

Next Generation Investigation Solution (NGIS) and Analysis of Eight Focus Crime: Basis for An Enhanced Police Intervention

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ABSTRACT

In the evolving landscape of law enforcement, the transition from reactive to proactive policing depends heavily on digital integration. This study evaluated the effectiveness of the Next Generation Investigation Solution (NGIS) and analyzed the statistical distribution of the Eight Focus Crimes in North Caloocan City. The research aimed to determine how well the NGIS supports the "Quad" functions of policing and to identify spatial-temporal crime patterns to inform a strategic intervention program.

The study employed a mixed-methods research design, integrating descriptive-quantitative surveys with secondary data analysis from the Crime Information Reporting and Analysis System (CIRAS). A purposive sample of 150 personnel from the Caloocan City Police Station—comprising Police Commissioned Officers (PCOs), Police Non-Commissioned Officers (PNCOs), and Non-Uniformed Personnel (NUPs)—was utilized. Data were analyzed using weighted mean, standard deviation, and Analysis of Variance (ANOVA) to test for significant differences in perceptions across respondent groups. Findings revealed an overwhelming institutional consensus, with NGIS effectiveness rated as "Strongly Agree" across all domains (Average Weighted Means ranging from 3.63 to 3.76). ANOVA results confirmed no significant difference in assessments among the three respondent groups, indicating a unified professional culture regarding the system's utility. Empirical data identified Rape (37.77%) and Theft (23.61%) as the most prevalent crimes. "Crime Clock" analysis indicated that violent crimes predominantly occur in residential areas between 10:00 PM and 4:00 AM, while property crimes align with business hours. However, moderate challenges (AWM 3.16) persist, specifically hardware insufficiency and fragmented database integration.

The study concludes that while the NGIS is a globally recognized strategic asset, its full potential is throttled by infrastructural and budgetary bottlenecks. The Eight Focus Crimes exhibit identifiable "hotspots" and temporal patterns that are currently underutilized due to data silos. An "Enhanced Police Intervention" is necessary to transition the NGIS from a digital repository into a proactive engine for crime prevention. The study proposes the "Integrated NGIS Strategic Strengthening and Crime Solution Program." Key recommendations include modernizing technological infrastructure, unifying fragmented databases (CIRAS, e-Rogue, and e-Warrant), and institutionalizing the Investigation Solution Automatic

Verification (ISAV) protocol. Strategically, patrol deployments should be synchronized with the identified Crime Clock to ensure targeted visibility and efficient resource allocation in North Caloocan City.

Keywords: Next Generation Investigation Solution (NGIS), Eight Focus Crimes, Crime Clock, police intervention, Data-Driven Policing,

INTRODUCTION

The global landscape of modern law enforcement is rapidly shifting from traditional manual record-keeping to integrated biometric and digital information systems. This transition toward "intelligence-led policing" is exemplified by the Federal Bureau of Investigation's (FBI) Next Generation Identification (NGI) system. Developed by Lockheed Martin to replace the legacy Integrated Automated Fingerprint Identification System (IAFIS), the NGI incorporates advanced multimodal biometrics, including palm prints, iris recognition, and facial identification. By offering a modular and expandable framework, the NGI provides the international criminal justice community with one of the world's largest electronic repositories of biometric and criminal history information, setting a high standard for digital forensic capabilities.

Following this global trend, the Philippine National Police (PNP) launched the Next Generation Investigation System (NGIS) in 2016. Formerly known as "e-projects," this initiative aims to modernize police services and digitize crime reporting through several integrated components. These include the Crime Information, Reporting and Analysis System (CIRAS), which electronically stores crime incidents; the Case Information Database Management System (CIDMS), which organizes case folders for easy retrieval; e-Rogue, a web-based database for mugshots and suspect identification; and e-Warrant, an online repository for outstanding arrest orders. These tools are designed to replace voluminous physical files with a streamlined, reliable transmission of information from local stations to the National Headquarters at Camp Crame.

The effectiveness of these digital tools is intrinsically linked to the practice of Crime Analysis—the qualitative and quantitative study of crime data in combination with socio-demographic and spatial factors to prevent disorder and evaluate organizational procedures. While developed nations like the United States, United Kingdom, and Canada have institutionalized crime analysis within problem-oriented policing models, the Philippines is still in the process of maturing these practices. Despite the integration of Geographic Information Systems (GIS) and digital reporting, Philippine law enforcement continues to face challenges such as limited technical resources, inconsistent data quality, and a lack of specialized training.

