

## Crime Rates in the Philippines: A Comparative Analysis of Bulan and Irosin Municipalities from Sorsogon Province

Manilyn Barco Barreda

University of the Cordilleras, Baguio, Philippines  
College of Criminal Justice Education, Graduate School

**Abstract:** The low crime rate has been identified as a predictor of a calm, orderly, and secure neighborhood. Furthermore, a safe and secure environment is essential in encouraging investment and economic progress in a country. Crime statistics can help criminal justice professionals predict increased crime risk. This study, therefore, aims to compare the crime rate of two municipalities in the province of Sorsogon: Bulan Sorsogon and Irosin Sorsogon from the calendar year 2018 to 2020. This study used document analysis to analyze and compare the crime data in the Municipality of Bulan and Irosin Sorsogon. Data reflected that in the comparison of the two municipalities in the province, the Municipality of Bulan has the highest crime rate (61%) compared to the Municipality of Irosin which has a (39%) total crime rate. Data also revealed that the crime under special law was the most numbered crime committed with (253) total in the five parameters of crime in both municipalities. Interestingly crime against property was (32) total crimes committed in both municipalities, showing a low number of crimes based on the record. Hence, the police may continue to collaborate closely with many community sectors to guarantee the seamless implementation of its programs and projects to protect public safety and security Information awareness campaigns in any form like in any platform of social media in all their programs and projects may be made available in the community to increase awareness and support of stakeholders, especially in the far-flung areas in the municipality.

**Keywords:** Crime Rate, Crime Against Person, Crime Against Property, Crime Prevention, Sorsogon Province

\* Correspondence to: [barredamanilyn@gmail.com](mailto:barredamanilyn@gmail.com)

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### INTRODUCTION

A crime statistics report is a document that keeps track of crime occurrences, rates, and trends in the Philippines. Recent research shows that crime rates are decreasing and crime-resolution effectiveness is improving. Nonetheless, despite increases in crime-solving efficiency, crime prevention must be maintained due to the high occurrence of index offenses (Philippine Statistics Authority, December 3, 2022). Crime exists in numerous forms and is a major worry in metropolitan areas around

the country (Overseas Security Advisory Council, 2022). Crime is divided into index and non-index offenses for statistical purposes and to provide a coherent understanding of criminal classification. Crimes against people and crimes against property, such as murder, homicide, physical injury and rape, kidnapping/carjacking, and cattle rustling, are examples of index crimes. Non-index offenses, on the other hand, are violations of specific legislation, such as unlawful logging or municipal by-laws or ordinances according to the Senate Economic Planning Office (2013).

Understanding the causes of crimes can help explain why they occur and shed insight into how they can be addressed and prevented. Various criminal theories attempt to explain the factors that lead someone to a life of crime. According to the rational choice hypothesis, thieves choose specific targets based on vulnerability, such as elderly persons, unsecured premises, or a lack of police presence (Jennings & Beaudry-Cyr, 2014). The occurrence of crime in rural regions is merely one component of the problem. For many people, whether they have been victims of crime or not, the sheer fear of crime may influence their quality of life just as much as the experience of crime. Long-term emotional stress and lack of confidence can have serious consequences, especially for children, families, and communities. Isolation in remote areas exacerbates this dread of criminality. The crime rate has been considered an indicator of a secure, tranquil, and orderly community (Adams & Serpe, 2000). A safe and secure environment is also a key factor in stimulating investment and economic progress in a country. Crime, violence, and terrorism are all rather common in the Philippines (O'Brien, 2012). In 2021, the country was listed in the region's bottom five for order and security index rankings (Statista, 2022).

Likewise, the Philippines has one of the highest imprisonment rates per 100,000 inhabitants (The Borgen Project, n.d). Crime rates were notably high in poorer neighborhoods and areas with a higher population and unemployment. Crime is a serious concern for all inhabitants of the Philippines, particularly those who live in the country's larger cities (Sanidad-Leones, 2006). Due to increased crime rates, the police confront the challenging burden of preserving security and order. Furthermore, a recent study found that the country has the highest rate of premeditated homicide in Asia (Sanidad-Leones, 2006). The National Capital Region, which is densely populated, has the highest crime rates in the country. In 2018, the region's average monthly crime rate was 90 per 100,000 people. Stealing and physical injury were the most prevalent crimes in the Philippines (Caba-ong et al., 2015). Property crime accounted for more than 30% of all crimes committed in the country. In contrast, physical injury accounted for around 28% of the total. In comparison to 2017, the number of such offenses was reduced fourfold. Based on the Statista Research Department (2021). Crime statistics are used by criminal justice system officials and policymakers to make claims about crime levels and trends; legislators and criminal justice system officials use them to implement crime-fighting policies; and criminologists and other social scientists use crime statistics to research the causes of crime, inform theories of crime, and evaluate the effectiveness of crime control policies as stated by Mosher and Miethe (2015). The

researcher intends to identify and compare the crime rates in both municipalities to acquire a better knowledge of crime in the area. The study's findings might be used by law enforcement to develop tactics for crime prevention and control initiatives.

Fleisher (1966) predicted that the crime rate increases when unemployment and low per capita income increase. Hence, a low income and low purchasing power directly reduce the good and services for the individuals which urge them to do unfair acts to meet their fair needs. Unemployment combined with inflation has a deep-rooted influence on the crime (Fajnzylber et al., 2002; Wu & Wu, 2012). Becker (1968) is of the view that an individual will commit a crime if the expected utility that will be derived from the criminal activity exceeds the expected cost of the crime. In general, crime and violence are ubiquitous in society. Throughout history, organized societies have tried to prevent crime following several approaches (Gordon et al., 2009). Studies have linked crime with several factors, including psychological traits (Kamaluddin et al., 2015; Gottfredson & Hirschi, 2022), environmental conditions (Gamble & Hess, 2012; Hsiang et al., 2013), spatial patterns (Short et al., 2008; Alves et al., 2015; D'Orsogna & Perc, 2015), and social and economic indicators (Becker, 1968; Glaeser et al., 1996). A significant fraction of the literature on statistical analysis in criminology tries to relate the number of a particular crime (e.g. robbery) with explicative variables such as the unemployment (Raphael & Winter-Ebmer, 2001) and income (Kelly, 2000).

Keeping this in perspective, crime can have a substantial impact on the health and well-being of victims and their families (Pastor-Satorras et al., 2015). Experience of violence may be associated with health risk behaviors such as smoking, harmful use of alcohol and illicit drugs, and physical inactivity (Wang et al., 2016). In addition, it can trigger emotional and psychological problems such as difficulty sleeping, lack of confidence, anxiety, depression, and post-traumatic stress disorder (D'Orsogna & Perc, 2015). The purpose of this study, therefore, is to compare the crime rate and crime percentage in the Municipality of Bulan and Irosin in the Sorsogon province of Philippines from calendar year 2018 to 2020 in terms of Crime Against Person, Crime Against Property, Non- Index Crime, Traffic Incident, Special Law with the end goal of formulating intervention measures or programs that can help the authorities in to improve in their campaign in crime prevention. The intervention measures were crafted based on the findings of this research. for the evaluation and development of intervention strategies.

