

# **Patterns of Conflict and Socio-psychological Coping Strategies among Natural Resource User-Groups in Tourism Communities of the Nigerian Savannah**

**Rashid Solagberu Adisa**, Department of Agricultural Extension and Rural Development,  
University of Ilorin, Nigeria, rsadisa@unilorin.edu.ng

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## **Abstract**

The Nigerian savannah, home to a vast proportion of the nation's tourism centers, has become increasingly associated with natural resource-use - portending considerable threat to peace, tourism, and development. This study investigated patterns and causes of resource-use conflicts, actors' socio-psychological coping strategies and conflict management perspectives in the Nigerian savannah. Multi-stage random sampling technique was used to select respondents that consisted of farmers, herdsmen, fisher folks, wild-life hunters and tourism employees in tourist communities and environs of Niger, Kogi and Kwara States, Nigeria. The questionnaire also incorporated an adaptation of the cybernetic coping scale (CCS) to elicit data on coping strategies. Results revealed multifarious causes of conflicts, varying degrees of psychological, physical and socio-economic dimensions to the effects of the conflicts, and fairly similar conflict coping strategies among respondents from all sides. The study concludes that it is imperative to mainstream coping strategies into the management of natural resource conflicts.

*Key words: natural resource, conflict, tourism, coping, Nigeria.*

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## **Introduction**

Recognizing the increasing necessity to diversify its oil-based economy, enhance its international image and, very importantly, harness its vast tourism potentials, the Nigerian government has over the years been focusing on tourism as a source of revenue and an avenue to launder its image in the international community. Nigeria is a signatory to the General Agreements on Trade in Services (GATS) at the end of multilateral trade negotiations of the Uruguay Round which provides for horizontal and sector-specific commitments by signatories on trade in services which, of course, include tourism. In 1991, the government formulated a policy aimed at making tourism a worthy revenue earner at micro and macroeconomic levels and ultimately transforming Nigeria into a leading tourism destination in Africa. The country currently has a Ministry of Tourism and Culture, as well as a National Tourism Development Corporation (NTDC), specifically charged with the governance of tourism activities.

Unfortunately, Nigeria has been unable to attain its tourism targets in terms of accruable revenue and employment generation, not to mention occupying the top position in tourism in Africa (Bankole, 2002). The World Travel and Tourism Council (2007) projected that Nigeria should earn about \$USD10 billion in 2007, about 6% of its GDP. However, in 2010,

Nigeria's income from tourism was only \$USD259 million (Euromonitor International, 2010). This underscores the notion that the number of tourism assets does not necessarily translate into high tourism demand and revenue. It is merely a necessary condition to ensure a supply of tourism services (Taylor, 1973, Bankole, 2002). Nigeria's inability to meet its tourism targets may not be unconnected with the fact that the tourism industry, like many other sectors in Nigeria, suffers from the effects of a myriad of socioeconomic and infrastructural problems. These include poor roads, electricity supply, and water supply (quality and quantity). However, natural resource conflict in and around tourism enclaves introduces a worrisome dimension to the development of tourism.

Although it is the seventh largest exporter of crude oil in the world and Africa's number one oil producing nation, other natural resources such as arable land, water bodies, flora and fauna remain the primary sources of livelihood for a majority of the working population in Nigeria. According to the National Bureau of Statistics (2006), natural resource user groups made up of farmers, fishermen, animal herders, hunters, gatherers and forestry workers constitute about 45% of Nigeria's total working population. With a land area of 923,773 square kilometres made up of forest and savannah vegetation in the southern and northern parts respectively, 24 major rivers having a combined length of nearly 12000 kilometres, and about 82 million hectares of arable land of which only about 42% is so far cultivated, Nigeria is obviously well-endowed in natural resources.

