Effect of Cattle Rustling on Economic Development in Zamfara State, Nigeria

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Abstract
The objectives of the paper are to determine the effect of cattle rustling on the level of income of cattle owners in Zamfara state and to investigate the effect of cattle rustling on the quantity of cattle supplied in the market. A survey method using a structured questionnaire and informal interviews of key informants as well as direct observation of respondents was used. The multi-stage sampling technique was employed in selecting samples for the study. The linear regression model was used for the analysis of the data. The results of the study reveal that cattle rustling in Zamfara State affect the income of cattle owners and the market quantity of cattle. Furthermore, the result shows that cattle rustling had led to a decrease in the income of cattle owners and the market quantity of cattle in the study area. The study recommends that government should recognize vigilante groups to strengthen the effort of security agencies to prevent and control activities of cattle rustling. The paper also recommended that government should economically empower the people on cattle rearing and production to increase the market quantities of cattle in Zamfara State, Nigeria.

Keywords: Cattle rustling, income, market quantity supplied and economic development

1.0 Introduction
The emergence of cattle rustling in Nigeria that so much depends on agriculture activities for the source of livelihood and generation of job opportunities has virtually affected the economy negatively. Cattle are stolen, abandoned and lost, farm products are destroyed and communities that produce for both commercial and subsistence purposes are forced to depend on relief aids, thereby affecting the volume or quantity and quality of livestock production. Thus, affect food security, the prices of cattle and agricultural production in the long run (Titilola, 2007).

Furthermore, a problem like this if not checked can result into increase in the unemployment rate, increase in the level of poverty and a fall in the standard of living of
the affected communities and the nation at large. This is because the victims can no longer have livestock to rear which is their primary source of living. Thus, affect the economic development of Zamfara State.

Since the advent of the present democratic government in the country in 1999, Nigeria has witnessed and is still witnessing series of cattle rustling which has caused a greater number of deaths, properties are lost and people were displaced and even killed in the process. Cattle rustlings have become a crime in Nigeria recently, with the northern region being the hardest hit.

In the past few years, rustling activities have resulted in the theft of a huge number of cows, deaths of people and destruction of properties. There are murderous activities of cattle rustlers dotting the headlines of the major newspapers in the country.

Reports across the northern region have confirmed that cattle rustlings have significantly contributed to the increasing security challenges facing the Nigerian state and seem to have become big business involving the herders, big-time syndicates, and heavily armed bandits. However, despite the growing level of cattle rustling and its consequences for the societies the situation is yet to receive adequate scholarly interrogations.

According to Ahmadu Suleiman, Chairman of the Kaduna State Chapter of the Miyetti Allah Cattle Breeders Association of Nigeria, between October 2013 and March 2014, approximately 7,000 cattle were rustled from commercial livestock farms and traditional herders in Northern Nigeria (Bashir, 2014).

Furthermore, Aminu Bello Masari, the Governor of Katsina State, announced the recovery of 30,000 cattle from rustlers within few months of setting up a joint military operation against the menace (Tauna, 2016).

Cattle’s rustling has done more harm than good to the economic development of the people of Zamfara state and the country at large. Most rural inhabitants of Zamfara state still use traditional ways of farming and heavily rely on cattle in their farming activities which also affect the agricultural produce. As such these cattle enhance the produce and the economic wellbeing of the people in the state. In reality, not all cattle rustling and killings in Zamfara state in this trial period are recorded or rather reported to the police or other security agencies. This is one reason why data on this phenomenon are not adequately available. It is on this note that the researchers intend to examine the impact of Cattle rustling on economic development in Zamfara State.
1.1 Statement of Problem
One of the worst aspects of these attacks of cattle rustling is that in every single one, there must be loss of live and properties. Furthermore, the attacks have crippled the investment opportunity of the state because foreign investors some time are not willing and interested in coming to Zamfara to invest due to lack of safety of their lives and properties. There is security unrest and no rational investor would put his money or life in a State where the market is not certain.

