

“Nexus between Police Expenditure and Crime rates in Kalyana Karnataka Region”

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Abstract: The history of Kalyana Karnataka shows that the region has a long-spell gaps in development among the districts. Prof. Nanjundappa committee reveals that this region was very backward in socio-economic aspects. Hence, people of this region demanding the governments for the development from long back. Consequently, due to its backwardness, the government of India approved the special status and currently Kalyana Karnataka region enjoys special status under Article 371Jof Constitution of India. In this paper an effort has been made to examine the nexus between the police expenditure and crime rates in Kalyana Karnataka region. The detailed analysis of the nexus between police expenditure and crime rate were clearly presented with the help of descriptive statistical tools. The study reveals that Kalaburagi, Raichur and Yadagiri districts have the positive relationship and Ballari, Bidar and Koppal districts have negative relationship among the Police expenditures and Crime rates.

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I. Introduction:

Public expenditure plays a critical responsibility in the functions of economy at almost all stages of economic development. The government has resorted to spending and revenue activities to create attractive results on the income of the country, production and employment. Public expenditure aspires at the increase the quantity of investment in both sectors in private as well public and the increase in the production of all sectors. Every community seeks to reduce the crime rates and increase the Police levels and expenditures to prevent the crimes in the society. The reason behind this philosophy is that boost in the Police expenditure will affect in efficient and effective Police force, this increase the chances of arrest rates and decreasing a crime rate. Becker forecast that the crimes are negatively connected to the probability and the punishment. Becker also focused on how government uses the resources and how much penalty should be imposed to the implement diverse kinds of legislations.

II. Background of the Study Area:

The Kalyana Karnataka earlier called as Hyderabad-Karnataka region. This region, comprising of Ballari, Bidar, Kalaburagi, Koppal, Raichur and Yadagiridistricts. It was under Nizams of Hyderabad even after independence, as the last Nizam of Hyderabad, *Mir Osman Ali Khan Bahadur* was refused to joined his kingdom to Indian Union. Then union government used the police force on Nizam consequently, on 17 September 1948 he merged with Indian Union. After coming under Indian union too, the Kalyana Karnataka region was still neglected by the centre as well as by the state.

The history of Kalyana Karnataka shows that the region has a long-spell gaps in development among the districts. The prof. Nanjundappa committee reveals that this region was very backward in socio-economic aspects. Hence, people of this region demanding the governments for the development from long back. Consequently, due to its backwardness, the government of India approved the special status and currently Kalyana Karnataka region enjoys special status under Article 371Jof Constitution of India.

III. Review of Literature

The number studies have been studied to examine the association between police expenditure and crime rates. The important studies have been reviewed here as follows.

Benson and David (1998) in their study on “Deterrence and Public Policy: Trade-offs in the Allocation of Police Resources” examines the impact of Police resource distribution choices, by using conventional methods of ordinary least squares to examine the impact. An expansion in total Police expenditure

essentially prompts a decrease in crimes are mismatched. They reject the deterrence hypothesis, that the crime rates are not negatively related to the echelon of total Police resources.

Steven D Levitt (2004) in his research study “Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do not” at the United States of America in 1990. He found that the causes for the crime decline were an expansion in public spending and subsequent gun point rules.

John Smith (2011) in his paper “Ethnic Fragmentation and Police Spending” estimates the relationship between ethnic fragmentation and police spending in US counties. The study used two stage least squares method, results demonstrate that, when controlling for community qualities and representing synchronization predisposition, ethnic fracture is emphatically associated with police spending. This research contributes to the dread of the adapted truth that public expenditure on police increases over a period wherein the occurrence of crime fell.

Aaron Chalfin and Justin McCrary (2012) in their study the effect of police on crime in United States, investigates the impacts of Police on crime and ongoing changes in crime rates in the study area. The study used panel data set of crime in medium to large U.S. cities over 1960-2010. This assessment concludes that every dollar spent on Police relates to roughly 1.60 dollars decreased in exploitation costs. The study also found that the police lessen violent crime than property crime.