## **LITERATURE REVIEW**

Numerous studies have highlighted the causes of crimes. For instance, Dutta and Husain (2009) examined the impact of economic growth, income inequality and urbanization on the crime rate. They collected the panel data for post-liberalized India from 1999 to 2005. They got their results by the use of a fixed effect model. Their inferences portray that economic growth is a very important factor for the curtailing of the crime rate because it has a negative and significant relationship with the crime rate.

While increasing urbanization and income inequality are the accelerators of the crime rate. They suggested a policy that the government has to increase economic growth and have to reduce inequality to the curtail crime rate. The trickle-down effect and sustainable economic growth, are complementary for crime reduction. The trickle-down effect makes economic growth more effective because with this the poor segment can also get access to the benefits of economic growth. Without the trickledown effect, the rising of economic growth is meaningless. Dio et al. (2019) analyzed the profile of drug surrenderers and the crime statistics in the Province of Sorsogon during the implementation of Project Double Barrel in the Philippines. It was found that most of the drug surrenderers are from the marginalized sectors belonging to informal workers, construction workers and jobless. There was a notable decrease in crime volume incidents during the implementation of Project Double Barrel in the province. Due to constraints in the number of police personnel, however, there is no significant difference in the crime solution efficiency (CSE) as compared to the previous year. Physical injury and theft were the highest among the recorded index crime while most of the non-index crime incidents recorded were related to vehicular traffic incidents and other violations of street laws.

Gümüş (2004) argued that the most consequential determinants that may affect the crime rate as socioeconomic factors are increased population, police expenditure, primarily the black community. Mojica et al. (2019) investigated the relationship of both crime rates with some demographic variables while accounting for possible spatial autocorrelation using spatial lag models in Metro Manila, Philippines. Results show that both crime rates tend to cluster in the northern cities of Metro Manila. Furthermore, significant spatial lag coefficients were found only for physical injury rates, with values ranging from 0.49 to 0.62, signifying a positive city-level spatial dependence of physical injury rates in Metro Manila. Moreover, some demographic covariates, such as population density, percentage of young males, education, marriage, and immigration were found to be associated with both crime rates. The findings of Madni and Khan (2019) study revealed that economic complexity, institutions, and per capita income have a significant negative impact while economic misery and population growth have a significant positive relationship on violent crimes using the panel data of 34 countries covering the time span from 2000 to 2014. Moreover, efficient institutions have prime importance to curb crimes in a society. The better provision of knowledge and a highly skilled labor force in an efficient institutional environment for the alleviation of crimes is suggested as a policy tool. Additionally, serious efforts to decrease economic misery and population growth are the need of the hour to overcome the crimes.

Ali and Bibi (2020) investigated the impact of public policies about taxes, defense expenditures, loans and grants on crimes in Pakistan over the period from 1980 to 2019 by employing the Autoregressive Distributed Lag and Vector Error-Correction model. The results of the study showed that defense expenditures, loans and grants more taxes and rising economic misery have a positive and significant impact on crime rates in the case of Pakistan. Based on the findings, the study suggested that for the reduction of the crime rate government of Pakistan must reduce taxes, defense expenditures,

loans and grants and economic misery in the country. For reducing unemployment, the government of Pakistan must establish an economic environment that boost new jobs and stable inflation. Moreover, skill development programs must be initiated, so that youth can get self-employment rather than searching for government and private jobs. Inflation can be controlled by putting checks on rising production costs. Similarly, Gillani et al. (2009) reported that crime in Pakistan is mainly caused by poverty, price instability and unemployment. In the Philippines, Barrera et al. (2013) generated spatio-temporal heat maps of reported crimes in Dumaguete City using crime data from 2010 to 2012. Their results showed that crimes tend to be concentrated at or near the central business district. They provided policy recommendations for each spatio-temporal crime hot spot such as vehicle and foot patrols, improved lighting, public education campaign, and surveillance of entry/exit points.

Fajnzyber et al. (2002) estimate the relation and causality between crime and inequality. The study includes panel data of 30 economies. The empiric revealed that increasing inequality is a major cause of the increase in crime and this relationship is found strongly in inter and intra-country analysis. Salas and Hinlo (n.d) investigated the determinants of alcohol consumption and examine how alcohol consumption affects crime incidence in the Philippines. The study employed cross-sectional data and panel data in the estimation. Results in the estimation showed that among the determinants of alcohol consumption, food expenditure, wear expenditure, educational expenditure, income and age, significantly explain the changes in alcohol consumption in the Philippines. On the other hand, alcohol consumption significantly affects the changes in murder and physical injury. Mahase (2020) reported a 60% increase in emergency calls related to violence against women by their intimate partners in Europe. Similarly, Agüero (2021) found a 48% increase in helpline calls related to domestic violence in Peru. While analyzing tweets related to domestic violence, Xue et al. (2020) highlighted that tweets mentioning an increase in domestic violence due to COVID-19 were frequent. Haider and Ali (2015) mention that increase in unemployment and population density leads to an increase in crime in Punjab (Pakistan) considering all districts. The study recommends the need for government policies, including police departments restructure, reducing poverty, and controlling population and corruption to decrease in crimes.

Caba-ong et al. (2015) examined the spatiotemporal patterns of index crimes in Ozamiz City, Philippines. Incidents of crime reported and docketed in the police blotter were retrieved from Ozamiz City Police Station. Case investigators were also interviewed to verify the data. Findings showed a decreased crime rate in 2010 relative to 2011, a most notable decline in 2012, and the sharpest increase in 2013. Among the index crimes, physical injuries had the highest crime volume, followed by theft and robbery. The volume of crimes against property was consistently higher compared to crimes against a person. In the same line, Tadjoeiddin et al. (2021) investigated the nexus between inequality and violent conflict in selected provinces in Indonesia. This study finds empirical support for the violence-increasing effects of higher inequality across districts in provinces usually considered as 'high conflict'

regions. The econometric results are robust after controlling for province and time effects, ethnic and religious fractionalizations and series of usual determinants of violence, as well as across different measures of violence. This new evidence implies that it is important to include tackling inequality as an explicit focus in the development agenda at the national as well as subnational levels. Mark and SARCENA (2021) utilized a quantitative descriptive research method to determine the extent of police operational activities and to test the association between the crime rate and the extent of police operation activities in Pagadian City, Zamboanga del Sur, Philippines. The results revealed that more respondents were 31- 35 years old and above. Most of them were male, bachelor's degree holders, attended training and seminars for 50 hours, and served the police force for 15 years and below. Patrolling and investigation were found to be much more observable while traffic management was observable. As for index crime, there were more crimes against the person committed than crimes against property. As for non-index crimes, there were more other non-index crimes compared to the violation of special laws. Patrolling has a positive influence on the commission and non-commission of both index and non-index crimes.