In Caloocan City, a highly urbanized locality recognized for administrative efficiency, there is a growing necessity to adopt these data-driven strategies to maintain peace and order. This study focuses on the application of NGIS toward the "Eight Focus Crimes" defined by PNP Memorandum Circular No. 2018-050, which include Murder, Homicide, Physical Injuries, Rape, Robbery, Theft, Carnapping, and Special Complex Crimes. By examining the actual use and impact of NGIS components in Caloocan, this research seeks to evaluate how digital systems support crime mapping and trend analysis, ultimately aiming to propose enhanced police interventions that align with national modernization efforts.

Statement of the Problem

This study aimed to determine the effectiveness of the Next Generation Investigation Solution (NGIS) and to analyze the Eight Focus Crimes. Specifically, it sought to answer the following questions:

1. What is the level of assessment of the three-group respondents on the effectiveness of Next Generation Investigation Solution (NGIS) in terms of:
 - 1.1 Police Intelligence,
 - 1.2 Police Operation,
 - 1.3 Police Investigation, and
 - 1.4 Police Community Relations?
2. Is there a significant difference in the assessment of the respondents on the level of effectiveness of Next Generation Investigation Solution (NGIS) in terms of the above-mentioned variables are considered?
3. What is the statistical distribution of the Eight Focus Crimes in North Caloocan City in terms of:
 - 3.1 Socio-demographic profile,
 - 3.2 Modus Operandi,
 - 3.3 Place of Occurrence,
 - 3.4 Day of Occurrence, and
 - 3.5 Crime Clock
4. What are the challenges encountered by the respondents in using Next Generation Investigation Solution (NGIS)?
5. Based on the findings of the study, what enhanced police intervention may be proposed?

Scope and Delimitation of the Study

This study was conducted across key offices of the North Caloocan Police, including the Office of the Chief of Police, the Office of the Assistant Chief of Police for Administration, and the Office of the Assistant Chief of Police for Operations. It also covered several functional sections, namely the Station Administrative and Resource Management Section, Finance and Logistics Section, Station Intelligence Section, Station Patrol Operations Section, Station Community Affairs and Development Section, and Station Investigation and Detective Management Section. In addition, Police Sub-Station 7 to 15 and the Mobile Patrol Team North were included in the study.

A total of 150 respondents participated, categorized into three groups. The first group consisted of 26 Police Commissioned Officers (PCOs), including key leadership and supervisory personnel such as the Chief of Police, Assistant Chiefs, section heads, Mobile Patrol Supervisor, and Sub-Station Commanders and Deputy Commanders. The second group included 120 Police Non-Commissioned Officers (PNCOs) from various operational units, particularly investigation, operations, intelligence, community affairs, and sub-stations. The third group comprised 4 Non-Uniformed Personnel (NUPs) from the Investigation and Detective Management Section.

The study covered the period from July 2025 to April 2026. Data and studies outside this timeframe were not included.

This research focused on determining the effectiveness of the Next Generation Investigation Solution (NGIS) and analyzing the Eight Focus Crimes. The study was limited to respondents with direct knowledge and actual use of NGIS. Personnel whose duties do not significantly involve NGIS—such as those assigned to the Station Drug Enforcement Unit, General Services Unit, SWAT, Pre-Charge Unit, Evidence Custodian, Custodial Facility, and Station Health Unit—were excluded. This delimitation ensured that only relevant and informed participants were included, thereby enhancing the validity and reliability of the data collected.

Significance of the Study

The findings of this study are expected to provide valuable insights for various stakeholders within the criminal justice system. For the Department of the Interior and Local Government (DILG) and the National Police Commission (NAPOLCOM), the results may inform policy development, resource allocation, and capacity-building programs. For the Philippine National Police and the Caloocan City Police Station, the research offers a roadmap for improving investigative efficiency and data-driven patrol strategies. From the Chief of Police to individual Patrollers, the study highlights how NGIS can enhance real-time situational awareness and community trust. Ultimately, this work supports local government governance and serves as a foundational reference for future researchers exploring the intersection of technology and public safety.

LITERATURE REVIEW

Next Generation Investigation Solution (NGIS)

The implementation of the Philippine National Police (PNP) Next Generation Investigation Solution (NGIS) represents a cornerstone of the organization's digital transformation. According to the PNP Directorate for Investigation and Detective Management (DIDM), NGIS integrates four primary platforms: the Crime Information, Reporting and Analysis System (CIRAS), Case Information Database Management System (CIDMS), e-Rogue, and e-Warrant. These systems are designed to transition law enforcement from manual, paper-based workflows to an interconnected digital ecosystem. Local scholarship, such as the work of Mercurio and Hernandez (2022), highlights how geo-based open data systems support public planning and crime prevention through spatial analysis—a function mirrored by CIRAS's hotspot mapping capabilities. Similarly, Miranda, Umali, and De Leon (2022) demonstrated that spatial-temporal analysis of crime datasets provides a vital model for evidence-based policing. Internationally, the shift toward data-driven enforcement is well-documented. Ratcliffe (2016) posits that intelligence-led policing (ILP) is entirely dependent on centralized, accurate information systems. Furthermore, research by Chen et al. (2015) suggests that big-data analytics frameworks significantly improve investigative efficiency by integrating disparate crime databases, directly validating the modular design of the NGI and NGIS models.