Ben Shoe smith and Chris Klein (2014) study on an examination of the impact of police expenditures on arrest rates” explores the connection between crime rates and Police Expenditures. The study used board data estimation and year fixed impacts to investigate state-level information capture rates of violent crime, murder and property crime over the time span 1980-2007. They have used the Durbin-Watson test to attempt for its existence and their results. The outcomes from this study reveals that an expansion in Police spending prompts a financially and measurably huge increment in capture rates for homicides, property violations, and violent crimes.

Shahzad Mahmood Jabar et al (2015) their empirical study, analyzed the effect of law implementation, economic, social factors on total crime in 35 districts of Punjab region by using the fixed effect model. The study exhibits that Police numbers have a weak positive effect on total crimes in Sahiwal and Rawalpindi division, while the deterrent effect happens in those divisions where untreated cases are low.

Objectives of the study

Considerable work on police expenditure and crime rates has been carried out at the state level and National level; but studies at the regional level of individual states are relatively very few. With this main objective, an effort has been made in this paper to examine the nexus between the police expenditure and crime rates in Kalyana Karnataka region.

IV. Methodology

This paper is based on Secondary data. This data was collected for ten years for the period of 2006 to 2015 from Bureau of Police Research and Development, State Crime Record Bureau and Principal Accountant Generals Office, Karnataka. In this study descriptive statistics tools were performed. To identify relationship correlation test has been performed with the help of secondary sources data.

Police Expenditure and Crime rates in Kalyana Karnataka Region

Internal security forces of the nation are as yet compromised by numerous dangers. With the progression in innovations, newer adoptions of dangers are persistently emerging as in bank cheatings, cyber-attacks, and organised violent, just to give some examples, should be handled in an increasingly specific way. In such a situation, the job of a Police officer turns out to be significant. Against all these security dangers, the principal line of protection is the Police framework. Internal security forces, especially a privilege of Police and effective Policing is required so as to handle these types of dangerous threats. But the Police framework should be proficient, viable and technically sound. These are all are requiring high police expenditure. This section shows that descriptive statistics of Police expenditure and Crime rates in Kalyana Karnataka region from 2005-2016.

Table-1 Descriptive statistics of Expenditure and Crime rates in Kalyana Karnataka from 2005 to2016

District	Variable	N	Min	Max	Mean	Std Dev	CV
Ballari	Crimes	11	3112	4432	3477.82	421.16168	12.10994
	Expenditure	11	230746652	837890415	503668892	216484600	42.981531
Bidar	Crimes	11	3363	4333	3725.36	303.1324	8.1369883
	Expenditure	11	191634167	640493791	408357022	167001409	40.895932
Kalaburagi	Crimes	11	4101	5984	4824	580.43846	12.032306
	Expenditure	11	522101078	1391699661	976140103	299339967	30.665677
Koppal	Crimes	11	1539	1951	1775.45	140.88248	7.935009

	Expenditure	11	105431320	639564577	344574095	186458264	54.112676
Raichur	Crimes	11	2609	3491	3028.18	245.53444	8.1083125
	Expenditure	11	169235881	532665772	338508349	135806939	40.119229

Source: Data compiled by the author from SCRB and AG office.

Table -1 reveals the Descriptive statistics of Expenditure and Crime rates in Kalyana Karnataka from 2005 to 2016. This has been known that highest crimes were registered in Kalaburagi district and lowest registered Koppal district during the study period. while in police expenditure highest incurred on Kalaburagi and lowest incurred on Raichur districts in Kalyana Karnataka Region. The highest crime incidents taken place in Kalaburagi due may be its geographical region and its population.

Growth rate Police Expenditure and Crime rate in Kalyana Karnataka Range

Kalyana Karnataka Region headquarters located at Kalaburagi. This region has six districts which are Ballari, Bidar, Kalaburagi, Koppal, Raichur and Yadagiri.

