ASSESMENT OF THE ROLE OF STAKEHOLDERS IN THE MANAGEMENT OF BORDER INSECURITY USING AHP. A CASE STUDY OF GURIN-FOFURE, ADAMAWA STATE.

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ABSTRACT
Despite the mechanisms put in place to address border insecurity, the challenge still exists on the global scale, which is more pronounced at both regional and local levels. Thus, the study assessed the role of stakeholders in managing border insecurity in Gurin Fufore Local Government Area of Adamawa State. The study highlighted the factors responsible for border insecurity, the role of stakeholders on border insecurity through the measures put in place by the stakeholders and the weight for ranking these roles for managing border insecurity using Group AHP. Delphi method was employed in the selection of participants for the study in the areas affected by border insecurity based on the knowledge of the population and the purpose of the studywith the sample size of 385. This was done in order to select stakeholders which are Police, Custom, Immigration, Army, Community leader and Youth leader in the bordering community who offered reasonable information to the research work. Analytical Hierarchy Process (AHP) was used to analysed the data and arithmetic mean was used to aggregate the relative weights for all the responses of each stakeholder and arrive at the final aggregated weights for each criterion of all the stakeholders. From the study,measure used to manage border insecurity are in these order: routine patrol on border areas (C7) is ranked 1st as the most effective tool, ensuring foreigners have their valid document (C6) is ranked 2nd, Synergy with government security agents (C4) is ranked 3rd, fixed surveillance (C8) is ranked 4th, effective guard and patrol by Pulako (C3) is ranked 5th, investigation (C9) is ranked 6th, addressing the Youth through town hall meetings (C7) is ranked 7th, effective guard and patrol by Vigilantes (C1) is ranked 8th and effective guard and patrol by Local Hunters (C2) is ranked 9th as the least effective. We discovered that some vital means of managing

border insecurity such as effective guard and patrol by vigilantes, effective guard and patrol by local hunters, effective guard and patrol by pulako, addressing the youth through town hall meetings weren't put to play. Hence, stakeholders should make effective use of these neglected measures in handling border insecurity as they play vital roles in managing border insecurity.

Introduction

Border insecurity is a factor of border mismanagement (Osimen, Anegbode, Akande, Clement, Oyewole and Oyindamola 2017). Border insecurity management has become a central issue in the contemporary global arena (Musalli, 2016). Globalization has led to increasing flows of people, goods and services across regional borders. Some countries are more threatened by insecurities or mismanagement of other countries borders than their own. The transfer of criminal activity from one country to another is a spillover effect of interrogation policies which loosen the borders for the purpose of development and enhancing great friendly balance crimes such as human trafficking, poverty in some countries and their drive to alleviate that poverty, open borders, and lack of appropriately educated law enforcement agencies.Arm and drugs are seen to cut across one geographical area but the failure to check and properly control their various activities causesecurity issues especially the influx of arms around border. Lack of cross-national cooperation has been discovered mostly to be responsible for cross-border crime (Osimenet al, 2017). When borders opened (Trade liberalization), they facilitate the spread of criminal networks. Study conducted by (Onuoha, 2013), showed that the porosity of borders in Nigeria is loosely patrolled, resulted in massive influx of illegal immigrant and many other form of organized border criminal activities especially in north-eastern regions of the country. As a result of these factors, there are growing number of concerns on how border can be effectively managed.

The security of borders depends solely on the stakeholders which are key government agencies such as customs, immigration, police, armed forces, ministry of agriculture for quarantine purposes. Airlines, shipping companies, border local authorities, international business companies and individuals (residents of the borders or travelers across boundaries e.g. traders, relatives, tourists or terrorists) (Okumu, 2011).Apgar et al. (2009), also pointed out that different stakeholders worked collaboratively which emerge from traditional processes, where indigenous peoples have sophisticated culturally specific protocols, values and traditions around dialogue, that have been developed over centuries. Participation of the stakeholders varies in intensity and approach where the degree of participation may be of three types, thus non participation, partial participation or genuine participation. Trans disciplinary approaches help different stakeholder groups to share and use their knowledge and experience for problem focused inquiry which requires good dialogue processes and the development of holistic frameworks. Complexity is managed through trans-disciplinary practice, by use of collective dialogical processes and building contextualized holistic frameworks.

