# EARLY WARNING THROUGH THE CASE STUDY OF CRIME MAPPING IN KOSOVO

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**Abstract**

Traditional operating and analytical work systems are becoming increasingly difficult to respond to modern forms or juvenile delinquency, mainly because they cannot provide fast and accurate data to predict and support decision-making. GIS and SPSS, use computer-generated geographic maps to help visualize and access large amounts of data contained in relevant databases through adequate scientific methods by providing data by volume and dynamics of deviant offenses committed by minors. In this way, a crime map is created and they facilitate and accelerate significantly the detection of information and critical events related to the occurrence and trends of crime by the police, as well as their timely response. CM Crime Mapping and GIS is an important link in the fight against crime by providing accurate data for analysis about the mapping and analysis of crime, in addition, enable the analysis of complex and seemingly unrelated events and the emergence of delinquency in general. Crime map dynamics, volumes of criminal analysis, and extensive investigative and investigative activities help us in early warning. In this paper we will look at the three aspects of using GIS with particular emphasis on the opportunities and benefits that such systems offer in improving preventive, social crime control and early warning with emphasis on juvenile delinquency.

**Keywords:** Crime mapping, Geographic information systems, Police agencies, Juvenile delinquency, Preventive.

## SUMMARY

Systems of operational and analytical work are increasingly difficult to respond to modern forms of crime, primarily because they cannot provide fast and accurate data to predict and support decision-making. Geographical Information Systems GIS and SPSS and Crime Mapping CM, use computer-generated geographic maps to help visualize and access large amounts of data contained in relevant databases. In this way, they significantly facilitate and accelerate the detection of critical information and events related to the occurrence and trends of crime by police agencies, as well as their timely response. GIS is an important link in the fight against crime by providing tools for mapping and analyzing crime, In addition, they enable the analysis of complex and seemingly unrelated events and the display of layered.[3]

Dynamics of mapping crime, volumes of criminal analytics, and stretched investigative and pre-investigation activities help us in early warning. In this paper, the authors will look at all three aspects of the use of GIS with special emphasis on the opportunities and benefits that

such systems provide in improving the Preventive, and social control of crime and early warning.[4]

To achieve the set goals of the work, it will be necessary to conduct limited and focused theoretical research on the category of crime mapping, including a legal review of the norms that deal with this issue and adequate data through scientific projects related to juvenile delinquency, fear of crime, domestic violence and rehabilitation and resocialization of persons during and after serving sentences. In addition to the above, the research will include empirical research on a sample of representatives of institutions that could use instruments to map crime in their work, through which will be applied both quantitative and qualitative methods of analysis of collected empirical material. The basis of the paper will be based on theses that are emphasized in criminology of the place or as it is more often called environmental or ambient criminology, not excluding other theoretical concepts of criminology and concepts of other sciences outside or within criminology. A key limitation of this research could be the lack of practice in using crime mapping in institutions of formal social control and the unwillingness of managers in these institutions to improve new technologies and methods of work, which are registered in some previous research on organization and functioning. Police and judicial institutions.

## IMPROVING THE FORMAL SYSTEM OF SOCIAL CONTROL OF CRIME

Theorizing the current state of these issues in Kosovo, we will try to suggest concrete future activities that include the use of GIS technology in the work of police agencies. The conclusion will indicate the possibilities and prospects for the development of these technologies and a higher level of use in the daily work of police agencies. In improving the formal system of social control of crime, the fundamental role is played by knowledge gained through scientific research procedures that seek to enrich knowledge in the field of phenomenology and etiology of criminal behavior and the mechanisms and effects of crime response. Criminology and other related disciplines, using theoretical concepts of natural, social, and technical sciences, seek to continuously contribute to innovation in the field of analysis, and then more successful crime control. The results of the research on the capacity to map crime in our community should justify both the scientific and social significance of this paper.[5]

