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Incessant resource-based conflicts between farmers and herdsmen continue to undermine the impact of agricultural extension service delivery in Nigeria. This study focuses on the perceptions of conflict and coping strategies among farmers and herdsmen towards identifying a role for Extension in management of farmer-herdsmen conflict. Multi-stage cluster random sampling technique was used to select 300 farmers and 60 cattle herdsmen for the research, using an interviewer-administered questionnaire for data elicitation. Most farmers (78%) perceived the conflict situation as a 'loss', while 68% of herdsmen perceived it as 'threat'. Also, 75% of farmers used 'problem-oriented' coping strategies, while 73% of herdsmen mainly used 'emotion-oriented' coping strategies. Sixty-two percent of farmers and 7% of herdsmen alternatively used 'social-support' strategies. Pearson correlations showed that annual income (r=0.773, p=0.001), farm size (r=0.82, p=0.002), non-farm income (r= -0.71, p=0.003) and household size (r=0.651, p=0.004) were the significant correlates of loss perception among farmers; while among herdsmen, the significant correlates of threat perception were age (r=0.611, p=0.033) and herd size (r=0.814, p=0.002). Furthermore, only 4% of total respondents perceived the conflict situation as 'opportunity to gain'. The paper concludes that farmer-herdsmen conflicts in Nigeria need not become inflexible as they currently seem, and suggests the setting up of a three-tier farmer-herdsmen conflict management committee. The paper recommends a functional role for Extension in periodic revision and enhanced awareness of and compliance with stock routes, as well as Extension staff and clientele training on appropriate coping mechanisms to douse the socio-psychological effects of conflicts.

Keywords

Farmer-herdsmen conflicts, management, extension, collaboration, coping

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Incessant resource-based conflicts between farmers and herdsmen continue to undermine the impact of agricultural extension service delivery in Nigeria. This study focuses on the perceptions of conflict and coping strategies among farmers and herdsmen towards identifying a role for Extension in management of farmer-herdsmen conflict. Multi-stage cluster random sampling technique was used to select 300 farmers and 60 cattle herdsmen for the research, using an interviewer-administered questionnaire for data elicitation. Most farmers (78%) perceived the conflict situation as a 'loss', while 68% of herdsmen perceived it as 'threat'. Also, 75% of farmers used 'problem-oriented' coping strategies, while 73% of herdsmen mainly used 'emotion-oriented' coping strategies. Sixty-two percent of farmers and 7% of herdsmen alternatively used 'social-support' strategies. Pearson correlations showed that annual income (r=0.773, p=0.001), farm size (r=0.82, p=0.002), non-farm income (r= -0.71, p=0.003) and household size (r=0.651, p=0.004) were the significant correlates of loss perception among farmers; while among herdsmen, the significant correlates of threat perception were age (r=0.611, p=0.033) and herd size (r=0.814, p=0.002). Furthermore, only 4% of total respondents perceived the conflict situation as 'opportunity to gain'. The paper concludes that farmer-herdsmen conflicts in Nigeria need not become inflexible as they currently seem, and suggests the setting up of a three-tier farmer-herdsmen conflict management committee. The paper recommends a functional role for Extension in periodic revision and enhanced awareness of and compliance with stock routes, as well as Extension staff and clientele training on appropriate coping mechanisms to douse the socio-psychological effects of conflicts.

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Introduction

Agricultural Extension has contributed significantly to agricultural and rural development in Nigeria. As in many other developing countries, the role of Extension continues to be crucial in the diffusion of agricultural technology and innovations among Nigerian farmers, leading to achievement of higher productivity (Evenson, 1997). Extension, in combination with other agricultural production factors, has seen considerable upsurge in the use of modern, improved farm practices among Nigerian farmers over the decades. Many production innovations that were regarded as taboos or viewed with much skepticism by the predominantly rural Nigerian farmers are now becoming widely sought after and increasingly seen as necessities to agricultural production at micro and macro levels to help alleviate poverty. Extension services have become so important that farmers are now willing to pay for them (Chukwuone & Agu, 2005).

Even though there is still a preponderance of small scale farmers in Nigeria, the adoption of improved farming systems and techniques continues to impact positively on Nigeria's agricultural landscape. Over the last three decades, investments in agricultural extension activities by governments and foreign partners have yielded notable dividends for the farmers and the nation at large. All is not well with agricultural production and, indeed, extension service delivery in Nigeria. In fact, farming and Extension continue to face daunting challenges that require urgent attention.