Analytic Hierarchy Process (AHP), initially Developed by (Thomas, 1972), is widely used in the Multi-Criteria decision-making method to solve complex decision problems. AHP quantifies related priorities for specific alternatives on a scale according to decision-makers' judgment. It uses both mathematics and the psychology of human decision-making based on pair-wise comparisons to measure the criteria for a specific problem. Moreover, it helps regulate tangible and intangible criteria in an organized way by providing a simple solution to the decision-making problem.

The challenge of border insecurity persists despite the several interventions by stakeholders such as: government agencies, community leaders and private sectors due to the diversity of thought emanating from different disciplines, possibly been biased towards their own objectives. Therefore, against this background, this study intends to assess the roles of stakeholders on border insecurity.

Materials

In Gurin- Fufore, Adamawa State which is a border area, purposive sampling technique was employed in the selection of participants based on the knowledge of the population and the purpose of the study. This was done in order to select stakeholders which are Immigration, Custom, Police, Army, Community leader and theYouth leaderin the bordering community who offered reasonable information to the research workand afterwards five groups of individuals in the community were selected to rate these measures as five is enough for justification according to Delphi method.

The study adopted both a case study and descriptive research design to gain in-depth information on the roles of stakeholders in the case study area with the sample size of 385. Primary data was collected using questionnaire. A first round questionnaire was used to obtained factors that contribute to border insecurity and measures put in place by the stakeholders and in the second round, quantitative data was used for pairwise comparison.

METHOD

Analytical Hierarchy Process (AHP) was used to analysed the data. AHP quantifies related priorities for specific task on a scale according to decision-makers' judgment. Given the nine (9) criteria (the measures of managing border insecurity) which are: effective guard and patrol by vigilantes, effective guard and patrol by local hunters, effective guard and patrol by pulako, synergy with government security agents, addressing the youth through town hall meetings, ensuring foreigners have their valid document, routine patrol on the border areas, fixed surveillance and investigation.

Saaty's 9 point scaling used in assigning weights to the criteria.

Intensity of importance	Definition
1	Equal importance
3	Moderate importance
5	Strong importance
7	Very strong importance
9	Absolute/ Extreme importance
2,4,6,8	Immediate values between and above scale values

***Source**: Thomas L. Saaty (2008)*

Qualitative ratings were quantified using Saaty's scale from which pairwise comparison matrices A_{ij} were made for each stakeholderand for each respondent.

$C_1 \quad C_2 \quad \cdots \quad Cn$

$$A_{ij} = \begin{matrix} C_1 \\ C_2 \\ \vdots \\ C_9 \end{matrix} \begin{pmatrix} 1 & a_{12} & \cdots & a_{19} \\ \frac{1}{a_{12}} & 1 & \cdots & a_{29} \\ \vdots & \vdots & \ddots & \vdots \\ \frac{1}{a_{91}} & \frac{1}{a_{92}} & \cdots & 1 \end{pmatrix}$$

Where:

A_{ij} = pairwise matrix for stakeholder i and j respondents.

i= 1,…, 6 and j = 1, …, 5

C_n =represent the criteria, *i*=1, 2,…, 9

a_{nn} =represents the score for comparing criteria i and criteria j derived group verbal judgement.

A normalize matrix N_{ij} was obtain by dividing the elements of each column by the sum of the elements of thesame column.

$$N_{ij} = \begin{pmatrix} a_{11} & a_{12} & \cdots & a_{19} \\ a_{21} & a_{22} & \cdots & a_{29} \\ \vdots & \vdots & \cdots & \vdots \\ a_{91} & a_{92} & \cdots & a_{99} \end{pmatrix}$$

Where: N_{ij} = normalize matrix for each stakeholder i and jth respondent.

i= 1, 2,…6,

j= 1, 2,…, 5

The relative weights were then computed from N_{ij} by summing each row and dividing by 9. Thus it yields:

$$W_{ij} = \begin{bmatrix} w_1 & w_2 & \cdots & w_9 \end{bmatrix}^T$$

Where W_{ij} = relative weights for each stakeholder i and jth respondent.

