

Monitoring of Social Vulnerability Website Base in Central Java Province

Komunitas: International Journal of
Indonesian Society and Culture
13(2) (2021): 224-233
DOI:10.15294/komunitas.v13i2.33379
© 2021 Semarang State University, Indonesia
p-ISSN 2086 - 5465 | e-ISSN 2460-7320
<http://journal.unnes.ac.id/nju/index.php/komunitas>

UNNES JOURNALS

Widiyanto^{1*}, Khaerul Anam²,
Gunawan Wiradharma³, Aulia Nurdiansyah⁴

¹Department of Library and Sains Information, Universitas Terbuka, Indonesia

²Department of Elementary Education, Universitas Terbuka, Indonesia

³Department of Communication Science, Universitas Terbuka, Indonesia

²Department of Archival, Universitas Terbuka, Indonesia

Received: January 30, 2021; Accepted: August 30, 2021; Published: September 30, 2021

Abstract

The state has a duty to maintain the security of its territory. Regional conduciveness has a big influence in improving the welfare of its people. A region, both central and regional, cannot be separated from conflict and social security. Kesbangpol is an institution tasked with maintaining conduciveness and early awareness of vulnerabilities in national unity, politics, community, social and cultural protection. In carrying out this task, Kesbangpol collects data from the field and then processes it and reports it to the government for review in maintaining regional conduciveness. The data collection process to the reporting process is still inefficient. Therefore, an information system is needed for collecting, processing data, and reporting information. An important function in the use of this information system is also expected to be able to map the current conflict so that the system can provide alternative solutions in handling these conflicts quickly and efficiently. Conflict maps are expected to visually describe conflict patterns from the data that has been obtained so as to facilitate and speed up the implementation of follow-up to the problems that are happening. In addition, with the application of artificial intelligence or a decision support system to the system, it is expected to be able to analyze the data so that it can take into account the warranties that will occur in the area and preventive measures can be taken so that conflicts do not occur.

Keywords

conduciveness; early awareness; conflict mapping; conflict handling; information system

Corresponding author

Cabe Raya St, Pondok Cabe, Pamulang, Tangerang
Selatan 15437, Banten - Indonesia

Email

widiyanto@ecampus.ut.ac.id

INTRODUCTION

The state is the main actor in creating security. National security is influenced by national defense and security. Civil society also has a role in realizing national security (A'raf, 2015). Safe conditions are closely related to economic, political, legal, socio-cultural factors, ideology, geography, demography, and natural resources (Mardhani et al., 2020). The national security system covers the four areas of national security, namely, external security; security inside; public security; and human security (anakotta & Disemadi, 2020). Apart from national security, there is also human security and individual security. Challenges in human security are economic vulnerabilities, food, health, environment, public unrest, and political vulnerabilities (Mardhani et al., 2020; UNTFHS, 2016). Security is an important factor in creating the welfare of citizens in the fields of economy, social, health, education, culture, ideology, and infrastructure. Therefore, the state needs to create and maintain conducive security conditions (Fjader, 2014).

Conflict can be defined as a dispute, dispute or disagreement. Conflict occurs because of differences, intersections or the presence of incompatible goals. Conflicts can also occur because of differences in interests between those in conflict, assuming that their aspirations cannot be achieved simultaneously. Conflict can occur between two or more parties who are mutually attractive and hostile, tend to be coercive and destroy each other (Ismail, 2011). Competition and differences in elements between individuals or groups can also cause conflict (Suparlan, 2014).

To facilitate conflict analysis, it can be done by describing the relationship of a problem with the parties involved or what is called conflict mapping. Simon Fisher conducted conflict mapping in four ways. The first is to determine what will be mapped, when and the point of view. Second, putting the organization and self on the map with the aim of understanding conflict situations. Third, because conflict can be dynamic, it is necessary to have an analysis that

offers various resolution options according to the situation. Fourth, map the issue components of the conflicting parties.