With a fast growing population Nigeria is threatened with the problem of food insecurity and poverty which can be addressed by eliminating cattle rustling. The effects of such cattle rustling do not lie on the victims and immediate communities alone but goes a long way to affect the economy of the state and the nation at large. It is on this note that the researcher intends to answer the following questions. What is the effect of cattle rustling on the level of income of cattle owners in Zamfara state? What is the impact of cattle rustling on the market quantity supplied of cattle in Zamfara state? It is from these questions, the following objectives will be formulated, to determine the effect of cattle rustling on the level of income of cattle owners in Zamfara state and to investigate the impact of cattle rustling on the market quantity supplied of cattle in Zamfara state. Therefore the hypothesis of the study would focus on:

\[ H_0: \] Cattle rustling has no significant effect on the level of income of cattle owners in Zamfara state
\[ H_0: \] Cattle rustling has no significant impact on the market quantity supplied of cattle in Zamfara state

2.0 Literature Review
2.1 The Conceptual Literature
**Cattle rustling:** cattle-rustling has been defined to mean, ‘the stealing or planning, organizing, attempting, aiding or supporting the stealing of livestock by any person from any country or community where the theft is accompanied by dangerous weapons and/or violence (Abdul and Aliyu, 2015). Cattle’s rustling refers to the practice of stealing cattle and animals from Herders or the raiding of cattle from the ranches. Although driven by different needs and factors, it is increasingly an economically-based form of criminality perpetuated by informal networks (Kwaja, 2013). Rural banditry thrives as a means of 'primitive' accumulation of Cowherds in the context of subsistence and commercial pastoralism. The most disturbing effect of this bandity is the unsettling of Pastoralist transhumant activities. Furthermore, rural banditry is accompanied by rape, kidnapping, organized attacks on villages and communities, and looting.
**Economic Development:**

Economic development is the growth of the standard of living of a nation's people from a low-income (poor) economy to a high-income (rich) economy. When the local quality of life is improved, there is more economic development.

Economic development is the process by which a nation improves the economic, political, and social well-being of its people. The term has been used frequently by economists, politicians, and others in the 20th and 21st centuries. The concept, however, has been in existence in the West for centuries.

2.2 Theoretical Literature Review

2.2.1 Modern theory of Agriculture

In converse of the modernization and dual economy model that were focusing on large scale modern agriculture and markets which dominated the scene in the 1960s, Schultz (1966) put the rational allocation of resources in traditional small farms where the traditional input are used as in a central position of theory. He suggested that small farms particular should form the central focus of an agriculture centred development strategy. Mellor (1966) was among his most important proponents pointing out that the faster agriculture grows, the faster its relative size declines. The World Bank, 2018 emphasizes that agriculture continues to be a fundamental instrument for sustainable development and poverty reduction in the 21st century.

2.2.3 Enterprise Theory of Organized Crime

2.3 Empirical Literature Review

Titus (2013) examines the effect of cattle rustling on economic development, employed primary data analysed using descriptive statistics. The study shows that a cattle rustling has impacted negatively on the economic development of the study area. The study recommended that community empowerment should be at forefront and diversification to other economic activities like farming be encouraged.

Okoli and Okpaleke (2014) Banditry and crisis of public safety in Nigeria: Issues in National Security Strategies used primary data in their analysis. The data collected was analysed using descriptive statistics. The finding shows that cattle rustling is one of the critical dimension of public insecurity in contemporary, it poses a serious threat to the national security of Nigeria in view of its dire impact and implication, they also proffer as a solution; promoting of community policing especially motorized patrol and surveillance in major grazing areas, urgent remediation of the problem of arms proliferation in Nigeria.
Olaniyan and Yahaya (2016) examine the effect of cattle bandits and violent conflicts: understanding cattle rustling in northern Nigeria. The study shows that Cattle rustling as criminal enterprise has consequences for the socio-economic, political, cultural and psychological sphere of the society. Rustler’s activities have resulted in death and destruction of properties thereby disturbing the peace and securities of the nation. They advised the importance of the Government to deploy security personnel to the forest that served as hideouts to the marauders.