Table -2 Growth rate of Police Expenditure and Crime rate in North Eastern Range

Year	Ballari	Bidar	Kalaburagi	Koppal	Raichur	Yadagiri
2006-07	0.08 (-0.07)	0.06 (-.001)	0.09 (0.04)	0.08 (-0.03)	0.03 (0.06)	NA
2007-08	-0.05 (-0.13)	0.13 (0.01)	0.10 (-0.02)	-0.07 (0.06)	0.12 (0.02)	NA
2008-09	0.23 (-0.11)	0.09 (-0.08)	0.18 (0.11)	0.50 (0.04)	0.15 (0.04)	NA
2009-10	0.13 (-0.01)	0.15 (0.06)	0.05 (0.06)	0.26 (0.10)	0.13 (-0.02)	NA
2010-11	0.05 (0.06)	0.06 (0.001)	0.14 (-0.24)	0.09 (0.01)	0.07 (0.13)	NA
2011-12	0.28 (-0.06)	0.30 (-0.03)	0.23 (-0.05)	0.39 (-0.05)	0.32 (0.04)	0.31 (0.03)
2012-13	-0.01 (-0.02)	-0.06 (0.05)	-0.03 (-0.10)	-0.23 (0.02)	-0.09 (-0.14)	-0.19 (-0.07)
2013-14	0.14 (0.04)	0.20 (0.07)	0.19 (0.09)	0.14 (-0.09)	0.11 (0.007)	0.32 (0.002)
2014-15	0.09 (0.01)	0.06 (0.08)	0.08 (-0.01)	0.09 (0.08)	0.08 (0.02)	0.10 (0.004)
2015-16	0.04 (-0.001)	0.01 (-0.03)	0.01 (-0.07)	0.10 (-0.04)	0.00 (-0.01)	0.03 (-0.04)
Mean	0.10 (-0.03)	0.10 (0.01)	0.11 (-0.02)	0.14 (0.01)	0.09 (0.01)	0.11 (-0.01)
SD	0.10 (0.06)	0.10 (0.05)	0.08 (0.10)	0.21 (0.06)	0.11 (0.07)	0.21 (0.04)
CV	1.04 (-2.03)	0.99 (3.98)	0.78 (-5.17)	1.56 (6.12)	1.16 (5.29)	1.84 (-2.67)
Skewness	0.46 (-0.14)	0.57 (-0.27)	-0.07 (-0.78)	0.15 (-0.23)	0.60 (-0.92)	-0.56 (-0.48)
Kurtosis	-0.22 (-1.03)	1.01 (-0.91)	-0.74 (0.80)	0.35 (-1.08)	2.18 (2.68)	-0.67 (-1.37)

Source: Author’s Calculations from SCRB and AG Office data

Note: 1. Values in the parentheses indicate that the growth rate of Crime rate.

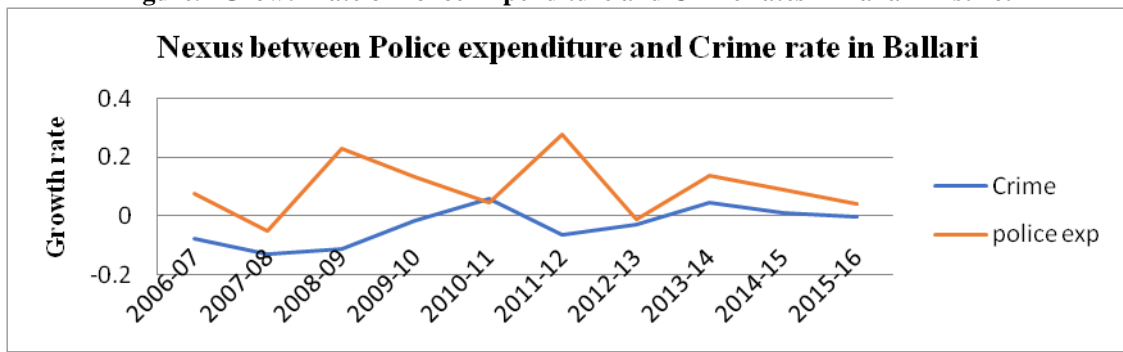
2. The data for 2006-07 to 2010-11 was not available for Yadagiri due late formation of district.

