

# **International Journal of Research Publication and Reviews**

Journal homepage: www.ijrpr.com ISSN 2582-7421

# Law Enforcement Against Illegal Gold Mining in the Bumi Panua Nature Reserve, Pohuwato Regency

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DOI- https://doi.org/10.55248/gengpi.4.523.43249

#### ABSTRACT

The purpose of this study is to Know and Analyze Law Enforcement against Illegal Gold Mining in Bumi Panua Nature Reserve, Karya Baru Village, Dengilo District, Pohuwato Regency. This research uses a type of normative legal research which uses several approaches, namely the *Statue Approach*; Conceptual approach (*Conceptual Approach*); Comparative Approaches; and Case *Approaches*. This research uses data analysis techniques with deductive logic. The results of this study show that law enforcement against illegal gold mining in the Panua Earth Nature Reserve of Karya Baru Village, Dengilo District, Pohuwato Regency until now illegal gold mining activities in the Panua Earth Nature Reserve, Karya Baru Village, Dengilo District, Pohuwato Regency has not been effectively resolved, this is confirmed by the discovery that there are still many activities that occur in carrying out the multiplication process in conservation areas and in areas outside conservation that do not have export permits or can still be said to be illegal activities.

Keywords: Law Enforcement; nature; Illegal Gold Mining .

# A. Background

The state as the organizer of the distribution of welfare to all Indonesian people, the task referred to, of course cannot be carried out by the state without state tools as the driving force of the state, starting from the government, legislative, judiciary and other state institutions. One of the duties of the state is to ensure that the use of state assets is in line with the spirit of its designation, for example, mining activities apart from providing economic benefits must also pay attention to ecological aspects, including not destroying the environment, therefore the state through the Government is given space to protect the environment, including establishing conservation area in the form of a nature reserve, where this area cannot be used as a land for dredging natural resources. Until now, based on data from the Ministry of Environment, the area of land and sea conservation areas covers an area of 27,134,394.785 ha. The conservation areas in question include 212 nature reserves, 79 wildlife reserves, 54 national parks, 133 nature tourism parks, 34 grand forest parks, 11 hunting parks, and 31 nature reserve areas - nature conservation areas.

One of the areas designated as a conservation area is Gorontalo Province, precisely in Pohuwato Regency, with the name Panua Nature Reserve as one of the conservation areas of several conservation areas in Pohuwato Regency. Panua Nature Reserve is one of the conservation areas under the management of the North Sulawesi Natural Resources Conservation Agency (BKSDA). The Panua Nature Reserve is located in Pohuwato Regency, Gorontalo Province. Based on administrative location, the Panua Nature Reserve covers 6 districts namely Paguat, Marisa, Patilanggio, Taluditi, Dengilo and Buntulia. In accordance with the Ministerial Decree Forestry No. 471/Kpts-11/1992 The area of the Panua Nature Reserve is about 45,575 hectares. Geographically this area is located between 0o27'00" –0o42'00" North Latitude and 121o49'00"–121o53'00" East Longitude. Within the Nature Reserve area is also crossed by the Trans Sulawesi road which divides this area into 2 parts .

Reports on the implementation of intelligence operations in the Panua Nature Reserve in 2016 said that there was a significant reduction in vegetation cover in the Panua Nature Reserve area. This can be seen by the shrinking area of the Panua Nature Reserve. Based on the Minister of Forestry Decree No. 250/KptsII/1984 dated 20 December 1984 and No. 252/Kpts-II/1984 dated December 26, 1984 concerning the designation of the Panua Nature Reserve, with an area of ± 45,575 Ha. However, currently the Panua Nature Reserve has received area designation through a decree of the Minister of Forestry of the Republic of Indonesia Number: SK. 3073/Menhut IV/KUH/2014 dated 23 April 2014, regarding the designation of the Panua Nature Reserve forest area of 36,575 Ha.