However, due to rapidly expanding population and dwindling socioeconomic capacities, unceasing pressure is being exerted on the nation's natural resource base by the various users. The necessity to meet growing household needs has led to continued 'intensification and extensification' of natural resource utilization in Nigeria (Nyong and Fiki, 2005). This scenario has thus led to increasing competition among the various users. Competition for the use of natural resources has thus been a basis of overt and covert hostilities between and within the various user-groups. These conflicts have in many cases resulted in loss of lives and valuable property. For instance, in a study of 27 communities in North Central Nigeria, more than 40% of the households surveyed had experienced natural resource related conflicts, with respondents recalling conflicts as far back as 1965 and as recently as 2005 (Nyong and Fiki, 2005). Ajuwon (2004) classified how resource conflict could be manifest in three categories: conflict among members of the same user-group, conflict between two user-groups (or more), and conflict between authorities and user-groups. In the first category, intra user-group conflicts occur among farmers, fisher folks, hunters, gatherers, and pastoralists. For example, upstream irrigation farmers are frequently accused of impeding the flow of water to downstream farmers thereby leading to conflict. The second classification involves two or more opposing user-groups fighting over access to a particular resource. In Nigeria, the commonest such instance is conflict between cattle herdsman and farmers competing for the use of arable land and pasture.

Many of these conflicts occur in areas with ample tourist attractions, and they also sometimes involved clashes with authorities/staff of tourist centers. Skirmishes involving staff of national parks, forest reserves, or museums on one hand and gatherers, farmers, hunters, fishermen, or cattle herdsman on the other form the basis of Ajuwon's (2004) third categorization. Conflicts with authorities/staff of tourist centers occur when resource users stray inadvertently or deliberately into tourist areas for farming, grazing, fishing or hunting. This scenario neither portends good omen for the resource users and their communities, nor, indeed, tourism and its development in Nigeria. It is thus pertinent to consider the damaging consequences of resource use conflicts in and around communities endowed with ample tourist attractions. However, understanding how conflict actors and affected persons respond, behaviourally and psychologically, to conflict situations is an important step towards the

achievement of sustainable peace and development. Regrettably, the coping strategies of actors in resource-based conflicts, especially in and around tourist center communities, have not attracted sufficient theoretical and empirical analyses.

This study thus investigated patterns of resource-use conflicts, actors' socio-psychological coping strategies and conflict resolution/management perspectives in and around the tourism enclaves of the Nigerian savannah. Furthermore, the study analyzed the perceived effects of resource-use conflicts on tourism and overall household welfare in the study area.

### **Theoretical Considerations**

This study was premised on management of natural resources and coping models. Specifically the study derived its main theoretical foundation from the 'adaptive management of natural resources' model whose fundamental premise is that knowledge of ecological systems is not only incomplete but elusive, especially under conditions of risk and uncertainty (Walters and Holling 1990; Stankey, Clark, and Bormann, 2005). The model also laid emphasis on management experiences as source of learning, indicating that adaptive management is 'learning to manage by managing to learn' (Bormann et al, 1994a). Against the backdrop of the limitations of the traditional means of scientific inquiry, adaptive management posits that the contextual conditions of resource scarcity, potential irreversibility, and growing demands necessitate the need for new ways for understanding and learning, thus leading to better decision-making and more apparent policy processes (Bormann et al. 1994b). The above contextual conditions, coupled with the dearth and quest for further knowledge on management of ecological systems and stakeholder experiences, contributed to a need to extend the research frontier to include coping strategies for conflict in natural resource utilization.

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'- ongoing disagreement as to what the conflict itself is about. Until there is substantial agreement about the cause(s) of conflict, its effective resolution is very difficult to accomplish. A lack of any reasonable consensus on the nature and causes of a conflict among the stakeholders, according to Bell (2000) is essentially tantamount to waging additional conflict. A 'conflict perception differential' among actors and victims of conflict situations has the tendency to exacerbate the magnitude and effects of conflict (Adisa, 2011). It is thus imperative to gauge the opinions of the respondents on the causes of their mutual conflicts over the use of natural resources in the study area.