## **METHODOLOGY**

The study aims to assess the crime rate of two municipalities to gain a deeper understanding of crime in the locality. The design of the research is quantitative, as well as documents analysis where the data are ready and available, to calculate the crime rate in the Municipalities of Bulan and Irosin in the Province of Sorsogon of Philippines from CY 2018 to 2020.

### ***Data Gathering and Procedure***

The Population of the study is the number of crimes registered in the Bulan Municipal Police Station and Irosin Police Station. The Chief of police at both the stations was approach through a request letter. After obtaining the Chief of Police's consent in two municipalities, the request letter was delivered to the administrative offices of the PNP Bulan and PNP Irosin for the extraction of statistics on the crime rate perpetrated in the municipalities. A total of 685 crimes data is obtained from both the stations where Municipal Police Station containing 415 crimes and Irosin Municipal Police Station containing 270 crimes for the fiscal year 2018 to the fiscal year 2020 and this obtained data had been taken as the population of the research study. The study used the quantitative method using SPSS software to process the collected data and Microsoft Excel was used for the data arrangement. Data has been descriptively analyzed to address the objectives of the study.

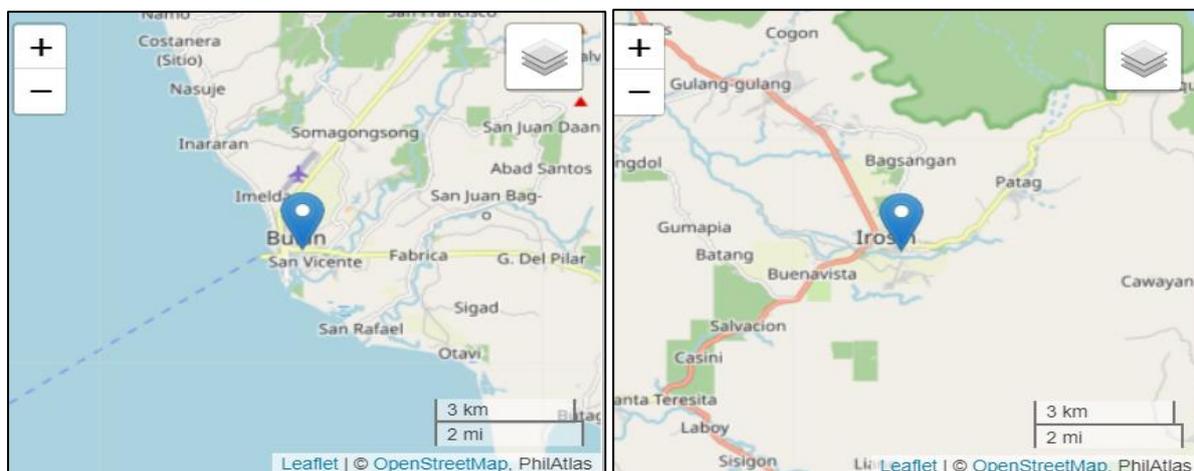
To safeguard the anonymity of the individuals, data were presented as aggregates in the form of percentages and averages. As part of a comparative study of crime data in two municipalities, this research employed document analysis to evaluate and compare crime statistics in the municipalities of Bulan and Irosin Sorsogon. Moreover, the Bulan Municipal Police Station and the Irosin Police Station were also approached for an ethical consideration evaluation and clearance. Throughout the data

collection process, confidentiality and anonymity were preserved. The data will only be used for the research purposes.

### *Population and Locale of the Study*

The geographical focus of the study is limited to Bulan and Irosin Municipalities of Sorsogon province, Philippines. The estimated population of the Sorsogon province by the 2020 Census was 828,655 (PhilAtlas, n.d1), representing 13.62% of the total population of the Bicol Region. It is Luzon's southernmost province, and comprises fourteen municipalities and one city. Bulan is a first-class municipality in the Philippines' province of Sorsogon (PhilAtlas, n.d2). According to the 2020 census, it has a population of 105,190 inhabitants, making it the province's most populous town. Bulan is situated on the southwestern most tip of the Bicol Peninsula on the island of Luzon (PhilAtlas, n.d2). It is the terminal and developing hub of trade and business for its adjacent towns, covering an area of exactly 20,094 hectares. It is made up of fifty-five (55) barangays and eight (8) zones and is home to people of many ethnicities (PhilAtlas, n.d2). While the Irosin is a landlocked municipality in Sorsogon's coastal province (PhilAtlas, n.d2). The municipality has a land area of 149.87 square kilometers (57.87 square miles), accounting for 7.07% of the total area of Sorsogon. The population was 59,267 according to the 2020 Census (PhilAtlas, n.d3). This accounted for 7.15% of the entire population of Sorsogon province, or 0.97% of the Bicol Region's total population. Based on these numbers, the population density is calculated to be 395 people per square kilometer or 1,024 people per square mile (PhilAtlas, n.d3).

**Figure 1.** Location Map of Bulan, and Irosin in the Province of Sorsogon



**Source:** PhilAtlas

Bulan and Irosin Municipalities combine contain 20 percent population of Sorsogon province. However, due of its high crime rate, the Municipalities are considered as being unsafe to be reside there. Chances of being a victim of crime in Bulan as high as 1 in 14 in the northeast neighborhoods, or as low as 1 in 55 in the east part of the city. On average, a crime occurs every 13 days in Bulan (Crimegrade, n.d), while more likely a home to be robbed with no home security system. Also, Stealing

and physical injury are the most prevalent crimes usually happens in the Philippines (see, Caba-ong et al., 2015). Moreover, the Municipality of Irosin as one among the municipalities with the highest number of recorded crime incidence has 33 or 39.4% solved cases in FY 2015 which also went higher in FY 2016 with 54.8% or 19 solved cases of crime incidents (Dio et al., 2019). To conclude it, Municipality of Irosin and Bulan are ranked higher in crime incidences, than other municipalities of Prieto Diaz, Sta. Magdalena, Barcelona, and Bulusan which records a less number of crime (see, Dio et al., 2019). Hence, gathering the statistical data of crimes is relevant. Facts about the crime rate and patterns may help the law enforcers in the area improve the strategies for crime control. Also, crime rate in both the municipalities is not been fully assessed. The purpose of this study to assess the crime rate of two municipalities to gain a deeper understanding of crime in the locality. The study also compares the crime rate and crime percentage in the Municipality of Bulan and Irosin in the Sorsogon province of Philippines from calendar year 2018 to 2020.

