Analysis Mapping Area Prone Criminal In Subdistrict Mojolaban Using the Choropleth Maps Method

Ardita Widya Putri [a,1,*], Pranichayudha R [b,2]

[a] Faculty of Teacher Training and Education, Veteran Bangun Nusantara University
[b] Sukoharjo, 57521, Indonesia
[1], Arditawp@gmail.com,

* Corresponding Author

ABSTRACT

Crime is a detrimental act that often occurs in society because it has many negative impacts on society. Reporting from Jatimnetwork.com, Mojolaban District is the 4th busiest sub-district in Sukoharjo Regency, where the number of people living in Mojolaban District in 2022 will reach 97,459 people, where achieving a decent life is very high. This thing becomes Big homework for the government and Mojolaban Police to be able to handle and make efforts to overcome crime in Sukoharjo, especially in Mojolaban District. This research used the *choropleth maps method* with Descriptive Observation and mapped crime-prone areas using ArcGIS. There are several types of crime cases that occur in Mojolaban District, such as embezzlement, theft, sexual harassment, assault, fraud, beatings, fraud and embezzlement. Of these cases, the one with the highest number is case thief And theft Which often happen is theft box infaq, motor And car.

1. Introduction

Crime is all type form follow And deed Which harm economically and psychologically which violates the laws in force in Indonesia as well social and religious norms. It can be interpreted that criminality is any act that violates the law and violates social norms, so that society opposes it. (Kartono, 1999: 12). Crime is a common problem that exists everywhere. Crimes occur in various places and at different times, causing negative impacts on society such as anxiety, insecurity, panic and fear. In the 1945 Constitution of the Republic of Indonesia article 28G paragraph (1) which states "every person has the right to protection of himself, his family, honor, dignity and property under his control, and has the right to a sense of security and protection from the threat of fear of acting or not acting." something that is a human right."

Mojolaban District is one of the Districts in Sukoharjo. Reporting from Jatimnetwork.com, Mojolaban District is the 4th busiest sub-district in Sukoharjo Regency, where the number of residents living in Mojolaban District in 2022 will reach 97,459 people, where achieving a decent life is very high, this sub-district also consists of 15 villages. So that there is disharmony between citizens and society, there will be friction which often gives rise to actions that are referred to as criminal acts. The crime incident occurred in Mojolaban District according to the Mojolaban Police mostly occurs in densely populated areas and in rice field road areas. Several types of cases that occur in Mojolaban District include embezzlement, theft, sexual harassment, assault, fraud, beatings and fraud-embezzlement. This matter become PR big for the government and Mojolaban Police to be able to handle and make efforts to overcome crime in Sukoharjo, especially in Mojolaban District.

Therefore, the data obtained will be used to map crime-prone areas in the Mojolaban region based on location, number of cases and type of cases in 2021 to 2022. By using the Geographic Information

System (GIS) as an application that helps determine the intensity of crime and is considered accurate enough to help solve the crime problem in Mojolaban District.

2. Method

Crime is all type form follow And deed Which harm economically and psychologically which violates the laws in force in Indonesia as well social and religious norms. It can be interpreted that criminality is any act that violates the law and violates social norms, so that society opposes it. (Kartono, 1999: 12). Crime is a common problem that exists everywhere. Crimes occur in various places and at different times, causing negative impacts on society such as anxiety, insecurity, panic and fear. In the 1945 Constitution of the Republic of Indonesia article 28G paragraph (1) which states "every person has the right to protection of himself, his family, honor, dignity and property under his control, and has the right to a sense of security and protection from the threat of fear of acting or not acting." something that is a human right."

