Indonesian Military Cooperation with the Provincial Government of Riau in Forest and Land Fire Prevention

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Abstract:- Disaster is one type of non-military threat that can disrupt a country's national security. Indonesia is a country that has large islands in it. With these large islands, Indonesia also has vast forests. However, one of the problems with the extent of forests in Indonesia is forest and land fires. Forest and land fires become a serious problem when the dry season comes. Moreover, the impact of forest and land fires has become a problem between countries because of the smoke they cause. There are many losses arising from forest and land fires such as the economy, health, mobility. The complexity of the impact of forest and land fires requires contributions from various parties such as the regional government and also from the military. This study uses a descriptive qualitative approach. Data collection was carried out by means of a Focus Group Discussion (FGD) with sources from the Indonesian National Armed Forces at the 031 Wirabima Military Resort Command and also a literature review. The results of this study are that the collaboration carried out is manifested in several actions to prevent forest and land fires such as re-mapping disaster-prone areas, using information systems or early warning applications, patrolling, outreach, fostering and increasing the role of Fire Concerned Communities (MPA), peatland rewetting. The success of the collaboration can be seen from a significant decrease from 2020 to 2022.

Keywords:- Cooperation, Indonesian Military, Provincial Government of Riau, Prevention, Forest and Land Fires.

I. INTRODUCTION

National security is a goal achieved by a country. As the current era develops, the types of threats that exist also develop. The threat of a country is not only a threat in the form of a military. There are also non-military threats. One example is the disaster that occurred. Indonesia is a country with a tropical climate and is in the form of an archipelago with large islands and has the largest forest in the world. One of the problems with the extent of forests in Indonesia is the occurrence of forest and land fires. Forest and land fires are a disaster that continues to occur in Indonesia to this day, especially during the dry season. In Law Number 24 of 2007 concerning disaster management, forest and land fires are potential disasters that occur due to two factors, namely natural factors and non-natural factors such as human activities. One example of forest and land fires that often occur is in Riau Province, Sumatra Island.
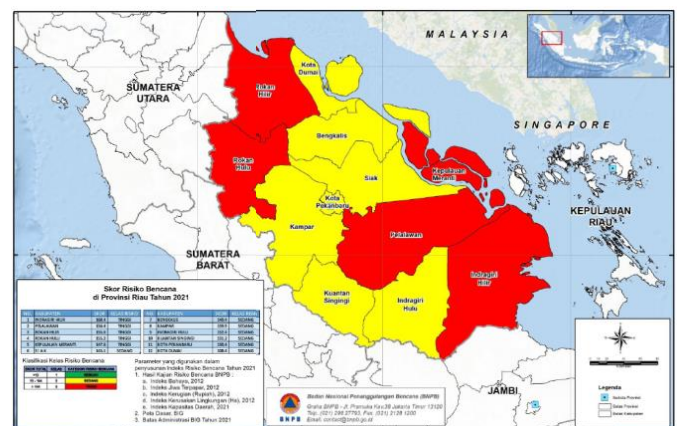

Fig. 1: Riau Disaster Risk Index Map 2021

Riau Province alone has forest covering an area of 5.39 million hectares and peatlands covering an area of 4.04 million hectares (Suyanto, 2020). Several districts are in the red zone with high disaster intensity. Forest and land fires are still the dominating disaster in these districts. On the other hand, the life of the people of Riau Province cannot be separated from the existence of forests because the people are still very thick with Malay culture. Forests are the main element of the human life support system which has real benefits and is the basic capital of national development nasional (Rizana, 2019). These forest and land fires cause losses in several aspects, such as the economy, health, and mobility. In addition, the smoke from forest and land fires has also become a problem and concern of the outside world, especially neighboring countries, such as Malaysia and Singapore.
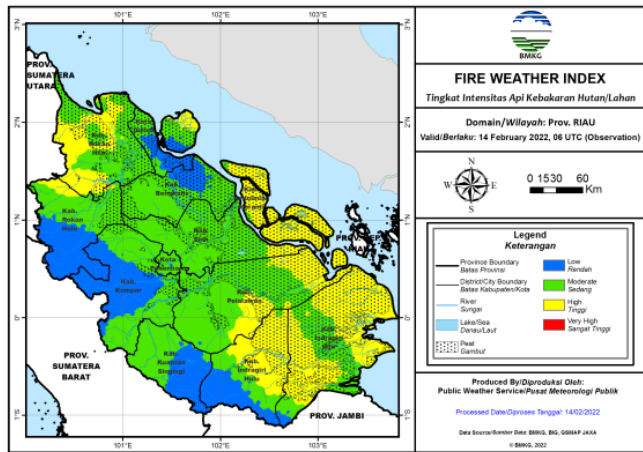
Fig. 2: Forest or Land Fire Intensity Level

The picture above is the distribution of fire intensity levels for forest or land fires in Riau Province. In the blue area, the intensity of the fire belongs to the low category, so the fire is easy to control and tends to extinguish on its own. In the green area, the intensity of the fire belongs to the medium category, the fire is still relatively easy to control. Meanwhile, in the yellow area, the intensity of the fire is classified as very high, so the fire is difficult to control (BMKG, 2022).