Illegal gold mining in the Panua Nature Reserve (CA) of Karya Baru Village, Pohuwato Regency continues to operate. Ironically, this illegal mining activity takes place openly and uses excavator-type heavy equipment. Gold mining in the village has been done since the 1990s by looking for gold in a traditional way, without using heavy equipment. And the gold mining is in another use area (APL). However, based on the results of an interview with Abdul Mutalib Palaki, a field officer at the North Sulawesi Natural Resources Conservation Agency (BKSDA), Region II Gorontalo Section, since 2014,

gold mining has begun to spread to the Panua Nature Reserve. Based on Mutalib's records, around 13 hectares of conservation areas were cleared for illegal gold mining with heavy equipment.

Based on the results of the Mongabay Team's investigation of gold mining in the Panua nature reserve, from the results of an initial interview with one of the miners, Rahmat Karim, since 2014, residents have started using heavy equipment in the form of excavators, even to date the number has reached hundreds of units, even During the fasting month, there are around 104 excavators. There are about 8-12 operating in CA Panua. The following is a screenshot of the damage to the Panua Nature Reserve.

Picture. 1.1. Damage to the Panua Nature Reserve



Source: mongabay.co.id

Responding to the rampant mining activities that are eroding the Panua Nature Reserve Area, at the end of 2021, the Pohuwato Government issued a circular letter prohibiting residents from mining in Karya Baru Village, Dengilo District. However, the activity is still running today. In fact, the law enforcement process continues to be pursued through operations, the result of which, on June 8, nine perpetrators were arrested, eight main actors and one heavy equipment operator. the nine perpetrators have been named as suspects. Now, they are undergoing intensive examination by investigators. The perpetrators were subject to Article 40 paragraph 1 juncto and Article 19 paragraph 1 of Law number 5 of 1990 concerning the conservation of living natural resources and ecosystems.

Until now, based on data obtained by researchers from the Gorontalo Regional Police, the number of people who have been prosecuted by law enforcement officers is 15 (fifteen) people, of which 1 (one) person is handled by the Gorontalo Regional Police, 13 people are handled by the Pohuwato Police., and 1 (one) person handled by BPPHLHK Sulawesi region section III Manado.

Based on the results of preliminary research conducted by prospective researchers, there are several impacts caused by mining activities in the Panua Nature Reserve Area, namely:

- Environmental Damage, Moh. Rifaldy Happy, researcher from the Department of Ecology and Disaster Management, at the Institute for Humanities and Development Studies (InHIDES) said that illegal gold mining in Karya Baru Village, Dengilo, pollutes the soil and damages the surrounding environment.
- 2. Health Threats, Yuyun Ismawati, Senior Advisor and Co-founder of the Nexus3 Foundation, said that gold mining can threaten health. One of them, managing gold with mercury (Hg) will threaten health. Heavy metals, he said, can cause an increase in chemical elements in living bodies due to the bioaccumulation system.

The results of preliminary observations made by prospective researchers, that the law enforcement process so far has not provided a significant deterrent effect on illegal gold miners who eroded the Panua Nature Reserve Area, this can be seen from a number of cases that continue to recur or in other words the community did not heed the warnings and warnings of law enforcement officials, even though several socialization sessions had been carried out by law enforcement officers together with the Regional Government of Pohuwato Regency.

Because the ineffectiveness is affected by the lack of supervisory staff owned by the local government of Pohuwato Regency, this is based on the results of interviews with the UPTD Forest Management Unit Region III Pohuwato, it is said that this mining activity has been known for a long time, but taking action is difficult due to limited members. The hundreds of gold miners, he said, would not be able to be handled by 23 officers.

# B. Problems

Based on the description of the background as described by the author above, the author formulates the problem of How is law enforcement against Illegal Gold Mining in the Bumi Panua Nature Reserve, Karya Baru Village, Dengilo District, Pohuwato Regency?

