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Abstract

In this research paper the author has attempted to know the crime rate analysis in Valsad district during 2004-2013. For this purpose I have collected the data of crime record of Valsad district for above years. I have applied method of least square to analyze the change in crime rate in the Valsad district. All types of crimes are decreasing every year at the rate of 65% per annum. It shows the situation is improving in terms of crime rate in Valsad district during 2004-2013.

Key Words: Crime rate, Valsad District, Time series, Regression analysis, Field; Statistics

1. Introduction:

In this research paper the author has tried to know the situation of Valsad district in terms of crime. Whether the situation of Valsad district is improving in terms of crime? How people are safe in this district? As an individual of this district it is my humble duty to know the situation regarding crime rate in this district. For this purpose I have collected the data of crime in Valsad district during 2004-2013. I have applied Regression Analysis i.e. the method of least square to determine the long-term change in crime rate in the district.

4. Methodology:

In this research paper the author has tried to know the situation of Valsad district in terms of crime. Whether the situation of Valsad district is improving in terms of crime? How people are safe in this district?. As an individual of this district it is my humble duty to know the situation regarding crime rate in this district. For this purpose I have collected the data of crime in Valsad district during 2004-2013. The data regarding crime per year shows the total number of crime. I have applied Regression Analysis i.e. the method of least square to determine the change in crime rate in the district.

5. Statistical Technique: Trend Analysis

6. Literature Review:

1. Shivam Dubey and Pooja Agarwal,

The finding of this research indicates that the crime problem in India is more serious than other developed countries. The analysis of recent data, however, show alarming increase in serious crime such as murder, rape etc. This paper further determines the factors responsible for increase in crime rate and reached on the conclusion that political, economic and socio-cultural factors have played and will continue to play a vital role in crime and crime control practices in India.
2. Muhammad Ali Shuja

Moreover, causes of crime differ from country to country. In the western world, causes are directly related to the environment of the surroundings. These surroundings can be of school, home, neighbourhhood or playground. In contrast, causes of youth crime in Pakistan are significantly different from that of the western world. Here in Pakistan, the first main cause of youth crime is corruption in the law enforcing agencies, if corruption is eliminated; the major part of the problem will be solved. After identification of the root causes of crime in Pakistan, the remedial measures to control the criminal activities must revolve around those identified causes. These remedial measures include mainly the solution to the following problems, Corruption in law enforcing agencies, lack of authorities given to the agencies, unsolved issues of the agencies (like salary increment and provision of modern tools), technological backwardness in context of security tools, poverty and unemployment. Priority wise solution of the problems is the key to success. If the above mentioned remedial measures are taken into account, significant decrease in crime can be achieved.

3. Sami Ansari, Arvind Verma, Kamran M. Dadkhah

The results suggest that rates of murder, robbery, burglary, theft, and rioting follow declining trends, while rates of rape show an increasing trend between 1971 and 2011. The homicide trend is the only crime category following the global crime trend. While recognizing the universal and India-specific limitations of the police-recorded crime data, we want readers to consider the findings of the study with caution. We strongly recommend that India establish a national crime victimization survey and regularly participate in the International Crime Victimization Survey.

4. Mousumi Dutta, Zakir Husain

The paper investigates the relative impact of deterrence variables (load on police force, arrest rates, charge sheet rates, conviction rates and quick disposal of cases) and socio-economic variables (economic growth, poverty, urbanization and education) on crime rates in India. State-level data is collected on the above variables for the period 1999 to 2005. Zellner’s SURE model is used to estimate the model. Subsequently, this is extended by introducing endogeneity.

The results show that both deterrence and socio-economic factors are important in explaining crime rates. However, some of their effects are different from that observed in studies for developed countries. Initial theories of crime emphasized on the effect of poverty and social deprivation on crime rates (Shaw and McKay, 1942, Cloward and Ohlin, 1960, Merton, 1968). Fleisher (1963, 1966) pioneered the study of criminal behavior among economists. He argued that crime rates are positively associated with unemployment and low income levels. Ehrlich (1973), too, showed that low income levels led to high crime rates. Becker (1968), however, argued that a criminal should be viewed, not as a helpless victim of social oppression, but a rational economic agent. Like any other
people, the potential criminal weighs costs/risks and benefits when deciding whether or not to commit crime.