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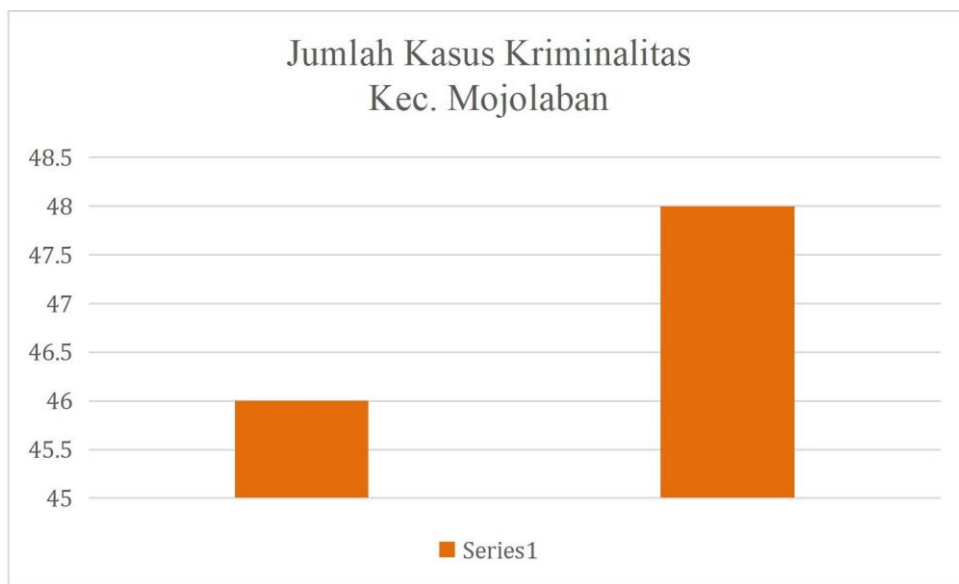
3. Results and Discussion

3.1. Identify the Headings

Mojolaban District crime data for 2 (two) years starting from 2021 to 2022

1. Data follow criminal crime based on Lots of it case

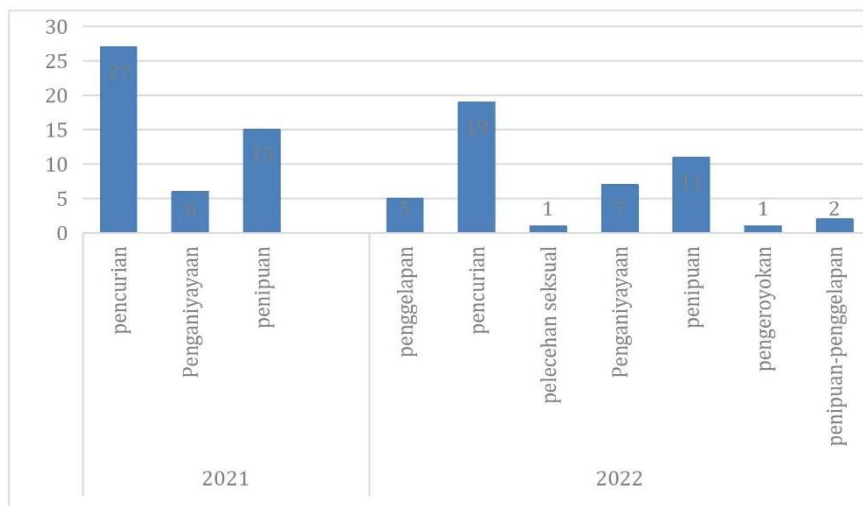**Table 1.** Table Amount Case Act Criminal Crime

No	Year	Number of Cases (Criminality/Year)
1	2021	48
2	2022	46

3.2. Identify the Headings

2. Type Case Crime

No	Year	Type Case
1	2021	Theft
		Persecution
		Fraud
2	2022	Embezzlement
		Theft
		Abuse Sexual
		Persecution
		Fraud
		Beating
		Fraud-Embezzlement

Based on Figure 2, which is the result of data collection from the Mojolaban Police, it is known that the types of crime cases have increased quite a lot. Initially in 2021 there were only 3 types of crime, but in 2022 the number of types of crime has increased to 7 cases. The reason for the increase in the number of crimes is unknown the. However If seen from picture case the most Lots happen is Theft cases, which in 2021 reached 27 theft cases, theft cases are not limited to bicycle theft. Meanwhile, the few cases that occurred were cases of sexual harassment and beatings, there was 1 case in the past year.