# C. Research methods

The type of writing used is normative legal writing, namely legal writing done by examining library materials or secondary data as the basic material for research. The objects of study include basic norms or rules, legal principles, laws and regulations, comparative law, doctrine and jurisprudence. The approach used by the author in compiling this writing is, among others: statutory approach ( statute approach ) to see the regulatory framework related to the context of this paper; historical approach (historical approach) is aimed at historical aspects, in the sense of seeing the historical aspects of why mangrove land tenure; and a conceptual approach (conceptual approach) this approach is used to see the possibility of using a solution to the problem of law enforcement in the area of mangrove conservation land. Furthermore, the analysis technique used is prescriptive analysis technique.

# D. Analysis and Discussion

#### Law Enforcement Against Illegal Gold Mining in the Bumi Panua Nature Reserve, Karya Baru Village, Degilo District, Pohuwato Regency

Law enforcement is the actualization of legal objectives which are still in the stage of ideals and are realized in real terms in people's lives in accordance with the ideals or objectives of the law itself. The purpose of law is essentially to state a rule to guarantee legal certainty. In addition, in addition to guaranteeing legal certainty, it is also to maintain a sense of justice for the people who expect legal justice itself. It is no less important that apart from maintaining legal certainty and justice, it is also important to obtain the benefits of the law in order to organize the social life of society.

Conceptually, the essence and meaning of law enforcement lies in the activity of harmonizing the relationship of values that are described in solid and manifest principles and attitudes as a final stage of the elaboration of values, to create, maintain and maintain social peace. Law enforcement must pay attention to 3 elements, namely legal certainty, legal benefits, and legal justice. Society expects legal certainty, because with legal certainty, society will be more orderly. The law is tasked with creating legal certainty because it aims to create social order. Instead, the community expects benefits in implementing or enforcing the law. Law is for humans so law enforcement must provide benefits or uses for society. That means, don't let the law be enforced, causing unrest in society. The last element is justice, which means that law enforcement must be carried out by upholding justice even though law is not synonymous with justice.

There are several factors that influence law enforcement. These factors have enough meaning so that the positive and negative impacts lie in the content of these factors. According to Soerjono Soekanto, there are five of these factors, namely first, the law itself, second, law enforcers, namely the parties who form or apply the law, third, facilities or facilities that support law enforcement, fourth, society, namely the environment in which the law is enforced. applies or is applied, and the five cultures, namely works, creations, and feelings based on human initiative in social life.

Regarding law enforcement cannot be separated from the reality aspect of enforcement, this is the case in the context of law enforcement at the gold mine in Pohuwato. Law enforcement against illegal gold mining in the Bumi Panua Nature Reserve, Karya Baru Village, Degilo District, Pohuwato Regency can be seen from several aspects, including:

### 1. Monitoring and Prevention

The authorities must increase supervision and prevention of illegal gold mining activities. This can be done by strengthening patrols and increasing surveillance activities, as well as coordinating with the local community, because monitoring and prevention of illegal gold mining processes will have a good impact on conservation. the environment as a support for healthy life that is needed by all creatures that inhabit the area and the environment.

Particularly for the monitoring and prevention process carried out by law enforcement officials, in this case, the Gorontalo Police and the Pohuwato Police, the Attorney General's Office, the Directorate General of Environmental and Forestry Law Enforcement, the Ministry of Environment and Forestry (Gakkum LHK KLHK), and the Natural Resources Conservation Agency. Natural Resources (BKSDA), North Sulawesi.

Based on the results of research conducted by researchers at several research locations, where researchers made direct observations both in the form of field observations and observation of data collected in the form of reports that had been carried out by related parties, the researchers saw that the process of supervision and prevention had not been optimally carried out by law enforcement officials this can be measured by the intensity of illegal miners operating in the illegal gold mining area in the Panua nature reserve area. more details can be seen in the image below:



Figure 4.1. Conditions before and after gold mining activities

Based on the results of satellite image capture in the Panua Nature Reserve Area in Karya Baru Village, Dengilo District, Pohuwato Regency, it is clear in the difference before there was illegal gold mining activity and after there was activity. biological natural resources that produce healthy oxygen and become a place for endemic habitats for the area. When the forest in the Panua Nature Reserve is cleared by illegal mining, it's not only the trees that are lost or water sources being damaged, but the lives of endemic animals such as the Sulawesi hornbill (*Aceros cassidix*) are also threatened.

