areas, where the community considers that the forest which is a gift of God, should be utilized to support their lives, not limited to protected forests, law enforcement officials consider that cutting down trees and exploiting forest products without permits, is a crime to be punished.

To secure forest areas that are constantly under threat of destruction, it should be monitored and guarded by adequate forest security personnel with reliable professional capabilities, and should be supported by adequate facilities. In the case of licensing for forest utilization, the central and local governments should consider various aspects maturely, especially aspects of forest protection and conservation prior to the issuance of licenses, and improve the implementation of monitoring and evaluation after the licenses are issued.

#### References

Bernard L. Tanya. "Dialog Antara Budaya dan Hukum Pidana." Thesis: Graduate School, Universitas Indonesia. Dennis Wrong, (ed.), 1970, Max Weber: Makers of Modem Social Science, Prentice Hall, Inc. Englewood Cliff, New Jersey.

Finnis, J. (2011). Natural Law and Natural Rights. Second Edition. Oxford University Press. New York.



J.E Sahetapy, (1989). "Beberapa Azas Baru dalam Konsep KUHP Nasional" Bahan Penataran Hukum Pidana Nasional III, held in Kupang dated 1-20 August.

Marzuki, P.M. (2005). Penelitian Hukum, Jakarta, Kencana.

Muh. Yunus Wahid, Naswar Bohari & Achmad. (2015). "Penegakan Hukum Lingkungan di Sektor Kehutanan (Studi Kawasan Hutan Lindung di Kabupaten Sinjai, Sulawesi Selatan)". *Hasanuddin Law Review, 1(1),* 61-73.

Rahardjo, S. (1983). Aneka Persoalan Hukum dalam Masyarakat, Alumni, Bandung.

Rahardjo, S. (2006). Membedah Hukum Progresif. Jakarta. Penerbit Buku Kompas.

Suhendang, E. (2002). Pengantar Ilmu Kehutanan, Yayasan Penerbit Fakultas Kehutanan, Bogor.

Talcott Parsons, (1991). The Social Systems, New York: The Free Press.