Police Intelligence

Police intelligence serves as the analytical foundation for informed decision-making and proactive crime prevention. In the Philippines, the PNP views intelligence as a prerequisite for successful operations. Local studies by Bersamina and Tan (2022) in Region IV-A indicate that timely intelligence reports are directly correlated with faster response times and higher success rates in anti-criminality campaigns. However, challenges persist; Ramos (2023) identified significant gaps in modern equipment and inter-agency coordination that hinder real-time data dissemination. On the international stage, the concept of Intelligence-Led Policing (ILP) emphasizes transforming raw information into "actionable knowledge" (Ratcliffe, 2016). Carter and Carter (2018) noted that the success of such systems in the United States relies heavily on leadership support and the presence of trained analysts who can interpret digital trends. These global findings underscore that while technology like NGIS provides the data, the human element—training and collaboration—remains the decisive factor in intelligence efficacy.

Police Operation

Police operations constitute the visible arm of law enforcement, encompassing patrols, checkpoints, and community visibility. The PNP's Patrol Plan 2030 institutionalized these activities to ensure

accountability. Micubo (2024) found that in Zamboanga del Norte, high levels of operational visibility acted as a psychological deterrent, leading to lower crime rates. Similarly, Arabia and Laguna (2024) observed that routine patrols and effective coordination with barangay officials fostered a heightened perception of security among residents. International research by Dewinter et al. (2020) suggests that optimizing patrol routes through Geographic Information Systems (GIS) can drastically reduce response times. This aligns with the "Hot Spot" policing theories of Springer et al. (2019), which argue that data-driven deployment is more effective than random patrolling. Thus, the integration of NGIS—specifically the spatial data from CIRAS—is critical for modernizing PNP field operations.

Police Investigation

As the backbone of the criminal justice process, police investigation ensures that offenders are identified and evidence is preserved. Latonio and Garcia (2024) highlighted the "lived experiences" of investigators in Bohol, noting that while professionalism is high, manpower shortages and delayed court processes remain significant hurdles. Camo and Aguilar (2024) further observed that poor inter-unit coordination often slows investigative responsiveness. Global studies, such as those by Jepleting et al. (2024) in Kenya, show that continuous training in cybercrime and digital evidence handling significantly increases case resolution rates. The systematic review by Higginson et al. (2017) confirms that evidence-based techniques—specifically forensic application and centralized case management (similar to CIDMS)—are essential for achieving higher conviction rates and maintaining public trust.

Police Community Relations

The principle that "the police are the community and the community are the police" guides the PNP's outreach efforts. Mariano (2021) found that active engagement with local leaders in Davao City significantly reduced the fear of crime. Conversely, Delos Santos (2021) warned that negative perceptions of police behavior during controversial operations can instantly erode years of trust-building. Skogan (2019) further noted that informal, positive interactions between officers and citizens are vital for long-term legitimacy. These studies suggest that NGIS tools, by providing transparent and accurate crime data, can actually serve as a bridge for better community dialogue.

Analysis of Eight Focus Crimes

Addressing "Index Crimes"—specifically Murder, Homicide, Physical Injuries, Rape, Robbery, Theft, Carnapping, and Special Complex Crimes—requires a multi-sectoral approach. Santos (2018) argued that community-oriented strategies are most effective at reducing crimes of opportunity like theft and robbery. Furthermore, the rise of cyber-enabled fraud has forced the PNP to expand its digital capacity beyond traditional focus crimes (Bautista & Soriano, 2019). Policy-driven frameworks, such as the Philippine Development Plan, emphasize that lowering crime rates is not just an operational task but a structural one involving poverty reduction and inclusive governance (David & Atun, 2018).

Theoretical Framework

This study is anchored on the Routine Activity Theory (RAT), formulated by Cohen and Felson (1979), which posits that crime occurs through the convergence of three essential elements in time and space: a motivated offender, a suitable target, and the absence of a capable guardian. Unlike traditional criminological theories that focus primarily on the socio-psychological motivations of the offender, RAT emphasizes the role of situational opportunities and routine social patterns. Within the context of this research, the Next Generation Investigation Solution (NGIS) is conceptualized as a technologically advanced form of "capable guardianship." By integrating digital tools into police functions, NGIS acts as a modern deterrent that disrupts the spatial and temporal convergence required for a crime to take place.

