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“You sleep with your eyes open”: Understanding rural crime and its implications for community well-being

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ABSTRACT

In sub-Saharan Africa, people face significant crime problems. This also applies to rural areas, where mainly livestock and crops are stolen. Using the routine activity approach, this article analyzes the experiences of rural people with property crime, the consequences of victimization and how they react to it. It is based on focus group discussions that were held in Tanzania in spring 2022 with male and female farmers from six villages. The findings reveal that thefts can be explained by certain opportunity structures, in particular the availability of suitable targets and the lack of guardianship. For example, small animals are suitable targets because they are accessible, valuable and easy to transport and hide. Guardianship over livestock and crops is reduced at night, when people are sleeping, and during the day, when villagers are in their often remote fields. In seasonal terms, crime incidents are especially high during rainy and harvesting seasons. It is clear from the villagers' reports that food security and sustainable development are at risk as farmers reduce or abandon animal husbandry or switch to growing less vulnerable crops for fear of theft. The findings also show that target suitability and guardianship can vary over time and that some responses to crime have an influence on both components, thus determining the likelihood of repeated victimization.

1. Introduction

Scholarly knowledge about everyday crime in countries of the Global South is still insufficient (Grote and Neubacher, 2016; Neubacher and Grote, 2016). Therefore, in 2016, the authors undertook a survey of 820 households in six villages in rural Tanzania about their experiences with crime. The results showed that, at 37%, a fairly large proportion of households had been victimized in the 12 months prior to the survey, quite predominantly (71%) for various theft crimes. The particular problem of this property crime arose from the fact that households feared for their food security due to the stolen goods, mainly livestock and crops (Neubacher et al., 2019). To expand this extensive quantitative data with qualitative data, focus group discussions were conducted in spring 2022 with households from the previous survey in the same six villages, supplemented by interviews with village leaders. We base our qualitative research on the routine activity approach which defines opportunities for crime, and expand this framework to consider the effects of victimization. In particular, our research questions are the

following: (i) What are the opportunities for crime in rural Tanzania? (ii) What are the consequences of crime? And (iii) what preventive measures are taken in response to crime, if any?

Our paper contributes to the literature by first providing a dense and true-to-life picture which emerges from the stresses and pressures that crime experiences bring to the daily lives of rural residents. Second, there are no studies which conduct qualitative research and which can be additionally related to quantitative data already available. In addition, the theoretical embedding in the routine activity approach enables a systematic analysis of rural crime. In contrast to other studies, which usually focus only on selected components of the routine activity approach such as suitable targets (Sidebottom 2013; Mears et al., 2007a) or guardianship (Hollis-Peel et al., 2011), we consider all three components and expand on them by taking into account the effects of crime. Furthermore, the insights gained from this study can be broadly applied to other countries in sub-Saharan Africa with similar socioeconomic conditions, extending the relevance and impact of our findings beyond Tanzania.

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The paper is organized in such a way that first the theoretical background is presented in section 2, followed by the state of research in section 3. The data and methodological approach are introduced in section 4. Subsequently, sections 5 and 6 present and discuss the results of the study. Section 7 summarizes major findings and concludes.

2. Theoretical framework

We base our research on the routine activity approach (Cohen and Felson, 1979; Felson and Eckert, 2016) according to which the opportunity for crime increases when a motivated offender and a suitable crime target coincide in space and time, without the crime target being secured by third parties willing to provide protection or guardianship (Grote and Neubacher, 2016; Bunei and Barasa, 2017; Neubacher et al., 2019). This framework helps to analyze the likelihood and determinants of crime in rural areas, in particular property crimes (such as theft and vandalism). It clarifies why farm households are more likely to get victimized and which items are more suitable targets (Sidebottom 2013; Mears et al., 2007b). More in detail, the three major components of the routine activity approach include (i) a motivated offender, (ii) a suitable target and (iii) the lack of guardianship. A *motivated offender* is a person inclined to commit a crime as soon as a favorable opportunity arises. Essentially, the routine activity approach does not pay too much attention to opportunistic offenders because it assumes their existence at all times and in all places. Rather, it is more about the question of what makes a crime object or person a suitable target and how it can be secured. A *suitable target* is a person or an object with characteristics which make it attractive to a potential offender. Cohen and Felson (1979) described the suitability from the perspective of the offender by the acronym VIVA (value, inertia, visibility and access). Later, Clarke (1999) coined the term “hot products” by defining the choice of a target according to whether it is “CRAVED” (concealable, removable, available, valuable, enjoyable, and disposable). *Lack of guardianship* makes a suitable target more easily accessible and removable by a motivated offender. Guardians can be attentive neighbors, friends, other persons on-site willing to intervene, or paid security guards (Hollis et al., 2013; Bursik and Grasmick, 1993). Guardianship can also be created by locks, alarms or a watchdog, which act as obstacles to offenders. The opportunity for criminal behavior grows with an increasing overlap of these three components (Fig. 1).

We focus in our paper on the suitable targets and the lack of guardianship. We then expand the research on the routine activity approach by investigating the consequences of crime to the well-being of households (in terms of income and food security) but also of the

community as a whole. Finally, we deal with the reactions of victims including their coping strategies to crime. These reactions may again have an influence on guardianship and the suitable targets and thus determine the likelihood of repeated victimization. We therefore propose an expansion of the routine activity approach in order to take these interrelations into account (Fig. 1, see dotted lines).

3. State of research

3.1. Global North and Global South - urban and rural areas

In the Global North, with few exceptions (Clinard and Abbott, 1973; Alvazzi Del Frate, 1998; van Dijk, 2008; overview of older studies in Marenin, 1997), interest in or dealing with crime in the Global South is low. Certainly, there is awareness that crime in general is an impediment to development (Fafchamps and Minten, 2006; Ganpat and Isaac, 2018). There is also awareness that certain forms of crime, most notably corruption and organized crime, can undermine state institutions, even entire political systems. Sometimes the predation of flora and fauna is discussed in economic and environmental terms, the latter also being of fundamental importance to Green Criminology (Beirne and South, 2007). But there is a lack of work on the full range of criminalized behaviors, including street or everyday crime, or on how people respond to victimization, whether they trust state authorities, whether they report crimes or turn to traditional authorities, whether they accept alternative conflict settlements, how they process experiences of crime, whether they may emigrate, whether and what security precautions they take, and how great their fear of crime is (even compared to other life risks).