Conflicts must be resolved, so that they do not have an impact in the form of violence or result in material and immaterial losses. Conflict resolution can be done by having a dialogue between the conflicted parties to reach a settlement with an agreement.

Social vulnerability is the structure of the community affected by *shock/stress* caused by economic disputes, environmental changes, government policies or internal events. Vulnerability can also arise due to injustice that creates gaps in development. Economic, political and social factors lead to vulnerability in a community group (Harisoesyanti et al., 2020).

Failure to take steps to prevent and handle social vulnerabilities can lead to delays in the development process. Handling of vulnerabilities can be done by individuals, communities or institutions. State institutions have a strategic role in preventing and handling social vulnerabilities. The state must guarantee the protection and fulfillment of the people's welfare. Protection and fulfillment of people's welfare can be done through various programs and regulations that can be implemented.

Social vulnerability can arise from conflicts or differences of opinion between individuals or groups towards unsatisfactory problem solving or resolution. Efforts should be made to prevent vulnerability from developing so that it does not cause unrest, demonstrations, anarchism, or separatism. There are various types of social vulnerabilities, such as; socio-cultural vulnerabilities, the environment, ideology, race, religion, economy and health (Kertati, 2020).

Provinces which are part of the territory of the state will not be separated from threats both from within and from outside that have an impact on economic, food, health, environmental, public unrest, and political insecurity. And there will always be conflicts between communities, society with corporations, corporations with the

government, or all three. The impact of the ongoing conflict must be minimized. Meanwhile, conflicts that will occur must be prevented. To deal with tackling conflicts that occur and conflicts that will occur, conflict mitigation or conflict mapping is needed.

One of those tasked with maintaining community stability so that it remains conducive and realizing national vigilance to support the creation of national resilience is the National and Political Unity Agency or Badan Kesatuan Bangsa dan Politik (Kesbangpol). Kesbangpol is a supporting element of the Governor's duties in the fields of national unity, politics and community protection. Kesbangpol is located under the governor through the regional secretary.

The process of conflict mitigation and vigilance requires comprehensive, precise and accurate data. The provincial Kesbangpol has a post in every city and district. Each post has an agent to collect data from the field either directly or through informants. Data is sent through communication devices such as radio communications and other communication devices. Incoming data is still managed manually and stored in documents in Ms. Excel and Ms. Words.

The data sent is still not categorized as information because it is still in the form of unprocessed data. To become information, it is necessary to have processing so that the managed information can be used as a reference in determining decisions to resolve conflicts and preventative actions. The process of calculating data with existing methods is considered very slow in processing so that the reporting process to the governor is not fast enough.

To increase the speed of data processing from informants to be managed, then processed until reporting to the governor can be accelerated with an online information system. With this system, data can be sent instantly and collected on the server and processed instantly. The governor can view the data independently, up to date and in real time without having to ask the relevant agencies for data.

There are several similar studies that

have been conducted. The first research is the Spatial Interaction of Socio-Economic Conditions on Crime Vulnerability in Bandung City. This study uses a geographic information system to describe socio-economic conditions which include *fear of crime*, *social bonds*, social control of crime, and social climate. The system can also display a map of the distribution of income, savings expenses, asset ownership, and economic conditions. This system correlates the data on crime susceptibility with social conditions. The results of the analysis show that there is a positive and significant correlation between socioeconomic conditions and vulnerability to crime (Dede et al., 2019). This system has a fairly narrow scope, data is not up to date and only produces correlation studies.