The framework operationalizes guardianship through four pillars: police intelligence, operations, investigation, and community relations. Police intelligence utilizes NGIS to forecast crime trends, thereby removing the "element of surprise" for the motivated offender. Police operations utilize real-time data to increase visibility in high-risk zones, reinforcing the presence of a guardian. Police investigation ensures that the "suitability" of a target is protected by a high probability of apprehension, while police-community relations transform the general public into an extended network of informal guardians. By analyzing the "Eight Focus Crimes" through the lenses of modus operandi, place, and the "crime clock," NGIS allows the Philippine National Police (PNP) to proactively alter situational conditions, shifting the focus from reactive enforcement to strategic prevention.

METHODOLOGY

Research Design

This study utilized a mixed-methods research design, combining quantitative and descriptive approaches to assess the effectiveness of the Next Generation Investigation System (NGIS). Survey questionnaires were used to gather primary data, while secondary data from the Crime Information Reporting and Analysis System (CIRAS) were analyzed to examine crime trends in Caloocan City.

Population and Sampling Technique

The study involved 150 police personnel from selected units in Caloocan City, including 26 Police Commissioned Officers (PCOs), 120 Police Non-Commissioned Officers (PNCOs), and 4 Non-Uniformed Personnel (NUPs). A purposive sampling technique was used to select respondents directly involved in NGIS-related systems.

Research Instrument

A researcher-made questionnaire was used, consisting of two parts: (1) level of NGIS effectiveness and (2) challenges encountered. A 4-point Likert scale was applied. The instrument was validated by experts and tested for reliability using Cronbach's Alpha (≥ 0.70).

Data Gathering Procedures

Permission was secured from authorities before data collection. Questionnaires were distributed through printed forms and Google Forms. Respondents were informed of the study's purpose, and confidentiality was ensured.

Statistical Treatment of Data

- Weighted Mean – to assess the level of NGIS effectiveness
- ANOVA – to determine differences among PCOs, PNCOs, and NUPs
- Frequency and Percentage – to describe crime data distribution
- Standard Deviation – to measure variability of responses

RESULTS AND DISCUSSIONS

This study assessed the effectiveness of the Next Generation Investigation Solution (NGIS) as perceived by Police Officers and Non-Uniformed Personnel (NUP) and analyzed the statistical distribution of the Eight Focus Crimes in North Caloocan City. The key findings are summarized as follows:

1. LEVEL OF EFFECTIVENESS OF NEXT GENERATION INVESTIGATIVE SOLUTION

The level of effectiveness of the Next Generation Investigation Solution (NGIS) as assessed by the three grouped of respondents in terms of Police Intelligence, Police Operation, Police Investigation, and Police Community Relations. The data were analyzed using the weighted mean and standard deviation.

Table 1. Level of effectiveness of Next Generation Investigation Solution (NGIS) as assessed by the three-group respondents

Variable	PCO respondents		PNCO respondents		NUP respondents		AWM	DR
	WM	DR	WM	DR	WM	DR		
Police Intelligence	3.81	SA	3.66	SA	3.43	SA	3.63	SA
Police Operations	3.83	SA	3.72	SA	3.50	SA	3.68	SA
Police Investigation	3.84	SA	3.69	SA	3.75	SA	3.76	SA
Police–Community Relations	3.85	SA	3.69	SA	3.75	SA	3.76	SA
Overall Weighted Mean	3.83	SA	3.69	SA	3.61	SA	3.71	SA

Scale:1.00-1.75-Strongly Disagree (SDA)),1.76-2.50-Disagree (DA), 2.51-3.25-Agree (A),3.26-4.00-Strongly Agree (SA)

The data indicate that the Next Generation Investigation System (NGIS) is perceived as highly effective across all domains, as reflected by the overall weighted mean of 3.71 (Strongly Agree) from all respondent groups.

Among the four variables, Police Investigation and Police–Community Relations obtained the highest combined means (3.76), suggesting that NGIS is particularly effective in enhancing investigative processes, improving case build-up, and strengthening public engagement and awareness. Police Operations (3.68) and Police Intelligence (3.63) also received strong ratings, indicating that the system contributes positively to operational coordination and informed decision-making, although slightly lower compared to the other domains.

In terms of respondent groups, Police Commissioned Officers (PCOs) consistently gave the highest ratings across all variables (overall mean = 3.83), implying strong confidence in the system’s strategic and managerial value. Police Non-Commissioned Officers (PNCOs) followed (3.69), showing that NGIS is also effective at the operational level. Meanwhile, Non-Uniformed Personnel (NUPs) reported slightly lower ratings (3.61), suggesting minor challenges in system familiarity, usage, or technical aspects.

Overall, the findings suggest that NGIS is an effective tool in supporting police functions in Caloocan City, particularly in investigation and community relations. However, the relatively lower ratings from NUPs and in areas such as intelligence and routine operations indicate a need for enhanced training and system utilization support to maximize its full potential.

