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Promoting Public Order and Safety In High-Risk
Area

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Abstract—This study explores the expectations of the respondents on the CCTV installation as a crime prevention and deterrence tool in high-crime areas of Barangay Quirino, Solano, Nueva Vizcaya. With rising concerns over public safety and security, communities are increasingly turning to technological solutions like CCTV cameras to address crime-related challenges. The primary objective of this research is to evaluate the expectations of the respondents on the CCTV installation for promoting public order and safety in high-risk area.

The research methodology involves a quantitative method. Quantitative research gathers a range of numeric data with community residents' and Barangay officials of 3 selected puroks in barangay Quirino, Solano, Nueva Vizcaya. This comprehensive approach allows for a holistic assessment in the expectations of the respondents on the CCTV installation.

Preliminary findings suggest that the presence of CCTV cameras has led to a reduction in reported crimes within the high-risk areas of Barangay Quirino. Moreover, residents express an increased sense of safety and security, which may be attributed to the surveillance system. The study also considers potential drawbacks and ethical concerns associated with widespread surveillance in the community.

Keywords—CCTV Camera Installation, Expectation, Public Order, High-Risk Area

I. INTRODUCTION

CCTV, invented by Walter Bruch in 1942, was initially used to monitor V-2 missiles during World War II, but became commercially available in 1949 when Vericon, a

U.S. government contractor, adopted it as a security measure (Clearway, 2023). CCTV systems, which use video cameras to monitor specific areas, have since evolved into one of the most effective tools for deterring criminal activity. The presence of surveillance cameras often discourages potential offenders due to the fear of being recorded and facing legal consequences (Clearway, 2023). CCTV footage, though typically circumstantial, is considered reliable evidence and has been widely adopted by governments as part of crime prevention initiatives (Information Commissioner's Office, 2015).

In various countries, including the UK, South Africa, Korea, and the Philippines, CCTV systems have played a crucial role in both crime prevention and investigation (Aballe et al., 2022; Moyo, 2019; Chung, 2017). In the Philippines, CCTV is heavily utilized in high-risk areas such as banks, airports, and public spaces to ensure safety and deter criminal activities. The "CCTV Act of 2014," proposed by Senator Win Gatchalian, highlights the importance of CCTV in promoting public safety while safeguarding privacy rights (SE Security, n.d.) Del Mundo (2023) documents a tragic event in Nueva Vizcaya, where Aparri Vice Mayor Rommel Alameda and five of his aides were killed by unidentified assailants. CCTV footage from a nearby camera captured the incident, demonstrating the significance of surveillance systems in solving serious crimes.

The relevance of the current study lies in examining the potential benefits of installing CCTV cameras in high-crime areas such as Barangay Quirino, Solano, Nueva Vizcaya, particularly in terms of crime prevention and the prompt identification of suspects. Despite the known effectiveness of CCTV in various settings, Barangay Quirino continues to face challenges related to the safety and security of its residents

due to increasing criminal activities. The limited coverage and inconsistent monitoring of CCTV cameras in strategic areas may hinder the barangay's efforts to maintain public safety.

The growing number of criminal incidents in Barangay Quirino raises significant concerns about the safety and security of its residents. While CCTV cameras have been proven effective in deterring criminal behavior and providing evidence for investigations, the extent of their implementation and actual effectiveness in this locality remain unclear. Additionally, the absence of comprehensive guidelines for CCTV use and monitoring, coupled with a lack of community engagement, poses challenges to maximizing their potential in crime prevention. Therefore, a thorough assessment of community expectations and perceptions regarding the deployment and management of CCTV systems is necessary to understand their impact on public safety and identify areas for improvement.

II. METHODOLOGY

Research Design

This study used a descriptive correlational design to explore and quantify respondents' expectations regarding CCTV installation for crime prevention and traffic monitoring. The design allowed researchers to analyze relationships between demographic profiles and perceptions, examining how factors such as age, gender, and socioeconomic status influence expectations without manipulating variables. This approach provided insights into public attitudes toward the effectiveness of CCTV in enhancing safety and order.