## CRIMINAL DEVELOPMENT ACCORDING TO THE FIELD OF CRIMINOLOGY

The dynamics, volume and structure of crime studies from the point of view of its spatial distribution of time and subject is an integral part of the emergence and development of modern empirical efforts within criminology. Although in older historical sources we can find indications of debates based on the geographical distribution of unwanted behaviors, the first systematic works in this field are most often related to the works of Adolphe Quetelet (1796-1874), who, among others, Demographic statistical indicators from the mid-19th century claimed that there are significant statistical differences in the phenomenology of crime by distinguishing the categories of young, men, poor and unemployed and less educated members of the population. His theses on the geographical distribution of crime stand out, according to

which there were fewer crimes in countries where the poor with high unemployment rates prevailed and that crime was much more pronounced in countries where the richest people lived, ie where the rate of employment was. Higher. It was in these places that crimes were committed by the poor and unemployed. In addition, Quetelet argued that if there is greater inequality between the poor and the rich in the same area, it affects the temptations of (different species) of a larger population, as it affects particularly marginalized passions.[6]

If the property situation of the population was uniform, even in the case of poor communities, fewer crimes were registered, because according to her, people were able to meet their basic needs without "incentives" for greater desires. Quetelet's contemporary, Andre-Michel Guerry (1802-1874), also addressed the issue of crime distribution in different geographical areas, particularly in terms of relations between natives and newcomers (Ignjatović, 2007). As an important scientific legacy of the Guerry, detailed maps are given which show the distribution of property crimes and violent crimes in certain regions of France at the time.[7] Law enforcement agencies, using the theory of routine activities, including the concepts of environmental criminology, develop situational crime prevention techniques in combination with spatial crime analysis techniques as an early warning measure through self-blame and victimization studies. The crime map, which uses GIS and SPSS, enables the effective use of the capacities of law enforcement agencies by directly assisting police agencies in deploying police forces where they are most needed (Schmallager, 2006, p. . 223-224). There are numerous findings from modern studies that show the value of using crime mapping systems, including our environment to be on time to use seasonal prevention measures and the volume of crime in general.[8]