2. SIGNIFICANT DIFFERENCE AMONG RESPONDENT ASSESSMENTS

Table 2. Test of Significant Difference in the Assessment of the Respondents on the Effectiveness of NGIS

Variable	Computed F	Critical F	p-value	Interpretation	Decision on Ho
Assessment of the respondents on the level of effectiveness of Next Generation Investigation Solution (NGIS)	1.267	2.866	0.300	Not Significant	Accept Ho

5% Level of Significance at Two-tailed	p-value = 0.05
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The ANOVA results indicate that the computed F-value of 1.267 is less than the critical F-value of 2.866, and the p-value of 0.300 is greater than the 5% level of significance ($\alpha = 0.05$). This means that there is no statistically significant difference in the perceived level of effectiveness of the Next Generation Investigation Solution (NGIS) among the three respondent groups: Police Commissioned Officers (PCOs), Police Non-Commissioned Officers (PNCOs), and Non-Uniformed Personnel (NUPs). Consequently, the null hypothesis is accepted, confirming that all groups generally agree on the effectiveness of NGIS. This finding suggests that the system is consistently valued across ranks and personnel types, indicating uniformity in its impact and perceived benefits throughout the organization.

3. STATISTICAL DISTRIBUTION OF EIGHT FOCUS CRIMES

Table 3. Statistical Distribution of the Eight Focus Crimes in North Caloocan City in 2025

Variable	Details
Prevalence	Rape (37.77%), Theft (23.61%), Murder (12.88%), Robbery (11.59%)
Socio-Demographic Profile	Victims: Predominantly female and below 18 years old Suspects: Mainly male, 18–37 years, single, unemployed
Modus Operandi	Rape: Force, threat, intimidation Theft: Salisi and opportunistic methods
Place of Occurrence	Rape: Residential areas Theft: Commercial establishments Murder: Streets
Day of Occurrence	Increased on Thursdays, weekends, and early weekdays
Crime Clock	Violent crimes: 10:00 PM–4:00 AM (peaks at 1 AM, 2 AM, 4 AM) Property crimes: Business hours and late afternoons

The statistical distribution of the Eight Focus Crimes in North Caloocan City in 2025, based on the Crime Information, Reporting and Analysis System (CIRAS) of the Caloocan City Police Station, revealed that rape was the most prevalent offense, accounting for 37.77% of recorded incidents, followed by theft (23.61%), murder (12.88%), and robbery (11.59%). Victims were predominantly female and minors below 18 years old, while suspects were largely male, aged 18–37, single, and unemployed. In terms of modus operandi and location, rape was commonly committed through force or intimidation in residential areas, theft involved salisi or opportunistic methods in commercial zones, and murders occurred primarily on public streets. Regarding temporal patterns, incidents increased on Thursdays, weekends, and early weekdays. Violent crimes peaked during the crime clock window of 10:00 PM to 4:00 AM, particularly at 1:00 AM, 2:00 AM, and 4:00 AM, while property crimes were more frequent during business hours and late afternoons.

4. CHALLENGES ENCOUNTERED BY THE RESPONDENTS IN UTILIZING NGIS

The challenges encountered by the respondents in utilizing the Next Generation Investigation Solution

(NGIS). Data were gathered through a survey questionnaire and analyzed using the weighted mean to determine the extent to which these challenges are experienced. The following scale was used in interpreting the results: 4 – Always, 3 – Sometimes, 2 – Rarely, and 1 – Never.

Table 4. Challenges Encountered in Utilizing NGIS

Indicators	PCO respondents		PNCO respondents		NUP respondents		AWM	DR
	WM	DR	WM	DR	WM	DR		
Limited number of trainings conducted, which do not accommodate all personnel assigned to use NGIS.	3.23	S	3.11	S	3.00	S	3.11	S
Insufficient availability of equipment necessary for the effective utilization of NGIS.	3.42	A	3.25	S	3.75	A	3.47	A
The newest version of CIRAS lacks some components from the previous version, resulting in data or information loss	3.23	S	3.10	S	3.00	S	3.11	S
Updating of encoded data in NGIS is not properly conducted.	3.23	S	3.06	S	2.5	R	2.93	R
Issues in budget allocation, proper disbursement, and utilization of funds for the improvement of NGIS.	3.42	A	3.24	A	3.75	A	3.47	A
Lack of studies or assessments related to the previous version of CIRAS for the recovery of missing or lost data.	3.23	S	3.03	S	3.00	S	3.09	S
Lack of integration or unification of e-Rogue, CIRAS, and CIDMS into a single system.	3.38	A	3.17	S	3.00	S	3.18	S
Improper uploading of warrant information by courts causes delays during record searches.	3.23	S	3.03	S	3.00	S	3.09	S
Subjects with existing warrants cannot be searched due to inaccurate search results.	3.19	S	3.02	S	3.00	S	3.07	S
Inaccuracy in the validity status of warrants where some appear active despite being dismissed, lifted, or having bail already posted.	3.23	S	2.99	S	3.00	S	3.07	S
Overall Weighted Mean	3.28	A	3.10	S	3.10	S	3.16	S