Population and Sample

The study involved 288 residents from three selected puroks in Barangay Quirino, Solano, Nueva Vizcaya, including 20 barangay officials and 268 residents. Respondents were chosen using purposive sampling, ensuring diverse representation across various profiles.

Instrumentation

Data was gathered using a contextualized questionnaire checklist adapted from Aballe et al. (2022). The questionnaire comprised two parts: (1) demographic details (age, gender, socio-economic status, etc.) and (2) respondents' views on the effectiveness of CCTV in crime prevention and traffic monitoring.

Data Collection Methods

After securing approval for all necessary documents and communications, the researchers proceeded with data collection. Informed consent was obtained to ensure ethical compliance, and the survey was conducted over a five-day period, with researchers on-site to provide guidance and clarify any questions from respondents. This approach ensured a smooth data gathering process, enhancing response accuracy. The gathered data was then subjected to statistical analysis and rigorously reviewed by the research adviser to ensure that the findings were aligned with the study's objectives and upheld methodological standards.

II. RESULT AND DISCUSSION

Profile of the Respondents

TABLE III. FREQUENCY AND PERCENT DISTRIBUTION OF THE DEMOGRAPHIC PROFILE OF THE RESPONDENTS IN TERMS OF AGE AND SEX

Age		Sex		Total
		Male	Female	
18-20 years old	Count	27	15	42
	% of Total	9.40%	5.20%	14.60%
21-30 years old	Count	37	25	62
	% of Total	12.80%	8.70%	21.50%
31-40 years old	Count	38	23	61
	% of Total	13.20%	8.00%	21.20%
41 years old & above	Count	67	56	123
	% of Total	23.30%	19.40%	42.70%
Total	Count	169	119	288
	% of Total	58.70%	41.30%	100.00%

The table shows that 42.70% of respondents are 41 years old and above, 21.50% are aged 21-30, 21.20% are 31-40, and 14.60% are 18-20. This suggests that the majority of respondents are over 41 years old. In terms of sex, 58.70% are male, while 41.30% are female, indicating a higher male participation. This aligns with Jocelyn et al. (2022), where most respondents were aged 40-49, although their study had more female participants. Both studies highlight the importance of CCTV in crime reduction, though the demographic differences could influence perspectives on its effectiveness.

TABLE II. FREQUENCY AND PERCENT DISTRIBUTION OF THE DEMOGRAPHIC PROFILE OF THE RESPONDENTS TERMS OF PUROK ANS SEX

Purok		Sex		Total
		Male	Female	
Ilang-ilang	Count	36	21	57
	% of Total	12.50%	7.30%	19.80%
Namnama 2	Count	79	51	130
	% of Total	27.40%	17.70%	45.10%
Namnama 1	Count	54	47	101
	% of Total	18.80%	16.30%	35.10%
Total	Count	169	119	288
	% of Total	58.70%	41.30%	100.00%

Table 2 shows that 45.10% of respondents are from Purok Namnama 2, 35.10% from Namnama 1, and 19.80% from Ilang-ilang, indicating that most male respondents are from Namnama 2. Similarly, Smith et al. (2021) found that a particular region had a higher number of male participants, possibly due to demographic factors or targeted recruitment strategies.

TABLE III. FREQUENCY AND PERCENT DISTRIBUTION OF THE DEMOGRAPHIC PROFILE OF THE RESPONDENTS IN TERMS OF OCCUPATION AND SEX

Occupation		Sex		Total
		Male	Female	
Laborer	Count	46	20	66
	% of Total	16.00%	6.90%	22.90%
Businessman	Count	28	33	61
	% of Total	9.70%	11.50%	21.20%
Public Employee	Count	15	13	28
	% of Total	5.20%	4.50%	9.70%
Private Employee	Count	8	6	14
	% of Total	2.80%	2.10%	4.90%
PUV Driver	Count	29	1	30
	% of Total	10.10%	0.30%	10.40%
Others	Count	43	46	89
	% of Total	14.90%	16.00%	30.90%
Total	Count	169	119	288
	% of Total	58.70%	41.30%	100.00%

Table 3 shows that the largest group of respondents (30.90%) consists of individuals with unspecified jobs, primarily housewives and farmers. Other occupations include laborers, businessmen, PUV drivers, public employees, and private employees. This suggests a diverse range of occupations, with housewives and farmers being the most common. Smith et al. (2021) found similar results, indicating that including various occupations helps provide a comprehensive view of rural households and the impact of sustainable farming practices on different community groups.