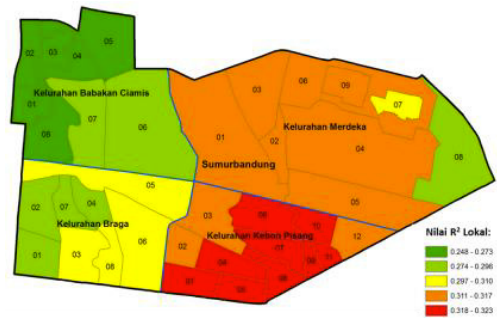


Figure 1. The relationship between socio-economic conditions and crime vulnerability



Figure 2. Food Insecurity Map

Another similar research is a food insecurity information system based on sms gateway with *Fast* method. This system is used to determine areas of food insecurity, monitoring the condition of food on an ongoing basis. Input data using the SMS

method with a predetermined format. The system processes the data so as to produce information on food availability, food access (Muchsam, 2017).

Research on social vulnerability mapping was also conducted in Kuantan Singini Regency. This study focuses on the social vulnerability of religious life in Kuantan Singini Regency. This research uses descriptive analytic method with a qualitative approach. This study describes and classifies the problem of vulnerability in the field of religious life in Kuantan Singini Regency. This study only discusses social vulnerabilities as the impact of inter-religious life in the location and has not applied technology in the conflict mapping process (Ilahi & Rabain, 2011).

A case study was also carried out on mapping and conflict resolution among victims of the Lapindo mudflow. This study uses a qualitative method with a descriptive approach to explain social phenomena and conflict resolution. This study found a form of vertical conflict between residents and PT Lapindo Brantas. The roots of the conflict are displacement issues, payment delays, data verification, reference for determining the affected area, compensation for crop failure, illegal levies, denial of life insurance, relocation and logistics. Residents of Perum TAS 1 receive compensation of 20% -80% from the company. Meanwhile, Warge Renokenonggo asked for 50% compensation and 30ha of land. Meanwhile, Besuki residents are more esoteric towards the government. Visually,

the conflict is depicted as shown in the following figure (Ismail, 2011).

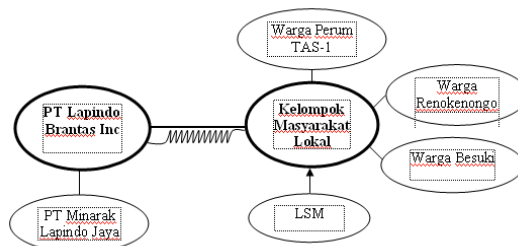


Figure 3. Map of the Lapindo Sidoarjo mud conflict

Research on early detection is used in food crisis management using artificial neural methods. The method calculates ten parameters that determine the food crisis, namely; Puso rice or crop failure , normative consumption ratio, rice price, JCI, infant mortality rate, no forest, changes in the dollar exchange rate, poor population, underweight children under five and rainfall.

From various studies on mapping social vulnerabilities, the early detection systems that have been carried out have not studied conflict mapping and early detection of social vulnerabilities by utilizing website technology. The research design will create web-based software that can be used to manage, analyze, and report, as well as perform early detection of social vulnerabilities, especially in Central Java Province. Central Java Province was chosen as the object of research because there have been many conflicts, both mining conflicts, racial conflicts, and various other conflicts.



Figure 4. Lapindo Mud Conflict Resolution

The purpose of this study is to develop an information system for collecting, processing, reporting conflict and vulnerability data, as well as mapping conflicts and conducting early detection of social vulnerabilities in Central Java Province. Conflict mapping is used as material for consideration in decision making by related leaders in decision making. Early detection of social vulnerabilities serves to prevent the occurrence of social vulnerabilities, especially in Central Java Province.

METHOD

The design of this system applies the information system development life cycle method or *System Development Life Cycle* (SLDC). SLDC has six phases, namely; initial investigation, system analysis, system design, system development, system implementation and system maintenance (Williams & Sawyer, 2007).