The knowledge gaps are particularly large when differentiating between urban and rural crime (Neubacher and Grote, 2016). The International Crime Victims Survey (ICVS) initially worked exclusively with urban samples (see Zvekic and Alvazzi Del Frate, 1995), later adding a few rural samples of about 200–250 persons per country (Alvazzi Del Frate, 1998). The main reasons for limited research in rural areas are related to the mobility needs and the high transport costs (Zvekic and Alvazzi Del Frate, 1995). Rural criminology has been around for some time, but as the recent literature review from Abraham and Ceccato (2022) confirms respective research tends to cling to the context of developed states (Donnermeyer and DeKeseredy, 2014; USA; Somerville et al., 2015; UK; Ceccato, 2016; Sweden). Rural crime is thus under-researched, at least in the Global South. Meanwhile, 60 years ago, Clinard and Abbott (1973) estimated that there was not much property delinquency in rural areas, unlike in urban areas. This was because, on the one hand, set targets, such as in the form of agricultural equipment

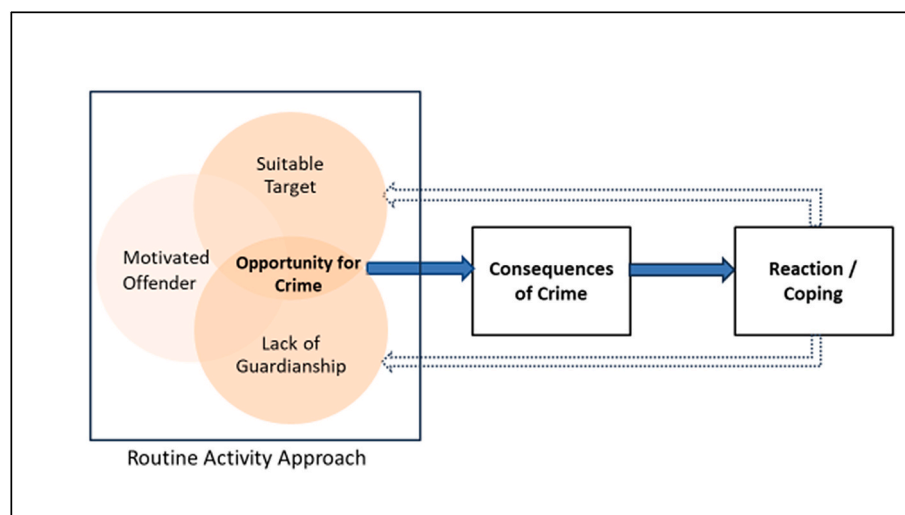


Fig. 1. Theoretical framework: expanded version of the routine activity approach (RAA) based on Cohen and Felson (1979).

or livestock, were only available to a limited extent; on the other hand, there was too much respect for patriarchs or tribal authorities and too much fear of loss of reputation (Clinard and Abbott, 1973). Even then, however, the majority of young men interviewed in Kampala reported that in their home villages some men would steal from other villagers and strangers. Clinard and Abbott (1973: 208) concluded that "theft may be more common in rural areas than is generally acknowledged."

In the course of the ICVS, groups of 200–250 respondents were interviewed face to face for the first time in 1996/97 in rural areas of India, Indonesia, the Philippines, Uganda and Costa Rica (Alvazzi Del Frate, 1998). The 5-years prevalence rates for theft were 13% each in sub-Saharan Africa and Latin America and 7% in Asia and for burglary 8% in sub-Saharan Africa, 5% in Latin America and 2% in Asia. For sexual offenses, respondents in Latin America had the highest rate (5%; compared with 2.4% in sub-Saharan Africa and 1.6% in Asia) (Alvazzi Del Frate, 1998). In return, respondents in Asia had the highest prevalence rate of consumer fraud by vendors/service providers (25–30%, depending on the wave for a 12-months period) and the second highest rate of corruption (between 15 and 23%, for a 12-months period) (Alvazzi Del Frate, 1998; van Dijk, 2008).

3.2. Rural crime: evidence on suitable targets, guardianship and offenders

Bunei et al. (2013) did a study on *farm crime* (for the term, see Ceccato, 2016: 165–166) in Kenya, where 80% of the population live in rural areas. They applied the routine activity approach and their results show that attractive crime targets (e.g., high-value farm inputs), their lack of security, and a better road and trail network that made crime scenes more accessible to perpetrators encouraged crime. The study surveyed 200 farmers in the western part of the country, 99% of whom reported having been victimized in the past five years. The 5-year prevalence rates were 85% for theft of tools, 81% for theft of grain, and 45% for theft of livestock. Rates related to the theft of fuel (23%) or whole farm machinery (15%) were significantly lower (Bunei et al., 2013). Some of the theft occurred at night or by farm workers themselves. The data underscored that farm crime should receive greater attention in the Global South.

In another study on farm crime in Kenya, Bunei and Barasa (2017) underline that the rapid structural changes in agriculture with an increase in farm sizes and commercialization, has generated an increase in opportunistic offenders. They hypothesize in detail on the offenders' motivations but acknowledge that the motivations can only be assumed to be the need for food, money, drugs including alcohol, or the urge to improve one's lifestyle (e.g. mobile phone theft). They also point to rural-urban connections, as the demand for food produced in rural areas increases in cities, leading to cattle rustling or theft of food from the fields.

Theft of livestock (cattle, sheep, goats, pigs, chickens) is widespread in sub-Saharan Africa and represents "the biggest economic and crime impact on rural economies" (Clack and Minnaar, 2018: 103; Clack, 2013). Sidebottom (2013) finds from an exploratory study that theft increases with certain CRAVED aspects such as the availability and disposability of livestock species. For many rural smallholder farmers, the loss of their animals threatens their livelihoods and causes psychological stress (Mabunda et al., 2021). Nevertheless, more than 60% of these thefts were not reported in a study in South Africa because, according to those affected, the police cannot or will not do anything anyway (Doorewaard et al., 2015: 39). Elsewhere, the proportion of unreported acts is put at 80% (Mabunda et al., 2021). Often, evidence is considered difficult when animals are untagged or when a longer time has passed between the commission of the crime and the discovery of the theft (Clack and Minnaar, 2018). As a motive for committing the crime, hunger or need play only a subordinate role; the perpetrators are primarily concerned with financial enrichment (Doorewaard et al., 2015). This extends to organized professional procedures, in which the animals are loaded onto truck trailers at night and transported to

slaughterhouses involved in the crime (Clack and Minnaar, 2018).

In rural Tanzania, Neubacher et al. (2019) found from a primary survey that 37% of the 820 households surveyed had been the victim of a crime at least once in the previous year. 71% of the incidents involved theft; animals, crops, or work tools were most frequently stolen. The damage was sometimes considerable, especially in cases of repeated victimization. Although the acts threatened household food security and generated fear of crime, only a small proportion of them were reported to the police. In 85% of cases, victimized villagers sought help from village elders. 62% felt that reporting to the police would not help. They also expressed concern about land use conflicts. They reported confrontations with nomadic Maasai, grazing their cattle on other people's land. Security measures of even the simplest kind (e.g., lock, guard dog, lighting with simple lightbulbs) were taken by less than half of the respondents. This might be because such investments might not be affordable (for example due to lack of electricity) by the surveyed households or because their priorities differ.

In a comparable survey of 3500 rural households in Thailand and Vietnam from 2016 to 2017, Grote et al. (2022) used logistic regressions to test which factors determine victimization in rural areas. A higher risk of becoming a victim of theft was found for people living in rural regions characterized by social inequality and intensively marketing their products (crop commercialization). A higher risk of victimization was also carried by those who had previously been victims of theft or had been hit by extreme weather events. While these associations can be explained by attractive crime targets or lack of ability to protect themselves, the difference in overall victimization rates (for the past 12 months) between Thailand and Vietnam on the one hand (5.5%) and Tanzania on the other (37%) was surprisingly significant. The data confirm differences documented 25 years ago (Alvazzi Del Frate, 1998) that crime levels for theft, burglary, and sexual offenses are lower in Asia than in sub-Saharan Africa.

Quantitative survey data on rural crime in less developed countries must be considered exceptional. Even rarer, however, are qualitative studies on the same topic, in which those affected have their say and talk from their own perspective about their experiences and the consequences for themselves and their social environment. The authors of this paper are not aware of any study of this type.