TABLE IV. FREQUENCY AND PERCENT DISTRIBUTION OF THE RESPONDENTS IN TERMS OF EDUCATIONAL ATTAINMENT AND SEX

Educational Attainment		Sex		Total
		Male	Female	
Elementary Graduate	Count	19	7	26
	% of Total	6.60%	2.40%	9.00%
High School Graduate	Count	109	74	183
	% of Total	37.80%	25.70%	63.50%
College Graduate	Count	38	36	74
	% of Total	13.20%	12.50%	25.70%
Others	Count	3	2	5
	% of Total	1.00%	0.70%	1.70%
Total	Count	169	119	288
	% of Total	58.70%	41.30%	100.00%

Table 4 shows that 63.50% of respondents are high school graduates, 25.70% are college graduates, and 9% are elementary graduates, indicating that most are high school graduates, with a smaller number holding college degrees. This is similar to Rumberger and Palmer's (2008) study, which found that while fewer people have college degrees, a significant portion has completed high school.

TABLE V. FREQUENCY AND PERCENT DISTRIBUTION OF THE RESPONDENTS IN TERMS OF ECONOMIC STATUS AND SEX

Economic Status		Sex		Total
		Male	Female	
Lower class	Count	49	37	86
	% of Total	17.00%	12.80%	29.90%
Middle class	Count	119	82	201
	% of Total	41.30%	28.50%	69.80%
Higher class	Count	1	0	1
	% of Total	0.30%	0.00%	0.30%
Total	Count	169	119	288
	% of Total	58.70%	41.30%	100.00%

Table 5 shows that 69.80% of respondents are from the middle class, 29.90% are from the lower class, and 0.30% are from the higher class, indicating that the majority are from the middle class. This aligns with Lee's (2020) study, which focused on social mobility and economic opportunities for the middle class in developing countries.

TABLE VI. FREQUENCY AND PERCENT DISTRIBUTION OF THE RESPONDENTS IN TERMS OF YEARS OF RESIDENCE IN THE BARANGAY AND SEX

Years of Residence in the barangay		Sex		Total
		Male	Female	
1-5 years	Count	7	9	16
	% of Total	2.40%	3.10%	5.60%
6-10 years	Count	14	11	25
	% of Total	4.90%	3.80%	8.70%
11 years or more	Count	148	99	247
	% of Total	51.40%	34.40%	85.80%
Total	Count	169	119	288
	% of Total	58.70%	41.30%	100.00%

Table 6 shows that most respondents have resided in the barangay for 11 years and above. This is similar to the findings of Padilla and Abia (2017), where the majority of barangay residents had been living there for at least 11 years, as part of their study on community perceptions of policing and satisfaction levels.

Expectations of the respondents on the CCTV installation in public order and safety in high-risk areas.

TABLE VII. MEANS AND QUALITATIVE DESCRIPTIONS OF THE RESPONDENT'S EXPECTATIONS ON THE CCTV INSTALLATION IN THE PREVENTION, CONTROL, AND INVESTIGATION OF CRIME AGAINST A PERSON

Indicators	Resident s	QD	Bar anga y Offi cials	QD	Total	QD
1. The use of CCTV cameras will help locate suspicious characters in the streets.	4.86	SA	5.00	SA	4.93	SA

2. The use of CCTV cameras will reduce crimes and criminals.	4.82	SA	4.67	SA	4.74	SA
3. The CCTV camera can be used to apprehend the criminals.	4.80	SA	4.67	SA	4.73	SA
4. Through CCTV cameras the officers can monitor the actions of the perpetrators.	4.79	SA	4.86	SA	4.82	SA
5. CCTV cameras can help the police investigator in solving crimes by providing the lead.	4.76	SA	4.90	SA	4.83	SA
6. The presence of CCTV cameras will discourage riding in tandem incidents.	4.69	SA	4.62	SA	4.66	SA
7. The CCTV will serve as a tool to identify the strategies used by the perpetrator in committing the act.	4.79	SA	4.62	SA	4.71	SA
8. The CCTV camera will help to distinguish other persons who may have served as accomplices to the crime.	4.79	SA	4.71	SA	4.75	SA
9. The CCTV serves as security among individuals who stay in areas where it was installed.	4.72	SA	4.62	SA	4.67	SA
10. The CCTV camera will reduce the tendency of criminals to personally attack a stranger on the streets.	4.77	SA	4.67	SA	4.72	SA
Total	4.78	SA	4.73	SA	4.76	SA