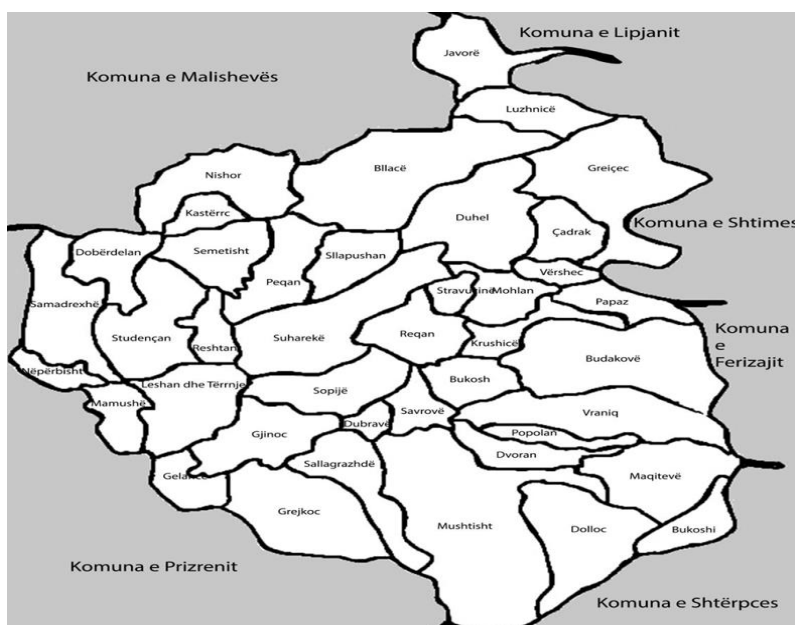**CASE STUDIES MUNICIPALITY OF SUHAREKA IN THE REPUBLIC OF KOSOVO**

**Fig 1:**
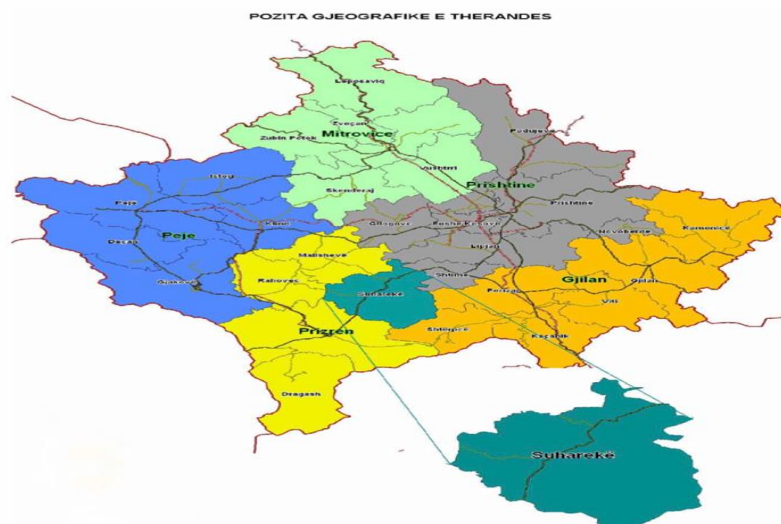


**Koordinatat: 42 ° 22′48 ″ N 20 ° 49′19 ″**

**Table: 1**

| Surface: | 361.78 km² |
|---|---|
| **The population:** | 88.126 banorë |
| **Density:** | 165 banorë/km² |
| **Postal code:** | 23000 |
| **Prefix:** | +383 29 |
| **Car plates:** | 04 |
| **Website:** | kk.rks-gov.net/suhareke |

**GEOGRAPHICAL POSITION OF SUHAREKA VILLAGES:**

**Fig.2**



The municipality of Suhareka is located in the southern part of Kosovo and covers 3.3% of its territory. The average altitude in the municipality is 455 m.

The territory of the Municipality includes Suhareka and these 42 settlements: Blace, Budakovo, Bukosh, Breshanc, Delloc, Dobërdelan, Dragaqinë, Dubrava, Duhël, Dvoran, Greikoc, Greiçec, Gelancë, Gjinoc, Javor, Kastërc, Krushicë e Epërme, Krushic Leshan, Luzhnica, Maqitevë, Mohlan, Mushtisht, Nepërbisht, Nishor, Papaz, Peqan, Popolan, Qadrak, Reshtan, Reqan, Savrovë, Samadrexhë, Sallagrazhdë, Semetisht, Sllapuzhan, Sopija, Stravuçinë, Studençan, Vërhec, Tërrn.

The municipality of Suhareka borders the municipalities of Prizren, Rahovec, Malisheva, Lipjan, Shtime, Ferizaj and Strpce. It lies in the northern latitude of 42'15'- Sharri National Park (south), 42'30'- Berisha Mountains and Javori (north). Eastern longitude: 20'45'- Rahovec municipality (west), 21'00'- Jezerc Mountains, 1612ur ii Dollocit (east).

Through the territory of this municipality, with a good geographical position, pass very important roads that connect the capital, Prishtina, with the regional center Prizren and pass further in Albania. As such it has an important strategic position in this part of Kosovo.

**Table: 2**

| Municipality of Suhareka: | | |
|---|---|---|
| **The population:** | MALE | **48.1%** |
| | Females | **51.9%** |
| | Under.18 years | **52.279** |
| | Over.18 years | **35.847** |
| | Albanian | **99.3%** |
| | Others | **0.7%** |
| | LIVING | **59.722** |
| | Jo- Resident | **28.418** |
| **Density:** | city | **14.980** |
| | VILLAGES | **73.146** |
| **Geography:** | Area (km²) | **362** |
| | Number of villages | **42** |
| **Education:** | No school / Primary and unfinished | **19.95%** |
| | Primary / Secondary unfinished | **46.07%** |
| | Medium | **25.15%** |
| | High School | **7.74%** |
| | University | **1.09%** |
| | Nr. Of students | **16505** |
| | Nr. Of teachers | **832** |
| | Nr. Of high schools (with separate classes) | **2** |
| | Nr. Of primary schools (with separate classes) | **41** |
| | Nr. Of nurseries | **1** |
| Unemployment: | in total | **41.89%** |
| | MALE | **38.94%** |
| | Females | **51.43%** |
| Employed: | Labor force (15-64 years) | **45.796** |
| | Employed in the municipal public sector | **1,320** |
| Health: | The principal center of family medical care | **1** |
| | Family medicine centers and health centers | **11** |
| | No. of doctors | **38** |