An important but somewhat overlooked challenge of Extension is the problem associated with farmer– herdsmen conflicts for arable land. Increasing frustration and impoverishment of farmers occasioned by perennial and extensive farm plot destruction and the ensuing bitter conflicts are eroding the gains of Extension efforts. This is a problem for Extension because the ultimate objective of Extension is the enhancement of living standards of farming households.

In Nigeria, the necessity to provide food and raw materials for industry and export in order to meet ever-growing demands has led to both "intensification and extensification" of land use (Nyong & Fiki, 2005). Arable crop and cattle producers have not only intensified the use of their respective lands, they have also been exploring other land frontiers for farming and grazing. Farm lands that are normally allowed to fallow for natural rejuvenation of the soil are fast disappearing, while lands that traditionally provide dry season grazing to pastoralists are becoming shorter in supply (Gefu & Kolawole, 2002). This has heightened the frequency and intensity of competition among various land users. The Fulani herdsmen of lower Sahel and Sudan Savannah are now being found in the south (including the forest belt) in search of greener pasture for their herds (Oyesola, 2000; Ajuwon, 2004). Indeed, Ajuwon (2004) reported farmer-herdsmen conflict in Imo State, south east of Nigeria.

Competition-driven conflicts between arable crop farmers and cattle herdsmen have become common occurrences in many parts of Nigeria (Ingawa, Ega, & Erhabor, 1999). The competition between these two agricultural land user-groups has often times turned into serious overt and covert hostilities and social friction in many parts of Nigeria. In a newspaper study of crises in Nigeria between 1991 and February 2005, Fasona and Omojola (2005) found that land-related conflicts accounted for about 51% of the major clashes reported by the selected newspapers. Specifically, conflicts involving agricultural land use between farmers and herdsmen accounted for 35% of all reported crises. Politico-religious and ethnic clashes occurred at lower frequencies. Another study of 27 communities in North Central Nigeria showed that over 40% of the households surveyed had experienced agricultural land related conflicts, with respondents recalling conflicts that were as far back as 1965 and as recent as 2005 (Nyong & Fiki, 2005). De Haan (2002) observed that no less than 20 villages were involved in farmer-herdsmen conflicts annually in the states covered by his study.

Negedu (2005), while studying the constraints to cassava production in Kwara State found that over 90% of the farmers interviewed indicated that their greatest production problem is the destruction of their farms by cattle. On their own part, herdsmen have also identified conflicts arising from land use as the "most important" problem they face in their occupation (van't Hooft, Millar, & Django, 2005).

There is a compelling need to identify the causes of, as well as explore and discover strategies for finding solutions to farmers - herdsmen conflicts. This is particularly true if any reasonable success is to be achieved in the agricultural sector that is currently undergoing changing production patterns as a result of market and population-driven intensification.

A number of measures are being taken to mitigate these seemingly intractable conflicts by governments at various levels over the years. For instance, Nigeria has 415 government-designated grazing reserves throughout the country, while farmer-herdsmen reconciliatory committees in most conflict-prone states have been set up to control resource-based conflicts among farmers and pastoralists. The Nigerian government also continues to carve out new stock routes for herdsmen, especially in the North-Central states (IRIN, 2010). Quoting, a senior agriculture ministry official, IRIN (2010) reported that the government is also demarcating a 1,400km livestock route from Sokoto State in the northwest, to Oyo State in the southwest and another 2,000km route from Adamawa State in the northeast to Calabar in the delta region. This is in addition to demarcating 175,000 hectares of grazing land, building veterinary service centers, and constructing settlements for nomads to use en route, at a cost of US$247 million (IRIN, 2010). Unfortunately, these conflicts not only continue to persist, they are on the rise and fast becoming a nationwide phenomenon.

Purpose

The Agricultural Extension community in Nigeria has not been particularly forthcoming in the management of farmer-herdsmen conflicts. Given the vital role of Extension in the production activities of both parties, the Extension Service should not be a minor or passive player in finding lasting solutions to farmer-herdsmen conflict. What would be the benefit of extension efforts if farmers fail to get any reasonable output or income from their farms after adoption of improved production practices and technologies? As a major stakeholder in agricultural and rural development, Extension should have a clear role in this important matter as it affects the production activities and overall well-being of its clientele. The focus of this study was to identify a functional role for the Extension Service in the management of farmer-herdsmen conflicts in Nigeria by determining the causes of conflicts from the perspectives of the actors; examining the perceptions of mutual conflicts among farmers and herdsmen; and analyzing the coping strategies of farmers and herdsmen towards conflict and the associated socio-psychological effects.