In another study conducted by Bashir (2017) there exist different attributing factors to cattle rustling and banditry. However, he identified the following as major factors:

i Poverty which represented (16.6%), followed by political interference (14.4%), climate change occasioned by droughts and reduced access to water sources (13.3%).

ii Competition over access and control of scarce natural resources that represented (12.8%) and limited natural resources (11.7%).

iii Pastoralist culture (Fulani herders) and traditions passed over the years that have promoted animosity in the area (11.7%).

iv Commercialization of cattle rustling which represented (10.6%) and Poor policies on pastoralist’s community that have destabilized the livelihoods of the community (7.1%)

v Invading of private farmlands and ranching in search of grazing land (1.9%) which have contributed detrimentally to cattle rustling

Factors that influence Cattle rustling
The major occurrence of cattle rustling is caused by many factors such as unwillingness to share grazing land, rampant drought and famine in the area, etc. A cattle rustling has major effects on the communities living in the affected community. The raids have mainly resulted in deaths and immigration. The high livestock raids have also resulted into high illiteracy levels in the communities, high levels of hunger and poverty among others.

3.0 Methodology
CHAPTER 1 .1 Study Area
Zamfara state derived its name from Zamafarawa, a traditional appellation by which the people of Anka, the former headquarters of the ancient Zamfara Empire were called (Garba, 2015). The area today called Zamfara was one of the old Hausa cities like Kano, Katsina, Gobir, Kabi and Zazzau. The earliest inhabitants of Zamfara state were said to have been hunters.
With the creation of 12 states out of the four regions that existed during the Gowon administration in 1967, Zamfara kingdom became part of the Northwest state in Sokoto state before the new state of the Zamfara was created in 1996 by the military regime of Gen. Sani Abacha (Garba; 2015)

CHAPTER 2
Zamfara State is located between latitude 12° 10'N to 12.167°N and between longitude 6°15'E and 6.250°E (Wikipedia, 2018). It is found in the northwestern zone of Nigeria and bordered in the north by Niger Republic, to the south by Kaduna state, to the east it is bordered by Katsina State and to the west by Sokoto and Niger states. The State covers an area of 39,762 km² (Garba, 2015). According to 2006 census, Zamfara state has a population of about 3,278,873 people, consisting of 1,641,623 males and 1,637,250 females.

Agriculture is the main occupation of the people of the State and the central source of income, hence its slogan “Farming is our Pride”.

CHAPTER 3
3.2 Sampling Technique and Sample Size
Zamfara state is politically divided into fourteen (14) local government areas. In selecting local government areas for this research, a purposive technique was adopted because only a few local government areas were severely affected by Cattle rustling in the state.

In the first stage four (4) local government areas (Anka, Birnin-Magaji, Maru, and Tsafe) were purposively selected out of the fourteen (14) local government areas in the state. Out of which one (1) ward was purposively selected from each of the four (4) selected local government areas, making a total of four wards (Dan Galadima, Nasarawa-Goda, Dan Sadua, and Chediya). Finally, four (4) communities (Dan Galadima, Nasarawa-Goda, Dan Sadua, and Chediya) were selected so that a total of four (4) communities were studied. These communities were selected based on the fact that, they were the most affected communities in each of the selected local government areas.

A random sampling technique was adopted in selecting respondents for this study. The estimated population of the selected communities is as follows Dan Galadima 14,363; Nasarawa-Goda 16,408; Dan Sadua 19,314; and Chediya 20,690 (Population City, 2019). To determine the sample size required for this research, the Taro Yamane (1967) sampling procedure was adopted. It is mathematically stated as:

\[
 n = \frac{N}{1 + Ne^2}
\]

Where \( n = \) the desired sample size
\( N = \) Population under study

53
The sample size of 277 is 0.3929022% of the total population of 70,775. This was sizeable enough to provide the required information needed in the study area.

3.3 Instrument of data collection
The questionnaire is a major instrument used in obtaining primary data. The questionnaires were designed to collect information from the respondents who are mostly farmers. The choice of primary data was guided by the nature of the research which is the effect of cattle rustling on economic development in Zamfara State.

3.4 Variable measurement
Economic development is measured by the level of income respondents and level of quantity of cattle in the market in hundred and thousand of naira. Cattle rustling are measured by the frequency of the incidence occurrence.