Reports on the implementation of intelligence operations in the Panua Nature Reserve in 2016 stated that there was a significant reduction in vegetation cover in the Panua Nature Reserve area. This can be seen by the shrinking area of the Panua Nature Reserve. Based on the Minister of Forestry Decree No. 250/Kpts/II/1984 dated 20 December 1984 and No. 252/Kpts-II/1984 dated December 26, 1984 concerning the designation of the Panua Nature Reserve, with an area of ± 45,575 Ha. However, currently the Panua Nature Reserve has received area designation through a decree of the minister of forestry of the Republic of Indonesia Number: SK. 3073/Menhut IV/KUH/2014 dated 23 April 2014, regarding the designation of the Panua Nature Reserve forest area of 36.575 Ha).

Monitoring and Prevention of Damage to the Panua Nature Reserve in Karya Baru Village, Dengilo District, Pohuwato Regency, Gorontalo, is not an easy thing to do, this can be seen from the several socialization and prosecution processes carried out, but until now the gold mining activities that have entered In the Panua Nature Reserve Area, there has not yet been a bright spot for settlement, this is based on the records of researchers to date, the area of Lahal area of the Panua Nature Reserve which has been damaged by illegal gold mining activities amounts to approximately 13 hectares, this is based on data submitted by Field Officers. field Natural Resources Conservation Center (BKSDA) North Sulawesi, Region II Region of Gorontalo, Abdul Mutalib Palaki.

So it can be concluded that the supervision and prevention carried out by law enforcement officers is not optimal, therefore it needs to be maximized in the future, the local government must closely monitor and supervise illegal gold mining activities in the Bumi Panua nature reserve, Karya Baru Village, Dengilo District, Pohuwato Regency. This can be done by using technology, such as drones, to monitor illegal gold mining activities from the air, so that the supervisory task does not only rest with the BKSDA, the Police, and other law enforcement officers, but the involvement of regional emerita is also a very important factor for maximizing monitoring and preventing damage to the Panua Nature Reserve in Karya Baru Village, Dungaliyo District, Pohuwato Regency.

#### 2. Law enforcement Authorities

Law enforcement carried out by authorities such as the police, prosecutors, and environmental monitoring agencies such as the Environmental Agency (BLH) must act firmly and consistently against illegal gold miners. Such decisive action may take the form of confiscation of illegal mining equipment, detention of perpetrators, and legal prosecution in accordance with applicable regulations.

Until now, based on data obtained by researchers from the Gorontalo Regional Police, the number of people who have been prosecuted by law enforcement officers is 15 (fifteen) people, of which 1 (one) person is handled by the Gorontalo Regional Police, 13 people are handled by the Pohuwato Police., and 1 (one) person handled by BPPHLHK Sulawesi region section III Manado.

In addition to taking action by law enforcement officials by arresting and detaining illegal gold miners who are operating in the Karya Baru Village Area, Dungaliyo District, Pohuwato Regency and have entered the Panua Nature Reserve Area which legally cannot be used as a living area let alone until carry out mining activities that have an impact on the destruction of the protected ecosystem in the Nature Reserve Area.