Forest fires can occur inside forest areas or outside forest areas such as peat. Fires on peat soils are more difficult to extinguish because fires can spread above ground as well as below the soil surface in peat layers (Syaufina, 2008).

Compared to blackouts, prevention efforts require relatively lower costs. In preventing forest and land fires, the role of several elements is required. One of them is the Riau Provincial Government with the Indonesian National Army at the 031 Wirabima Military Resort Command. Military and government cooperation is expected to contribute to efforts to prevent forest and land fires in Riau Province. By collaborating and integrating the capabilities of the government and the military, the division of tasks in the organizational structure for forest and land fires will become clearer, more appropriate and more directed (Pratiwi, et al., 2022).

Apart from the government, the involvement of the Indonesian National Armed Forces in disaster management is also contained in the Regulation of the Minister of Defense of the Republic of Indonesia Number 6 of 2015 concerning Guidelines for the Involvement of the Indonesian National Armed Forces in disaster management both at the pre-disaster, emergency response and post-disaster stages (KEMENHAN, 2015).

This study aims to examine the cooperation of the Indonesian National Armed Forces at the 031 Wirabima Military Resort Command with the Riau Provincial Government in preventing forest and land fires in Riau Province. The collaboration between the Indonesian National Armed Forces at the 031 Wirabima Military

Resort Command and the Riau Provincial Government is intended so that each of these sectors can jointly carry out efforts to prevent forest and land fires in Riau Province in accordance with their responsibilities.

II. RESEARCH METHODS

The research entitled Indonesian Military Cooperation with the Provincial Government of Riau in Forest and Land Fire Prevention uses a qualitative approach with a descriptive method. The data collection was carried out through focus group discussions (FGD), and literature studies from existing research. Research sources came from the Indonesian National Army at the 031 Wirabima Military Resort Command. There is also secondary data in the form of electronic documents collected. Presentation of data is done by describing the results of interviews and documentation so that they can be written in the form of descriptions with narrative text and supported by documents, photos, and pictures to draw conclusions.

III. RESULTS AND DISCUSSION

Cooperation is a social interaction in which there are activities carried out to achieve common goals. Where in the process it is carried out by helping each other and understanding each other's activities (Abdulsyani, 1994). Collaboration is carried out by dividing tasks, where each person carries out the work for which he is responsible.

Disasters are not only the responsibility of civilians, but also the involvement or cooperation of military elements. Civil-military cooperation has proven capable of speeding up disaster management so that victims and damage can be reduced (Nugroho, et al., 2016).

In forest and land fires, cooperation is required from several elements that have their respective capacities to be able to carry out the objectives to be achieved. One example is the Indonesian National Army at the 031 Wirabima Military Resort Command with the Riau Provincial Government, especially in prevention efforts. Prevention efforts are the main activities carried out to prevent or reduce the emergence of hotspots and reduce the level of danger from forest and land fires. The Provincial Government of Riau has also regulated several regional regulations regarding guidelines for handling forest and land fires. Policies for handling forest and land fires are more directed at efforts to prevent hotspots from occurring, compared to policies for extinguishing forest and land fires. And from the regional regulations that have been formed then produce policies that will later be implemented as a form of joint commitment between elements to prevent forest and land fires. In this case the success of implementing a policy can be influenced by several factors such as: communication, resources, attitude in the bureaucracy or implementers in the organizational structure that has been formed in the management of forest and land fires in Riau Province (Winarno, 2008).

A. Remapping of Disaster Prone Areas

Remapping of disaster-prone areas is carried out to facilitate the management of forest and land fires. Both before and after forest and land fires. Each region has different characteristics. Mapping is part of prevention efforts because by doing so losses or victims can be minimized.

