

Settlement Planning for Reduction of Rural Crime Rates in Developing Countries

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Abstract. Previous studies have suggested that urban planning plays a critical role in the prevention of urban crimes. This article analyzes previous research to study the role urban planning plays in the prevention of rural crimes for developing countries. From previous research, it can be concluded that rural crimes in developing countries is mainly caused by state of poverty, unemployment, and lack of education. In addition, developing countries' law enforcement often lack the ability to detect and arrest all criminals effectively due to overextension of management in large rural sectors. Developing countries could undertake policies to mitigate rural crime rates. Promotion of rural resource and production industries could support local service industries, which in turn increase job positions and reduces unemployment. Construction of public education centers, such as primary and secondary schools, would limit juvenile crime rates, increase employment chances, and provide job positions for educated individuals. Government-led improvements of infrastructure, mainly roads and security cameras to detect crimes in densely populated areas, could improve rural law enforcement's capability to deter or react to crimes.

Keywords: Crime rates, urban planning, rural development

1. Introduction

Rural criminal activities have been studied regarding its causes and effects commonly in the past and a topic often covered is how urban planning affects crime rates. However, the role urban planning can have in preventing crime or mitigating its effects had been covered little in the past for rural areas developing countries and more research is still needed [1]. Rural areas also have relatively less effective government law enforcement in developing countries. Past research suggests that government law enforcement in rural areas often have to deal with a variety of problems, including large jurisdiction areas, insufficient resources, and lack of training for law enforcement officers. This is especially the case for developing countries with large territories [2]. Therefore, it is important to understand and design methods to apply both tested and new settlement designing techniques and technology such as cameras to reduce the chance of crime in rural regions for developing countries. This article aims to study the role settlement planning in developing countries plays in moderating rural crimes. The goal is to find relatively unstudied methods to mitigate rural crimes for developing countries that could be referenced by future researchers and policy makers. In general, it is found that increasing basic infrastructure and job opportunities would reduce the crime

rates in rural areas. It is possible to achieve this through government policies that promote investment on rural infrastructure and industry.

2. Causes of rural crimes

First, it is important to understand how criminal in developing countries' rural areas function. According to research by Grote and Neubacher, rural theft, especially that of tools and crops, in developing countries often occur in isolated areas due to a lack of detectors [3]. It is also found that poverty and lack of education may also play a role in rural crimes. Infrastructure may also encourage rural crimes, although the positive relation between basic infrastructures such as roads and crime rates could be explained by a lack of deterrents such as passerby who could call for law enforcement [3]. However, infrastructure is more prevalent as a deterrent of rural crime, as an abundance of infrastructure allows for more passerby to discourage or report crimes in rural regions and for local law enforcement to quickly search for and arrest criminals over large areas. In some cases, rural crimes are caused by local conflict over natural resources such as farmland and water sources [2]. An increase in tourists may also spark rural crimes, as large surges of tourists become financially enticing targets for local thieves. However, this phenomenon could be mitigated through increasing local law enforcement [4].

Employment is also an extremely important factor in rural crimes. It has been found that unemployment rates have been found to have a very strong correlation with crime rates, with a research finding that more than 97% of all young criminals in Obudu, Nigeria believes that unemployment and crime are directly related. The same study found that idleness and crime, similarly, are also strongly related, with 92.4% of the sample group stating that there is a connection [5]. This is likely because employment also creates a dynamic incapacitation effect on the employed, which reduces the ability for them to engage in criminal activities.

Furthermore, being in a state of poverty had been found to have a high likeliness to increase crime rates due to lack of basic necessities of life, such as access to clean food and water [6]. This is prevalent in relatively poor areas such as Sub-Saharan Africa, where natural disasters and climate change have limited local food production but a large numbers of population creates a scarcity of food [7].

Research suggests that changes in production structures have also been found to have effects on local crime rates for areas with high dependence on resource industries, which occur often during attempts to start resource extraction or land reforms. Income inequality has a mediating effect on crime rates in areas with a dependency on resource industries and the degree of the local economy of an area on resource industries has a moderating effect on crime rates. However, education is found to directly cause reductions in crime rates and can mitigate the effect of dependence on resource industries [8].

3. Effect of rural crimes on surrounding regions

There are multiple reasons to which countermeasures are needed for rural crime rates. Victims of crime suffer physical and psychological damages, which reduces the victims' ability to participate in economic production and social engagement [2]. Due to the harm they received during the crimes. Another reason is that rural crimes create a negative impact on the surrounding area as the economic development the region as consistent criminal activity contribute to the lack of safe working and living conditions.

Furthermore, crime rates cause a reduction in tourism, which is an important industry in many developing countries and could provide income for many more developing countries. Rural areas in developing countries often have regions that attract tourists due to their natural scenery or cultural attractions. However, previous research in Pakistan found that tourists would reduce their willingness to visit areas with high crime rates often due to fear of criminal activities [4]. The reduction in the number of tourists would cause direct reduction in economic revenue for locals and indirectly cause more crimes due to the change in income. This effect would be especially prevalent for areas with high dependence on the tourism industry as they have less other sources of income. As a result, the economy of developing countries may be greatly harmed by crime rates in rural areas.

4. Potential solutions

Technological advancements allow more cost-efficient methods of maintaining crime detection. The required amount of law enforcement in an area could be reduced if there are faster transportation methods or if potential crimes could be deterred with constant surveillance of an area. Therefore, it is important to look into adding ways to detect and deter potential crimes through technological methods.