8. Objectives:

1. To know the crime rate in Valsad district
2. To know how people are safe in the district.
3. To be conscious and alert against crimes

2. Definition of crime:

1. Mr. Justin Millar contends that the crime is the commission or omission of act which the law forbids or commands under pain of punishment to be imposed by the State.
2. The concise Encyclopedia of crime and criminals, has defined ‘crime’ thus: “A crime is an act or default which prejudices the interests of the community and is forbidden by law under pain of punishment. It is an offence against the State, as contrasted with loot or a civil wrong, which is a violation of a right of an individual and which does not lead to punishment.
3. The word ‘crime’ is of origin viz; ‘Crimean’ which means ‘charge’ or ‘offence’ Crime is a social fact.
4. Halsbury defines crime as, “an unlawful act or default, which is an offence against the public and which renders the perpetrator of the act or default liable to legal punishment”.

3. Classification of Crimes:

3.1. Murdering:

Killing somebody intentionally comes under the crime of murdering. If the person committing the act knows that it so imminently dangerous that it must, in all probability cause death or such bodily injury as is likely to cause death, and commits such act without any excuse for incurring the risk of causing death or such injury as aforesaid.

3.2. Rape:

Man is said to commit “Rape” who except in the case hereinafter excepted has sexual intercourse with a women under circumstances.

3.3. Decoity:

When five or more men come together and try to steal or to loot, this activity comes under decoity.

3.4. Dowry death:

Where the death of a women is caused by any burns or bodily injury or occurs otherwise than under normal circumstances within seven years of her
marrage and it is shown that soon before her death she was subjected to currently or harrassment by her husband or any relative of her husband for , or in connection with, any demand of dowry, such death shall be called “dowry death”.

3.5. Looting with the employment of force or beating:

When there is an effort to steal and if during the actual operation of theft is a person is injured in the fight or expires, or if a person is intimidated illegally of death or refection and if then the theft is done, this act comes under looting. Thus, looting is stealing or using violence.

3.6 Hooliganism:

Under Indian Penal Code, Rule No. 146, the hooliganism is mentioned. It is considered as a crime of the disturbance of public peace, when an illegal or unlawful mob is formed and force is used, then the hooliganism crime is committed. Generally, the common objective of the mob is attained either individually or jointly by using force. In such an incident, every person in the mob is considered as a criminal.

3.7 Kidnapping:

This crime includes the corporal torturing of human beings. There are two types of kidnapping.

1 Kidnapping of minors:

When any person kidnaps a try under 16 years and a girl under 18 years of age without the consent of parents or a person who induces elopement by some temptation, then this crime is said to be committed.

2. Kidnapping by using force:

When a person kidnaps another person by using force, by compelling, by deceit or by tempting then this crime is said to be committed.

3.8. Deception:

When a person causes another person to part with or hand over anything or article to a third person, or if a person induces by compulsion another person to consent for the possession of a thing or article by a third person, then the act of deception occurs.

3.9. Imitation:

Contriving to imitate and prepare a similar from an original thing or copying out the original the crime of imitation takes place. Using false currency, coins or forged documents come under this crime. The main intention is to deceive.

3.10 Theft:

If some article or possession of a person is stolen without the knowledge or permission of the owner, then this crime is committed.
3.11 Looting

When there is an effort to steal and if during the actual operation of theft is a person is injured in the fight or expires, or if a person is intimidated illegally of death or refection and if then the theft is done, this act comes under looting. Thus, looting is stealing or using violence.