Theoretical Considerations

Conflict is perhaps a permanent feature in human social relations. Conflict in resource use is not uncommon and perhaps not unnatural between and within living beings; including people. Moore (2005) noted that conflict *per se* is not bad: it is rather necessary in order for societies to evolve and develop over time. Indeed Brown (1983, p. 9, quoted in Driscoll 1994, p. 8) opined that "conflict management can require intervention to reduce conflict if there is too much, or intervention to promote conflict if there is too little." But when conflicts degenerate to violent and destructive clashes, they become unhealthy and counterproductive (Buckles & Rusnak, 1999).

Farmer-herdsmen conflict has attracted considerable empirical and theoretical analyses. However, there seems to be little or inadequate research literature on the conflict actors' perceptions and coping strategies of mutual conflict. Perception of disasters and stressful farm-related situations among farmers has not received adequate analytical discussion in literature,

despite the fact that farming is among the most stressful occupations (Walker & Walker, 2000; Daniels, 2006). The theoretical orientation for this research is derived from a number of conflict/stress management models. Perception of a conflict situation by actors is very crucial to its resolution or management. Bell (2000) described the role of what was referred to as 'meta conflict'- on going disagreement as to what the conflict itself is about. She opined that until there is substantial agreement about the cause of the conflict, reaching agreement on how the divided society reconcile may be almost unattainable. This lack of agreement, according to Bell (2000) is essentially tantamount to waging further conflict. Individual characteristics, according to Walker & Walker (2001) determine conflict perception, and conflict resolution can be attained by controlling or redirecting individual characteristics (Schellenberg, 1996). A study of farmers' and herdsmen' respective perceptions of mutual conflict vis-a-vis their personal characteristics would be desirable for meaningful conflict management/resolution. The importance of investigating 'stakeholders' perception of agriculture-related problems has also been underscored by Mwajaide, Wailes, Miller, and Petersen, Jr., (2009).

The stakeholder identification and salience theory proposed by Mitchell, Agle, and Wood (1997) was also considered relevant to the study in justifying the need for collaboration among the stakeholders in the management of farmer-herdsmen conflicts. It stated three important stakeholder attributes namely: (a) stakeholder's power to influence the firm; (b) legitimacy of a stakeholder's relationship to the firm; and (c) urgency of the stakeholder's claim on the firm. In this study, following Ramirez (1999), the word "firm" as used by the proponents of the theory, is replaced by "the conflict situation." Thus, in this context, the term "power" is seen as a relationship among social actors in which one social actor, A, can get another social actor, B, to do something that B would not have otherwise done; "legitimacy" is seen as a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, definitions; while "urgency" is the degree to which stakeholder claims call for immediate attention (Mitchell, Agle, & Wood, 1997, p. 869). The Extension service in Nigeria has the power, legitimacy, and urgency to effectively intervene, albeit in collaboration with other stakeholders, in the management of farmer-herdsmen conflicts.

Cognitive Appraisal Model of coping (Lazarus & Folkman, 1984) provides the theoretical basis for the analysis of coping in this study. Although other models of coping such as self-regulation model (Leventhal, Nerenz & Steele, 1984), psycho-maintenance model (Temoshok, Van Dyke & Zegans, 1983) exist, they paid little or no attention to coping as a mediator of stressful events (Zarafshani, Zamani & Gorgievski, 2005). According to Lazarus' Model, which was also used by Zarafshani, Zamani, and Gorgievski (2005) to study drought-related stress among farmers, coping from stresses consists of three processes which are: (a) Primary appraisal – the process of perceiving a situation as a loss, a threat or an opportunity; (b) Secondary appraisal – the process of conceiving a potential response; and (c) Tertiary appraisal – the process of coping resource appraisal. Thus, within the framework of this research, the way farmers and herdsmen perceived their mutual conflict is an appraisal. The way they cope, following Lazarus and Folkman (1984) and Zarafshani, Zamani, and Gorgievski (2005), is thus categorized as (a) emotion-oriented, (b) problem-oriented or (c) social support oriented.