To obtain λ_{max}

$$A_{ij} = \begin{array}{c} \begin{matrix} C_1 & C_2 & \cdots & C_9 \end{matrix} \\ \begin{matrix} C_1 \\ C_2 \\ \vdots \\ C_9 \end{matrix} \begin{pmatrix} 1 & a_{12} & \cdots & a_{19} \\ \frac{1}{a_{12}} & 1 & \cdots & a_{29} \\ \vdots & \vdots & \ddots & \vdots \\ \frac{1}{a_{91}} & \frac{1}{a_{92}} & \cdots & 1 \end{pmatrix} \end{array} \begin{pmatrix} w_1 \\ w_2 \\ \vdots \\ w_9 \end{pmatrix} = \begin{pmatrix} nw_1 \\ nw_2 \\ \vdots \\ nw_9 \end{pmatrix} = n \begin{pmatrix} w_1 \\ w_2 \\ \vdots \\ w_9 \end{pmatrix}$$

Where $\lambda_{max} = \sum(nwi)$.

Finally, a Consistency Index was calculated from (λmax-n)/ (n-1). TheConsistency Ratio (CR) was calculated by dividing the Consistency Index for the set of judgements by the Index for the corresponding random matrix.

That means:

CI = consistency index of A: $CI = \frac{\lambda_{max} - 9}{9 - 1}$

Consistency Ratio of A: $CR = \frac{CI}{RI}$

Where random consistency index (RI) = 1.45 from table 2.2.

Consistency ratio was calculated for each of the respondent for each stakeholders.

CR depends on the simple characteristics and the analysis (group and/or individual); for individual experts, CR is restricted to 0.10 or 0.15, while for group responses CR could be relaxed to 0.20 to allow for non-expert

responses following the recommendations (Ho, Newell and Walker, 2005).

Aggregation method

The choice of Group AHP was used because each of the stakeholders are in clusters. We used arithmetic mean weights of the individual stakeholder's weights method of aggregation, which requires individual stakeholder's pairwise comparison matrix independently. Given 5 responses for each group of stakeholders [which are six (6) stakeholders], the pairwise comparison matrix for each stakeholder is presented as:

$$A_{ij} = \begin{array}{c} \\ C_1 \\ C_2 \\ \vdots \\ C_9 \end{array} \begin{array}{c} \begin{array}{cccc} C_1 & C_2 & \cdots & C_9 \end{array} \\ \begin{pmatrix} 1 & a_{12} & \cdots & a_{19} \\ \frac{1}{a_{12}} & 1 & \cdots & a_{29} \\ \vdots & \vdots & \ddots & \vdots \\ \frac{1}{a_{19}} & \frac{1}{a_{29}} & \cdots & 1 \end{pmatrix} \end{array}$$

Where:

A_{ij} = pairwise matrix for stakeholder i and jth respondent, i= 1, 2…6, j= 1, 2…5.

C_n Represent the criteria, n =1, 2… 9

a_{nm} Represents the verbal judgment of the respondents.

The weighted matrix for the criteria for which all the aggregation method were employed was given as:

Arithmetic mean weight of each response (R_j):

$$\text{Wij}=\left(\frac{\sum_{n=1}^{9} w_1}{9}, \frac{\sum_{n=1}^{9} w_2}{9}, \cdots, \frac{\sum_{n=1}^{9} w_9}{9}\right)^T \quad (3.8)$$

Where:

i= 1, 2, … , 6

j= 1, 2, … , 5

It was observed that there are little or more variations in the relative weights from the responses collected on each of the criteria for each stakeholder, therefore arithmetic mean was used to aggregate the relative weight of the responses on each criteria for each stakeholder to obtain an aggregated weight for each criteria for each stakeholder.

Arithmetic mean weight for each stakeholders:

$$W = \left(\frac{\sum_{j=1}^{5} w_1}{5}, \frac{\sum_{j=1}^{5} w_2}{5}, \cdots, \frac{\sum_{j=1}^{5} w_5}{5}\right)^T$$

The aggregated weight for each criteria, for each stakeholder were further aggregated to obtain the final weight and ranking for each criteria for all the stakeholders using arithmetic mean.

Final aggregated weight for each criteria for all stakeholders

$$W = \left(\frac{\sum_{i=1}^{6} w_1}{6}, \frac{\sum_{i=1}^{6} w_2}{6}, \cdots, \frac{\sum_{i=1}^{6} w_6}{6} \right)^T$$

identified from the questionnaire to assessed the role of stakeholders in border insecurity management, Saaty's verbal judgement framework was adopted for collecting data on qualitative rating of the criteria (measures) in a pairwise comparison manner by the respondents (some group of individuals in the bordering community). The qualitative ratings were quantified using Saaty's scale from which pairwise comparison matrices were developed for each respondent j in the cluster (stakeholder)i.