3.12. Hurt: Whoever causes bodily pain, disease or infermility to any person is said to cause hurt.

9. Hypothesis:

Ho; There is no control in crime rate in Valsad district
H1: There is some control in crime rate in the Valsad district

10. Valsad District Crime data table-1

<table>
<thead>
<tr>
<th>Year</th>
<th>Crimes</th>
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</thead>
<tbody>
<tr>
<td>2004</td>
<td>2713</td>
</tr>
<tr>
<td>2005</td>
<td>2731</td>
</tr>
<tr>
<td>2006</td>
<td>2532</td>
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<tr>
<td>2007</td>
<td>1821</td>
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<td>2008</td>
<td>1777</td>
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<tr>
<td>2009</td>
<td>1800</td>
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<td>2010</td>
<td>1854</td>
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<tr>
<td>2011</td>
<td>2066</td>
</tr>
<tr>
<td>2012</td>
<td>1694</td>
</tr>
<tr>
<td>2013</td>
<td>2565</td>
</tr>
</tbody>
</table>
Chart-1

**Crimes**

\[ y = -65.448x + 133609 \]
\[ R^2 = 0.2148 \]

Chart-2

**Crimes**

\[ y = 40.102x^2 - 161156x + 2E+08 \]
\[ R^2 = 0.7311 \]
### SUMMARY OUTPUT

**Regression Statistics**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>0.463511</td>
</tr>
<tr>
<td>R Square</td>
<td>0.214842</td>
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<tr>
<td>Adjusted R Square</td>
<td>0.116698</td>
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<tr>
<td>Standard Error</td>
<td>401.7908</td>
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<td>Observations</td>
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**ANOVA**

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<tr>
<th></th>
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<th>MS</th>
<th>F</th>
<th>Significance</th>
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<td>Regression</td>
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<td>353389.1</td>
<td>353389.1</td>
<td>2.189037</td>
<td>0.177261</td>
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<tr>
<td>Residual</td>
<td>8</td>
<td>1291487</td>
<td>161435.9</td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
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<td>1644876</td>
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<table>
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<tr>
<th></th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
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<tbody>
<tr>
<td>Intercept</td>
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<td>1.503796</td>
<td>0.171043</td>
<td>-71274.2</td>
<td>338491.3</td>
<td>71274.2</td>
<td>338491.3</td>
</tr>
<tr>
<td>Year</td>
<td>-65.4485</td>
<td>-1.47954</td>
<td>0.177261</td>
<td>-167.456</td>
<td>36.55926</td>
<td>167.456</td>
<td>36.55926</td>
</tr>
</tbody>
</table>

11. Conclusion:
\[ y = -65.44x + 13360 \]

\[ R^2 = 0.214 \]
\[ y = 40.10x^2 - 16115x + 2E+08 \]

\[ R^2 = 0.731 \]
\[ P \text{ value} 0.17 \]
\[ P \text{ value} > 0.05 \]

Accept Ho. There is no control in the crime rate in Valsad district during 2004-2013.

12. References:

1. As per crime reports by ncrb.gov.in in last year 2013
2. Sanjiv Kumar Upadhyay
   CRIME IN INDIA Sanjiv Kumar Upadhyay *
3. Shivam Dubey and Pooja Agarwal,
   Crime, Crime Rates and Control Techniques: A Statistical Analysis
   On February 3, 2015 By kanchi
   By Shivam Dubey and Pooja Agarwal, Christ University.
4. Mohammad Ali Shuja
5. Sami Ansari, Arvind Verma, Kamran M. Dadkhah
   International Crime Justice Review
   Crime Rates in India
   A Trend Analysis
   Sami Ansari, Arvind Verma, Kamran M. Dadkhah
   First Published August 31, 2015 Research Article.
6. Mousumi Dutta, Zakir Husain
   ., DETERMINANTS OF CRIME RATES
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7. Sir Harold Scott (Edited by Sir Harold Scott, Pub. Andre Deutsch Ltd. 105, Great Russel Street, London, 1961, pp. 84 – 85.)