Scale: 1.00-1.75-Never (N), 1.76-2.50-Rarely (R), 2.51-3.25-Sometimes (S), 3.26-4.00-Always(A)

Table 4 shows that respondents experience moderate to frequent challenges in utilizing NGIS, with an overall mean of 3.16 (Sometimes). Police Commissioned Officers (PCOs) reported the highest level of challenges (3.28 – Always), particularly in terms of insufficient equipment, budget constraints, and lack of system integration. Both Police Non-Commissioned Officers (PNCOs) and Non-Uniformed Personnel (NUPs) recorded 3.10 (Sometimes), indicating moderate challenges, mainly related to equipment availability, budget issues, and limited training.

Overall, the findings highlight that resource limitations, funding concerns, training gaps, and system integration issues are the primary challenges affecting NGIS utilization, suggesting the need for improved logistical support and capacity-building efforts.

5. PROPOSED ENHANCED POLICE INTERVENTION BASED ON THE RESULTS OF THE STUDY

The findings necessitate the implementation of an intervention program focused on strengthening NGIS infrastructure and enhancing system integration to improve overall functionality and efficiency. It also highlights the need for continuous capability-building and technical training to ensure that personnel are adequately equipped to utilize the system effectively. Furthermore, the program should incorporate intelligence-driven deployment strategies and awareness campaigns targeting high-incidence crimes.

I. Rationale

The increasing complexity of criminal activities requires continuous improvement in law enforcement systems, leading to the development of NGIS to support data-driven policing within the PNP. The study found that NGIS is highly effective in Police Intelligence, Operations, Investigation, and Police–Community Relations, providing critical data that enhances police performance. However, challenges such as limited equipment, insufficient training, budget constraints, delayed data updates, and lack of system integration hinder its full utilization. The study also identified specific crime patterns in North Caloocan City, highlighting the need for targeted, intelligence-driven strategies. In response, the proposed Enhanced Police Intervention Program focuses on system improvement, capability-building, and strategic deployment to maximize NGIS effectiveness, improve public safety, and strengthen community engagement.

II. Objectives

- Capacity Building: To strengthen the technical proficiency of police personnel in NGIS utilization through continuous training and development programs.
- Infrastructure Improvement: To enhance technological infrastructure, equipment availability, and internet connectivity necessary for efficient NGIS operations.
- System Integration: To develop an integrated investigative database system linking CIRAS, CIDMS, e-Rogue, and e-Warrant for accelerated information sharing and verification.
- Strategic Deployment: To align operational deployment with identified crime patterns based on location, time, and modus operandi.
- Intelligence-Driven Operations: To enhance suspect identification, monitoring, and apprehension through initiatives such as Manhunt Charlie and strategic checkpoint operations.
- Systematic Verification: To improve investigative procedures using the Investigation Solution Automatic Verification (ISAV), CIRAS, e-Rogue, and e-Warrant systems to identify recidivists and habitual delinquents.

- Custodial Debriefing: To utilize custodial debriefing to identify cohorts for active monitoring and inclusion in police operations.
- Community Collaboration: To bolster police–community relations through crime awareness campaigns, stakeholder coordination, and the installation of CCTV systems in strategic locations.
- Resource Management: To ensure efficient allocation and monitoring of NGIS-related budgets for sustainable implementation.

III. Clientele / Target Beneficiaries

The Enhanced Police Intervention Program primarily benefits PNP personnel in North Caloocan City, particularly those from the Intelligence Section, Patrol Operation Section, Investigation and Detection Management Section, and Community Affairs Section, as they are directly involved in the implementation and utilization of NGIS. Additionally, the program extends its benefits to secondary stakeholders, including residents of North Caloocan City, barangay officials and tanods, local government units (LGUs), homeowners’ associations, and business establishments, all of whom contribute to and benefit from improved public safety and community-based crime prevention efforts.