3.2 Analysis Spatial

Case Crime in Subdistrict Mojolaban Year 2021

Deployment incident follow crime Which happen in Subdistrict Mojolaban in 2021 are as follows:
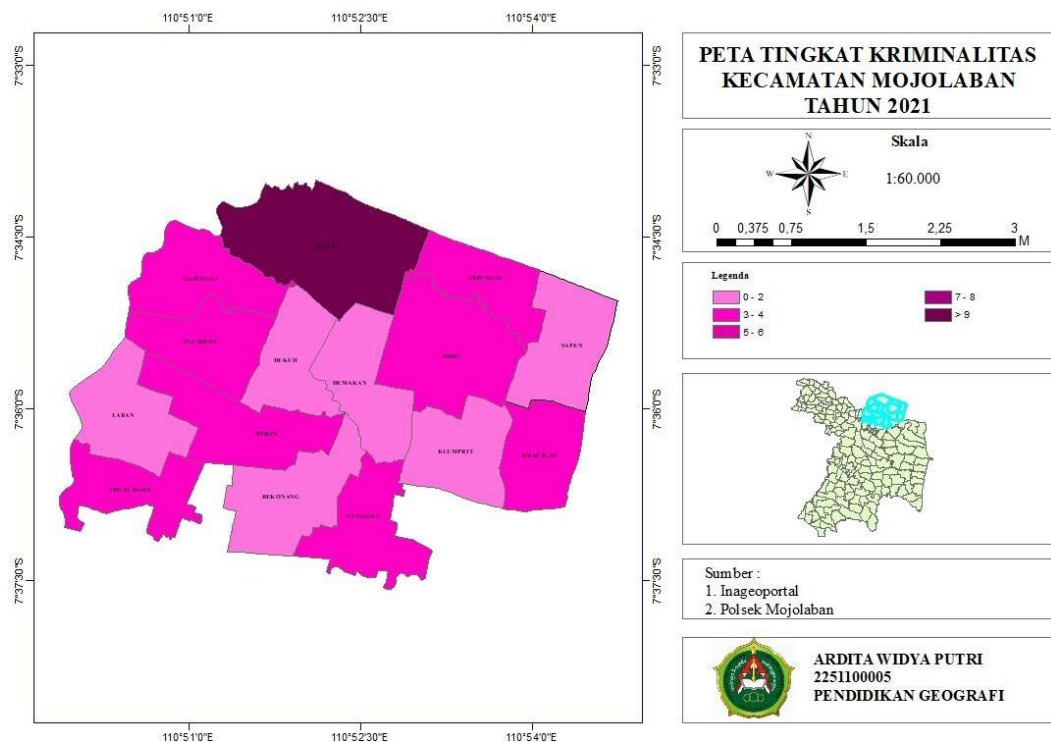

fig 3. Map Action Event Criminality in Mojolaban District

Based on Figure 3, it is known that in 2021 the village that had a high crime rate was Palur Village with 12 cases. In 2021 it will also be known village Which others have crime rate which is being, that is Plumbon, Wirun and Triyagan villages had 4 cases, Cangkol, Gadingan, Joho, Kragilan and Tegalmade villages had 3 cases. Meanwhile, other villages have low incidence rates .

Case Crime in Subdistrict Mojolaban Year 2022

Deployment incident follow crime Which happen in Subdistrict Mojolaban in 2022 are as follows:
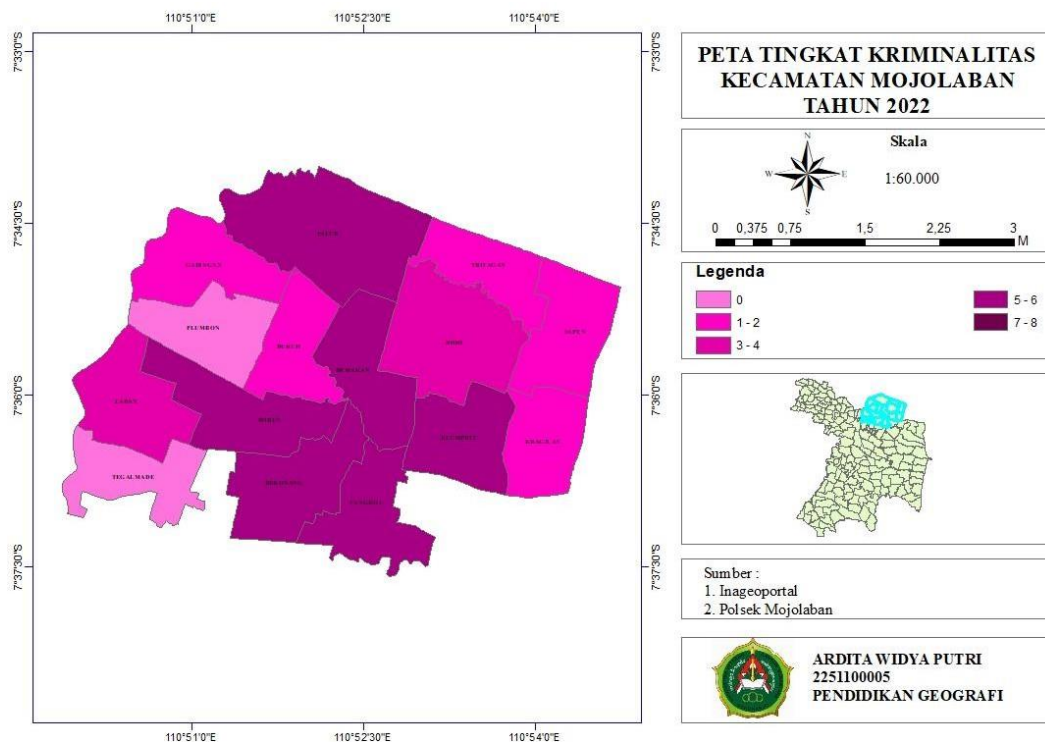
fig 4. Map Action Event Criminality in Mojolaban District