On the basis of Police expenditure and Crime rates in Kalyana Karnataka Region, the above table-2 reveals that higher growth rate Police expenditure found in Koppal District and the growth rate of crimes were found highest in Bidar, Raichur and Koppal Districts. As for as C.V values are concerned the values was found to be high 184% in Yadagiri of Police expenditure and 612% in Koppal for Crime rates.

Ballari District:

Ballari is the one of the biggest districts in Kalyan Karnataka Region. It has 11 taluks. This district is known of iron ore and very rich in historical sites, farm land and minerals. Ballari district has 6 police sub divisions, 12 Circle offices and 38 Police stations and 6 out posts.

Figure.1 Growth rate of Police Expenditure and Crime rates in Ballari District

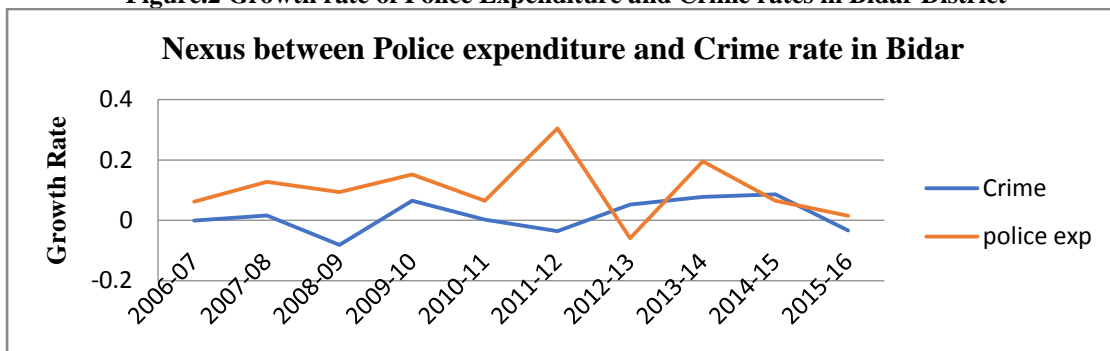


The Figure-1 reveals that the nexus between Police Expenditure and Crime rates in Ballari district. The average growth rate of Police Expenditure and Crime rates are 0.10% and -0.03% simultaneously. It is observed that the growth rate of Police expenditure is more volatile at 104%, whereas growth rates of crime having less variation of -203%. From the figure, this can be proved that there is negative association between the variables ($r = -0.07$).

Bidar District

Bidar is the coldest and wettest place in north Karnataka region and situated right atop of the Karnataka state geography. Bidar city is known for Bidri Handicraft as well as pulse bowl of Karnataka. Bidar district has 3 police sub divisions, 10 Circle offices and 28 Police stations.

Figure.2 Growth rate of Police Expenditure and Crime rates in Bidar District



The above figure-2 describes that the average growth rate of Police Expenditure and Crime rates are 0.10% and 0.01% simultaneously. It is observed that the growth rate of Crime is more volatile at 398%, whereas growth rates of Police Expenditure having less variation of 99%. From the calculations, this has been exhibited that there is a less negative association between the variables ($r = -0.08$).

Kalaburagi district

Kalaburagi is known as the tur bowl of Karnataka and contributing nearly half of the states production. Kalaburagi is the headquarters of Kalyana Karnataka Region. It has 06 Sub-Divisions, 10 Circles, 39 Police Stations in the district.