4. Data and methodological approach

4.1. Study site and household selection

The focus group discussions were conducted in two regions, Morogoro (Kilosa District) and Dodoma (Chamwino District), where the quantitative surveys were also previously conducted (Neubacher et al., 2019). Kilosa and Chamwino have different characteristics and therefore can also affect the type of crime. First, land pressure is comparatively high in Kilosa as there are large farms (estates/plantations) near villages. Consequently, a significant number of households, particularly in Changarawe village, do not own the land but rely on renting it to engage in agriculture. This is not the case in Chamwino, where land ownership is significantly higher. Additionally, resource use conflicts are more common in Kilosa due to the increasing intrusion of nomadic pastoralists and the presence of agro-pastoralists. Second, given the agroecological conditions (two rainy seasons and comparatively better soils) and better market access, the food security situation in Kilosa is relatively better than in Chamwino, which has a higher prevalence of food insecurity, partly due to its location in a semi-arid agroecological zone.

The group discussions were held in six villages in the two regions (Changarawe, Ilakala, and Nyali in Kilosa, and Ndebwe, Ilolo, and Idifu in Chamwino). In each village, 12 households were selected and the head of household was invited. Selection criteria were the condition of participation in the quantitative survey, representative distribution of gender (30% women, 70% men), age and reported experiences with

rural crime. The households were contacted by the village head and an average of ten household heads participated in the group discussions, which took place at a convenient location near the village head's office.

4.2. Procedure of the focus group discussions

The group discussions were conducted with residents in the same villages for which quantitative data from the previous survey was available. Focus group discussions are used to get a group of people to talk to each other about a selected topic. Ideally, the moderation of such a discussion should be limited to a few impulses, so that the conversation can develop undisturbed and the group has developed a more comprehensive picture in speech and counter-speech than would have been possible in individual interviews. For the qualitative research methodology, we follow Mayring (2022, 2019) and Anderson (2010).

The group discussions were conducted in the second half of March 2022 in six villages. The interview participants were familiar with the moderator who had already coordinated the surveys in 2016. Since a great deal of information was available from the quantitative part of the research about the interviewees, their households, and their income levels, it was possible to select participants along various criteria so that each group was balanced in terms of the age and gender of the interviewees, household and income characteristics, and experience with property crime. Each of the six discussions was attended by 8–10 people from the corresponding village. The discussions lasted between 48 and 60 min and were conducted in Swahili. With the participants' consent, they were recorded and subsequently transcribed and translated into English in Dar es Salaam. All participants received an expense allowance of 10,000 Tanzanian Shillings (TZS) (approximately 4 Euros (€)).

After a brief welcome, the moderator opened the discussions by making a reference to previous research visits to the village in question. He addressed those present by asking what crime incidents including petty offenses happened in the village and what consequences they had for the community. A series of follow-up questions had been prepared for the remainder of the discussion, which the moderator was supposed to weave in when the opportunity arose or if the discussion stalled. They concerned in particular the material and psychological consequences of crime events as well as possible effects on food security and daily routines in the village. In addition, they were also related to the question of whether offenses occurred more frequently at certain times of the year. With the topic of "land use conflicts", a special aspect was addressed which had not been sufficiently clarified in previous surveys.

During the preparations, it also became apparent that it would be useful and helpful to include the village chiefs in the process and to arrange separate interviews with them (compensation: 20,000 TZS, or about 8 €). These interviews will not be systematically analyzed in the following and will only be used to the extent that they contain information that is relevant to understanding the focus group discussions.

4.3. Evaluation of the focus group discussions

Based on the 2016 survey, it was expected that the village population would be mainly affected by offenses against property, primarily thefts. These are characterized by someone taking away another's movable property (owned by another) with the intention of permanently appropriating it. A subcase is burglary, in which the perpetrator gains unauthorized access to a house, cottage or enclosed space in order to steal another person's property. Damage to property, on the other hand, is merely the destruction of or damage to another's property without the perpetrator intending to transfer it to his or her property. In common parlance, this is also referred to as vandalism.

For the evaluation of property crime, three main categories were formed and partly provided with subcategories (SC) which are briefly described in the following by giving some anchor examples (Table 1).

Main category 1: Opportunity for crime: This category captures the three dimensions of the routine activity approach, namely suitable

Table 1

Evaluation of crime by categories and subcategories (SC).

Category 1: Opportunity for crime	Category 2: Consequences of crime	Category 3: Reactions to crime
SC 1: Suitable target	SC 1: for individuals	SC 1: notification, report or complaint
SC 2: Guardianship	SC 2: for communities	SC 2: security measures
SC 3: Motivated offender		

Source: Own compilation.

target (SC 1), guardianship (SC 2) and motivated offender (SC 3). Accordingly, we offer three anchor examples. All three dimensions are considered in the analysis.

Anchor example SC 1: "One sack of sunflowers was stolen." (village 3, line 220)¹

Anchor example SC 2: "During the day when we are in the field they come with a basket and just pick them (chicken) up and carry them away." (village 4, line 238).

Anchor example SC 3: "No one comes from outside the village, a large percentage are the villagers here ... " (village 5, line 168).

Main category 2: Consequences of the crime: This category captures the consequences of the crime in two subcategories, one related to the individual (SC 1), the other related to the village community (SC 2). Consequences of the crime can be, for example, fear of crime, loss of food security, or effects on daily routines (e.g., avoiding certain routes).

Anchor example SC 1: "I planted three trees, after a while I found that they uprooted all my trees, hence I stopped working." (village 2, line 425–426).

Anchor example SC2: "even the villages are no longer safe we live in fear" (village 1, line 240).

Main category 3: Reactions to crime: Unlike category 2, this one does not deal with medium- or long-term consequences, but rather with those measures that the affected parties take immediately in response to the damaging event, for example by notifying the village chief, filing a complaint with the police, trying to settle the conflict with the damaging party themselves, or taking security measures. As subcategories, a notification, report or complaint (SC 1) is distinguished from security measures taken (SC 2).

Anchor example SC 1: "You can call his uncles or older brothers to plead and beg him to stop the bad habits and if they fail to reason with him you can go to the neighborhood chief or chairman for consolation, others hear and stop the behavior." (village 1, line 117–119).

Anchor example SC 2: "Sometimes the village chairman assigns some local guard known as 'sungusungu' for protection at night." (village 1, line 267–268).

The evaluation was carried out manually after different colored markings had been made in the transcripts - depending on the category. All markings were viewed and checked several times.