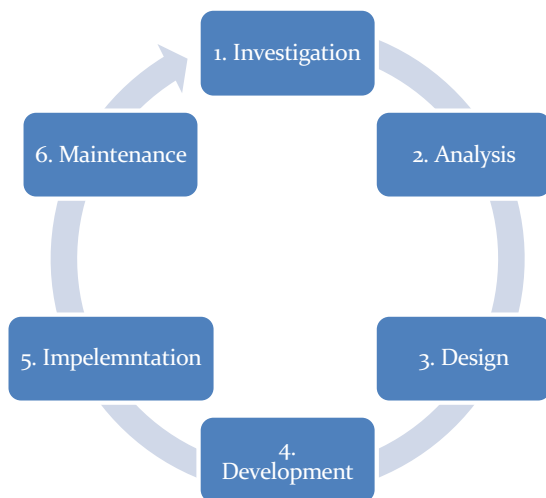


Figure 5. System Development Life Cycle (SLDC)

Phases in SDLC

1. Investigation includes preliminary analysis, proposing alternative solutions, describing costs and benefits and submitting a preliminary plan.
2. System Analysis includes collecting data, analyzing data, and writing re-

ports.

3. System design includes making initial designs, creating detailed designs, and writing reports.
4. System Development includes software development, hardware acquisition and system testing.
5. System implementation includes conversion to the new system and training users.
6. System maintenance aims to keep the system running by conducting periodic audits and evaluations.

This research was conducted in Kesbangpol Central Java Province. The National Unity, Politics Agency (Kesbangpol) is an element supporting the Governor's duties in the fields of national unity, politics and community protection, which is located under and responsible to the Governor through the Regional Secretary (Sekda). Kesbangpol has three fields, namely the field of ideology and vigilance, the field of national security, and the field of domestic politics.

One of the programs from Kesbangpol is the identification of conflicts, radicalism, demonstrations, mass organizations, and politics. This is regularly reported to the governor as an ingredient in decision making. The inputted data includes conflict data, personal data, mass organization data, demonstration data, and election data.

From the various data will be processed by the system so that it can describe the conditions and developments of the conflict. So that it can be used as a reference in taking action and prevention. Conflict data is also used as a reference in conflict resolution, so that the best conflict resolution can be found from various angles.

The system is used to manage all conflicts in Central Java Province and analyze social vulnerability data. Social vulnerability contains various indicators in terms of ideology, social politics, defense and security. In this system all data is inputted from the pokso rajawali in each branch of the Kesbangpol. Then the data can be directly received by users such as the Head of Kesbangpol

and the Governor. Central Java province was chosen as the object of research because it has various conflicts, both ideological, political, defense and security conflicts. This is also due to the condition of the area that has various ethnicities, cultures and regional demographics which are quite diverse.

RESULTS AND DISCUSSION

In accordance with the SDLC, the first step is an investigation to find out the system specifications required by the user. The needs required by users include Regional Situation Reports, Conflict Maps, Right Radical Maps, Left Radical Maps, VIP/VVIP Visits, Demonstrations Maps, Foreigners Maps, Ormas Maps, and Election Conflicts. In addition to tabular data, the data is also displayed in the form of maps to make it easier for users to see the situation visually.

LAPSITDA Map

The LAPSITSA (Regional Situation Report) map is placed on the home page which can be accessed by the public. This map displays

information on activities that occur in each area. On this page there is a map of the Province of Central Java with the number of activities or events reported and inputted into the application. On this page there is also a recap of Lapsitda in each district, a summary of recent events/activities, a recap of activities/events by category. The Home page display can be seen as shown in Figure 6.

Conflict Map

The conflict map contains data on conflicts that occurred in Central Java Province. To access this data, users must login first, because conflict data is strategic data. This map displays the number of conflicts in each district/city in Central Java Province. Below the map there is a recap of the conflict in each district, a summary of the latest conflicts that occurred, a recap of conflicts by category and a recap of conflicts based on the status of the continuity of the conflict. Users can view conflict details by clicking on view summary details on the latest conflict recap. The conflict map display and conflict details can be seen in Figure 7.