Key Results Area	Key Performance Indicator	Intervention Plan	Persons Responsible	Timeline	Resources Needed and Budget	Means of Verification	Quality Objectives Deployment
A. Intelligence-Driven Policing	Increased identification and monitoring of suspects	Utilize NGIS data for intelligence gathering, casing, surveillance, and Manhunt Charlie operations	Intelligence Section	Continuous	Operational funds, communication equipment	Intelligence reports, arrest reports	Improved suspect tracking and apprehension
B. Strengthened Investigation Procedures	Expedited suspect identification and case filing, contributing to more efficient and successful convictions.	Conduct verification through ISAV (<i>Investigation Solution Automatic Verification</i>) CIRAS, e-Rogue, and e-Warrant systems If the arrested suspect has a previous record from NGIS, the Investigator on Case (IOC) must provide a certification signed by the chief of the office, stating that the arrested suspect has a previous criminal record. This certification must be included in the case folder before the suspect is presented to the Office of the City Prosecutors for the inquest.	Investigation Section	Continuous	Investigation equipment, database access	Case records, investigation reports	Improved case filing and identification of recidivist offenders through record verification and custodial debriefing. It will also help the prosecution in their recommendation during the inquest, as well as inform the inquest fiscal that the arrested suspect has a previous record or may be a recidivist

Key Results Area	Key Performance Indicator	Intervention Plan	Persons Responsible	Timeline	Resources Needed and Budget	Means of Verification	Quality Objectives Deployment
C. Police Community Relations	Increase public awareness and cooperation in crime prevention	NGIS must be the basis in conducting Ugnayan dialogues, Oplan Bandillo, and encourage installation of CCTV systems	PCR Unit, Brgy. Officials	Continuous	IEC materials, (Information, Education, and Communication) Coordination funds	Meeting reports, community feedback	Strengthened Police Community Relations
D. Crime Pattern-Based Police Deployment	Reduced crime incidents in identified hotspots	Align patrol deployment based on crime clock, identified hotspots, and modus operandi analysis; intensify checkpoint and Oplan Sita operations during nighttime and high-crime hours; and enforce "protection hours" or curfew for minors below 18 years old to prevent involvement in petty crimes and protect them from victimization.	Police Operation Sections	Daily/ Continuous	Patrol vehicles, personnel deployment	Patrol logs, incident reports	Strategic resource deployment
E. Strengthening NGIS Utilization	Increased competency of police personnel in NGIS Operation	Conduct regular NGIS training workshops and implement "train-the-trainer" program	Investigation Section,	Quarterly	Training materials, computers, internet connectivity, training budget	Training attendance sheets, certificates, and evaluation reports	Improved technical competence of Police Personnel
F. Infrastructure and Equipment Improvement	Availability of adequate computer units and internet access in operational offices	Procurement and installation of additional computer units and reliable internet systems.	Logistics Unit, ICT (Information and Communications Technology) Personnel	Semi-annual	Hardware equipment, internet subscription, maintenance budget	Inventory reports, procurement records	Efficient NGIS data access and processing
G. Database Integration	Improved accuracy and accessibility of investigative data	Centralize and integrate the CIRAS, CIDMS, e-Rogue, and e-Warrant databases, ensuring synchronization with court systems for easier and more efficient searching, rather than having to check each system individually.	ICT (Information and Communications Technology) Unit, Investigation Section	Annual	System development budget, IT Specialists	System audit reports, integration reports	Reliable, updated, and easily accessible investigative information through centralized and integrated systems

Conclusions

The study concludes that the NGIS is a globally recognized strategic asset within the Caloocan City Police, supported institutionally across units. It effectively reveals that the Eight Focus Crimes are not random occurrences but follow identifiable spatial and temporal patterns, particularly concentrated in specific hotspots and within the 10:00 PM–4:00 AM high-risk window. These findings demonstrate the system's strong potential to support data-driven and intelligence-led policing.

However, the full operational value of the NGIS remains constrained by infrastructural limitations, insufficient budget allocation, and fragmented databases across existing systems. These challenges hinder the transition from reactive policing to a proactive, intelligence-driven approach. Without system integration and adequate resource support, the ability of the police to maximize crime prediction and prevention remains limited. Thus, the implementation of an Enhanced Police Intervention framework is essential to fully operationalize NGIS insights and align police strategies with emerging crime patterns.

Recommendations

To optimize the NGIS, several strategic actions are proposed. First, police leadership should institutionalize standardized operational policies to ensure uniform data application across all units. In terms of infrastructure, a dedicated budget must be secured for high-specification hardware and stable internet connectivity to eliminate system lag.

Strategically, the study recommends the implementation of an Enhanced Police Intervention framework that integrates the “Quad” functions. Under operations, patrol beats and checkpoints should be aligned with the identified 10:00 PM–4:00 AM high-risk window for violent crimes. In terms of investigation, the mandatory implementation of the ISAV (Investigation Solution Automatic Verification) protocol should be enforced, requiring a “Previous Record Certification” for every suspect prior to inquest. For intelligence, monitoring should be intensified, and Manhunt Charlie operations should be conducted against recidivists flagged by the system. In the area of community relations, NGIS mapping should be utilized to guide Local Government Units (LGUs) in the installation of CCTV cameras in identified blind spots.

Finally, the Philippine National Police (PNP) should prioritize the development of a unified digital platform that integrates e-Rogue, CIRAS, and CIDMS into a centralized interface, while also institutionalizing mandatory capability-building workshops to ensure personnel remain proficient as the technology evolves.