5. Results

The results of the focus group discussions primarily refer to violations of property rights, namely theft and vandalism. Theft is described as a central security problem: "Theft is rampant" (village 1, line 17; village 2, line 86), "Theft exceeds everything else" (village 1, line 55). This is almost exclusively about theft of animals ("cattle rustling") and agricultural products ("crop theft"). Another problem, from the villagers' point of view, are pastoralists whose cattle graze on other people's land and

¹ The transcribed and translated documents were each given consecutive line numbers for the purpose of easier retrieval and citation. Obvious errors in the transcription or translation were corrected.

destroy plantations there. One farmer describes this as follows: *"I faced the same problem, cattle grazed in my paddy field and ate all, they don't fear anything, if you yell at them, they even beat you, frankly it is a big problem"* (village 6, line 152–154). The complaint of another farmer goes in the same direction: *"sometimes cattle attack our farms and destroy all of our crops"* (village 6, line 474–475). Farmers suffer damage to their fields from the foreign cattle even when nothing is planted yet: *"If you make ridges (matuta) while you may be waiting for the time to start planting crops, but as a result the herders want their livestock to get in there, they let their cattle demolish the ridges and when you start complaining why are you ruining my field, they answer there are no crops yet and that they just pass by on their way to the grazing area where there is grass, so that is my biggest challenge"* (village 4, line 118–123). Damaging behavior, constituting theft or damage to property depending on the circumstances, is reported by another farmer in relation to planted trees: *"Or when people plant trees some other people with ill intentions uproot and some may pluck them with the intention of planting in their fields and others just throw them away"* (village 2, line 48–50). In any case, it is a case of theft when wood is cut from other people's trees and taken away - usually to sell as charcoal: *"The safety challenge for me is those who cut wood at night. Wood is scarce these days so you find the tree has grown big and some people cut it for wood"* (village 2, line 79–81).

In the numerous contributions to the discussion, which corroborated each other, it is clear that theft and damage to property of all kinds are the biggest concerns. In addition, other types of behavior were mentioned, of which scuffles, threats and insults resulting from disputes with pastoralists were more relevant. Serious offenses were addressed sporadically. These included two recent cases of fatal domestic violence as well as the case of an elderly woman who had been beaten and robbed of money by an adolescent. The poisoning of several goats, which the injured party attributed to a family dispute, was also out of the ordinary.

5.1. Opportunities for crime

5.1.1. Suitable targets

The amount of damage caused to victims of theft depends on the type of suitable targets, namely what and how much was stolen. Livestock is most frequently stolen, especially chickens, followed by pigs and goats (village 1, line 20, 211, 218, 247, 306; village 2, line 101, 109, 115, 227, 269; village 3, line 164; village 4, line 206, 232, 301; village 5, line 179, 256; village 6, line 204, 307). Cattle which have a higher value than the other animals, are not frequent in the rural village, as is known from the quantitative survey. Furthermore, no cases of cattle theft were reported. This is probably because cattle are too bulky and therefore too difficult to conceal, and possibly because they have ear tags which make them identifiable and potentially traceable. The range of stolen crops is very large. It ranges from peanuts (village 2, line 92; village 3, line 127), millet (village 2, line 93, 98) and maize (village 2, line 106; village 3, line 127, 149; village 6, line 204) to barley (village 2, line 106) and sunflower (village 2, line 203, 217; village 3, line 125, 220) to sugarcane (village 3, line 123), cassava (village 4, line 155), sesame (village 4, line 246, 338; village 5, line 137, 148; village 6, 207), and beans (village 5, line 150). Thefts of household items and clothing (village 2, line 97–98), solar lights and a motorcycle (village 4, line 271, 273) were reported comparatively rarely. The latter are only found in wealthier households and are therefore less common. It is worth mentioning that without exception all villages were affected by livestock theft and almost all also spoke of stolen plants and disappeared crops. However, taking away or damaging planted trees was limited to two villages (village 2, line 56, 80, 90; village 3, line 426).

In seasonal terms, cycles of growth and maturation have the greatest significance. Villagers locate many incidents in the months of February and March, when the rainy season (March to May) is approaching or has begun: *"Most crimes happen during the rainy season, I think the rainy season itself is like at the end of February and early March, but in the summer very rare incidents occur"* (village 1, line 304–306). Others generally mention

the harvest season as the relevant period (village 5, line 396; village 6, line 142) and set its beginning to the month of May (village 3, line 146) or to the month of July (village 6, line 142), keeping in mind that this may vary depending on the plant and the location. The reason given for the importance of this period is that many fruits are only then ripe (village 1, line 318–319; village 3, line 140). This means that fruits become a suitable target only when they are edible. From this time on they have a value and can be eaten or sold. In terms of the routine activity approach they represent enjoyable and disposable targets. In addition, fields that have not yet been harvested provide good visual cover so that the deed can be done undetected (village 1, line 312–315). Thus, the characteristics of the place contribute to the crime by making the target accessible and by allowing the thief to disappear. A suitable target and protection from detection together make a good opportunity. This idea that harvesting time is crime time was aptly generalized by one man with the remark that after the harvest and its sale, people have money, which makes them vulnerable again: *"But after the money is finished even the crimes are greatly reduced"* (village 1, line 329).

With regard to the locations of the crime scenes, the discussions were not very productive. From the descriptions, however, focal points emerge that are closely linked to the respective objects of crime. Thefts of animals occur in stables, sheds or at least in the vicinity of the house. This also applies to the harvested crop, while plants that have not yet been harvested are stolen or damaged in the field further away.

5.1.2. Guardianship

Guardianship is not necessarily defined by the time of the day. Thefts occur regularly, both during the day and at night. One villager commented, *"If it is a matter of stealing, thieves actually steal at any time. They don't care whether it is day or night"* (village 2, line 100–101). More important than the time of day seems to be the opportunity for the perpetrators to carry out the crime undetected. This is true, for example, in the case of free-ranging small animals: *"Some thieves stole chicken the day before yesterday, my five chickens were stolen (...), they go out in the morning they don't return in the evening"* (village 3, line 164–169). Favorable opportunities also arise from the fact that many are in the field during the day and cannot protect their belongings (village 4, line 238). The ability to protect oneself is especially reduced during sleep. Accordingly, nighttime thefts are most commonly reported, particularly of crops and livestock (village 4, line 318–323; village 5, line 182; village 6, line 221). Perpetrators also gain access to sheds or stables (village 2, line 269–270). More extensive, organized operations, which hardly appear to be the work of occasional perpetrators, occur exclusively at night: *"last February someone's pigs were stolen very late at night using vehicles, one of them lost nine pigs, he was so broke"* (village 1, line 212–213). Fruits are also stolen while they are still growing in the field. This can happen overnight, for example when other people's cattle are led into the field (village 4, line 153–154).

5.1.3. Motivated offender

If participants commented at all on suspects, it was mostly speculation or suspicion - with the exception of those cases in which perpetrators were caught in the act. This is explicitly conceded by some participants (village 2, line 130–131). According to the respondents, most of the thefts were committed by young people who were without work and did not want to work (village 1, line 322–324; village 3, line 189; village 4, line 229–230; village 5, line 396–397; village 6, line 236). They consumed alcohol and hashish, passed the time by playing pool table game and betting (village 6, line 258), but were all from their own village (village 2, line 128, 136; village 6, line 245, 300). Despite this focus on juvenile delinquency, adults are also suspected of being behind the incidents (village 2, line 53, 442), although women are rarely included (village 2, line 296). Occasionally, suspicion falls on casual laborers employed on one's own farm (village 1, line 241) or on envious people who begrudged someone's progress (village 1, line 84–86). There is unanimity that the perpetrators come from their own ranks. One

woman puts this belief in the following words: *"No one comes from outside the village, a large percentage are the villagers here, they make timing, no one can steal here in our village from Dar es Salaam, it is impossible for him to know your house and your door, so in the same way no one can know whose farm is this and do the damage, so a large percentage of the thieves are villagers here, they do all of those acts in the night so you can't even say let me go to arrest him/her because you don't know who he is"* (village 5, line 168–174). Another woman agrees and puts the percentage of perpetrators from her own village at "seventy-five percent" (village 5, line 185). This description of the situation speaks to a certain degree of insecurity and dissatisfaction. Another participant addressed this to parents, who are not able or willing to sufficiently control their children (village 5, line 312–320).