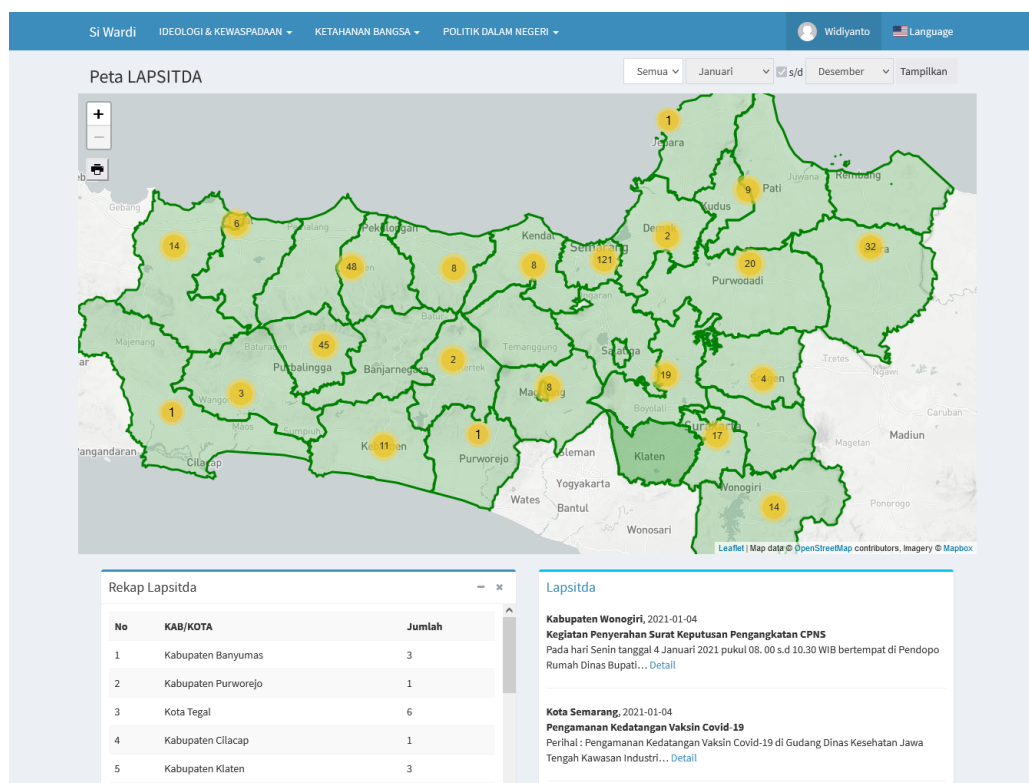


Figure 6. Homepage

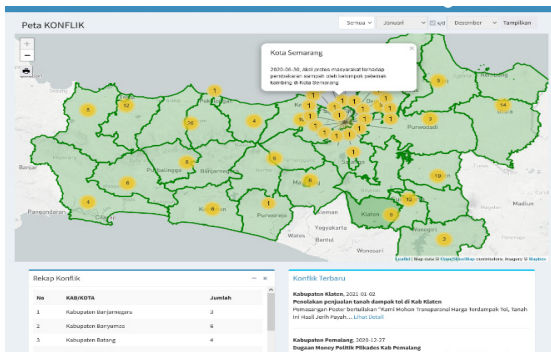


Figure 7. Map and Conflict Details

The overall conflict data can be seen on the dashboard by first logging into the system. The Conflicts page on the dashboard can be used for searching, adding, changing and deleting conflict data. On this page users can search for all conflict data by title, date, city, status and type of conflict. To see the development of conflicts, the system is equipped with input data on the development of conflicts that occur in each conflict. In the dashboard the user can monitor and upload the progress of the conflict that has occurred. The dashboard display of conflict data and conflict developments can be seen in Figure 8.