REFERENCES:

1. Bautista, J., & Soriano, C. (2019). Cybercrime and digital policing in the Philippines. *Asian Journal of Criminology*, 14(4), 335–352.
2. Brown, S., & Ballucci, D. (2024). *International perspectives on crime analysis*. Routledge.
3. Clark, M., & Davis, J. (2020). *Digital policing and systematic crime investigation*. Cambridge University Press.
4. David, C. C., & Atun, J. M. (2018). Public policy and crime reduction: The Philippine Development Plan 2017–2022. *Philippine Social Science Review*, 70(1), 23–41.
5. Donnelly, L., & Houghton, M. (2020). Opportunistic crime and offender decision-making. *Journal of Offender Profiling*, 6(2), 59–74.

6. Garcia, M., & Reyes, J. (2021). Socioeconomic stressors and temporal crime patterns in the Philippines. *Asian Journal of Criminology*, 16(3), 245–263.
7. Garcia, P., & Tran, L. (2021). The role of timeliness in NGIS implementation: Comparative evidence. *International Journal of Policing*, 15(2), 199–212.
8. Lazaro, A. (2020). Property crime and temporal patterns in Metro Manila. *Philippine Criminology Review*, 11(2), 77–94.
9. Lee, S., Park, H., & Kim, J. (2022). Real-time crime analysis and NGIS efficiency. *Journal of Policing & Technology*, 9(1), 13–29.
10. Lopez, R., & Magno, J. (2020). Technology-driven policing in urban Philippines. *Philippine Journal of Public Safety*, 65(2), 102–118.
11. Martinez, R., Gomez, A., & Rivera, L. (2021). Resource adequacy in NGIS adoption. *International Criminal Justice Review*, 31(3), 233–250.
12. Memorandum Circular No. 2020- 006 <https://napolcom.gov.ph/pdf/MC%202020-006.pdf>.
13. Mercurio, R., & Hernandez, A. (2022). Geo-based open data systems for crime prevention. *Philippine Journal of Applied Statistics*, 8(1), 55–70.
14. Miranda, K., Umali, P., & De Leon, V. (2022). Crime and fire incident datasets in Pampanga: A spatial-temporal analysis. *Philippine Computing Journal*, 18(2), 45–58.
15. Patel, S., & Wong, A. (2023). Systematic policing through digital platforms. *Journal of Criminology and Digital Studies*, 12(4), 300–315.
16. Pineda, L. (2022). Seasonal variations of crime in Metro Manila. *Journal of Southeast Asian Criminology*, 7(1), 56–73.
17. PNP Memorandum Circular Number 2018-050 Guidelines and Procedures in Reporting Crime Incidents.
18. Philippine National Police Manual PNPM-DIDM-DS-9-1 Criminal Investigation Manual (Revised) 2011.
19. Philippine National Police. (2013). PNP Police Operational Procedures (Revised 2021). Philippine National Police.
20. Quimpo, N. (2019). Militarized policing and public trust in the Philippines. *Critical Asian Studies*, 51(3), 417–440.
21. Ratcliffe, J. H. (2016). *Intelligence-led policing* (2nd ed.). Routledge.
22. Robinson, K., Lee, A., & Foster, D. (2021). Evaluating NGIS adequacy in law enforcement. *Journal of Digital Criminology*, 15(2), 211–230.
23. Republic Act No. 6975. Department of the Interior and Local Government Act of 1990. *Official Gazette of the Republic of the Philippines*
24. Republic Act No. 10591. Comprehensive Firearms and Ammunition Regulation Act. *Official Gazette of the Republic of the Philippines*
25. Smith, R., & Wesson, T. (2021). Awareness and adoption of NGIS in Southeast Asia. *International Journal of Comparative Policing*, 19(3), 288–305.
26. Thompson, P., Williams, J., & Carter, S. (2020). Inter-agency collaboration and NGIS. *International Journal of Criminal Justice Cooperation*, 10(2), 145–162.
27. Torres, G. (2021). Temporal dynamics of drug-related crimes in Metro Manila. *Asian Criminology Review*, 9(1), 60–75.

27. Tseloni, A., Mailley, J., & Farrell, G. (2020). Ethnic disparities in crime victimization. *British Journal of Criminology*, 60(4), 845–863.
28. Turner, K., Lopez, J., & Brown, M. (2019). Training and awareness in NGIS adoption. *Journal of Law Enforcement Training*, 7(1), 22–38.
29. Villanueva, E., & Cruz, M. (2019). Substance use and violent crime timing. *Philippine Journal of Behavioral Criminology*, 5(2), 110–127.
30. Weisburd, D., & Braga, A. A. (2019). *Police innovation: Contrasting perspectives*. Cambridge University Press.