Methodology

Kwara State is located in Latitude 7^{o} 55' and 100^{o} North and longitudes $2^{o}20^{o}$ East. It has a land area of 32,500 km sq made of Guinea Savannah vegetation to the south and Derived Savannah to the North. There is also a Fadama belt that stretches the length of the River Niger. Annual rainfall is between 1000-1500mm while maximum average temperatures are between 30^{o} and 35^{o} Celsius (Kwara State Diary, 2007). The state is significant for food production in Nigeria because of its rich soil that supports the cultivation of many crops. It has a cultivable land area of

2,447, 250ha (Kwara State Planning Commission, 2004). Similarly, it has abundant livestock comprising of cattle, goats and sheep.

Four-stage cluster random sampling procedure was used to select respondents for the research. Kwara State is one of the states in Nigeria that have recorded high incidence of farmer-herdsmen conflict. Out of the 16 LGAs in the state, 10 are most associated with farmer-herdsmen conflict. Out of these 10, six were randomly selected-namely: Asa, Edu, Ifelodun, Ilorin East, Kaiama, and Moro LGAs. In each LGA, five farming communities were randomly selected, making a total of 30 villages. Ten arable crop farmers were randomly selected from each village, thus giving a total of 300 farmers. Similarly, in each LGA, 10 cattle herdsmen were also randomly selected. This was done by randomly selecting two herdsmen from five transit camps in each LGA. This gives a total of 60 herdsmen. In all, 360 respondents were selected for data collection. There are 214, 153 farming households in Kwara State (Kwara State Planning Commission, 2007). Unfortunately, there is paucity of similar quantitative data on pastoralism, perhaps due to the itinerant nature of herdsmen's households (Blench, 2001). But herdsmen are generally believed to constitute between less than 1 and 20% of agricultural labour force in Nigeria, depending on agro-ecological conditions and cultural orientations**.** In order to have a manageable and respectable study sample, a selection ratio of five farmers to one herdsman was adopted. Properly trained and well-motivated enumerators and translators were used during data collection. Data for the study were collected in 2008.

Lazarus' Cognitive Appraisal Model was adapted in the study of perceptions and coping among the respondents (Lazarus & Folkman, 1984). Conflict perception was measured by requesting respondents to indicate whether they perceived conflict situation as *a threat, loss*, or *opportunity to gain* in the following resources: yield, material resource, stored products, job status, self-esteem, income, family health, knowledge and quality of relationship. Thus, each respondent had a Loss Perception Index (*lpi*), a Threat Perception Index (*Tpi*), and an Opportunity Perception Index (*Opi*). Any of the three perceptions that preponderated was chosen as the conflict perception of a given respondent, after calculating perception indices (%) at the three levels for each respondent. Coping strategies of respondents were measured with 20 items on a Likert-type 4 point scale. These included 10 active problem-oriented strategies, five avoidant (or emotion-oriented) strategies and five support-seeking strategies. Respondents were asked to indicate how often they used each type of coping strategy to deal with aftermath of conflict and were scored (in %) for their responses for each coping strategy. The questionnaire was also used to elicit data on the perceived causes of conflicts, using an instrument (developed by the researcher during reconnaissance survey and eclectic review of literature) that consisted of 13 positively presented causes of conflict on a 5-point Likert-type scale. Other variables measured were: age (in years); educational attainment as number of years of formal (including adult) education; annual income (as the total income per annum from all occupational activities); family size (number of persons in the farming/herding household); farm size (in hectares as the total farm size); herd size (total number of cattle herded); job experience, and (years spent in active farming/herding).

The Test-retest method was used to determine the reliability of the instrument. This was carried out on 20 respondents that would not be included in the sample. The value of coefficient of correlation "r" was found to be 0.89, which implied that the instrument was reliable. Data were analyzed with the aid of descriptive and inferential statistical procedures.

Findings/Results

Socioeconomic Characteristics

The sample consisted of farmers with little formal education (206 men and 94 women), whose mean age and annual income were 44 years and N101, 129 (USD 674.2) respectively. Their

average farm size and mean farming experience were 2.8 Hectares and 13.7 years respectively. Their mean household size was 14. The herdsmen also had little formal education but had no women respondents. Their mean age and average annual income were 26 years and N203, 393 (USD 1355.95) respectively. With an average household size of nine people, their average herd size and mean herding experience were 41 cattle and 9.1 years respectively. It is noteworthy that respondents were generally not living below the poverty line of $1/day, judging by the mean annual income of each group. While most farmers had one or more secondary occupations, findings show that the herdsmen were mostly mono-occupational. Yet, herdsmen generally earned more than the farmers.