The situation is quite different with regard to the plundered or devastated fields. Even if occasionally young people, even children, are named as perpetrators (village 2, line 52–53; village 3, line 123), pastoralists are mainly accused of being "destroyers" (village 2, line 61) and "very aggressive" (village 4, line 130–132). Several times the Maasai are spoken of very specifically (village 4, line 156; village 5, line 139–141). Since the Maasai are a distinct ethnic group and are also distinguished from others by their nomadic way of life, the conflicts with local villagers described above probably go beyond animal grazing and go deeper. Clues to this can be found in the discussions when it is said in a xenophobic manner: *"Swahili thieves do exist but they only steal maybe one goat, but the Maasai steal the whole pen. And when it happens that the Swahili has stolen the whole fold it is often associated with the Maasai"* (village 4, line 221–223). In this case, the disregard is not only reflected in the generalized assessment, but above all in the statement that even if the perpetrator comes from the own village, the person behind it and actually responsible is a Maasai. In another village, somebody stated that pastoralists were living in the village, but that they were not legitimate residents, they were invaders (*"not legitimate residents, they are invaders"*, village 5, line 203–204).

Behind the majority of the crimes, the rural population suspects young people who do not want to work in the fields. Their assessment is quite negative: *"What they do is destroying the fields, they are going to break the maize, they are plucking the nuts, they cut these ripe sunflowers at night and they strike them at the same night, carry the loads and disappear. They are unemployed i.e. they are sitting idle they just smoke marijuana and deprive us of peace in the streets. We are completely helpless, we are afraid of their aggressiveness after they use drugs. We are very hurt, youth of this area are ruined and destroyed by those drugs"* (village 1, line 95–101; also negative: village 5, line 239–245). In this description, fear of these adolescents, disapproval of their lifestyle and complaining about a drug problem are mixed. It can be assumed that the lifestyle - similar to the case of the nomads - contributes to the fact that predominantly negative characteristics are attributed to the young people.

5.2. Consequences of crime

Those who were robbed experience inner turmoil (*"you lose your peace"*, village 1, line 80), anger or despair (*"you just cry"*, village 2, line 203) and above all fear that this could happen again (village 1, line 240; village 2, line 198) as immediate consequences of the crime. A woman who cannot sleep for fear sums it up vividly: *"That is you sleep with your eyes open, we even have sleep deprivation because we worry too much, keep checking outside to see if the animals are still there. You sleep for a few hours and then you wake up, it is already dawn and you thank God"* (village 2, line 273–276). Another village also reported that people had to guard their fields until dawn to be safe from theft (village 4, line 250–252). This fear for one's own possessions is accompanied by a profound sense of insecurity. Who can still be trusted? What is the way forward? What plans can be made; what goals can still be set? The following statements by a farmer are exemplary: *"my plans were disturbed, because a farmer depends on agriculture, I planned after selling my crops then I will do this and that now, when they steal my crops, they pull me backwards because you fail to get*

what you planned, instead you start again" (village 5, line 271–273).

Many lack the stolen agricultural products for self-sufficiency, meaning food must be restricted (*"Imagine ... all the food is gone, you start to worry"*, village 1, line 197; *"I had a hard time because I did not have sunflower"*, village 2, line 209–210; similarly village 5, line 266; village 6, line 335). Others lack the income from the sale of crops or animals to provide themselves with new seeds or other things that are needed (e.g., medicines, village 6, line 309) or to have reserves (village 4, line 219). It seems to be common to build up reserves in the form of livestock.

The consequences are severe not only for the individual, but also for the village community, such as when farm management is reduced or even abandoned. One participant reported that fattening livestock were sold prematurely because the owners feared that if they were stolen, they would suffer the total loss of all their investments: *"for example, you are keeping cattle with the intention that after four years you sell them and take the money and invest on something big for development progression, but that right plan is not possible and you can't leave the cows until they are grown up, because when they see them all big and attractive in the barn they plan to steal them. So people have decided now not to breed for big purposes, you let the cow grow a little bit and you sell them because of fear"* (village 1, line 287–293). Another casually mentioned that he only grows vegetables and no longer keeps animals for fear of theft (village 4, line 192–193). There are similar considerations in crop farming. Some farmers are giving up growing maize and switching to barley because maize is stolen significantly more often (village 2, line 102–104). One woman said she stopped growing trees after her trees were uprooted (village 2, line 426).

5.3. Reactions to the crime

According to the villagers, the most obvious reaction to theft or damage to property is to talk to the delinquent himself (village 1, line 448) or his family (*"his uncles or older brothers"*, village 1, line 117), if known. If this does not lead to success (e.g. in the form of an apology or compensation), the village chief (*"chief"*, *"chairman"*, *"village authority"*) is involved (village 2, line 67; village 4, line 140, 163; village 6, line 263), who, in turn, may contact the police if this appears necessary (village 1, line 147). In the discussions, the situation was assessed in such a way that the police only deal with serious incidents (*"a serious issue ... such as death"*, village 6, line 266). The villagers are rather skeptical about the actions of the official authorities: *"They did not do anything, they just told us to spy and find the thieves ourselves and then we may call them to pick them up and arrest them, they also promised to conduct their own investigation"* (village 1, line 230–232). However, they also acknowledge that the police cannot simply take action against the suspects without evidence (village 2, line 261–262).

Lack of evidence also seems to be a problem in those cases where fields or crops are damaged by the livestock of nomadic herders. Although an official procedure exists to compensate farmers, they complain that action has no chance of success unless the ear tag number of the cattle can be provided (village 6, line 174). In these cases, the authorities usually (*"normally"*, village 6, line 180) succeed in setting a compensation amount. If the farmer does not agree with the amount, he can appeal to a court. Usually, the set sum is paid by the herders (village 6, line 188). In an interview with a village head, it was said that land use conflicts with herders (mainly Maasai) had been exacerbated by water shortages. The sums provided to compensate farmers for damage to their fields were consistently substantial (*"every cow that enters the field is twenty thousand TZ shillings"*), but despite high damage, farmers have sometimes been satisfied with low compensation in arbitration talks.

Some of the reactions of victims affect the guardianship or the suitable targets again (see feedback loops in Fig. 1). Thus, to protect themselves from theft and other damage, people are very careful to bring in their harvest as quickly as possible and leave nothing in the fields (village 4, line 329). In these cases suitable targets which were exposed to motivated offenders are removed from places easily accessible. The

farm and fields are guarded as best as possible until the harvest. Some stand guard themselves or join together in self-protection groups ("ulinzi shirikishi", village 4, line 327). One farmer commented: *"Yes, I do guard my crops, as I said earlier, the thieves do timing, some fields are away and some are near, therefore we farmers pray to God, it is until when you put your crops in the house you can thank your Lord I have got food. You may say let me guard in the noon but what about in the night, mind you some fields are far away from home, what will you do?"* (village 5, line 299–303). A night guard service ("sungusungu") is also considered as a security measure. This is believed to be effective because in the past, the number of thefts had decreased when a night guard was present (village 4, line 276). However, villagers were not always able to raise the money required or some did not want to contribute to the cost, so the service ended up not being used on a permanent basis (village 1, line 267–271; village 2, line 253). One farmer explained her personal strategy: she hired the very people she considered thieves because then they could not steal the fruits they were hired to protect (village 4, line 340–342). In some statements, a fatalistic attitude emerged, according to which nothing could be done against the thefts or that this had to be left to God (village 1, line 261–263; village 4, line 351–353).