**Table: 3**

| Criminal offense | Place | Time | Chairman |
|---|---|---|---|
| Aggravated Murder and Unauthorized Possession, Control or Possession of Weapons. | Maqitevë | 27.01.2020 | S.A |
| Aggravated Murder and Evidence Manipulation. | Reshtan | 17.03.2019 | Sh.S |
| War crime against the civilian population. | Shirokë | / | R.Sh |
| Intimidation during criminal proceedings | Suharekë | 28.10.2019 | B.Sh |
| Benefit and obligation in cooperation | Suharekë | 22.10.2019 | L.B, A.B, F.B, dhe F.Sh. |
| Slight bodily injury in co-perpetration | M | 24.08.2019 | H.F dhe A.F |
| Theft of utilities | V | 07.05.2019 | S.K |
| Forgery of documents and Abuse of official position | Suharekë | 05.12.2018 | Sh.S |
| Serious bodily injury | Gjinoc | 07.04.2018 | F.M |
| Attempted murder in co-perpetration and possession, control, unauthorized possession of weapons. | Suharekë | 29.07.2018 | A.D, L.B, dhe F.B |
| Attempted Aggravated Murder and Unauthorized Possession, Control or Possession of Weapons. | Shirokë | 08.08.2018 | Y.G |
| Endangering public traffic | Gj | 21.09.2018 | L.Z |
| Unauthorized Possession, Control or Possession of Weapons and Mild Bodily Injury. | B | 31.12.2018 | A.Z |
| Theft of utilities | Suharekë | 14.04.2018 | G.G |
| Attempted Murder and Unauthorized Possession, Control or Possession of Weapons. | Suharekë | 24.10.2017 | Sh.K |
| Unauthorized purchase, possession, distribution and sale of narcotics, psychotropic substances and analogues | Suharekë | 17.10.2017 | E.B |
| Attempted Murder in Co-perpetration and Unauthorized Possession, Control or Possession of Weapons. | Bllacë | 01.06.2017 | P.S dhe A.S |
| Keqpërdorim i pozitës apo autoritetit zyrtar | Suharekë | 27.04.2017 | Sh.B |
| Vjedhje e pyllit | K | 20.03.2017 | G.A |
| Mbajtje në pronësi, kontroll ose posedim i paautorizuar i armëve | D | 27.04.2017 | B.T |
| Causing general danger and Unauthorized possession, control or possession of weapons | T | 19.07.2017 | A,B dhe A.M |
| Theft of the forest | V | 19.07.2017 | F.Sh |
| Mild bodily injury | D | 03.04.2017 | B.C |
| Abuse of official position or authority | Suharekë | 07.05.2016 | H.M |
| Abuse of official position or authority | Suharekë | 27.05.2016 | S.H |
| Attempted Murder and Unauthorized Possession, Control or Possession of Weapons. | Suharekë | 16.01.2016 | L.R |
| Threats and Usury | B | 03.03.2016 | R.I |
| Attempted Murder and Unauthorized Possession, Control or Possession of Weapons. | Suharekë | 16.01.2016 | F.U |

## MAP OF BLLACË VILLAGE, MUNICIPALITY OF SUHAREKA

When it comes to the volume, dynamics, types, types and forms of crime in this country, usually, as indicators of these characteristics serve the criminal statistics presented above. Regarding the accuracy and role of these statistical data, it has been talked about earlier, but in the framework of crime volume treatments will now be presented some data and data on the presence of crime in this municipality and especially in this village.