Note. 1:00-1.49= Strongly Disagree (SD); 1.50-2.49= Disagree (D); 2.50-3.49= Neutral (N); 3.50-4.49= Agree (A); 4.50-5.00= Strongly Agree (SA)

Table 7 shows that respondents strongly agree (mean=4.76) that CCTV installation is effective in preventing, controlling, and investigating crimes against individuals. It helps identify suspicious individuals, monitor perpetrators' actions, provide leads for investigations, identify criminal strategies, and reveal accomplices. This aligns with Cuevas et al. (2016), who found that CCTV effectively prevents crimes by identifying suspicious individuals and catching criminals.

TABLE VIII. MEANS AND QUALITATIVE DESCRIPTIONS OF THE RESPONDENTS' EXPECTATIONS ON THE CCTV INSTALLATION IN PREVENTION, CONTROL, AND INVESTIGATION OF CRIME AGAINST PROPERTY

Indicators	Residents	QD	Barangay Officials	QD	Total	QD
1. The CCTV will aid in monitoring schools, and other establishment in the area.	4.82	SA	4.86	SA	4.84	SA

2. The CCTV will help guards secure properties against criminal tendencies.	4.76	SA	4.76	SA	4.76	SA
ky3. The presence of CCTV will reduce theft against property in boarding houses.	4.69	SA	4.81	SA	4.75	SA
4. The presence of CCTV cameras will reduce theft of motor vehicles and some other forms of acquisitive crimes in areas where there are CCTV cameras.	4.71	SA	4.67	SA	4.69	SA
5. Properties where the CCTV is located will be secured	4.71	SA	4.57	SA	4.64	SA
6. Through the CCTV, items taken by criminals or thieves will be easily distinguished.	4.73	SA	4.57	SA	4.65	SA
7. The CCTV will record the position of the property. Where and how they were stolen.	4.80	SA	4.86	SA	4.83	SA
8. The CCTV will serve as a barrier for the possible offenders.	4.79	SA	4.62	SA	4.7	SA
9. CCTV will be able to monitor the incoming and outgoing individuals from the establishment.	4.83	SA	4.71	SA	4.77	SA
10. The CCTV will prevent theft from individuals in public areas.	4.79	SA	4.67	SA	4.73	SA
Total	4.76	SA	4.71	SA	4.74	SA

Note. 1:00-1.49= Strongly Disagree (SD); 1.50-2.49= Disagree (D); 2.50-3.49= Neutral (N); 3.50-4.49= Agree (A); 4.50-5.00= Strongly Agree (SA)

Table 8 shows that respondents strongly agree (mean=4.74) that CCTV installation will help in preventing, controlling, and investigating property crimes. Both residents and barangay officials believe CCTV will monitor establishments, reduce property theft, deter offenders, and track stolen property. Corachea et al. (2016) support these findings, noting that CCTV aids crime deterrence and suspect apprehension, but emphasize that its effectiveness depends on proper positioning and coverage.

TABLE IX. MEANS AND QUALITATIVE DESCRIPTIONS OF THE RESPONDENTS' EXPECTATIONS ON THE CCTV INSTALLATION IN MONITORING, PREVENTION, AND INVESTIGATION OF TRAFFIC DISORDER AND VIOLATION

Indicators	Residents	QD	Barangay Officials	QD	Total	QD
1. Traffic violations in certain areas where CCTVs are installed will be prevented.	4.78	SA	4.43	SA	4.60	SA
2. CCTV cameras identify violators of traffic rules.	4.76	SA	4.67	SA	4.71	SA
3. CCTV camera monitors traffic violations.	4.75	SA	4.52	SA	4.64	SA