Based on picture 3, Which is results collection data from Mojolaban Police, using the ArcGIS application, produces a map of crime-prone areas in Mojolaban District, using *the choropleth maps method* to divide the range of attribute values into several classes. This classification method is very useful for emphasizing the number of attribute values relative to other values. The following is the calculation formula:

$$K = 1 + 3.3 \times \log N$$

Where K is the range (class) of attribute values in each class, N is the amount of data.

From data processing using this formula, it is divided into five class intervals. The five classes are divided into five color levels with dark purple indicating the areas with the most crime. These areas include Bekonang, Cangkol, Demakan, Klumprit, Palur and Wirun. The crime rate figure *is very vulnerable,* around 5 - 6 cases, while the dark purple color indicates a *vulnerable level* of between 3 - 4 cases, the light purple color indicates a *slightly vulnerable level* of between 1 - 2 cases and the lightest purple color indicates a *non-prone level* of 0 cases. Several villages such as Plumbon and Tegal Made have crime rates zero cases, This does not mean the village has no numbers crime, but in 2022 the two villages will have no crime cases. In 2021, the crime rate was 48 cases and in 2022 the crime rate was 46 cases.

3.3 Discussion

Overall, from 2021 to 2022, the total number of crime incidents in Subdistrict Mojolaban experience decline although No too Lots. However in 2022 type criminal cases has increased quite a lot. There are several factors that cause people or perpetrators to take action which is detrimental. According to the Mojolaban Police, Geographically, Mojolaban District borders the city of Solo, especially since Solo is near the riverbank area and Pasar Kliwon District. Apart from geography, other factors are economic factors, education, there are even perpetrators who are minors or still young, but because the perpetrators are children, they are still protected by law, so the justice system

is special and closed in nature. In criminological theory, almost all factors that influence criminal behavior are related to the socio-economic conditions of the individual perpetrator (Miller, 2009).

The results of secondary data mapping and analysis obtained from the Mojolaban Police showed that there were several villages that were prone to village crime Which most vulnerable is Village Palur. So that Village the need exists effort increasing security to minimize incidents that are detrimental to society. So all of us need to be vigilant to avoid areas and times prone to crime cases. And the efforts made by the authorities are to place every member so that in every village there are officers guard and supervise.

4. Conclusion

Based on the results of data collection from Mojolaban Police then got the results in the form of a system Geographic Information (GIS) on crime-prone areas, Mojolaban District. Produce geographic information that can help identify areas prone to crime. The digital map depicts the number of crimes in each village in Mojolaban District from highest to lowest using the *Choropleth maps visualization method* per village. Based on data, the number of incidents and the number of types of cases in Mojolaban District during the period 2021 to 2022 experienced several increases. This increase was caused by several factors, namely geographical, economic and educational factors.

Based on the research results that have been obtained, we all need to be vigilant to avoid areas prone to crime and always maintain security in our respective areas. And security forces can develop preventive measures to prevent crime, for example by patrolling places that are prone to crime.

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