Figure.3 Growth rate of Police Expenditure and Crime rates in Kalaburagi District

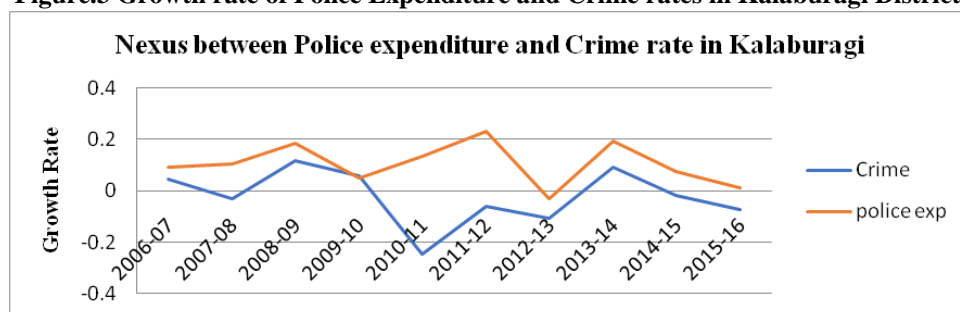


Figure-3 indicates that the average growth rate of Police Expenditure and Crime rates are 0.11% and -0.02% simultaneously. It is observed that the growth rate of Police Expenditure is more volatile at 78%, whereas growth rates of Crime having less variation of -517%. From the figure, this can be proved that there is a positive association between the variables ($r=0.25$).

Koppal District

Koppal district is carved out of Raichur district. This district is closest to world heritage Hampi. Koppal district famous for seed production for flowers, fruits, vegetables and pulses. Its also called as Jainkashi. Koppal District has 02 Sub-Divisions, 4 Circles, 18 Police Station's in the district.

Figure.4 Growth rate of Police Expenditure and Crime rates in Koppal District

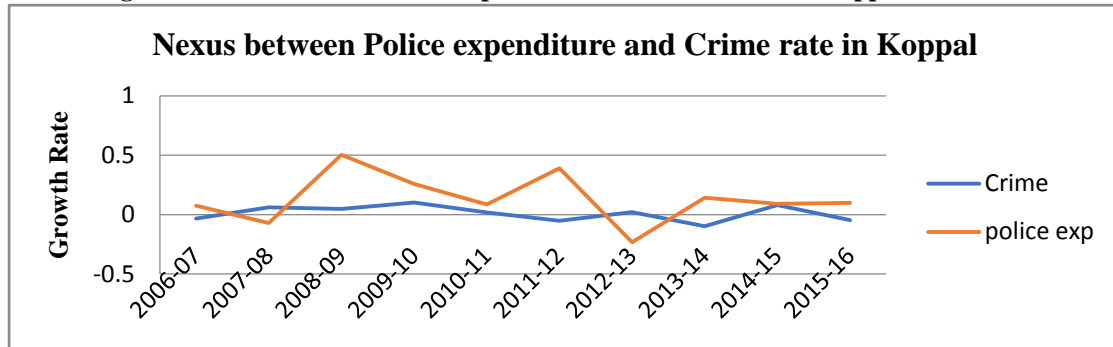
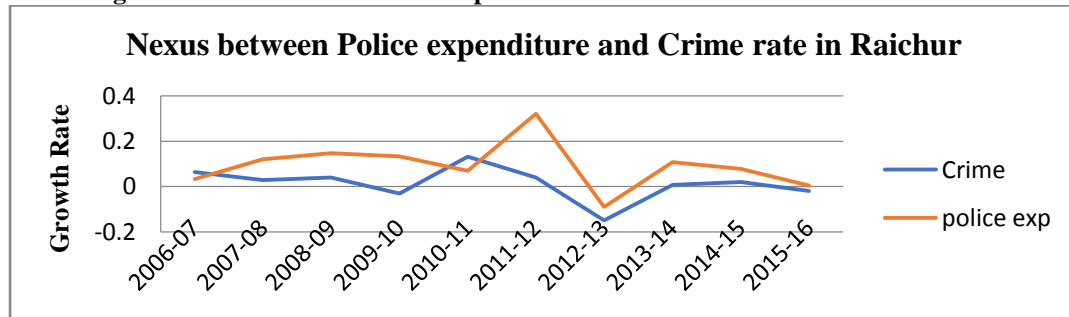


Figure-4 shows that the average growth rate of Police Expenditure and Crime rates are 0.14% and 0.01% simultaneously. It is observed that the growth rate of Crime is more volatile at 612%, whereas growth rates of Police Expenditure having less variation of 156%. From the figure, this can be proved that there is a negative association between the variables ($r=-0.03$).