Based on the picture above, that the natural conditions carried out by the mining material excavation process appear to be very damaged, this has a significant impact on the surrounding environment, especially if it is carried out by means of large material excavations. Some of the impacts that can occur are:

- a. Water pollution: Gold mining can cause water pollution because mining waste containing chemicals such as mercury and cyanide can contaminate rivers and water sources. This can adversely affect the health of humans and animals who rely on these water sources.
- b. Deforestation: To access gold mining sites, extensive deforestation is often required. This deforestation can reduce the environment's ability to store carbon and exacerbate climate change.
- c. Habitat destruction: Quarrying of mining materials can destroy natural habitats, including forests, rivers and grasslands, which can result in the loss of flora and fauna species in the area, this is what is currently happening in Karya Baru Village, in the Kawasan area. Conservation of the Panua Nature Reserve, Dungaliyo District, Pohuwato Regency, where in a report published by the Mogababay Environmental Journalists Team, that "the fate of the Panua Nature Reserve is no longer suitable for its name. The population of this bird endemic to Sulawesi, which is increasingly rare and on the verge of extinction, is decreasing from year to year. Apart from predator disturbance, function conversion and human greed destroying the forest are the biggest threats to the maleo and the Panua Nature Reserve.
- d. Changes in topography: Gold mining can change the topography and natural landscape, by digging into the ground and producing large deposits that can spoil the natural landscape.

Thus, that the damage or impact arising from mining activities carried out by illegal gold miners has an impact that does not only apply in the short term, but has long term effects if enforcement is not carried out against gold miners, both direct miners and private individuals. -people who provide funding for the running of mining activities at this illegal gold mining site, especially those that have entered the conservation area of the Panua nature reserve.

Based on the data obtained by researchers related to law enforcement against illegal gold miners to date, this is as can be seen in the data below:

| Instance                        | Number of Actors | Number of Heavy Equipment confiscated |
|---------------------------------|------------------|---------------------------------------|
| Gorontalo Police Chief          | 2                | 2                                     |
| Polres Pohuwato                 | 10               | 1                                     |
| BPPHLHK Sulawesi region section | 1                | -                                     |
| III Manado                      |                  |                                       |

Source: Data sourced from the three agencies as shown in the table.

Based on the data above, it can be seen that of the many actors operating at the mine site, only a small proportion were acted upon by law enforcement officials, where at the Polda level, out of two perpetrators, 1 person was already a convicted criminal and 1 person was a defendant (still in the stage of trials), while for cases handled by the Pohuwato Police, of the 10 perpetrators currently with the status of convicts, 9 people and 1 person is still in the process of being investigated. Finally, for cases handled by BPPHLHK Sulawesi region section III Manado, for the number of perpetrators, 1 person has now reached the trial stage in court.

In addition, based on the results of the researcher's interview with one of the officers of the North Sulawesi Natural Resources Conservation Agency (BKSDA), Gorontalo Region II Section, Abdul Mutalib Palaki, based on observations made that there was a lot of heavy equipment operating in the mining area, there were approx. 104 excavators and there are about 8-12 operating in C order Alam Panua.

#### 3. Socialization and Education

The authorities also need to socialize and educate the public about the dangers and negative impacts of illegal gold mining activities on the environment and people's lives. This can be done by holding meetings or seminars, and distributing brochures or pamphlets to the local community.

Based on the results of interviews with Samsudin Hadju, that socialization and education have been carried out several times for the community5 who are near the Panua Nature Reserve Conservation Area, the socialization is carried out together with the regional emerita, where the target of socialization is the community around the CA location, besides direct socialization also carried out distribution of brochures and installation of prohibition signs to carry out activities that could interfere with the function of the Panua Nature Reserve, the installation of this plan was carried out at several points that were considered vulnerable to entry by the community of illegal gold miners, in the Panua Nature Reserve conservation area which is located in Karya Baru Village, Dungaliyo District, Pohuwato Regency.

However, what has happened is that after socialization and education efforts have not been able to resolve the issue of illegal gold mining, therefore it can be said that until now law enforcement efforts through a preventive approach in the form of outreach and education have not been very effective in suppressing and eliminating encroachment on Panua Nature Reserve damaged by illegal gold mining activities.

#### 4. Environmental rehabilitation

Environmental rehabilitation after law enforcement is the process of restoring damaged environmental conditions as a result of violations of law or destruction by humans. Environmental rehabilitation is carried out to restore healthy and functioning environmental conditions.