4. CCTV helps police investigators in solving vehicular accidents.	4.81	SA	4.81	SA	4.81	SA
5. CCTV camera can prove one's offense against traffic rules.	4.83	SA	4.71	SA	4.77	SA
6. CCTV camera documents the everyday routine of traffic.	4.69	SA	4.57	SA	4.63	SA
7. CCTV cameras act as monitoring devices in major roads	4.67	SA	4.76	SA	4.72	SA
8. CCTV camera records the exact nature of road accidents which cause traffic jams.	4.57	SA	4.52	SA	4.55	SA
9. CCTV camera records the exact nature of traffic violations.	4.72	SA	4.76	SA	4.74	SA
10. CCTV camera records vehicles that just park anywhere.	4.85	SA	4.86	SA	4.85	SA
Total	4.74	SA	4.66	SA	4.70	SA

Note. 1.00-1.49= Strongly Disagree (SD); 1.50-2.49= Disagree (D); 2.50-3.49= Neutral (N); 3.50-4.49= Agree (A); 4.50-5.00= Strongly Agree (SA)

Table 9 reveals that respondents strongly agree on the effectiveness of CCTV installation for monitoring, preventing, and investigating traffic disorders and violations, with an overall mean of 4.70. Residents and barangay officials believe CCTV will aid in monitoring traffic violations, identifying violators, and providing evidence, particularly for offenses on major roads and parking violations. This is supported by Aballe et al. (2022), who found CCTV to be highly effective in crime prevention and resolving vehicular accidents, with a mean rating of 4.63.

Correlations between the demographic profile of the respondents and their expectations of the CCTV installation.

TABLE X. CORRELATIONS BETWEEN THE PROFILE VARIABLES AND THE RESPONDENTS' EXPECTATIONS ON THE CCTV INSTALLATION

Correlations				
Expectations on the CCTV installation				
Profile Variables		Crimes Against Person	Crimes Against Property	Monitoring, prevention, and Investigation of Traffic Disorder and Violations
Age	Pearson Correlation	.091	.102	.026
	Sig. (2-tailed)	.137	.095	.667
Sex	Pearson Correlation	-.015	-.035	-.039
	Sig. (2-tailed)	.809	.574	.528

Purok	Pearson Correlation	-.037	.016	.041
	Sig. (2-tailed)	.546	.789	.505
Occupation	Pearson Correlation	-.023	-.038	.046
	Sig. (2-tailed)	.709	.536	.450
Educational Attainment	Pearson Correlation	-.039	.061	.017
	Sig. (2-tailed)	.523	.322	.786
Socio Economic Status	Pearson Correlation	.109	.179**	.137*
	Sig. (2-tailed)	.076	.003	.025
Years of residence in the Barangay	Pearson Correlation	.108	.097	.228**
	Sig. (2-tailed)	.079	.115	.000

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 10 shows that respondents' expectations regarding CCTV effectiveness are significantly influenced by socioeconomic status and years of residence, specifically for preventing crimes against property and monitoring traffic violations. The significance levels were below 0.05, rejecting the null hypothesis. This aligns with Joon C. et al. (2017), which found that while CCTV may not reduce perceived crime risk, it helps lower the fear of crime at night.

IV. CONCLUSION

1. The respondents of the study are male community residents who graduated from high school and engaged in farming classified as middle class and have stayed in the community for so long.
2. The respondents strongly agree on their expectations that the installation of CCTV cameras is for the prevention, control, and investigation of crime against persons and property; and also, for monitoring, prevention, and investigation of traffic disorders and violations.
3. The socio-economic status and the years of residence of the respondents affect their expectations on installation of the CCTV cameras that it is for the prevention, control, and investigation of crime against persons and property; and also, for the monitoring, prevention, and investigation of traffic disorders and violations.

V. RECOMMENDATIONS

1. The Barangay officials of Barangay Quirino, Solano, Nueva Vizcaya, should consider the study's findings on installing CCTV cameras for crime prevention, control, and investigation, as well as for traffic monitoring to enhance public safety. Implementing these systems should be prioritized to deter criminal activities and ensure community order.
2. Future researchers should expand similar studies to include other barangays to gain a broader understanding of community safety needs.

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