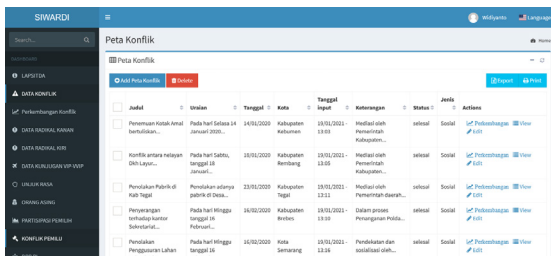


Figure 8. Conflict Data

Right Radical Map

The Radikan Kanan map is used to monitor the movement of right-wing radical groups in Central Java Province. To access

this map, the user must first login or log into the system, because right-hand radical data is part of strategic data. On the Right Radical Map displays data for the right radical group located in every district/city in Central Java Province. To view the details of the right radical data, users can click on the Details of the Radical Organizations in the Summary of Radical Organizations. The display of the Right Radical Map and detailed data on mass organizations can be seen in Figure 9.

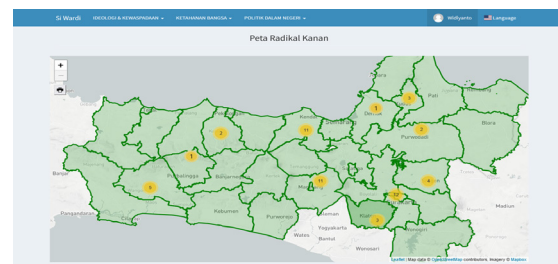


Figure 9. Radical Map Right

Left Radical Map

Similar to the Left Radical Map, the Left Radical Map is used to monitor the movement of left radical groups in Central Java Province. To access this map, the user must first log in or log into the system, because leftist radical data is part of strategic data. On the Left Radical Map displays, on the Left Radical Map displays data on left radical groups located in every district/city in Central Java Province. To view the details of left radical data, users can click on Ormas Details in the Radical Organizations Summary. Left Radical Map display and detailed data of mass organizations can be seen in Figure 10.

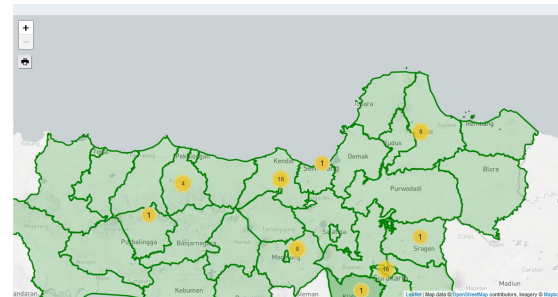


Figure 10. Right Radical Map and CSO Data

VIP/VVIP Visit Map

The VIP/VIP Visit Map is used to display data on visits made by VIPs and VVIPs in Central Java Province. On the VIP/VVIP Visit Map, you can see the number of visits in each district/city. VIP/VVIP visit data is public data, so it can be accessed by the public without having to login to the system. The map shows a recap of VIP/VVIP visits by date and a recap of visits made by VIPs and VVIPs. This page also displays the last visit data. To access visit data, click on Visit Details on the last visit. The view of the VIP/VVIP Visit Map can be seen in Figure 11.

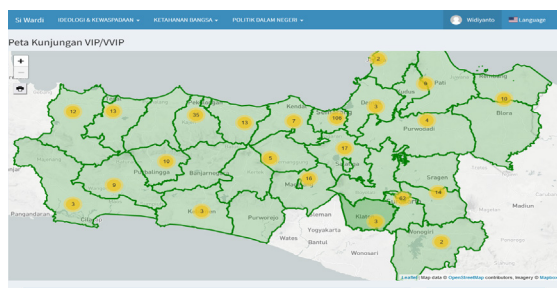


Figure 11. VIP/VVIP Map

Demonstration Map

The Demonstration Map contains demonstrations that took place in Central Java Province. On the map, a recap of the demonstrations that took place in each district/city will appear. Demonstration data is strategic data, so it must be logged into the system to access the data. On this page, the demonstration recap data based on the protest sector is also displayed. To view the details of the demonstration, it can be done by clicking View Details on the latest demonstration data or logging in to the dashboard. The demonstration map display can be seen in Figure 12.