## **RESULT AND DISCUSSION**

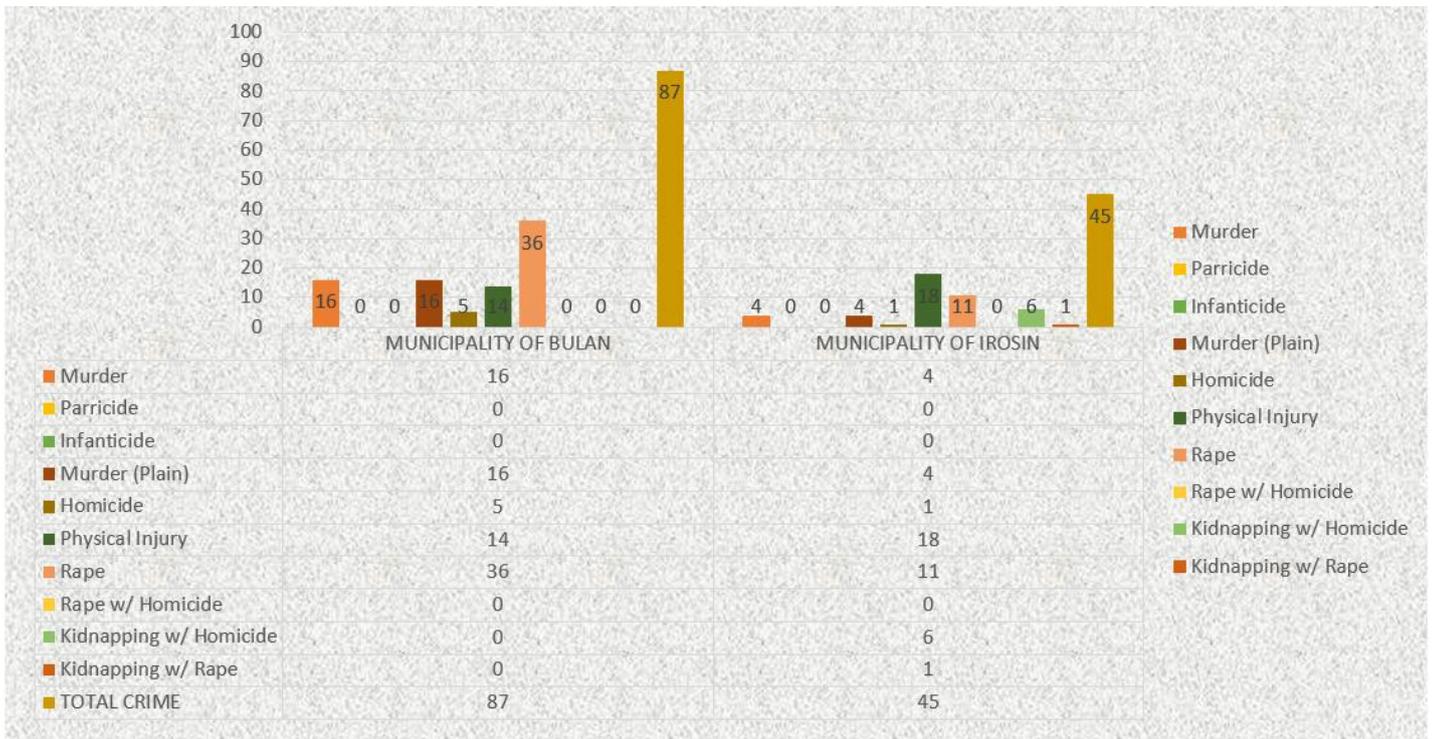
The data set contains information on a total of 685 crimes and the data is obtained from the two police stations where Municipal Police Station contains 415 crimes and Irosin Municipal Police Station contains 270 crimes. Of the 685 individuals, 288 are female while 397 are male. The individuals are also categorized by age-wise. In which 130 age was less than 25 years, 219 individuals age were between 25 and 45, and 315 individuals age was in the range of 45 to 65. The individual in this range was the highest in numbers in all and lastly, there were only 21 only individuals whose age was higher than 65 years. However, at the educational level, 274 individuals were illiterate, 192 were entrance passed, 116 were intermediate, 69 individuals were graduates and 34 individuals were postgraduates. The marital status of the individuals is a discrete. The total individuals are 685 in which majority (i.e., 459) of the individuals are married. 128 individuals are single and 92 are divorced. Only 5 individuals are widow.

**Table 1.** Demographic Characteristics of the Data

Data Division	Categories	Number	Percentage
Gender	Female	288	42.1
	Male	397	57.9
	Total	685	100
Age (Years)	Less than 25	130	19
	25-45	219	32
	45-65	315	46
	More then 65	21	3
Education Level	Illiterate	274	40
	Matriculate	192	28
	Intermediate	116	17
	Graduate	69	10
	Postgraduate	34	5
Marital Status	Single	128	18.7
	Married	459	67
	Divorced	92	13.5
	Widow	5	0.8
Location	Municipal Police Station	415	61
	Irosin Municipal Police Station	270	39

**Error! Reference source not found.**2 contains information on individual crimes for both the cities the municipality of Bulan and Irosin. The data shows that a total of 132 crimes against the person have taken place during CY 2018 to 2020, of which 87 were in the municipality of Bulan and 45 municipalities of Irosin. The combined number of rape crimes in both municipalities was higher than the other crimes and was followed by physical injuries crimes. This implied that in places outside the cities like the municipality of Bulan and Irosin, the victim of rape has a high acknowledgment and acceptance that they are a victim because of the number of reported occurrences in the area. Eze (2013) stated that Sexual assault can be avoided, but some duties are required; some problems must be foreseen, and particular needs/circumstances must be accommodated. In the study of (Hassan et al., 2016). The majority of the victims of the sexual attack were small children. To prevent this horrific conduct, parents should be more careful in monitoring their children's whereabouts, and strict rules should be created and implemented. Offenders commit crimes where crime opportunities coincide with their awareness space around and between routine activity nodes, such as their homes, schools, workplaces, shopping, and recreation locations. The fact that the victim and concepts of place are as influential as the convict indicates that the place where the crime is committed is, at the very least, as responsible as the person who commits the crime (Aksoy, 2017).