The authorities also need to carry out environmental rehabilitation efforts to recover the damage caused by illegal gold mining activities. This can be done by rehabilitating ex-mining areas and replanting lost vegetation.

Based on the results of an interview with Samsudin Hadju, that the environmental rehabilitation process in the nature reserve area being mined is carried out in stages, this is done as a form of restoration of the function of the Panua CA. besides that, why does this rehabilitation need to be carried out in stages because to maximize the number of officers in the field who are indeed limited.

Based on the results of the interviews, it can be concluded that for this stage, it has not been carried out optimally because it is constrained by the number of officers who will be assigned to the field to carry out efforts to restore or rehabilitate the environment at the ex-illegal gold mining location in the Panua Nature Reserve conservation area.

Based on the arguments prepared by the researchers above, it can be concluded that until now illegal gold mining activities in the Bumi Panua Nature Reserve, Karya Baru Village, Dengilo District, Pohuwato Regency have not been effectively resolved. This is evident from reports from the public stating that there are still illegal gold mining activities in the area, even though law enforcement and enforcement operations have been carried out. Failure to handle this illegal gold mining activity can have a negative impact on the environment and the sustainability of the Bumi Panua Nature Reserve ecosystem, and can harm the surrounding community who depend on the natural resources in the area. Therefore, there is a need for more effective efforts to deal with this illegal gold mining activity, including through increased coordination between various parties involved and tighter supervision of activities in the Bumi Panua Nature Reserve area.

# E. Conclusion

Based on the analysis and discussion that has been described above, it can be concluded that law enforcement against Illegal Gold Mining in the Bumi Panua Nature Reserve, Karya Baru Village, Degilo District, Pohuwato district, until now illegal gold mining activities in the Bumi Panua Nature Reserve, Karya Baru Village, District Degilo Pohuwato Regency has not been effectively resolved, this is confirmed by the discovery that there are still many activities that occur in carrying out the excavation process in conservation areas and outside conservation areas that do not yet have an export permit or can still be said to be illegal activities.

#### Reference:

Ahzar, Al, Yudi Armansyah, and Dody Sulistio. Upaya Pemerintah Dalam Revegetasi Lahan Tambang Emas Ilegal Studi Di Desa Tiga Alur Kecamatan Pangkalan Jambu Kabupaten Merangin. UIN Sulthan Thaha Saifuddin Jambi, 2022.

Arfandi Ibrahim, (2022). 9 Tersangka Perusak Cagar Alam di Pohuwati Terancam 10 Tahun Penjara. Diakses dari: <a href="https://www.liputan6.com/regional/read/4987600/9-tersangka-perusak-cagar-alam-di-pohuwato-terancam-10-tahun-penjara">https://www.liputan6.com/regional/read/4987600/9-tersangka-perusak-cagar-alam-di-pohuwato-terancam-10-tahun-penjara</a>. Diakses pada 10 September 2022.

Arif, Anggraeni. "Analisis yuridis pengrusakan hutan (deforestasi) dan degradasi hutan terhadap lingkungan." Jurisprudentie: Jurusan Ilmu Hukum Fakultas Syariah dan Hukum 3.1 (2016): 33-41.

Christopel Paino. Cagar Alam Panua, Dulu Rumah Maleo Kini "Istana" Tambang dan Perkebunan. Diakses dari: <a href="https://www.mongabay.co.id/2013/03/09/cagar-alam-panua-dulu-rumah-maleo-kini-istana-tambang-dan-perkebunan/">https://www.mongabay.co.id/2013/03/09/cagar-alam-panua-dulu-rumah-maleo-kini-istana-tambang-dan-perkebunan/</a> diakses pada 20 Januari 2023.