On the rally page dashboard, it is used to manage protest data. Additions, changes, searches and deletions of demonstration data are carried out on the dashboard page. Demonstration data is connected to personal data and organizations involved, so that it can find out the individuals or actors and organizations involved in the demonstration. The data is also equipped with handling steps, demands, and follow-ups. The demonstration data display and

demonstration data input can be seen in Figure 13.

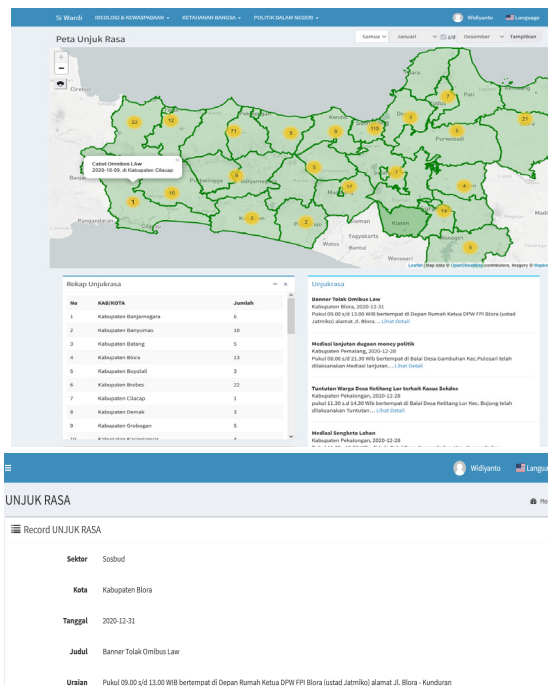


Figure 12. Demonstration Map and Demonstration Details

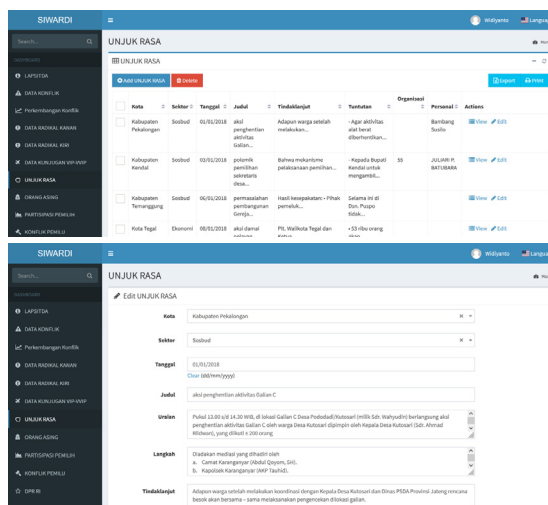


Figure 13. Recap and Input of Demonstration Data in Dashboard

Citizen Report

In addition to data sourced from the Rajawali Command Post, the system is equipped with citizen reports. This feature is expected to be able to collect data from residents up to date and quickly. Citizens can report incidents covering the fields of politics, economy, security, radicals/terrorism, hu-

man rights violations, disasters, drugs, monitoring of foreign people/institutions, deviant sects and covid-19. To report incidents or events, residents must first register with the system. The user register page can be seen in Figure 14. Resident report data can be seen in Figure 15.

Figure 14. User Registration Page

Figure 15. Resident Report Data

From the results of the system design, it can be used to monitor conflict and its progress in the region. This system has been implemented and runs according to user requirements. From previous studies, no system has been found that can be used to monitor conflicts, radicalism, demonstrations, and social conditions in this system.