Coping is associated with cognitive appraisal and, consequently, stress relevant person-environment interactions (Krhone, 2002). According to Folkman and Lazarus (1980, p. 223), coping can be seen as 'the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them'. Literature on coping is replete with many idiosyncratic models, theoretical and empirical. Because of the relationship between coping and stress, resource theories of stress – concerned with resources that preserve wellbeing in the face of stressful encounters rather than factors that create stress such as social support (Schwarzer and Leppin, 1991), sense of coherence (Antonovsky, 1979), hardiness (Kobasa, 1979), self-efficacy (Bandura, 1977), or optimism (Scheier and Carver, 1992) - have been proposed and form a theoretical basis for this study.

The theoretical Cybernetic Coping Scale (Edwards, 1992) which views stress (herein referred to as conflict situation) as a discrepancy between the individual's perceived state and desired state was particularly useful in this study because of its superior psychometric properties and the close correspondence between CCS factors and *a priori* coping dimensions

of theoretical interest (Edwards and Baglioni, 1999). Although other models of coping such as the self-regulation model (Leventhal, Nerenz and Steele, 1984) and the psycho-maintenance model (Temoshok, Van Dyke and Zegans, 1983) exist, they paid little or no attention to coping as a mediator of stressful events (Zarafshani, Zamani and Gorgievski, 2005). Furthermore, measurement of coping will be advanced not just by empirically generating additional coping frameworks, but instead by comparing and evaluating frameworks that have already been proposed (Carver et al., 1989; Edwards and Baglioni, 1999).

## **Methodology**

The north-central geopolitical zone of Nigeria, consisting of six states and blessed with climatic conditions superb for holidaying, has a wide variety of tourist attractions that include extensive rivers suitable for water sports, exotic wildlife; and an expansive territory of eye-catching nature that encompasses scenic savannah vegetation and splendid waterfalls. The zone also has numerous colourful festivals and other cultural activities that attract local and foreign tourists. However, the zone is becoming increasingly associated with natural resource use conflicts (Ajuwon, 2004; Nyong and Fiki, 2005; Adisa and Adekunle, 2010).

A four-stage cluster random sampling technique was used to select 150 farmers, 30 herdsmen, 20 fisher folks, 30 wild-life hunters and 25 tourism employees in tourism communities and environs in Niger, Kogi and Kwara States, Nigeria. Although communities used for the study were purposefully selected for their proximity to tourist centers/communities, respondents were randomly selected for quantitative and qualitative data collection. An interviewer-administered questionnaire that incorporated an adaptation of the cybernetic coping scale (CCS) and 3-5 point Likert-type scales was used to elicit relevant data. Trained interpreters were used where respondents did not understand the English language. The test-retest method was used to determine the reliability of data collection instrument and the coefficient 'r' ranged from 0.86 to 0.91 for the five CCS factors (changing the situation, avoidance, accommodation, symptom reduction, and devaluation). Other variables measured were job experience (years), estimated annual income (US\$), years of formal education, household size, and years of residency. Perceived causes of conflict were measured among respondents using eight positively presented items on a three-point Likert-type scale (Disagree, Undecided, Agree). Furthermore, perceived effects of conflicts (economic, physical, socio-psychological, and tourism) over a five-year period (2006-2010) were also measured on 5-point Likert-type scales (Always, Frequently, Seldom, Undecided, and Never) consisting of positively presented items. The socio-psychological coping strategies of respondents were similarly measured using an adaptation of the cybernetic coping scale (changing the situation, avoidance, accommodation, devaluation, and symptom reduction). Focused Group Discussions (FGDs) were used to collect in-depth data on the effects of resource use conflict on overall household welfare and tourism as perceived by the identified user-groups and staff of tourist centers, as well as their respective perspectives on how to deal with the conflicts. Data for the study were collected between July and October, 2010.

## **Results**

### ***Socioeconomic Characteristics of Respondents***

Table 1 presents a summary of the personal and occupational characteristics of respondents. It should be noted that respondents were the heads of their respective

households. The table identifies their socioeconomic characteristics in terms of age, job experience, education, annual income, family size, alternative occupation, and duration of domiciliation. The results show that farmers were generally the oldest resource-user group in the study, while herdsmen were the youngest. Similarly, farmers had the highest female population, in sharp contrast to hunters who exhibited absolute male domination. Interestingly, about 7% of herders were female household heads.