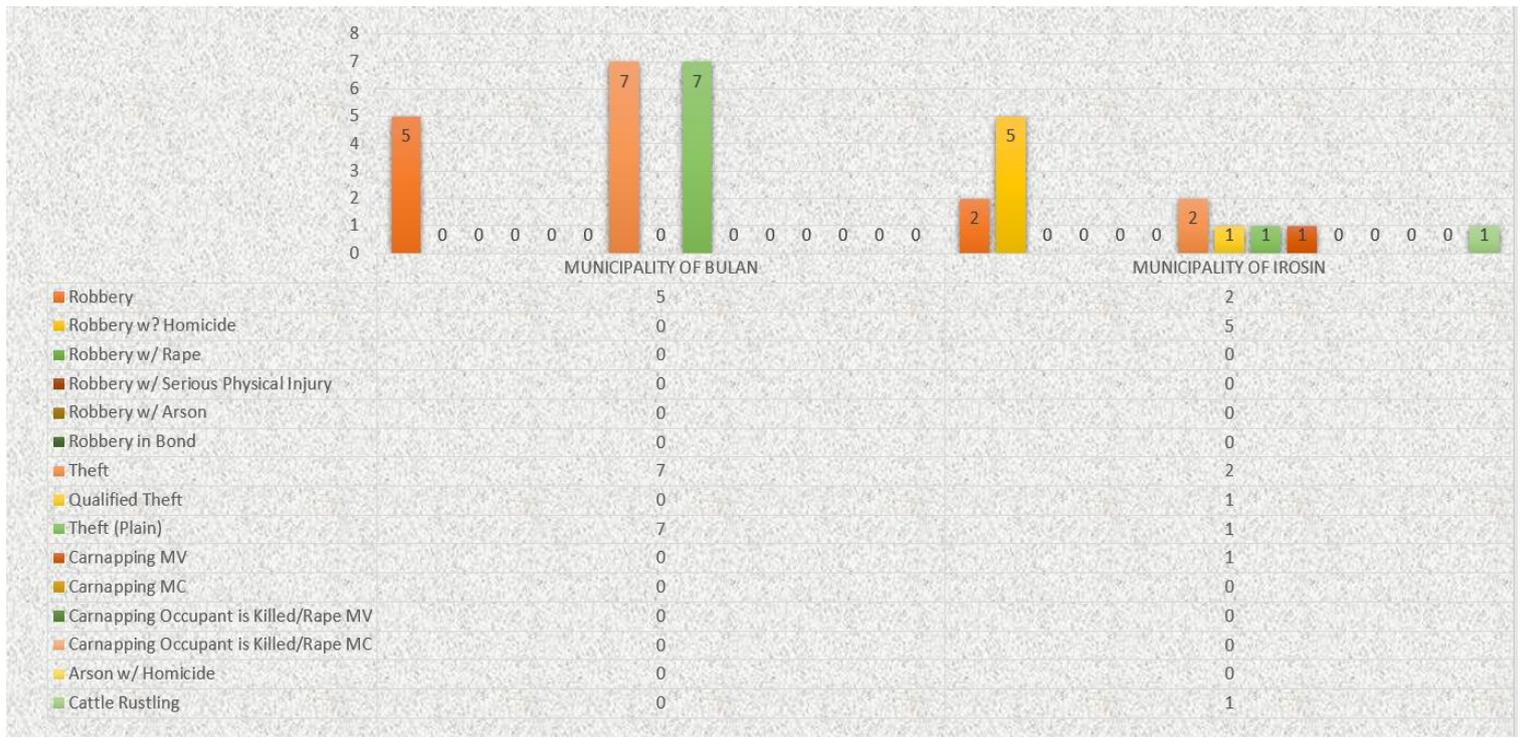
**Figure 2.** Crimes Against Person in the Municipality of Bulan and Municipality of Irosin, Sorsogon CY 2018-2020



**Source:** Bulan Municipal Police Station, Irosin Municipal Police Station, Sorsogon Province

Figure 3 presents the graphical presentation of crimes against property in the Municipality of Bulan and Irosin Sorsogon - CY 2018-2020. Data revealed that theft (plain) (82.63%) is the most common crime perpetrated in the municipality of Bulan. While in the municipality of Irosin, robbery homicide is the most numbered crime committed. Data also reflect that in both municipalities the crime of robbery with rape, robbery with serious physical injury, robbery with arson, robbery in the band, car napping MC, a car napping occupant is killed/raped MV, and the car napping occupant is killed/raped, shows no record of commission from the CY sited in the study. Moreover, according to Ghani (2017), the nature of crime differs from one geographical place to the next. Property crime is more widespread in some locations, whereas violent crime is more prominent in others. Crime is not caused by a single element; rather, several variables impact criminal activity. However, major elements that influence potential offenders' criminal conduct include unemployment, poverty, poor governance, and shortcomings in law enforcement or crime-control organizations.

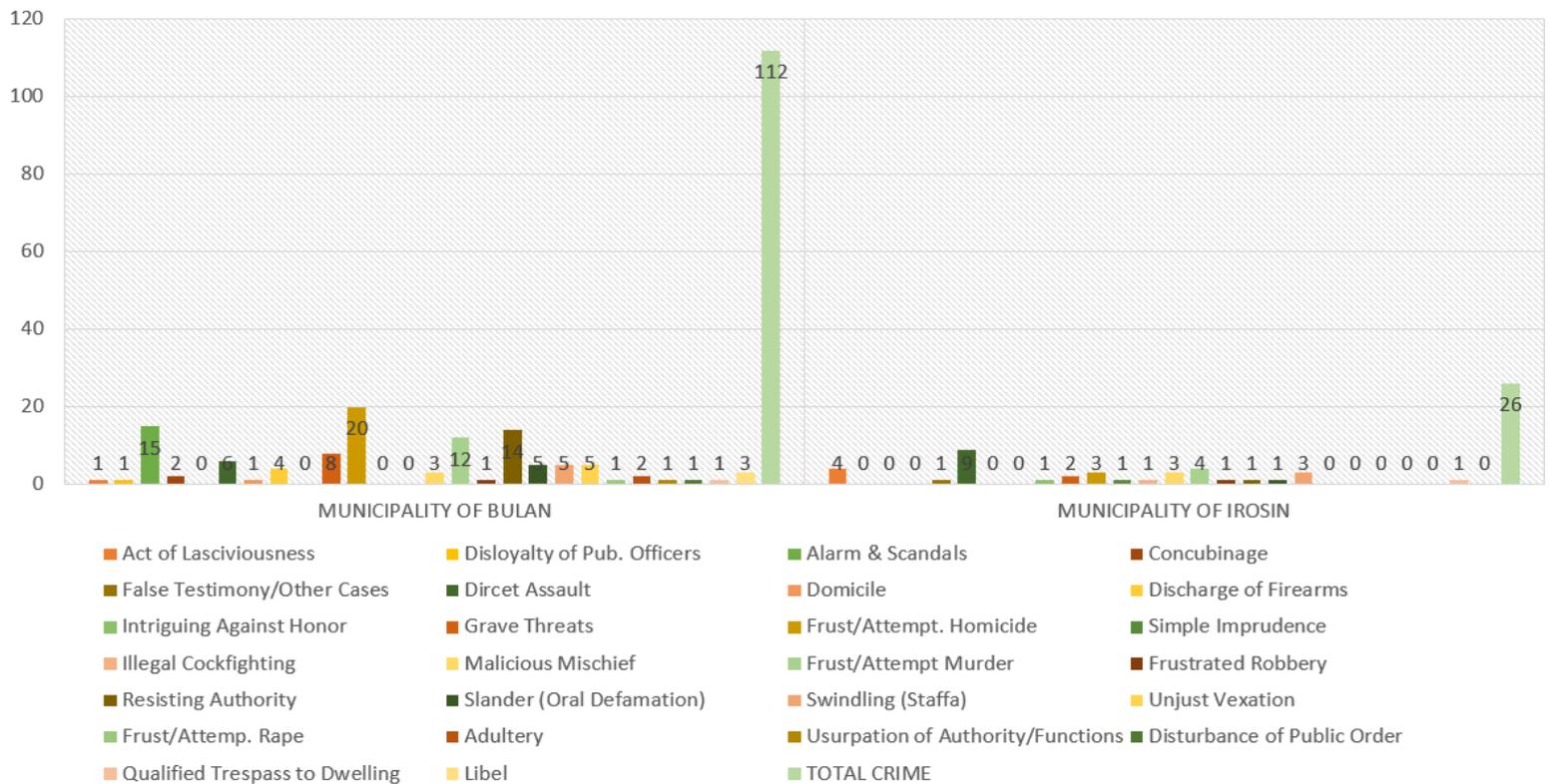
**Figure 3.** Crimes Against Property in the Municipality of Bulan and M unicipality of Irosin Sorsogon - CY 2018-2020