B. Utilization of Information Systems and Early Warning Applications

There are several early warning systems that are owned where the function is to detect hot spots via satellite. Spearheaded by the Ministry of Environment and Forestry, the Peat Restoration Agency and the National Aeronautics and Space Agency. Which is visualized with dashboards such as Sipongi, SIPALAGA.
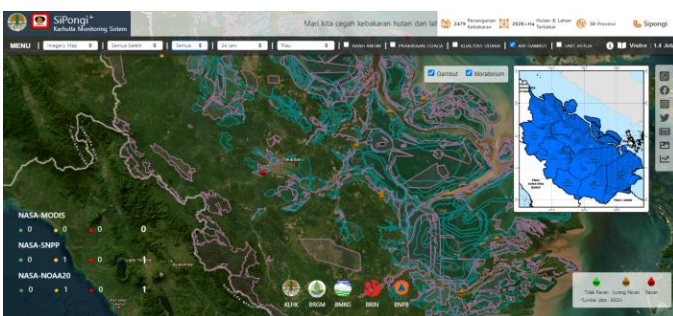

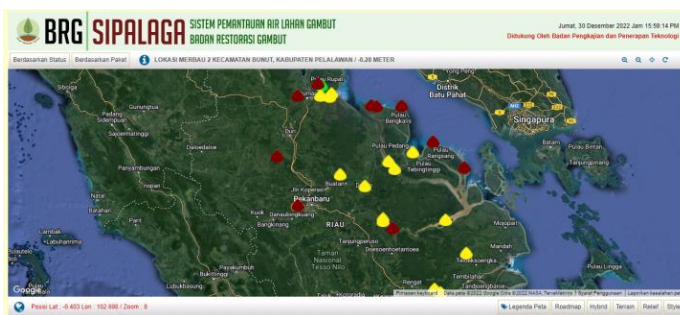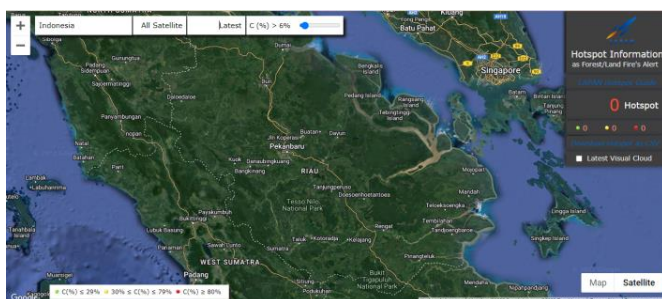Fig 3. Sipongi Dashboard

Fig. 4: SIPALAGA Dashboard

Fig 5. Hot Spot Information

Satellites identify hotspots where temperatures exceed thresholds. The system is also used to find out where the coordinates of hot spots are (BNPB, 2014). Apart from using satellites, an early warning system through sensory data transmission service assisted (SESAME) is also used to detect water levels in peatlands to prevent fires. These two coordinates will later be monitored by the forest and land fire command post, where the findings will be forwarded to the airborne sub-task unit if the hot spot is far from the ground patrol troops. And conversely, the results of these findings will be forwarded to the ground task sub unit if they are still within reach of the ground patrol troops.

Utilization of information systems and early warning applications is used to find out the data and information needed. Such as weather forecasts, rainfall intensity, season forecasts, ground water levels, areas prone to forest and land fires, hotspots, coordinate points, villages, districts and districts.

C. Patrol

Patrol activities carried out are routine patrols carried out every day in various ways such as on foot, using motorized vehicles, and four-wheeled vehicles according to conditions in the field on that day. Where the purpose of this routine patrol is to prevent elements from burning forests and land and checking hot spots on land. In addition, routine patrols are carried out to determine the distribution of peatlands or other areas that are prone to drought and fire directly (Waluyo, et al., 2020).

Patrols can be carried out independently by Fire Concerned Communities and can also be carried out in an integrated manner by involving elements of the Indonesian National Armed Forces, Indonesian National Police, Manggala Agni, Regional Disaster Management Agency and Fire Concerned Communities (MPA). Where this integrated patrol schedule is prepared by the District Military Command alternately with changing times from one point to another so that they cannot overlap what is in the field.

D. Socialization

Implementation of routine socialization or counseling activities that are carried out every day by personnel who deploy them with the aim of changing the mindset of the community about preventing forest and land fires. Raising awareness among the people not to burn land by burning. In addition to socialization through non-formal communication with the community, it is also carried out formally with the village government so that village officials are also involved in socialization with forums (Badri, 2018).

Socialization is also carried out with religious media, namely through sermons in places of worship. Or by involving religious organizations and universities to help carry out forest and land fire prevention campaigns either at religious events or in social activities. To expand the reach, campaigns and publications of real works or field work are also carried out on efforts to prevent forest and land fires in online media and social media.