6. Discussion

Because of low productivity in agriculture, weather shocks, or other reasons, poverty is most prevalent in rural areas. In Tanzania, 49% of the population is considered to be poor according to the international poverty line (1793.5 TZS (2018) or 1.9 US Dollar (USD) (2011 PPP) (purchasing power parity) per capita per day). Taking the Tanzanian national poverty line for basic needs (49,320 TZS in 2018 per adult and month), 33.1% of the rural population and 15.8% of the urban population are poor (World Bank Group, 2021; World Bank Group, no year). The proportion of unemployed people there is highest in the 15–34 age group. Unemployment seems thus a driver of crime, especially in rural areas, threatening livelihoods and food security of the local population. Many societies in sub-Saharan Africa are unable to provide adequate job opportunities for the people. This is not only the case for Tanzania, but also for e.g. Nigeria (Balogun, 2021) and for South Africa (Mabunda et al., 2021). It is especially true in rural areas, where there are few jobs outside of agriculture. At the same time, the agricultural sector is unattractive to young people because rural infrastructure is poor and they do not have access to land, credit, or labor (Balogun, 2021). Problems are exacerbated by the rapidly growing population with a low average age and by the increasing scarcity of natural resources, especially land and water, which was also mentioned in the discussions. Participants further indicated that the pursuit of a better lifestyle motivates offenders to commit crime, in particular young men. In this context, Barslund et al. (2007) relate to the lifestyle-exposure hypothesis which is based on the assumption that victimization risk increases with indicators related to lifestyle and income (van Kesteren et al., 2014; Clinard and Abbott, 1973). Nevertheless, we cannot conclude that mostly young and jobless people are the offenders. From the accounts in the focus group discussions, it is not possible to distinguish solved cases where the offenders had been identified from unsolved cases in which the offender is not known and the account is based on speculation.

While findings on the offenders are difficult to interpret, the routine activity approach has proven useful as a criminological tool to explain rural crime. The reports from the discussions confirmed that certain objects are 'hot' and suitable targets. This is the case, for example, with chickens, which are very frequently stolen, and whose value for the offender results from the fact that they are accessible, easy to transport, and easy to exploit by eating or selling them. Thus, the CRAVED concept describing suitable targets as concealable, removable, available, valuable, enjoyable and disposable can be applied here. Similarly, from the perpetrator's point of view, maize that can be consumed immediately is more interesting as a commodity than barley, which a farmer switched to for precisely this reason, to protect himself from further theft. In this

respect, maize has more CRAVED characteristics than barley making it a more suitable target. In terms of crime periods, there were crime peaks during and before harvest time, when the crops are almost ripe and already edible. Accessibility also plays a role here, because people can approach and enter the fields unhindered in the open.

Furthermore, when farmers report that they cannot guard their fields because they are too far from the farm, the level of protection (guardianship) is too low. This result is supported by the literature, finding that the distribution of smaller plots and greater distances between these plots and the homestead are also associated with higher vulnerability to victimization since offenders are less likely to be detected in case of theft of crops, livestock or machinery parts and tools (Donnermeyer et al., 2011; van Dijk, 2008; Ganpat et al., 2016). Thus, it does depend on characteristics related to space (or geography) which is stressed as an important dimension of a criminal opportunity (Brantingham and Brantingham, 1981). Similarly, farm isolation has been shown to increase farm household vulnerability to victimization due to lack of guardianship, as potential offenders are less likely to be detected by victims or witnesses (Fafchamps and Moser, 2003; Fafchamps and Minten, 2006). This is supported by the literature which has found that lower levels of guardianship are associated with significantly higher levels of crime (Cohen and Felson, 1979).

It remains questionable whether unemployment increases the risk of victimization by motivating potential offenders or whether it decreases this risk because of a higher degree of guardianship. Some argue that unemployment in the villages could also increase guardianship, as unemployed people are now more likely to be at home and watch over potential targets (D'Alessio et al., 2012). Based on the results from the focus group discussions it is our understanding that unemployment is a major issue in the communities and rather a strong motivation of offenders than leading to an increase in guardianship. So far, the literature could not confirm the assumption that unemployment results in higher guardianship. In a comparable study from Southeast Asia, it seems more likely that unemployment increases the motivation of offenders (Grote et al., 2022).

When turning to the effects of crime it is evident that it leaves a severe impact on the local community. The perpetrators usually come from their own village or at least from the surrounding area. It is easy to imagine how badly social life in a village is strained when the perpetrators come from your own neighborhood and you do not know who to trust. This problem became clear in the discussions when participants suspected that there could also be thieves among the harvest workers or the guards. From the quantitative survey it was known that more than a third of the rural population in these six villages is victimized in the course of one year, on average even twice, and that 57% of them are afraid of theft (Neubacher et al., 2019). These alarming figures were underpinned by the realistic descriptions given in the focus group discussions. They helped to understand that fear of theft is so widespread simply because a single case of theft may jeopardize food security of the whole household.

The discussions revealed another issue related to victimization that had not been addressed in the quantitative survey. We are referring to the very concrete probability that frustrated villagers will reduce or give up work in the fields due to the high risk of crime. This could have far-reaching consequences for the local food supply. The likelihood that people will leave their village and migrate to the city would also increase (Duda et al., 2018; Wenban-Smith et al., 2016). In this sense, rural crime is an obstacle for development. In addition to the material effects of rural crime on household income loss and on food security, psychological effects were apparent. Fears and worries about and through crime (e.g. guarding fields at night) and the resulting sleep deprivation have a strong impact on the affected households in the villages. Such negative effects on society have been also found by others (van Dijk, 2008; Van Kesteren et al., 2014). More in detail, the effects on income and food security of small-scale farmers have been acknowledged by Fafchamps and Minten (2006) and Ganpat and Isaac (2018), whereas the evidence

on psychic cost of crime making people feeling unsafe in their communities, has been found by [Barclay et al. \(2001\)](#) as well as [Ceccato and Abraham \(2022\)](#). Finally, crime may also challenge social cohesiveness and undermine sustainable development in rural communities, as evidenced by [Ceccato \(2015\)](#) and [Skaperdas et al. \(2009\)](#).

Compared to other types of crime, all kinds of theft are the most common crimes anywhere in the world ([van Dijk, 2008](#); [Grote and Neubacher, 2016](#)). For those concerned they are usually accompanied by feelings of insecurity and fear of crime. What stands out in Africa, however, is the high level of theft even in rural areas ([Neubacher et al., 2019](#)). Different from other regions of the world, here victimization often leads to food insecurity and becomes an existential challenge. Hence, the type of crime may be the same like anywhere else in the world but the consequences are not.