**Source:** Bulan Municipal Police Station, Irosin Municipal Police Station, Sorsogon Province

Figure4 presents the graphical presentation of Non-Index Crime in the municipality of Bulan and Irosin, Sorsogon- CY 2018-2020. Data shows that out of 100 percent, (75.68%) of Non-index offenses were committed in the municipality of Bulan. While 24.32% committed in the municipality of Irosin. Data revealed that the most number of crimes committed in the municipality of Bulan are alarm & scandal, frustrated attempted homicide, frustrated attempted murder, and resisting authorities (88.82%). While in the municipality of Irosin Sorsogon, the highest number of crimes committed are acts of lasciviousness, direct assault, frustrated attempted homicide malicious mischief, attempted frustrated murder, and swindling (staff) (44.25%). Andzenge (1991) stated that the pace of the rise in crime appears to be incompatible with the rate of progress. Development may have led to a drop in crime in places such as Asia. The study's findings indicate that, while there appears to be a link between development and crime, the relationship appears to vary by location. This implies that some cultural and geographical variables may have a role in the connection. Because there is a negative association between the two in other locations, developers can assist reduce the frequency and rates of crime.

**Figure 4.** Non- Index Crime in Municipality of Bulan and Municipality of Irosin Sorsogon - CY 2018-2020

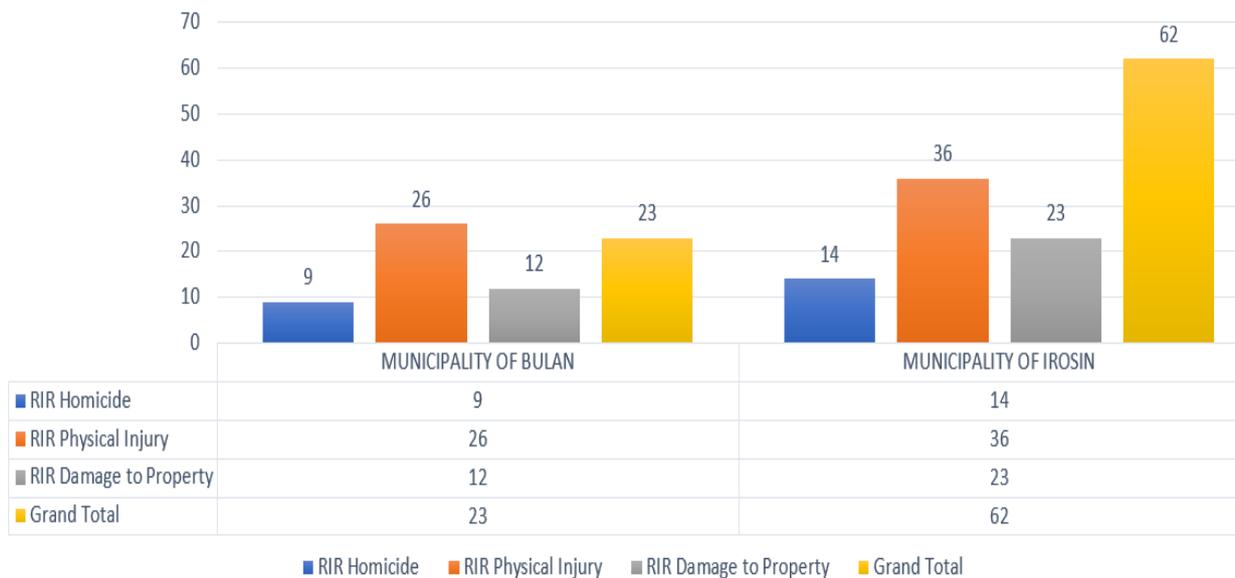


**Source:** Bulan Municipal Police Station, Irosin Municipal Police Station, Sorsogon Province

Figure 5 present the graphical presentation of Traffic Accidents in the Municipality of Bulan and Irosin Sorsogon - CY 2018-2020. Data shows that in the municipality of Bulan. Physical injury was the most number of traffic accidents with (41.94%) while in Irosin Sorsogon (65.71%) was RIR damage to property. However, as to the total number of traffic accidents majority of the said incident has occurred in the municipality of Irosin Sorsogon (60.83%). There are many differences in the municipality of Bulan. The implication is that the municipality of Bulan has a strict implementation of traffic regulations unlike Irosin which has a lenient implementation of traffic rules and regulations that is their data shows a higher number of traffic incidents committed. It implied that they perceive Robberies are regarded as a higher threat than crashes, however, the latter may be overstated. In nations with high accident and violent event data, such findings might be utilized to direct traffic safety legislation, education, and campaigns, with a focus on collision outcomes (da Silva & de Camargo Braga, 2018). Within the study period, young persons were overrepresented in injuries and deaths. Though many of the young individuals involved in collisions were driving at the time, it was also clear that they were frequently victims of a crash caused by someone else. To lessen the impact of traffic collisions on young people, there is a need to address road safety in general (Al Reesi et al., 2016). When young drivers were engaged in accidents, they were mostly men. These drivers' mishaps can be ascribed to a combination of risk-taking and inexperience. The main risk factors for deaths were speeding and driving at night (Pawłowski et al., 2019). According to their findings, traffic-related injuries are the main cause of

mortality for Polish males aged 18 to 44. The most prevalent cause of road accidents in Poland was a failure to follow traffic laws, such as excessive speeding. We also discovered that drivers misjudged driving conditions, experienced a lack of suitable road infrastructure, and kept numerous vehicles in bad condition.