Perceived Causes of Conflicts

Respondents were requested to identify what they perceived to be the specific causes of their mutual conflict. The positively presented responses were graduated on a 5-point Likert-type scale from 'strongly agree' (5 points) to 'strongly disagree' (1 point). Table 1 shows the summary of their mean responses, accompanied by the result of an independent sample t-test analysis to determine whether or not there were significant differences in their opinions on the specific causes of farmer-herdsmen conflicts. The t-tests were done at 0.05 *a priori* level of significance. It is discernible from Table 1 that the two groups differed significantly in four out of the thirteen causes of their mutual conflict. This means that the two groups had similar opinions on 70% of the causes of resource-based conflicts. The four areas of significant disagreement were: farm fragmentation (t=2.33), little respect for traditional farming rules (t=2.65), little respect for traditional grazing rules (t=2.43), and depleting soil fertility (t=2.73).

While farmers, in contrast to the herdsmen, generally believed that herdsmen's failure to pay adequate regard to traditional grazing rules ($\bar{x}$ =3.80) and depleting soil fertility contributed significantly in causing conflicts ($\bar{x}$ = 3.60); herdsmen on the other hand, generally opined that unceasing farm fragmentation by farmers ($\bar{x}$ = 3.80) and farmers' lack of respect for traditional farming rules ($\bar{x}$ =2.73), contrary to farmers' opinion, were significantly responsible of the conflicts. It is instructive, however, to note that both groups did not believe that commercialization of crop residue and deliberate hostilities by *both* parties were significant causes of conflicts.

Table 1 further reveals that each group pointed accusing finger at the other (deliberate hostility by the other party: farmers, $\bar{x}$ = 3.75; herdsmen, $\bar{x}$ =3.95). Rather, each party saw itself as being innocent and the other party as being the aggressor whenever actual, physical clashes ensued. Table 1 further show that both parties significantly agreed that low level of awareness and compliance with designated stock routes, changing access to land and water, government attitude, and inadequate production inputs were causal factors in their mutual conflict.

Table 1
Perceived Causes of Conflicts between Farmers and Herdsmen in Six Local Government Areas, Kwara State, Nigeria, 2008 (N=349)

Perceived Causes of Conflicts	Farmers (n=293) $\overline{X}$	Herdsmen (n=56) $\overline{X}$	t-value (p<0.05)
Low awareness of stock routes	3.55	3.60	0.49
Low level of compliance with stock routes	3.80	4.00	0.81
Unstable access to land and water	3.45	3.10	0.22
Farm fragmentation	2.25	3.80	2.33*
Commercialization of harvest residues	2.45	2.25	0.70
Little respect for traditional farming customs	2.25	3.55	2.65*
Little respect for traditional grazing customs	3.80	1.95	2.43*
Declining influence of traditional rulers	1.85	1.50	0.55
Deliberate hostility by other party	3.75	3.95	1.46
Deliberate hostility by both parties	1.55	1.75	0.83
Government attitude	3.95	4.20	0.48
Depleting soil fertility	3.60	2.15	2.73*
Inadequate inputs	4.25	4.10	2.44

Respondents' Perception of Conflict Situation

A cardinal objective of this study was to investigate respondents' perceptions of the conflict situation. Perception of conflict among respondents was categorized into three: either perceiving conflict situation as a *threat,* a *loss,* or an *opportunity to gain*. How the two parties perceived mutual conflict must be ascertained to get a good understanding of the conflict situation. It is noteworthy that while a majority of farmers (77.8%) perceived the conflict situation as a loss, about 17% of herdsmen perceived it as such. Most of the herdsmen (68.4%) saw the conflict situation as being a threat. Table 2 further shows that only 1.7% of farmers and 14.2% of herdsmen considered the conflict situation as an opportunity to gain (just about 4 % of the entire sample). This is an indication that, perhaps, both parties did not see conflict as an avenue to gain and or mischievously get the better part of the other group.

Table 2
Percentage Distribution of Conflict Perceptions among Farmers and Herdsmen in Six Local Government Areas, Kwara State, Nigeria, 2008 (N=349)

	Conflict Perception		
	As Opportunity To gain (%)	As a Threat (%)	As a Loss (%)
Farmers (n=293)	1.7	20.5	77.8
Herdsmen (n=56)	14.2	68.4	17.4

Source: Field Survey, 2007.

This scenario obviously introduces a perception differential, despite both parties' similarity in 'opportunity to gain' perception. This situation of antagonistic perceptions of mutual conflicts among farmers and herdsmen could exacerbate the rate of conflict (de Haan, 2001). It could have been due to the fact that the farmers experienced greater losses than the herdsmen, while the herdsmen, on the other hand, experienced greater threat to their livelihood than the farmers.