Result and Discussion

From the measures put in place by stakeholders which are also the criteria

BPMSG AHP software for AHP was used to analyse the data collected. Below is the result of the final aggregated relative weight and ranking for each criterion of all the stakeholders:

Table below shows the final weights and their ranking.

Measures	POLICE	CUSTOM	IMMIGRA	ARMY	C. LEADER	C. YOUTH	W	Ranking
C1	0.0682	0.0642	0.0738	0.0631	0.0845	0.1244	0.0797	8
C2	0.0714	0.0747	0.0726	0.0559	0.0712	0.0963	0.0737	9
C3	0.0754	0.2762	0.0628	0.0670	0.1046	0.1397	0.1209	7
C4	0.1479	0.1377	0.1308	0.1433	0.1281	0.2283	0.1527	3
C5	0.1830	0.0494	0.0458	0.0622	0.0981	0.1003	0.0898	6
C6	0.127	0.1498	0.1957	0.1591	0.1599	0.2236	0.1692	2
C7	0.1982	0.2128	0.1996	0.2432	0.1713	0.1934	0.2031	1
C8	0.1292	0.1359	0.1139	0.1666	0.1041	0.1932	0.1405	4
C9	0.1267	0.1103	0.105	0.1285	0.0781	0.1232	0.1120	6

The result obtained from the above table shows that Routine Patrol on border areas (C7) is ranked 1st as the most effective tool, Ensuring Foreigners have their Valid Document (C6) is ranked 2nd, Synergy with Government Security Agent (C4) is ranked 3rd, Fixed surveillance (C8) is ranked 4th, effective guard and patrol by Pulako (C3) is ranked 5th, investigation (C9) is ranked 6th, addressing the Youth through town hall meetings (C7) is ranked 7th, effective guard and patrol by Vigilantes (C1) is ranked 8th and effective guard and patrol by Local Hunters (C2) is ranked 9th as the least effective.

From the study, routine border patrol is the most effective tool the stakeholders used in managing border insecurity and ensuring foreigners have their valid document are the most effective tool used by the stakeholdersto manage border insecurity however, Omolara (2013), in his study is of the view that Nigeria lacks border protection and much importance has not been accorded to our national borders as evident in the vulnerabilities of threat pose at our national borders such as trans-border activities and the prevalent terrorist attack that befall the country resulting in the unrestrained influx of migrants through the routes.

Synergy with security agents is second to the most effective tools used by security agencies in managing border insecurity. This contradicts the argument made by Odoma (2014), who argues that the problem of violence in Nigeria has become more worrisome as the security operatives whose duty is to maintain peace, detect and suppress crimes have themselves become engulfed in violent conflicts, thereby giving criminals opportunity to unleash terror on the citizenry with impunity.

The collaboration of security agencies (police, custom, immigration and army as stakeholders) is effective in border insecurity management as it contradict the study of Onuaha (2013) which states that border insecurity challenges still persist even after several intervention by Government ministries, private sectors and stakeholders due to the diversity of thought emanating from different disciplines, possibly been biased towards their own objectives however, it is also worth to note that emphasis are more on routine patrol on border areas, ensuring foreigners have their valid document, synergy with security agents and fixed surveillance while engaging the community security agents and addressing the youth on the needs and ways to secure the border is less concentrated upon or neglected. This affirms what Lamptey, (2013), stated: border communities should be included in the management of borders. At the local level, most border management efforts do not take advantage of border communities as the local community usually has intimate knowledge of the terrain, the criminal syndicates, meeting places and other security issues. Their effectiveness is useful in informingsecurity operatives of the threats on the border areas. CCTV and every other modern security gadget might be made available but without the host community being effective, border insecurity will still not be achieved.

Conclusion

In this research work, the role of stakeholders on border insecurity management in gurin – fufore, adamawa state has been evaluated. Border insecurity has become a menace to several countries and Nigeria in particular. It was observed in this study that Routine Patrol on border is the most effective tool for border security monitoring, while effective guard and patrol by Local Hunters is ranked as the least effective measure for border security monitoring. Hence, it noteworthy to conclude that all stakeholders should put their hands on deck to manage border insecurity, most especially the government should provide all the necessary modern gadget and the bordering communities should commit their selves fully in securing the border and lives of its citizen.

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