Raichur District

Raichur District is known for Rice bowl of India. Raichur is very rich from the geographical point of you. Its famous for Gold production in the country and has hundreds of inscriptions from Mauryan period to end of the Muslim period. Raichur District has 04 Sub-Divisions, 11 Circles, 29 Police Station's in the district.

Figure.5 Growth rate of Police Expenditure and Crime rates in Raichur District



The above figure-5 depicts that the average growth rate of Police Expenditure and Crime rates are 0.09% and 0.01% simultaneously. It is observed that the growth rate of Crime is more volatile at 529%, whereas growth rates of Police Expenditure having less variation of 116%. From the figure, this can be proved that there is a positive association between the variables ($r=0.46$).

Yadagiri District

Yadagiri district is smallest and new district in the region and it is carved out from the Kalaburagi district. The vast stretch of fertile black soil of the district is known for bumper red gram and jowar crops. Yadagiri District has 02 police Sub-Divisions, 15 Police Station's in the district.

Figure.6 Growth rate of Police Expenditure and Crime rates in Koppal District

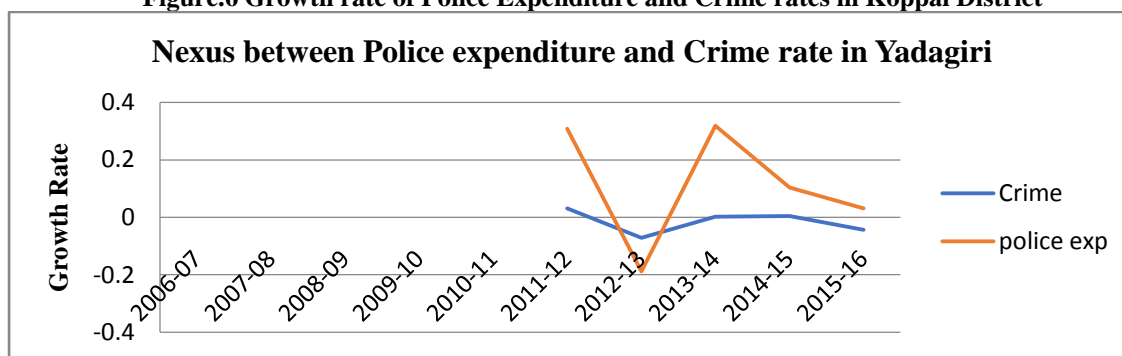


Figure-6 reveals that the average growth rate of Police Expenditure and Crime rates are 0.11% and -0.01% simultaneously. It is observed that the growth rate of Police expenditure is more volatile at 184%, whereas growth rates of crime having less variation of -267%. From the figure, this can be proved that there is a high positive association between the variables ($r=0.90$).

V. Conclusion

Thus, the above analysis is clearly revealed the nexus between public expenditure and Crime rates in Kalyana Karnataka Region, which is a prerequisite to any economy to understand the efficiency police expenditure. The detailed analysis of the nexus between police expenditure and crime rate clearly presented with the help of statistical information. In the study, some of the districts are clearly shows that Kalaburagi, Raichur and Yadagiri districts have the positive relationship and Ballari, Bidar and Koppal districts have negative relationship among the Police expenditures and Crime rates. In order to know the task of maintaining law order situation in the efficiently police department has to take the measures to control the crimes in their jurisdiction.

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