In addition, leaflets or announcements were made which contained an invitation to jointly be responsible in safeguarding the area so that forest and land burning did not occur and to impose sanctions on the perpetrators of

forest and land burning. Banners were also installed in their respective areas with sentences urging them to avoid burning forests and land. When people already have knowledge and insight about the dangers of land and forest fires, they will indirectly play a role in efforts to prevent and control land forest fires and can reduce the number of burnt areas (Dhewanti, 2022).

E. Fostering and Increasing the Role of Fire Concern Communities

The Fire Care Community is the closest element in preventing forest and land fires because of its presence in direct proximity to forest and land areas. Fire Concerned Communities (MPA) are generally formed on the initiative of the community itself. The role of the community is very important because most of their lives depend on forests and land. This relates to land clearing which can trigger forest and land fires.

With the existence of the Fire Care Society, it is hoped that it can strengthen efforts to prevent forest and land fires in Riau Province. In addition to increasing the capacity of the Fire Concerned Community, coaching is carried out by providing material related to Regulations and Legislation issued by the Ministry of Environment and Forestry which includes efforts to prevent forest and land fires such as Android-based forest and land fire patrol techniques, manufacture of manual fire extinguishers, making compost as an alternative to land clearing without burning. It is hoped that by increasing the capacity of Fire Concerned Communities, forest and land fires in Riau Province can be suppressed and minimized (Gunawan, 2018).

F. Peat Land Wetting

Wetting peatlands is one of the physical prevention of forest and land fires to reduce the risk of drought-prone peatlands and fire-prone peatlands (Waluyo, et al., 2020). Wetting peatlands will be carried out when the following criteria are found in the field:

- The land has not experienced rain for at least 7 consecutive days
- Based on weather forecasts issued by the Meteorology, Climatology and Geophysics Agency (BMKG), the land is predicted to be prone to fires.Hot spot indications found
- Hot spot indications were found based on reports from official hot spot monitoring and reporting agencies.
- Monitoring the water level > 40 cm from the peat surface based on a peat ground water level monitoring device.

In accordance with the Regulation of the Head of the Peat Restoration Agency Number P.6/KaBRG/2019 concerning Guidelines for Implementing Peat Wetting Operations where two activities are carried out, namely:

- Peat Wetting Operations Prone to Drought, and
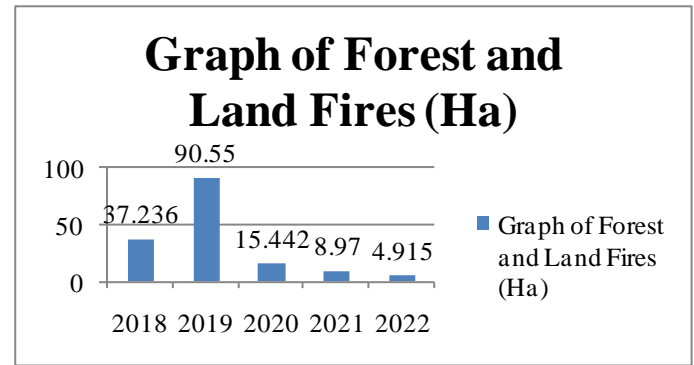- Operation Rapid Wetting of Burnt Peatlands

Fig. 6: Graph of Forest and Land Fires

The graph above can be seen that there has been a significant decrease from 2019 to 2022. Of the five years, the highest graph is shown in 2019 with a total forest fire area of 90.55 Ha. Which then the following year in 2020 decreased drastically to a total of 15,442 Ha. And in 2021 it will decrease again to 8.97 Ha and in 2022 it will become 4,915 Ha. The graph shows data on the success of reducing the area burned, both forest and land. This is one of the proofs of the results of collaboration between stakeholders such as the Indonesian National Army at the 031 Wirabima Military Resort Command and the Riau Provincial Government in preventing forest and land fires in Riau Province.

IV. CONCLUSION

Forest and land fires are a national disaster that still occurs today. Control is carried out by increasing prevention efforts so that a fire emergency response does not occur. Collaborative actions taken by the Indonesian National Army at the 031 Wirabima Military Resort Command and the Provincial Government of Riau in efforts to prevent forest and land fires include re-mapping disaster-prone areas, using information systems or early warning applications, patrolling, outreach, coaching and increasing the role of Fire Concerned Communities (MPA), peatland rewetting. The decrease in the graph of forest and land fires from 2020 to 2022 is one of the results of the collaboration carried out by the Indonesian National Armed Forces at the 031 Wirabima Military Resort Command with the Riau Provincial Government in efforts to prevent forest and land fires in Riau Province.

