

# The role of modern technology in rural situational crime prevention

A review of the literature

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## Introduction

The application of technology for situational crime prevention (SCP) has been urban-centric, mostly focused on crime and safety problems in urban centers and overlooking rural challenges.

However, recent literature has shown signs of the expansion of technology as a preventive measure against property and wildlife crimes in rural areas

**Research question:** What are the modern technologies used in rural areas for Situational Crime Prevention (SCP) and in what contexts are they used?

## General and specific objectives

The main objective of this study is to investigate the use of modern technologies (CCTV, alarms, lighting sensors, drones and remote sensors) in rural contexts.

- identify studies that report the use of modern technologies in rural contexts;
- report the technologies most adopted for SCP in rural contexts;
- spotlight opportunities and challenges associated with the use of modern technologies in rural contexts, and;
- provide policy implications and suggestions based on 'good practices' found in the literature

## Methodology

A systematic bibliographic review of English-language crime prevention literature was performed based on four criteria. The selected studies needed to:

- a) exclusively or partially address crime prevention and use of modern technologies in rural areas
- b) present data or empirical evaluation, or perform a meta-analysis of evaluation studies on the use of technology
- c) be published between the years 2000 and 2019
- d) be published as a technical report, book, book chapter, or scientific article

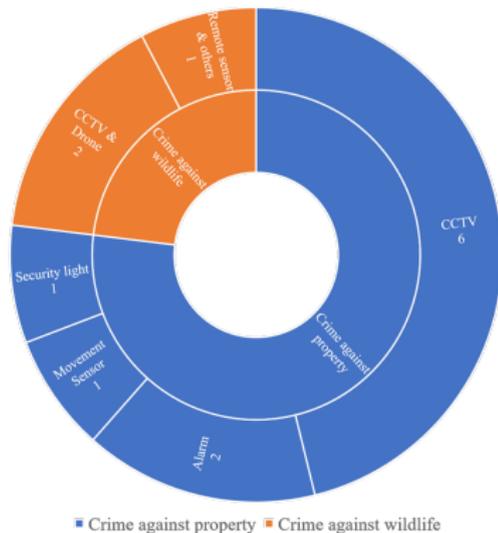
## Methodology

The search was conducted from 26 March 2019 to 25 April 2019.

Inasmuch as the search was extensive, it is acknowledged that it is not exhaustive of all the studies available in the literature due to the lack of institutional access to papers.

## Analysis

A total of 11 studies that report the use of technology or evaluate the impact of technologies in preventing crime in rural areas were found. No study was found regarding the use of modern technologies to prevent violent crimes in rural areas.



### Geography of findings:

*Property crimes* – Australia, United States, Ireland, and the United Kingdom

*Wildlife crimes* – Kenya and South Africa

**Methods:** Descriptive (7); Empirical test (4)

## Analysis - Prevention against property crimes

Traditional situational prevention measures are, still, the most employed in rural areas and modern technologies are only supplements. Therefore, the rural population, especially farmers, prefer to lock away properties, raise fences, mark properties, and rear protective animals such as geese and dogs.

The studies reviewed showed that deployment of CCTV produces inconclusive results or no effect on farm crimes; security lights reduce the risk of farm crimes; and alarms have no effect.

## Analysis - Prevention against wildlife crimes

The combination of ground patrols and the disruption of illegal markets is the most common situational approach adopted to prevent wildlife crimes.

The studies reviewed concluded that camera traps and CCTV drones are effective in monitoring and detecting wildlife crimes such as poaching.

# Practical observations and suggestions

Alarms are meant to dissuade criminals and notify households of invasions. However, remoteness and distance between properties may pose a challenge to the effectiveness of alarms in rural areas. Therefore, alarms can be more effective in rural areas with higher household densities.

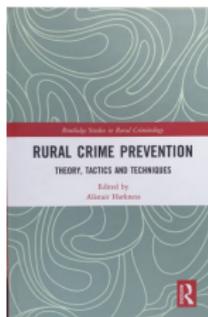
CCTV cameras are designed to dissuade criminals and assist the ex-post investigation of crimes. Therefore, cameras (fake or operational) should be installed in visible spaces so as to prevent crimes. These may be used together with 'keep-away or you are-on-camera signs' in visible areas.

Sensors can be very helpful in detecting movement and notifying users of unexpected movements both in residential and wildlife environments. Moreover, the combined use of sensors and lighting systems can enhance property crime prevention in residential environments.

In wildlife environments, camera traps can be effective in discretely capturing images of trespassers, which may be used to apprehend criminals.

The combined use of cameras and drones can help to monitor distant and remote areas effectively, especially in wildlife environments.

# Thank you / Obrigado



**ARANSIOLA, T. J.;** Ceccato, V. A. The role of modern technology in rural situational crime prevention. In: Alistair Harkness (Ed.), Rural Crime Prevention - Theory, Tactics and Techniques (pp. 58-72). Routledge, 2020.