4.1 Findings and Discussions
4.1.1 Data Presentation
This section presents the results of the data obtained through the questionnaires administered to respondents in Zamfara State. A total of 277 questionnaires were distributed to the respondents. Information from the returned questionnaires was inputted into SPSS 17.0 software.

Table 4.1: The Descriptive statistics Result for the level of Income

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Income</td>
<td>3.2816</td>
<td>1.02864</td>
<td>277</td>
</tr>
<tr>
<td>Cattle rustling</td>
<td>2.5235</td>
<td>0.69963</td>
<td>277</td>
</tr>
</tbody>
</table>

Source: Computed by the Researcher using SPSS 17.0 (2020)
Table 4.1 shows that the level of income of cattle owners in the study area is 3.2816 which is the average income level i.e. ₦32816 whereas the average number of attacks recorded due to cattle rustling in the study area is 2.5 which is approximately 3.

<table>
<thead>
<tr>
<th></th>
<th>Level of Income</th>
<th>Cattle rustling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>Level of Income</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Cattle rustling</td>
<td>-0.402</td>
</tr>
<tr>
<td>Sig. (1-tailed) Level of Income</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cattle rustling</td>
<td>0.000</td>
</tr>
<tr>
<td>N</td>
<td>Level of Income</td>
<td>277</td>
</tr>
<tr>
<td></td>
<td>Cattle rustling</td>
<td>277</td>
</tr>
</tbody>
</table>

*Source: Computed by the Researcher using SPSS 17.0 (2020)*

The correlation table 4.2 shows that cattle rustling is an input factor that affects the level of income of cattle owners negatively (r = -0.402, n = 277, p < 0.000 one tail).

Table 4.3: The level of Income Result

<table>
<thead>
<tr>
<th>Dependent variable;</th>
<th>Coefficient value</th>
<th>t-statistic</th>
<th>Prob. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Cattle rustling</td>
<td>4.773</td>
<td>22.453</td>
<td>0.000</td>
</tr>
<tr>
<td>Cattle rustling</td>
<td>-0.591</td>
<td>7.279</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*R^2 = 0.162  Adjusted R^2 = 0.158  D.W = 2.530  F statistics = 52.978*

*Source: Computed by the Researcher using SPSS 17.0 (2020)*
Table 4.3 shows that the $R^2$ value 0.162 indicates that 16.2% of the variation in the level of income of cattle owners is explained by cattle rustling. The value of $F$ statistics of 52.978 is statistically significant at 1%. Furthermore, the model is free from the problem of autocorrelation. Since the value of Durbin-Watson statistics is greater than 2(2.530), the $F$ statistics measure the adequacy of the model and it is supposed to be statistically significant at either 1%, 5% or 10% while the Durbin-Watson statistic indicates the existence of autocorrelation among the dependent and independent variables.

The results of the regression indicate that there is a positive relationship between cattle rustling and market prices of cattle. The study indicates that increasing the number of attacks due to rustling by 1 person also leads to decrease in the level of income of cattle owners in the study area by -0.591 (59.1%). Furthermore, this tends to decrease the level of income of cattle owners. This result has met the apriori expectations which indicate that if there are cattle rustling in the study area, the level of income of cattle owners will decrease. The reverse would be the case if there are no cattle rustling in the study area. This is to say the level of income of cattle owners would increase.

### Table 4.4: The Descriptive Statistics Result for the Quantity of Cattle supplied in the Market and Cattle rustling

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market quantity of cattle</td>
<td>1.1913</td>
<td>0.39406</td>
<td>277</td>
</tr>
<tr>
<td>Cattle Rustling</td>
<td>2.5235</td>
<td>0.69963</td>
<td>277</td>
</tr>
</tbody>
</table>

*Source: Computed by the Researcher using SPSS 17.0 (2020)*

Table 4.4 shows that the market quantity of cattle in the study area ranges from 0 to 100 (1.1) whereas the average number of attacks recorded due to cattle rustling in the study area is 2.5