REFERENCES

[1.] Abdulsyani, Sosiologi Skematika, Teori dan Terapan. Bumi Aksara: Jakarta, 1994
[2.] Badan Nasional Penggulangan Bencana. "Basmi kabut asap sumatera dan kalimantan," Gema BNPB, vol 5, 2014
[3.] Badri. Muhammad, "Sistem komunikasi peringatan dini pencegahan kebakaran hutan dan lahan di Riau," Jurnal Pikom, vol 19, pp. 1-16, 2018
[4.] Dhewanti. Laksmi, "Luas kebakaran hutan dan lahan turun 43 persen pada 2022", Ministry of Environment and Forestry, 2022. Available online at:

https://mataram.antaranews.com/nasional/berita/332
7657/klhk-luas-kebakaran-hutan-dan-lahan-turun-
43-persen-pada-
2022?utm_source=antaranews&utm_medium=nasio
nal&utm_campaign=antaranews#:~:text=Menurut%
20data%20KLHK%2C%20periode%20luas,penurun
an%20luas%20sek

[5.] Gunawan, "Manggala agni daops Pekanbaru Selenggarakan Pembinaan MPA (Masyarakat Peduli Api)," Ministry of Environment and Forestry, 2018. Available online at: http://ditjenppi.menlhk.go.id/berita-ppi/3204-manggala-agni-daops-pekanbaru-selenggarakan-pembinaan-mpa-masyarakat-peduli-api.html

[6.] Kementerian Pertahanan,"Peraturan menteri pertahanan republik Indonesia tentang Pelibatan Tentara Nasional Indonesia dalam penanggulangan bencana,"2015

[7.] Nugroho. Sutopo Purwo, Suprapto, Pandanwangi. Tika Savitri," Kerjasama sipil-militer dalam penanggulangan bencana (studi kasus tanggap darurat banjir Jakarta 2013, 2014, 2015)," Jurnal Dialog Penanggulangan Bencana, vol 7, pp. 103-110, 2016

[8.] Rizana,"Peran pemerintah daerah dalam pencegahan kebakaran hutan di kabupaten Indragiri Hilir provinsi Riau," Jurnal Pembelajaran dan Ilmu Civic, vol 2, pp. 52-63, 2019

[9.] Pratiwi. Uly Ngerti, Nugroho. Adi, "Sinergitas pengelolaan sumber daya manusia bpbd kalimantan barat dengan tni ad dalam pencegahan kebakaran hutan dan lahan sebagai ancaman nonmiliter di kalimantan barat," Jurnal Ilmu Pengetahuan Sosial, vol 9, pp. 1201-1210, 2022

[10.] Sulistyowati. Endah, "Pembinaan masyarakat peduli api di wilayah kerja," Ministry of Environment and Forestry. Available online at: http://ditjenppi.menlhk.go.id/berita-ppi/3098-pembinaan-masyarakat-peduli-api-di-wilayah-kerja.html

[11.] Suyanto,"Implementasi pelibatan tentara nasional Indonesia dalam penanggulangan bencana kebakaran hutan dan lahan gambut provinsi Riau," Jurnal Manajemen Pertahanan, vol 6, pp. 61-84, 2020

[12.] Syaufina.L, Kebakaran Hutan dan Lahan di Indonesia. Pola, Penyebab dan Dampak Kebakaran. Banyumedia Publishing: Malang, 2008

[13.] Waluyo. Joko, Hardyanto. Yesaya, Hariri. Dedi, Adnad. Hasantoha, Tata Cara Pencegahan dan Pengendalian Kebakaran Hutan dan Lahan Gambut Berbasis Desa. The Partnership for Governance Reform: Jakarta, 2020

[14.] Weather Information: Forest and Land Fire Warning System, Meteorology Climatology and Geophysics Council, 2022. Available online at: https://www.bmkg.go.id/cuaca/kebakaran-hutan.bmkg?index=fwi&wil=riau&day=obs

[15.] Winarno. Budi, Kebijakan Publik Teori dan Proses, Edisi Revisi. Media Pressindo: Yogyakarta, 2008

[16.] Sipongi dashboard. Available online at: https://sipongi.menlhk.go.id/

[17.] SIPALAGA dashboard. Available online at: https://sipalaga.brg.go.id/

[18.] Hot Spot Information. Available online at: http://modis-catalog.lapan.go.id/monitoring/hotspot/indexasean