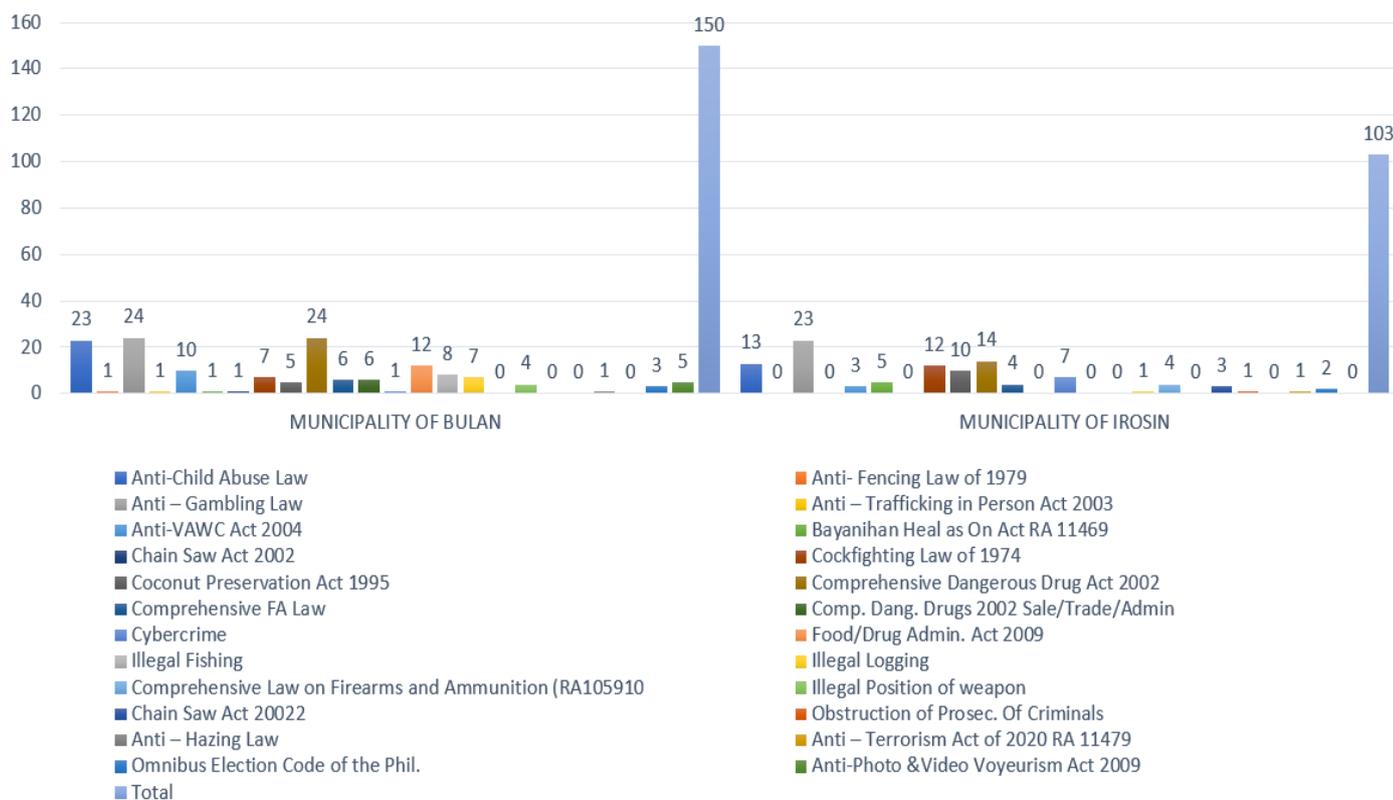
**Figure 5.** Traffic Accidents in the Municipality of Bulan and the Municipality of Irosin Sorsogon - CY 2018-2020



**Source:** Bulan Municipal Police Station, Irosin Municipal Police Station, Sorsogon Province

Figure6 presents the graphical presentation of special laws in the municipality of Bulan and the municipality of Irosin Sorsogon - CY 2018-2020. Data revealed that the total crime rate committed under the special laws with (253) total crime in both municipalities, the Municipality of Bulan has the highest crime percentage at (59.29%) compare to the municipality of Irosin with (40.71%). However, it also shows that the anti-gambling, anti-child abuse, anti-VAWC act 2004, Comprehensive Dangerous Drug Act 2002, and Food/Drug Admin. Act 2009 with (71.06%) has a high crime committed in the municipality of Bulan. While under the municipality of Irosin, the anti-gambling law has a high number of crimes committed (48.94%) with the combined total crime committed in both municipalities. This goes to show that among all crimes committed under special laws, there is the highest number of reported crime incidents compared to another category of crime committed.

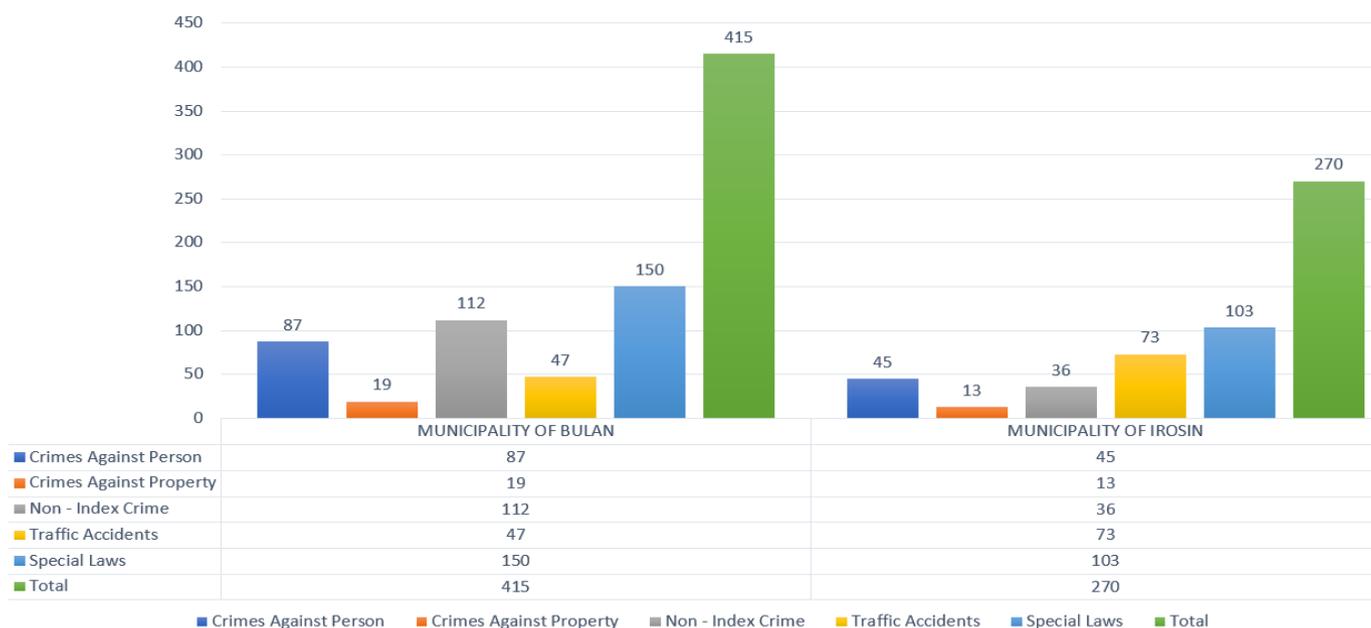
**Figure 6.** Special Laws in the Municipality of Bulan and the Municipality of Irosin Sorsogon - CY 2018-2020