### Table 4.5: The result of correlation analysis
The correlation table 4.5 shows that cattle rustling is an input factor that affect the market quantity of cattle negatively ($r = -0.181$, $n = 277$, $p < 0.001$ one tail)

Table 4.6: The result of Market quantity of cattle

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Coefficient value</th>
<th>t-statistic</th>
<th>Prob. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.448</td>
<td>16.555</td>
<td>0.000</td>
</tr>
<tr>
<td>Cattle rustling</td>
<td>-0.102</td>
<td>-3.045</td>
<td>0.003</td>
</tr>
</tbody>
</table>

$R^2 = 0.033$  
Adjusted $R^2 = 0.029$

D.W = 2.236  
F statistics = 9.274

Source: Computed by the Researcher using SPSS 17.0 (2020)

Table 4.6 shows that the $R^2$ value of 0.033 indicates that 3.3% of variation in market quantity of cattle is explained by cattle rustling. The value of F statistics of 9.274 is statistically significant at 1%. Furthermore, the model is free from the problem of autocorrelation. Since the value of Durbin-Watson statistics is greater than 2 (2.236). The F statistics measures the adequacy of the model and it is suppose to be statistically significant at either 1%, 5% or 10% while the Durbin-Watson indicates the existence of autocorrelation among the dependent and independent variables.

The results of the regression indicate that there is a negative relationship between cattle rustling and market quantity of cattle. The study indicates that increasing the number of attacks due to rustling by 1 percent lead to decrease in the market quantity of cattle in the study area by -0.102 (10.2%) which is about 0 to 100 heads of cattle based on the interval scale used in the analysis of data. Furthermore, this tends to reduce the market quantity of
cattle. This result has clearly met the apriori expectations which indicate that if there is a cattle rustling in the study area, the market quantity of cattle will decrease. The reverse would be the case if there are no cattle rustling.

4.2 Discussion of Findings
The findings from the study reveal that a cattle rustling in Zamfara State affects the level of income of cattle owners and market quantity of cattle. This is evident from the results which show that cattle rustling has led to a decrease in the level of income of cattle owners and a decrease in the market quantity of cattle in Table 4.2 and 4.5 respectively. Therefore, the study was able to determine the effect of cattle rustling on the level of income of cattle owners and to investigate the impact of cattle rustling on the market quantity supplied of cattle in Zamfara state.

By implication, the result in Table 4.3 suggests that as individual members of the household in the study area is attacked due to cattle rustling, the number of cattle that are supposed to be sold in the market reduces. Thus, affect the level of income of cattle owners in the study area. On this basis, the first null hypothesis (H₀₁) that Cattle rustling has no significant effect on the level of income of cattle owners in Zamfara State is rejected and the alternative hypothesis is accepted. Therefore, the study has shown that Cattle rustling has significant effect on the level of income of cattle owners in the State. This is because our coefficient is significant at 1% level of significance.

In addition, the result of regression model in Table 4.6 shows that Cattle rustling is negatively related to the market quantity of cattle in the study area. On this basis, the second null hypothesis (H₀₂) that Cattle rustling has no significant impact on market quantity supplied of cattle in Zamfara state is rejected and accept the alternative hypothesis which says Cattle rustling has significant impact on market quantity supplied of cattle in the State. This is because our coefficient is significant at 1% level of significance.

5.0 Conclusion and Recommendations
The study reveals that the level of income of cattle owners and market quantity of cattle in the Study area is affected by the number of cattle rustling. The result shows that frequent cattle rustling had led to a decrease in the level of income of cattle owners and also a decrease in the market quantity of cattle in the study area. This is true when your source of livelihood is rustled away. Your level of income reduces. The same applies to the market quantity of cattle when cattle are rustled in the state. Based on the findings of this research work, the following recommendations were proffered:
i. The government should recognize vigilante groups to strengthen the effort of security agencies to prevent and control activities of cattle rustling.

ii. The government at the state level should educate cattle owners on cattle production and improvement. This will increase the level of income of the cattle owners and market quantity of cattle. Source of livelihood will expand. Thus, enhancing economic development in Zamfara state.

REFERENCES