The land conflicts that people were particularly afraid of in 2016 ([Neubacher et al., 2019](#)) turned out to be largely family-related (e.g. inheritance dispute). The other part of land conflicts concerned damage caused by nomadic herders, for which, as became clear in the discussions, there are official compensation procedures.

Given the high level of theft many villagers feel helpless but try to prevent the theft of crops by bringing in their harvest as quickly as possible or by organizing guards. We think that these measures of victimized persons should be taken into account and propose to expand the theoretical framework of the routine activity approach accordingly (feedback loops in [Fig. 1](#)). Those reactions to crime that are meant to prevent further victimization (e.g. by removing the target or making it more difficult to access, by increasing guardianship) can be incorporated as measures which render the target less suitable or better guarded, reduce crime opportunities and prevent repeat victimization.

7. Summary and conclusion

The paper has raised the following three research questions: (i) What are the opportunities for crime in rural Tanzania? (ii) What are the consequences of crime? And (iii) what preventive measures are taken in response to crime, if any? The questions have been answered based on qualitative research from six focus group discussions, which has been linked to an earlier primary survey conducted in the survey site in rural Tanzania. The routine activity approach has been used as a theoretical framework and expanded by analyzing the consequences of crime. With respect to the first question, it has been found that the opportunities of crime in rural Tanzania, which are determined by a suitable target, lack of guardianship and a motivated offender, predominantly refer to theft. All villages were affected by livestock theft and almost all by crop or plant theft. The attractiveness of livestock or crops as suitable targets increases with the number of their CRAVED characteristics which make them concealable, removable, available, valuable, enjoyable or even disposable. The lack of guardianship increases the opportunities at night, when people are sleeping, but also during the day, when villagers are in their often remote fields. In seasonal terms, the crime incidents are especially high in the months before and during harvest. Since many crimes go unreported, little is generally known about the offenders and describing them often ends in speculation and anecdotes. However, since some of the cases have been solved, we recognize to some extent the statements of the participants from the focus group discussions, who reported on young and unemployed offenders, but also family members, other villagers and, mostly for cases of property damage, the Maasai.

With respect to the second question, the consequences of crime are a major issue for local people. They fear and suffer financial losses that threaten both their food security and economic livelihood which partly leads to psychic cost. Rural communities are often impaired in their sustainable development and social cohesiveness in response to crime.

The third question addresses the reactions of villagers to crime. It becomes evident from the results that many victims did not do anything. Others decided to restrict livestock or switch to growing other crops which are less likely to be stolen, while a few indicated to guard their

fields themselves, especially during or just before harvest, organize self-protection groups, or hire paid guards. Some of the reactions of victimized households to crime ended up in increased guardianship or changed the characteristics of targets, making them less suitable – or CRAVED.

There are a number of policy recommendations which arise from these results. First, since many villagers cannot protect themselves adequately and in view of increasingly scarce land resources and the associated conflicts, government agencies should pay more attention to legal enforcement of property rights, especially related to land rights, and crime prevention. This does not necessarily mean police presence. Opportunities to commit crimes can also be reduced through structural or technical measures by making it more difficult for potential perpetrators to approach the object of the crime unnoticed and to leave again undisturbed. In the case of houses, cabins and stables in particular, one can think of locks and fences, but also of affordable lighting or alarm systems. Second, the state and society should aim not to leave people to fend for themselves, but to offer them educational and vocational prospects so that they can make a living and feel connected to society. In some circumstances, this may require targeted programs to support young people in rural areas. It may also require the creation of more job opportunities, thus reducing unemployment. Based on the results from the focus group discussions it is our understanding that unemployment is a strong motivation of offenders. It has been also hypothesized that unemployment may increase guardianship since people spend more time at home. Further research should clarify whether the latter is true. Third, in times of weather shocks, more guardianship is called for – this can be provided by the households themselves, by police or other governmental or non-governmental agencies. Fourth, targeted programs to reduce food insecurity may help to avoid crime.

There are also some research needs. First, given the large number of prevention measures, further research should identify priorities, meaning in which situation is which prevention measure appropriate? Second, given the scarcity of data or studies dealing with psychological impacts of everyday crime from the Global South, there is definitely still a need for research to gain a better empirical understanding of these effects.

Finally, the authors are aware that qualitative data collection has its limitations. Naturally, the results depend on the respondents' ability to remember accurately. In this sense, narratives cannot be taken as a mirror of reality but are an expression of the participants' perceptions, attitudes and ascriptions. In this sense, the results on the offenders remain partly speculative as it is not possible to distinguish solved cases where the offender was identified, from unsolved cases in which the offender was not known.

CRediT authorship contribution statement

Frank Neubacher: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Luitfred D. Kissoly:** Data curation, Investigation, Project administration, Writing – review & editing. **Anja Faße:** Data curation, Investigation, Project administration, Writing – review & editing. **Ulrike Grote:** Methodology, Project administration, Visualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

We notify that there is no financial/personal interest or belief that could affect our objectivity.

Data availability

Data will be made available on request.