**Fig.3**
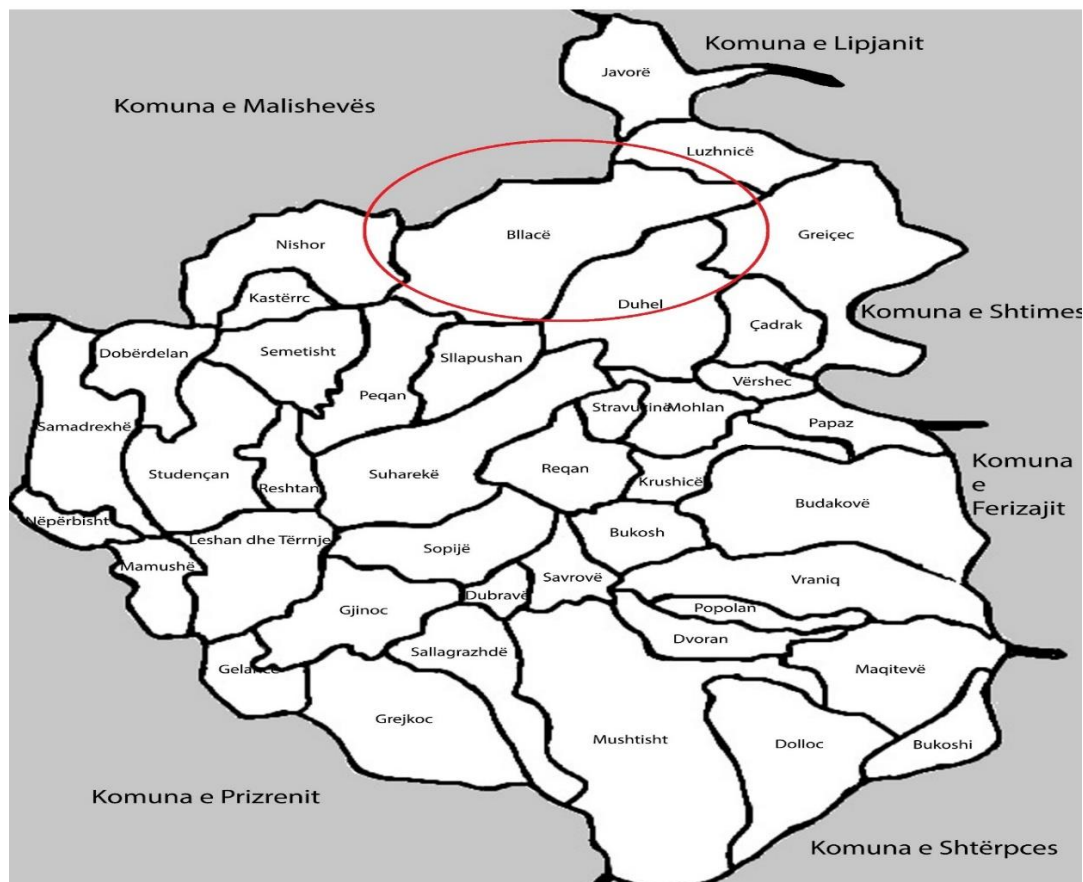


**Statistics of the village of Bllaca**

**Table: 4**

| house | About 900 |
|---|---|
| people | Over 6000 |
| schoolgirl | About 500 |

**LAGJIA LUMI, FSHATI BLLACË case study**

**Fig. 4**



**Te sqarohet harta**

This neighborhood of the village of Bllaca is located in the southwestern part of this village, it is called the neighborhood Lumi, a name which is derived from the surname of most of the inhabitants in that neighborhood

**Table: 4**

| Total houses | 54 |
|---|---|
| Homes of emigrants | 23 |
| Resident residents | About 420 |
| Residents in exile | About 180 |
| noun | 47% |
| Feminine | 53% |
| Under 18 years | About 300 |
| Under 18 years living in Blace | About 200 |
| Under 18 years in exile | About 100 |

The following streets are located in this neighborhood: UQK, Mehmet Lumi Street, Lama Street, Shaban Iballi Street, Livadhet Street, Kastrioti Street, and Vëllezërit Kroni Street.