Correlations

The study investigated the socioeconomic correlates of respondents' perceptions of farmer-herdsmen conflict as it affected them. Table 3 shows that while 228 (77.8%) and 10 (17.4%) farmers and herdsmen respectively exhibited loss perception, threat perception of mutual conflict was exhibited by 60 (20.5%) and 38 (68.4%) farmers and herdsmen respectively. Among farmers, level of formal education (r=0.831), farming income (r= -0.626), farm size (r=0.743), and farming experience (r=0.595) significantly correlated with perception of conflict as 'threat'. This implies that 'threat perception indices' (*tpi*) of the concerned respondents increased with increment in the values of these variables as it related to them, except for 'farming income' which showed an inverse correlation. This suggests that increasing farm income decreased perception of conflict as a 'threat' among the farmers and vice versa. On the other hand, among the herdsmen – majority of whom actually exhibited 'threat perception' - the significant correlates loss perception were age (r=0.611) and herd size (r=0.814) among the few herdsmen that perceived the conflict as 'loss'.

Table 3
Relationship between 'Threat' and 'Loss' Perceptions of Conflict and Socioeconomic Variables of Farmers and Herdsmen in Six Local Government Areas, Kwara State, Nigeria, 2008, (N=349)

Variables	'Threat' Perception		'Loss' Perception	
	Farmers (n=60)	Herdsmen (n=38)	Farmers (n=228)	Herdsmen (n=10)
Age	**0.132**	**0.611****	**0.058**	**0.087**
	(0.110)	(0.033)	(0.062)	(0.208)
Other income	**0.018**	**0.067**	**-0.710****	**0.011**
	(0.065)	(0.406)	(0.003)	(0.326)
Educational level	**0.831****	**0.095**	**0.016**	**0.034**
	(0.004)	(0.091)	(0.099)	(0.207)
Farming/herding Income	**-0.626****	**0.063**	**0.773****	**0.655****
	(0.031)	(0.410)	(0.001)	(0.029)
Farm\Herd Size	**0.743****	**0.814****	**0.701****	**0.820****
	(0.012)	(0.002)	(0.001)	(0.0020
Family Size	**0.090**	**0.023**	**0.651****	**0.013**
	(0.208)	(0.207)	(0.004)	90.199)
Farming\Herding Exp.	**0.595****	**0.069**	**0.082**	**0.033**
	(0.034)	(0.205)	(0-107)	(0.324)

**Significant at 0.05; Figures in bold characters are correlation coefficients; Figures in parenthesis are the associated probabilities*

The results further revealed that perception of conflict situation as 'loss' among farmers significantly correlated with income from non-farm occupations, farming income, farm size and household size. While loss perception index (*lpi)* increased with increasing farming income farm size, and household size, it declined with increasing income from alternative occupations. Although only about 17% of herdsmen exhibited 'loss perception', correlations results revealed that *lpi* significantly increased with increasing herding income and herd size among the concerned herdsmen.

Farmer-herdsmen Conflict Coping Strategies

For Extension to be able to make a meaningful impact in the management of farmer-herdsmen conflicts, it is important to gauge, not only how both parties perceive mutual conflict, but also how they cope. Table 4 summarizes the results of the investigation of respondents' coping mechanisms.

Twenty coping strategies were identified. They were classified as problem-oriented coping strategies (POCS), emotion-oriented coping strategies (EOCS), and social support-seeking coping strategies (SSCS). Respondents generally used combinations of strategies that traverse the three classifications. The results further revealed that majority of farmers (about 75%) used more of 'problem-oriented' strategies than the

other two types of strategies, while majority of herdsmen (about 73%) used more of 'emotion-oriented' strategies than the other two types of strategies. Among each group, the use of social support-seeking strategies was least popular.

Table 4 further shows that alternative occupations, purchasing of food items, increasing of farm size, multiple farm plots, early harvesting and farm relocation were the most widely used problem-oriented strategies among the farmers. The use of these strategies portends varying implications for agricultural production as well as the farmers. For instance, the pursuance of alternative occupations could introduce additional fund for farming, but could also imply less time and attention for farming among the concerned farmers. Although 'farm relocation', 'multiple farm plots', and 'increasing farm size' were considered as conflict coping strategies by farmers, when these are not properly carried out, especially when done without adequate consideration for herdsmen's stock routes, there could be further problems with cattle herdsmen. Early harvesting as a coping strategy also introduces the need for adequate storage and processing techniques and expenses. Among herdsmen, the two widely used problem-oriented strategies are 'use of charm' (58%), and herd splitting (66%).