**Source:** Bulan Municipal Police Station, Irosin Municipal Police Station, Sorsogon Province

This may be implied that both municipalities are strict in implementing and enforcing the laws their anti-crime prevention policy and strategy are observable. In words of Carcach (2000), crime levels in local areas are influenced by population size and geography. These elements are related to a region's ability to attract new economic activity, adapt to economic change, and promote local growth. Small communities located near big urban areas have crime rates comparable to distant places. However, geographical or service isolation may not always play a role in determining crime rates in rural areas (those with fewer than 1,000 persons). Economic change and the ability to adapt, population emigration, and the depth of community bonds are all important variables in influencing crime levels in these areas. Lastly, Figure 7 presents the graphical presentation of a summary of the total crime rate in the Municipality of Bulan and Municipality of Irosin Sorsogon. Data reflected that in the comparison of the two municipalities in the province, the Municipality of Bulan has a high crime rate of (61%) compared to the Municipality of Irosin which has (39%) of total crime rate.

**Figure 7.** Total Crime Rate in the Municipality of Bulan and the Municipality of Irosin Sorsogon - CY 2018-2020



**Source:** Bulan Municipal Police Station, Irosin Municipal Police Station, Sorsogon Province

Data also revealed that the crime under special law has a high number of crimes committed with (253) total in the five parameters of crime in both municipalities. Interestingly crime against property was (32) total crimes committed in both municipalities showing a low number of crimes based on the record. It shows that in both municipalities there is less opportunity for the commission of crime related to crimes against property, in a study by Brown (2018) is related to this study because the physical characteristics of places have an effect on crime when social characteristics of the population are also considered. A local crime watch organization feels that the administration's increased anti-illegal drug campaign contributed significantly to the decrease in the number of reported offenses (Kyodo News, 2017). Another is because of During the installation of the community quarantine, crime incidences in the country was reduced by 47 percent. This equates to an average of 92 cases per day, as opposed to 172 cases per day during the six-month pre-quarantine period (Caliwan, 2020).

### CONCLUSION AND POLICY REMARKS

Today, the increasing rate of crimes is a vital concern, not only for the common individuals but for administrators, policymakers, criminal justice personnel and police forces. In efforts to reduce crime and violence, countries have adopted many preventative strategies for reducing actual crime and fear of crime such as hiring more police officers at police departments, installing more video cameras on roads and public places, and utilizing weapon-detection systems, etc. The purpose of this study, therefore, is to compare the crime rate and crime percentage in the Municipality of Bulan and Irosin in the Sorsogon province of Philippines from calendar year 2018 to 2020 in terms of Crime Against Person, Crime Against Property, Non- Index Crime, Traffic Incident, Special Law with the end goal of formulating

intervention measures or programs that can help the authorities in to improve in their campaign in crime prevention.

The findings of the study revealed that the combined number of crime committed by male individuals were highest than female in Municipal Police Station and Irosin Municipal Police Station. Of these, 42.1 percent were females while 57.9 percent are males. Age-wise crimes were highest between 45 to 65 years. Moreover, crimes against property in the Municipality of Bulan and Irosin Sorsogon for the calendar year from 2018 to 2020, the data revealed that theft (plain) (82.63%) is the most common crime perpetrated in the municipality of Bulan while in the municipality of Irosin, robbery homicide is the most numbered crime committed. However, the traffic accidents in the Municipality of Bulan and Irosin Sorsogon - CY 2018-2020. Data shows that in the municipality of Bulan. Physical injury was the most number of traffic accidents with (41.94%) while in Irosin Sorsogon (65.71%) was RIR damage to property. However, as to the total number of traffic accidents majority of the said incident has occurred in the municipality of Irosin Sorsogon (60.83%) while crimes committed under special laws, the number of reported crime incidents was highest compared to another category of crime committed. Hence, the total crime rate in the Municipality of Bulan and Municipality of Irosin Sorsogon province is concluded in such a way that in the comparison of the two municipalities in the province, the Municipality of Bulan has a high crime rate of (61%) compared to the Municipality of Irosin which has (39%) of total crime rate.

Thus, the researcher concludes that crime prevention strategies implemented by police forces in the municipalities of Bulan and Irosin Sorsogon Province were far more effective in reducing crime rates due to the low crime rates recorded under crimes against a person, crimes against property, traffic incidents, and special laws. Crime in the area would have been much higher if the PNP had not implemented crime-reduction tactics in both towns. It was discovered that between the municipalities of Bulan and Irosin in the province of Sorsogon, the municipality of Bulan has a higher crime rate because of its population and geographical location, which is larger and more developed than the municipality of Irosin, which is considered a landlocked area in the province of Sorsogon. Maintain and consistently enhance the municipality's crime prevention, public safety, and security. The following are suggested based on the study's findings, the police may strengthen the implementation of their plans and projects in ensuring public safety and security and intensify further their campaign against illegal drugs. The police may continue to collaborate closely with many community sectors to guarantee the seamless implementation of its programs and projects to protect public safety and security. Intensify the campaign against any forms of criminality and may be further reviewed and coordinated from the Provincial Level down to the barangay level. Information awareness campaigns in any form like in any platform of social media in all their programs and projects may be made available in the community to increase awareness and support of stakeholders, especially in the far-flung areas in the municipality. Additional Police Personnel may be deployed in the municipality to strengthen police visibility.

## LIMITATIONS AND FUTURE STUDIES

This study has limitations that can serve as an avenue for future researchers. First, this study was conducted in two municipalities in Bulan and Irosin of the Sorsogon province, Philippines. Hence, the findings of this study cannot be generalized due to their varying organizational structure. Further, this study cannot be generalized to other parts of the country due to different cultural contexts, therefore, caution should be taken when interpreting the results. Secondly, the study has only taken three calendars year such as from 2018 to 2020 which cannot be generalized for a longer period. Third, the study is in terms of crime against a person, crime against property, non-index crime, traffic incident, and special law. Henceforth, future studies should include other crimes rates such as violent crimes, youth violence, assaults by strangers, hate Crimes, drug crimes, and street crimes etc. Lastly, a wider scope for future researchers should study the topic with the increased sample within the Sorsogon province and broadly the country.

### Data (and Software) Availability

This study was analyzed using (Statistical Package for Social Science (SPSS) Version 22, Microsoft Excel 2013). All data underlying the result are available as part of the article through a request from the corresponding author.

### Authors Contributions

All the authors contributed equally in conducting this research study.

### Competing Interests

Upon the publication of this study, no conflict of interest was declared by the researchers.

### Ethical Statement

The Bulan Municipal Police Station and the Irosin Police Station were also approached for an ethical consideration evaluation and clearance. Throughout the data collection process, confidentiality and anonymity were preserved. The data will only be used for this study.

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