CONCLUSION

The information system for monitoring social vulnerabilities is very helpful for Kesbangpol Prov. Central Java in monitoring the social vulnerabilities that occurred. The data that can be managed in the system includes data on regional situation reports, conflicts, right radicals, left radicals, VIP/VVIP visits,

demonstrations, foreigners, mass organizations, and election conflicts. The system has been tested on users. The use of the system is considered quite easy in data management. Searching for data related to social vulnerability will be faster and more accurate. In the future, it needs to be redeveloped to make it easier to use and better display so that data reading is easier. In addition, it is necessary to develop a social vulnerability profile in each district/city which includes data on regional situation reports, conflicts, right radicals, left radicals, VIP/VVIP visits, demonstrations, foreigners, mass organizations, and election conflicts.

REFERENCES

- A'raf, A. (2015). Dinamika Keamanan Nasional. *Jurnal Keamanan Nasional*, 1(1), 27–40.
- Anakotta, M. Y., & Disemadi, H. S. (2020). Melanjutkan Pembangunan Sistem Keamanan Nasional Indonesia Dalam Kerangka Legal System Sebagai Upaya Menanggulangi Kejahatan Terorisme. *Jurnal Keamanan Nasional*, 6(1), 41–71. <https://doi.org/10.31599/jkn.v6i1.455>
- Dede, M., Sugandi, D., & Setiawan, I. (2019). Interaksi Spasial Kondisi Sosial-Ekonomi Terhadap Kerawanan Kejahatan Di Kota Bandung (Studi Kasus Sumur Bandung). *Jambura Geoscience Review*, 1(2), 40–49. <https://doi.org/10.34312/jgeosrev.v1i2.1756>
- Fjader, C. (2014). The Nation-State, Nation Security and Resilience in the Age of Globalization. *Journal Resilience*, 2(2), 114–129.
- Harisoesyanti, K. S., Hati, G., & Maitra, N. L. P. (2020). Peran Pemerintah dalam Mengatasi Permasalahan Kerawanan Sosial di Wilayah Perbatasan Darat Indonesia. *Jurnal Ilmu Kesejahteraan Sosial*, 21(1), 44–62.
- Ilahi, K., & Rabain, J. (2011). Pemetaan Kerukunan dan Kerawanan Sosial Kehidupan Umat Beragama di Kabupaten Kuantan Singingi. *Toleransi; Media Ilmiah Komunikasi Umat Beragama*, 3(2), 207–217. <https://doi.org/http://dx.doi.org/10.24014/trs.v3i2.1063>
- Ismail, M. (2011). Pemetaan dan Resolusi Konflik (Studi Tentang Korban Lumpur Lapindo Su-doarjo). *Jurnal Sosiologi Islam*, 1(1), 72.
- Kertati, I. (2020). Kerawanan Sosial dalam Perspektif Inklusif. *Majalah Ilmiah FISIP UNTAG Semarang*, 1(21), 104–122.
- Mardhani, D., Josias, A., & Runturambi, S. (2020). Keamanan dan pertahanan dalam studi ketahanan nasional guna mewujudkan sistem keamanan nasional. *Jurnal Pertahanan & Bela Negara*, 10(3), 279–298.
- Muchsam, Y. (2017). Pengembangan Sistem Informasi

- Kerawanan Pangan Berbasis SMS Gateway Dengan Menggunakan Metode Fast. *Jurnal E-Komtek*, 1(1), 99-111.
- Suparlan, P. (2014). Konflik Sosial dan Alternatif Pemecahannya. *Antropologi Indonesia*, 30(2), 138-150. <https://doi.org/10.7454/ai.v30i2.3559>
- UNTFHS. (2016). *Human Security Handbook: An Integrated Approach for the Realization of the Sustainable Development Goals and the Priority Areas of the International Community and the United Nations System*. United Nation Trust Fund for Human Security.
- Williams, B. K., & Sawyer, S. C. (2007). *Using Information Technology: Pengenalan Praktis Dunia Komputer dan Komunikasi*. Penerbit Andi.