Table 4
Use of Coping Strategies towards Conflict among Farmers and Herdsmen in Six Local Government Areas, Kwara State, Nigeria, 2008, (N=349)

Strategies	Farmers (N=293)		Herdsmen (N=56)	
	Use Rate (%)	Non-use Rate (%)	Use Rate (%)	Non-use Rate (%)
Problem-oriented Coping Strategies				
Increase farm/herd size	78.5	21.5	26.8	73.2
Relocate farm/herds	76.7	30.4	10.7	89.3
Borrowed money	78.8	21.2	13.1	86.9
Multiple farm plots/herd splitting	68.9	31.1	66.0	34.0
Increased labor input	68.9	31.1	9.0	91.0
Bought food crops/cattle feed	84.3	13.7	30.4	69.6
Early harvesting/stock disposal	71.3	28.7	24.1	75.9
Supplementary occupation(s)	86.3	15.7	12.6	87.4
Stayed late on farm/herd at night	67.5	35.9	30.4	69.6
Used charms	44.4	55.6	58.6	41.4
Emotion-oriented Coping Strategies				
Appeasement	35.4	64.6	69.6	30.4
Prayed for peace	28.7	71.3	83.8	16.2
Pretense	32.0	68.0	66.0	34.0
Vengeance	31.1	68.9	69.6	30.4
Used drugs\alcohol	12.7	87.3	39.3	60.7
Social Support Coping Strategies				
Help from Union/Association	35.4	64.8	5.4	94.6
Help from Relations/Friends	73.0	27.0	8.9	91.1
Help from Local Leaders	29.7	70.3	7.1	92.9
Sought Litigation	18.1	81.9	7.1	92.9
Help from Government	21.1	78.9	7.1	92.9
Insurance Policy	-	-	-	-
Bank credit	-	-	-	-
NGO Support	-	-	-	-

Although its efficacy and veracity are not scientifically verifiable, both herdsmen and farmers claimed to use charms, at differing rates, as coping strategy to protect family/self and enterprise in their mutual competition for use of arable land. The use of herd splitting is, however, noteworthy because, in the view of the herdsmen, dividing a herd of cattle into smaller groups affords them an opportunity to manage fewer cattle and enhances their ability to avoid farm plots. It also means getting additional hands for herding.

The use of 'emotion-oriented coping strategies' (EOCS) was found to be more prevalent among herdsmen. Between 40% and 84% of them claimed to use each of the five EOCS namely, appeasement, prayerfulness, pretence, vengeance and drug/alcohol intake. It is disturbing to note that as much as 40% of the herdsmen used drug/alcohol as a 'coping strategy', especially considering the negative social and health implication of alcohol/drug abuse personally and at family and societal levels. Indeed, many of them claimed to use drug/alcohol even while on duty. It is also noteworthy that the rate of use of 'appeasement of the other party' was higher among the herdsmen (69.6%) than the farmers (35.4%) and that about 13% of farmers claimed to use drug for coping.

Few respondents (from both parties) used social support (SSCS) for coping. Indeed, no single respondent used insurance policy, bank credit, and NGO support as a coping strategy. Furthermore, above 90% of herdsmen claimed not to use any of the remaining SSCS. However, 35% and 73% of farmers sought help from unions/associations and friends/relations respectively to ameliorate the adverse effects of conflict with herdsmen.

Conflict Perceptions versus Coping Strategies

Data in Table 5 shows the results of correlation analysis between respondents' conflict perception and coping strategy scores. Perception and coping strategy scores were computed for each respondent and the correlations were carried out accordingly. Among farmers, there were no significant correlations between threat perception indices and the use of any of the strategies. However, the correlations between loss perception indices and use of problem-oriented and emotion-oriented coping strategies were each positively significant. This means that the more the farmers perceived conflict as 'loss', the more they used problem-oriented and emotion-oriented coping strategies and that their use of these strategies were, perhaps, significantly governed by their feeling of loss.

Similarly, there were no significant correlations between herdsmen's *lpi* and the use any of the coping strategies. However, positively significant correlation coefficients were found between their 'threat perception indices' and their use of EOCS. Use of EOCS increased with increasing threat perception Thus, herdsmen use of EOCS could be said to be significantly governed by the fact that they felt threatened and not necessarily because of loss of resource.