4.1. Infrastructure improvements

Building camera networks is a proven method of crime prevention. Cities in China have constructed camera networks that have been proven to be effective at preventing crime, where urban areas with high density camera networks have experienced significantly higher crime reduction rates compared to cities with less surveillance cameras. The effect is also significantly more pronounced on visible crimes such as drugs, theft, and violent crimes [9]. Camera surveillance networks have also been found to improve cooperation with police and improve efficiency of law enforcement processes [10].

Improvements in basic infrastructure would be very effective in supporting crime detection and mitigation. Policies that could More traffic in an area would allow more potential witnesses to pass through the area as well, allowing for more possibility of crime detection and higher chance of reporting crimes to local law enforcement agencies. A maintained infrastructure network would also allow law enforcement cover more areas in vehicles quickly while on duty. As such, criminals would likely be discouraged from starting or participating in crimes as they would be aware that they have a higher chance of being arrested due to the reduced time for police to arrive. Furthermore, the higher arrest rates would reduce chances of repeated crimes as potential criminals would have been likely arrested and have received their corresponding punishments. Therefore, rural areas would benefit from construction and maintaining a road system to allow fast transportation so law enforcement would be able to reach areas with reported crime faster and so that more passerby would go through areas of high crime concentration and report or potentially stop occurring crimes.

A side effect of improved infrastructure is an improved food supply chain, which brings about more stable nutrition for areas with low agricultural output due to natural disasters, especially for areas such as Sub-Saharan Africa where large numbers of the population still live in rural areas but face food shortage due to high local population and comparatively lower agricultural output. In this case, roads and railway could be used to transport food and domestic goods efficiently into areas where production of such goods is low but local demand is high. The increased efficiency in goods

transportation could reduce food shortage and therefore improve local security as less crime would be committed in order to obtain food.

Another part of the solution for logistics is to promote local industries to form reliable supply chains for cameras and corresponding power networks. For instance, attracting foreign firms to construct factories could allow cheaper local supply of cameras, signal transmit cords, and replacement components. Less transportation fees would reduce the government expenditure. Furthermore, promotion of local industries would increase local employment. This would reduce crime rates through a direct incapacitation effect and improvement of living conditions with the job providing income for locals from their wages.

4.2. Planned public education

Another solution involves providing education for locals and plan the construction of education facilities to ensure that locals are less prone to committing crimes. Education is especially useful for preventing underage crimes, as students receive dynamic incapacitation that causes them to be unable to participate in criminal activities [11]. Furthermore, increased chances of education also increases the chance for locals to be employed in industries with higher education requirements, especially in high-tech industries. In addition, public education would also provide domestic job positions as teachers for college graduates in developing countries. Previous research suggests that unemployment causes crime, such the direct connection between youth unemployment and crime rates in Nigeria [5]. As rural residents have average lower income compared to urban residents in developing countries, public schools with little to no cost for attendance is much more affordable for rural residents and can therefore affect more of the population [12]. The construction of the system would be especially useful in rural areas with low literacy rates to improve control of criminal activities.

4.3. Settlement planning and employment

Creating new jobs in areas with high unemployment rates would also lower crime rates, especially in rural areas. Employment creates a dynamic incapacitation effect due to the time spent working, which limits crime rates for people with stable employment. Stable employment would also increase average income over time, which would reduce the crime rate due to more reliable food and shelter for the employed. As reduced poverty and idleness are side effects of employment, there should be a significant reduction in crime rates with successful implementations of policies that increase employment. Potential policies include construction of government owned, labor intensive industries. For instance, factories to process local agricultural products could be constructed to increase local demand for labor and provide more job positions.

The increase in crime rates caused by increasing dependency on resource industries needs to be resolved as well. If there is potential for enough work to be provided for all residents in the area, then crime rates will likely be reduced due to dynamic incapacitation from working and the improvement in average income provided by increased employment. On the other hand, relying only on labor intensive resource industries to provide job positions is unlikely to be sufficient for all the population in the area if modern industrial machinery are used. Employees within resource industries would also require tertiary industries to provide food and services. As such, it is possible for tertiary industries, namely shops, restaurants, and other service firms, to exist in high density around resource industries and provide more employment in the area. For example, mines in rural areas could stimulate growth in the area and eventually form towns based on the mining industry

and service industries that rely on the local resource industry workforce. As such, government policies to subsidize local restaurants, bars, and other tertiary industries in areas with high resource industry dependency could reduce unemployment, which in turn limits crime rates.

5. Conclusion

The subject of urban planning could be extended to rural settlements in the process of rural development in order to mitigate potential growth in rural crime rates. Current data suggests that there are multiple primary causes of rural crimes in developing countries. Improvement in basic infrastructure in the form of government construction of roads connecting settlements and security camera networks in parts of settlements with high crime rates would allow for increased deterrence of crimes and improved ability for law enforcement to identify and arrest criminals. Government planning of local resource and manufacture industries would also reduce local unemployment, decreasing rural crime rates in the process. Settlement planning also improve the public education system in the form of increasing education facilities, such as public primary schools, to provide basic education. This also reduces crime rates through dynamic incapacitation effects and higher education levels. Overall, it is practical for developing countries to reduce rural crime rates through certain aspects of settlement planning as it is possible to counter the primary causes of rural crimes in the area.

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