Direktorat Jenderal Konservasi Sumber Daya Alam dan Ekosistem Kementerian Lingkungan Hidup dan Kehutanan. (2018). Statistik Direktorat Jenderal Konservasi Sumber Daya Alam dan Ekosistem Tahun 2018. Jakarta: Kementerian Lingkungan Hidup dan Kehutanan. Hal. XII

Gani, Puspita R., Jemmy Abidjulu, and Audy D. Wuntu. "Analisis Air Limbah Pertambangan Emas Tanpa Izin Desa Bakan Kecamatan Lolayan Kabupaten Bolaang Mongondow." Jurnal mipa 6.2 (2017): 6-11.

Ishaq, Dasar-Dasar Ilmu Hukum, ed. by Yunasril Ali, Revisi, Sinar Grafika, Jakarta, 2016, hlm. 298-299.

Jarulis, Jarulis, et al. "Variasi Interspesifik Julang (Aves: Bucerotidae) Indonesia Berdasarkan Gen Cytochrome-B Dna Mitokondria." Berita Biologi 18.1 (2019): 99-108.

John Thamrun, Persilisihan Prayudisial: Penundaan Pemeriksaan Perkara Pidana Terkait Perkara Perdata, Sinar Grafika, Jakarta, 2016, hlm. 18.

Mukti Fajar dan Yulianto Achmad, Dualisme Penelitian Hukum Normatif Dan Empiris (Yogyakarta: Pustaka Pelajar, 2010).

Peter Mahmud Marzuki, Penelitian Hukum, Edisi Revi (Jakarta: Kencana Prenada Media Group, 2014).

Sarjan Lahay. (2022). Kala tambang emas Ilegal rusak sungai Tihu'o Dengilodan Lahan Pertanian tani di Pohuwato. Diakses dari: <a href="https://www.mongabay.co.id/2022/09/05/kala-tambang-emas-ilegal-rusak-sungai-tihuo-dengilo-dan-lahan-tani-di-pohuwato/">https://www.mongabay.co.id/2022/09/05/kala-tambang-emas-ilegal-rusak-sungai-tihuo-dengilo-dan-lahan-tani-di-pohuwato/</a>. Diakses pada 10 September 2022.

Sarjan Lahay. (2022). Tambang Emas Ilegal Jarah Cagar Alam Panua. Diakses dari: <a href="https://www.mongabay.co.id/2022/08/22/tambang-emas-ilegal-jarah-cagar-alam-panua/">https://www.mongabay.co.id/2022/08/22/tambang-emas-ilegal-jarah-cagar-alam-panua/</a> dikases pada 10 September 2022.

Siswanto Sunarso, Viktimologi dalam Sistem Peradilan Pidana, ed. by Tarmizi dan Suryani, edisi 1, Sinar Grafika, Jakarta, 2015, hlm. 83.

Soerjono Soekanto, Faktor-Faktor Yang Mempengaruhi Penegakan Hukum, Ed. 1, Rajawali Pers, Jakarta, 2016, hlm. 5.

Srinova Ibrahim. (2017). Deskripsi Kepadatan Populasi Famili Araceae Dengan Alih Fungsi Lahan Di Kawasan Hutan Cagar Alam Panua, Desa Maleo Kecamatan Paguat Kabupaten Pohuwato. Skripsi, Fakultas Matematika dan Ilmu Pengetahuan Universitas Negeri Gorontalo. Hal. 1

Witono, Joko Ridho, et al. "Kebun Raya Megawati Soekarnoputri: Transformasi Lahan Pasca Tambang Menjadi Kawasan Konservasi Tumbuhan." Warta Kebun Raya 18.2 (2020): 88-103.

Yudisthira Saleh. (2022). Kebal Hukum, Aktivitas Tambang Emas Ilegal di Cagar Alam Gunung Langge Terus Beraktivitas. Diakses dari: <a href="https://dulohupa.id/kebal-hukum-aktivitas-tambang-emas-ilegal-di-cagar-alam-gunung-langge-terus-beraktivitas/">https://dulohupa.id/kebal-hukum-aktivitas-tambang-emas-ilegal-di-cagar-alam-gunung-langge-terus-beraktivitas/</a> dikases pada 10 September 2022