Crime as a complex social phenomenon expresses some features and characteristics of time and region and in our case, we see that during different seasons and places there has been the dynamics of criminal offenses in this country are illustrated through the map of crime. So we have managed to identify residents' cases reasons and what would be the appropriate preventive measure in this village. In our case together with the Kosovo Police and the citizens we managed to implement the primary secondary and tertiary measures against crime and the results have been surprisingly very successful.[9] In this regard, the term "Criminal Zone" is

often used in the criminological literature, through which it is desired to highlight some regions where crime is more present than in other regions. For this reason, there are opinions that a special criminological discipline should be constituted which would deal entirely with the study of the regional distribution of crime and it would be called Criminal Geography.[10]

In the analysis of crime, rely on numerous categories of data, so, in addition to the distribution of crime by space, data on seasonal and temporal characteristics of crime as well as the distribution of crime according to the characteristics of perpetrators are most often used. In terms of spatial distribution, crime can be monitored from a global perspective, regional as well as rural-urban distribution as well as the ecology of crime in urban settlements. Crime mapping, according to numerous scientific and professional and practical analyzes, helps to make decisions when managing criminal services, formulating better crime control strategies, and tactical analyzes to predict the movement of criminal groups and their geographical profiling. As one of the most important areas of use, criminological research emphasizes the importance of monitoring criminal activities, differentiating the two areas of use for the purpose of assisting police services, and in creating and monitoring anti-crime policy. In this sense, the use-value at a higher level is considered especially important, given that in many cases it has been confirmed that with the application of these methods it is easier to control and monitor crime more efficiently, ie to get more accurate predictions of this illegal phenomenon.[11]

CRIME MAPPING (CM) systems are used by many police agencies around the world for the so-called. Hot spot analyzes, use the locations of various types of crimes (such as murder, car theft, etc.) to be plotted on maps. Such programs in such cases help the police to "classify" crimes and identify "hot spots", and thus identify areas for their future activities (increased surveillance or various types of so-called secret operational police activities). It should be emphasized that hot spot analysis identifies locations where crimes have been committed while geographic profiling aims to identify the person who committed the crime.[12]

CRIME MAPPING (CM) can be used in crime prevention and fight at three levels:

1. mapping crime,
2. criminal analytics,
3. investigative and pre-investigation actions.

In order to adequately describe the role of CM in the work of police and related agencies, it is first necessary to define the key roles and services provided by such organizations and try to offer the appropriate level and type of improvement of these services through CM platforms.

Beck (2014) states that the role of police agencies (in addition to adapting to police regulation) can be reduced to the following services and responsibilities:[13]

**Responding to calls for response:**

- on emergency calls
- on calls related to the quality of life,

**Detection of a criminal offense and finding the culprits:**

- intelligence and investigative work,
- crime analyst,

**Public order and peace:**

- insurance of special events,
- control of protests and gatherings,

**Application and coercion of criminal and other laws:**

- about the search,
- deprivation of liberty,
- control,

**Preventive work:**

- proactive / intelligence work,
- community work,
- reporting to the public.

## CONCLUSION

CM is today an indispensable factor in any anti-crime policy as a relatively new research tool in crime prevention and control. However, the techniques that have been developed and applied within this scientific discipline so far have significantly improved the work of modern security services. Numerous advantages of using CM platforms can be seen from the presented findings. Also, the possible future directions of using such platforms in KOSOVO are clearly visible from them. The results of the research showed that law enforcement agencies have quality data, but that they lack more sophisticated dedicated software and educational programs that would contribute to drawing timely and adequate conclusions. In addition, the current complex structure of the police organization in KOSOVO potentially complicates a harmonized approach to the implementation of this type of system in the work of police agencies, both in procedural terms and in terms of possible incompatibility of data exchange between different agencies. In that sense, if these systems are used, it is necessary to take care that the applications that will be used are mutually harmonized. During the future use of CM, it is necessary to adjust the existing procedures, ie laws and bylaws that regulate the manner of processing, use and storage of data.

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