Table 5
Pearson Correlations between Perceptions of Conflict and Coping Strategy Scores of Farmers and Herdsmen in Six Local Government Areas, Kwara State, Nigeria, 2008 (N=349)

	Farmers		Herdsmen	
Perception	Threat Perception	Loss Perception	Threat Perception	Loss Perception
Use of POCS	**0.063**	**0.884***	**0.213**	**0.086**
	(0.312)	(0.003)	(0.039)	(0.281)
Use of EOCS	**0.085**	**0.791***	**0.704***	**0.025**
	(0.19)	(0.017)	(0.023)	(0.197)
Use of SSCS	**0.242**	**0.664**	**0.099**	0.629
	(0.160)	(0.016)	(0.286)	(0.014)

**Significant at 0.05; Figures in bold characters are the correlation coefficients; Figures in parenthesis are the associated probabilities*
POCS = problem-oriented coping strategies; EOCS=emotion-oriented coping strategies; SSCS=social support coping strategies

Conclusions and Policy Implications of Findings

Farmer-herdsmen conflict is definitely having its toll on agricultural production, particularly on the actors' households in Nigeria. Ironically, it needs not be as intractable as it currently seems. This study convincingly showed that, even though both parties had differing perceptions of their mutual conflict, they did not perceive the conflict situations as an opportunity to gain. Also, a near-consensus on the causes of the conflicts among respondents was observed in the study. These, in concurrence with Bell's (2000) 'meta-conflict' theory, suggest that the conflicts might be manageable since this study revealed that actors' perceptions of the conflict were not particularly disparate. Findings from the study further indicate a need for Extension intervention in the management of farmer-herdsmen conflicts, especially by enhancing the awareness of, and compliance with designated stock routes among both parties.

Respondents' coping strategies towards mutual conflict also require attention by Extension Service. How both parties cope with the conflict is capable of affecting the effects, magnitude and direction of the conflicts. For instance, increasing farm/herd size, relocation, and multiple farm-plots/herds splitting without adequate consideration for stock routes could further exacerbate the scale of the conflict. Consistent with Walker and Walker (2001) and Schelenberg (1996) that controlling some individual characteristics of conflict actors is useful for conflict resolution, some respondents' socio-economic characteristics were significantly related to their use of certain coping strategies, and this is food for thought for Extension. The use of 'appropriate' preventive and ameliorative coping strategies should therefore be a new Extension message that both parties need to adopt.

Truly, resource-based conflicts between farmers and herdsmen require concerted management efforts. Therefore, Extension cannot, solely on its own manage farmer-herdsmen conflict, even though such conflicts challenge the very essence of Extension. In view of this, and based on these findings, the researcher proposes the following recommendations as policy implications. Each public extension service agency (particularly the Agricultural Development Projects, ADP, in the 36 states making up Nigeria) should have a 'Conflict Management Office' (CMO) that would, for and on behalf of the ADP: (a) collect and regularly update relevant data on herdsmen's stock routes in the respective states; (b) educate village extension workers (VEWs) on the designated herdsmen's stock routes. The VEWs on their part would pass same to both farmers and herdsmen within their (VEWs') area of operation and record/report on the level of awareness and compliance, and (c) be responsible for training specialized VEWs on conflict coping strategies to be adopted by farmers and herdsmen. Such VEWs should assist farmers in deciding how best to conduct their production activities without engendering conflict with the other party. For instance, better storage and processing methods should be adopted by farmers who use early harvesting as a coping strategy, while those using supplementary occupations should be encouraged educationally and otherwise to embark on backyard fishery, poultry, and small ruminant production activities.

Furthermore, the CMO should collaborate with farmers' and herdsmen's unions and associations in creating comprehensive awareness and compliance with designated stock routes. The collaborations should be at State, Zonal, Local Governments, and Village/Community levels through jointly established committees. Second, traditional and local leaders should ask for support to established grazing and farming practices, rules and regulations. Third, governmental agencies/ministries responsible for agriculture, lands, geographical information systems, forestry and natural resources should ensure proper delineation and regular revision of stock routes. The Extension service should also collaborate with the Houses of Assembly by offering realistic and practical inputs to legislations regarding arable land use and management of associated conflicts. Finally, financial institutions, such as rural development and microfinance banks, and (agricultural) insurance companies, should work toward financial assistance for victims of farmer-herdsmen conflicts. Non-governmental organizations involved in agriculture, rural development, and conflict; with a view towards exploring mutually acceptable means of conflict prevention should also be involved in this cause.

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