References

- Abraham, J., Ceccato, V., 2022. Crime and safety in rural areas: a systematic review of the English-language literature 1980–2020. *J. Rural Stud.* 94 (5), 250–273. <https://doi.org/10.1016/j.jrurstud.2022.05.010>.
- Alvazzi Del Frate, A. (Ed.), 1998. *Victims of Crime in the Developing World*, vol. 57. UNICRI Publication No., Rome.
- Anderson, C., 2010. Presenting and evaluating qualitative research. *Am. J. Pharmaceut. Educ.* 74 (8), 141. <https://doi.org/10.5688/aj7408141>.
- Balogun, C.E., 2021. Rural crime: the social cost of youth unemployment in Nigeria. *Nigerian Journal of Rural Sociology* 21 (1), 62–68.
- Barclay, E., Donnermeyer, J.F., Doyle, B.P., Talary, D., 2001. *Property Crime Victimization and Crime Prevention on Farms*. The Institute for Rural Futures, University of New England, Armidale. <http://www.une.edu.au/research/research-centres-and-institutes/irf/institute-publications/reports/?a=19059>.
- Barslund, M., Rand, J., Tarp, F., Chiconela, J., 2007. Understanding victimization: the case of Mozambique. *World Dev.* 35 (7), 1237–1258.
- Beirne, P., South, N., 2007. *Issues in Green Criminology: Confronting Harms against Environments, Humanity and Other Animals*. Cullompton: Willan.
- Brantingham, P.J., Brantingham, P.L., 1981. *Environmental Criminology*. Prospect Heights, Ill. Waveland Press.
- Bunei, E.K., Barasa, F.O., 2017. Farm crime victimisation in Kenya: a routine activity approach. *International Journal of Rural Criminology* 3 (2), 224–249.
- Bunei, E.K., Rono, J.K., Chessa, S.R., 2013. Factors influencing farm crime in Kenya: opinions and experiences of farmers. *International Journal of Rural Criminology* 2, 75–100.
- Bursik Jr., R.J., Grasmick, H.G., 1993. *Neighborhoods and Crime: the Dimensions of Effective Community Control*. Lexington Books, New York.
- Ceccato, V., 2016. *Rural Crime and Community Safety*. Routledge, Abingdon, Oxon.
- Ceccato, V.A., 2015. Rural crime and community safety. *J. Rural Stud.* 39, 157–159.
- Clack, W.J., Minnaar, A., 2018. Rural crime in South Africa: an explanatory review of 'farm attacks' and stock theft as the primary crimes in rural areas. *Acta Criminol.: Southern African Journal of Criminology and Victimology* 31 (1), 103–135.
- Clack, W.J., 2013. The extent of stock theft in South Africa. *Acta Criminol.: Southern African Journal of Criminology* 26 (2), 77–91.
- Clarke, R.V., 1999. Hot products: understanding, anticipating, and reducing demand for stolen goods. *Police Research Series Paper No. 112, Policing and Reducing Crime Unit*. Research Development and Statistics Directorate.
- Clinard, M.B., Abbott, D.J., 1973. *Crime in Developing Countries: A Comparative Perspective*. Wiley, New York u.a.
- Cohen, L.E., Felson, M., 1979. Social change and crime rate trends: a routine activity approach. *Am. Socio. Rev.* 44 (August), 588–608.
- D'Alessio, S.J., Eitle, D., Stolzenberg, L., 2012. Unemployment, guardianship, and weekday residential burglary. *Justice Q.* 29 (6), 919–932.
- Donnermeyer, J.F., DeKeseredy, W.S., 2014. *Rural Criminology*. Routledge, Abingdon, Oxon.
- Donnermeyer, J.F., Barclay, E.M., Mears, D.P., 2011. Policing agricultural crime. In: Mawby, Rob L., Yarwood, Richard (Eds.), *Rural Policing and Policing the Rural: A Constable Countryside?* Ashgate, Farnham.
- Doorewaard, C., Hesselink, A., Clack, W.J., 2015. Livestock theft: expanding on criminological profiling and offender assessment practices in South Africa. *Acta Criminol.: Southern African Journal of Criminology and Victimology, Special edition* 4, 37–49.
- Duda, I., Faße, A., Grote, U., 2018. Drivers of rural-urban migration and impact on food security in rural Tanzania. *Food Secur.* 10 (4), 785–798.
- Fafchamps, M., Minten, B., 2006. Crime, transitory poverty, and isolation: evidence from Madagascar. *Econ. Dev. Cult. Change* 54 (3), 579–603.
- Fafchamps, M., Moser, C., 2003. Crime, isolation and law enforcement. *J. Afr. Econ.* 12 (4), 625–671.
- Felson, M., Eckert, M., 2016. *Crime and Everyday Life*, fifth ed. Sage, Los Angeles.
- Ganpat, W.G., Isaac, W.-A.P., 2018. Facing boldly the scourge of praedial larceny on food production in the caribbean. *J. Int. Agric. Ext. Educ.* 25 (4), 52–62.
- Ganpat, W.G., Dyer, R., Isaac, W.-A.P., 2016. *Agricultural Development and Food Security in Developing Nations*. IGI Global, Hershey, PA.
- Grote, U., Nguyen, T.-T., Nguyen, T.T., Neubacher, F., 2022. Applying the routine activity approach to crime victimization in rural Southeast Asia. *TVSEP Working Paper WP-025*. Retrieved 20/03/2023 from. <https://www.tvsep.de/fileadmin/tvsep/Publications/wpaper2022/wp-025.pdf>.
- Grote, U., Neubacher, F., 2016. Rural crime in developing countries: theoretical framework, empirical findings, research needs. *ZEF Working Papers No. 148*. Retrieved 20/03/2023 from. http://www.zef.de/uploads/tx_zefportal/Publications/zef_wp_148.pdf.
- Hollis, M.E., Felson, M., Welsh, B.C., 2013. The capable guardian in routine activities theory: a theoretical and conceptual reappraisal. *Crime Prev. Community Saf. Int. J.* 15 (1), 65–79.
- Hollis-Peel, M.E., Reynald, D.M., Van Bavel, M., Elffers, H., Welsh, B.C., 2011. Guardianship for crime prevention: a critical review of the literature. *Crime Law Soc. Change* 56 (1), 53–70.
- Mabunda, M.V., Maluleke, W., Barkhuizen, J., Clack, W.J., 2021. Stock theft: rural livestock farmers' entrepreneurial perspectives. *Int. J. Criminol. Sociol.* 10, 929–943.
- Marenin, O., 1997. Victimization surveys and the accuracy and reliability of official crime data in developing countries. *J. Crim. Justice* 25 (6), 463–475.
- Mayring, P., 2019. *Qualitative inhaltsanalyse. Abgrenzungen, spielarten, weiterentwicklungen*. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* 20 (3), 16. <https://doi.org/10.17169/fqs-20.3.3343>.
- Mayring, P., 2022. *Qualitative Inhaltsanalyse. Grundlagen und Techniken*, thirteenth ed. Beltz Juventa, Weinheim, Basel.
- Mears, D.P., Scott, M.L., Bhati, A.S., 2007a. Opportunity theory and agricultural crime victimization. *Rural Sociol.* 72 (2), 151–184.
- Mears, D.P., Scott, M.L., Bhati, A.S., Roman, J., Chalfin, A., Jannetta, J., 2007b. *Policy, Theory, and Research Lessons from an Evaluation of an Agricultural Crime Prevention Program*. Urban Institute, Washington, D.C.
- Neubacher, F., Faße, A., Bögelein, N., Grote, U., 2019. Victimization and fear of crime in rural Tanzania. *International Journal of Rural Criminology* 4 (2), 173–192.
- Neubacher, F., Grote, U., 2016. *Rurale kriminalität in entwicklungsändern. Monatsschrift für Kriminol. Strafr.* 99 (3), 199–214.
- Sidebottom, A., 2013. On the application of CRAVED to livestock theft in Malawi. *Int. J. Comp. Appl. Crim. Justice* 37 (3), 195–212.
- Skaperdas, S., Soares, R., Willman, A., Miller, S.C., 2009. *The Costs of Violence*. Working Paper No. 51428. The World Bank, Social Development Department, Washington D. C. https://journalistsresource.org/wp-content/uploads/2012/10/costs_of_violence.pdf.
- Somerville, P., Smith, R., McElwee, G., 2015. The dark side of the rural idyll: stories of illegal/illicit economic activity in the UK countryside. *J. Rural Stud.* 39, 219–228.
- Van Dijk, J., 2008. *The World of Crime: Breaking the Silence on Problems of Crime, Justice, and Development across the World*. Sage Publications, Thousand Oaks, London.
- Van Kesteren, J., van Dijk, J., Mayhew, P., 2014. The international crime victims surveys: a retrospective. *Int. Rev. Vict.* 20 (1), 49–69.
- Wenban-Smith, H., Faße, A., Grote, U., 2016. Food security in Tanzania: the challenge of rapid urbanisation. *Food Secur.* 8 (5), 973–984.
- World Bank Group, 2021. *Tanzania. Poverty & Equity Brief*. World Bank Group, Washington D.C. https://databankfiles.worldbank.org/public/ddpext_download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/AM2020/Global_POVEQ_TZA.pdf.
- World Bank Group (no year). *Tanzania - Mainland Poverty Assessment. Executive Summary*. World Bank Group, Washington D.C. https://www.nbs.go.tz/nbs/ta/kwimu/nbs/Tanzania_Mainland_Poverty_Assessment_Report.pdf.
- Zvejkic, U., Alvazzi Del Frate, A. (Eds.), 1995. *Criminal Victimization in the Developing World*, vol. 55. UNICRI Publication No., Rome.