**Table 1: Personal and occupational characteristics of natural resource users in North Central Nigeria, 2010 (N =255)**

Variable	Group				
	Tourism Employees (n=25)	Farmers (n=150)	Hunters (n=25)	Herdsmen (n=30)	Fishermen (n=20)
Mean age	28	46	39	23	41
% Female	20	38	0	6.7	15
Mean Job Experience (years)	7	28	16	18	22
Mean Annual Income (US\$)	2357	1277	1036	3342	1323
Mean Years of Education	15	8	5	3	10
Mean Family Size	8	11	6	9	5
Mean Duration of Residency	7	36	28	11	27

The farmers also exhibited the highest mean job experience (in years), mean family size, and mean duration of residency. These characteristics on the part of farmers ostensibly predispose them to greater involvement in resource conflict. Mean annual per capita income (based on mean family size) for each user-group indicated the level of poverty among natural resource users in the study area. The mean per capita income of herdsmen's households (US\$ 371.3) was just barely above the (\$1) poverty line. Going by this analysis, the household members of the other groups were living well below the (\$1) poverty line. Tourism employees – consisting of staff of tourism centers/parks, managers of hospitality resorts and handlers of tourism programmes/activities – were the second highest income earners as could be seen from Table 1, and had the least average years of job experience as well as duration of residency in the study area. It is also worthy of note that tourism employees were generally more educated than the other groups of respondents.

### ***Patterns of Resource Conflicts***

Resource conflicts in the study area followed three distinct patterns namely: intra user-group conflict, inter user-group conflict, and conflict involving members of a user-group and authorities/operators of tourist centers. Table 2a summarizes the pattern of conflict among the respondents, showing intra and inter user-group conflict among respondents. The table shows that conflicts occurred between each of the four user-groups on one hand and tourism centers (such as national parks and forest reserves) on the other. Varying numbers of respondents from all the user-groups trespassed into tourism centers during farming, fishing, hunting, and cattle rearing as the case may be. Furthermore, apart from involvement in intra user-group conflict, farmers, for instance, were also found to be involved in conflict with other user-groups such as hunters (when hunters set fires on farmlands in search of animals) and herdsmen (who frequently herd their cattle into farmlands). Conflicts also ensued between irrigation farmers and fishermen over access to natural water bodies in the study area.

**Table 2a: Conflict patterns among natural resource user-groups in North-Central Nigeria (2010)**

In conflicts with	User-group			
	Farmers ↓	Herdsmen ↓	Hunters ↓	Fishermen ↓
	*Fellow farmers	*Fellow herdsmen	*Fellow hunters	*Fellow fishermen
	*Wildlife hunters	*Farmers	*Farmers	*Herdsmen
	*Herdsmen	*Fishermen	*Tourism centers	*Farmers
	*Fishermen	*Tourism centers		*Tourism centers
	*Tourism centers			

Similarly, Table 2a illustrates further that herdsmen competed among themselves and with other user-groups such as farmers (when their trek routes are encroached upon) and fishermen (when livestock river crossing places are blocked).

Table 2b shows the summary of the rates of involvement in these conflicts over a five-year period among the user-groups in the study sample. It is discernible from Table 2b that farmers were more involved in intra user-group conflicts than the other user-groups. Because arable crop farming remains the dominant occupation in the study area, many of the intra user-group conflicts involving farmers were due to boundary disputes between neighbouring communities, clans and farming families.

Disagreements over access to irrigation water sources among farmers along river basins also partly accounted for intra user-group conflicts among the farmers. It is also noteworthy that, albeit at much lower rates, intra user-group resource-based conflicts were also found among herdsmen, fishermen and wildlife hunters especially between 2008 and 2010, which previously had rarely or never occurred.

**Table 2b: Patterns of Resource Use of Conflict in North Central Nigeria (2006-2010)**

Pattern of Conflict	Year				
	2006	2007	2008	2009	2010
<b>Intra user group conflict</b>			<b>% involved</b>		
Farmers (n=150)	14.0	14.0	20.0	12.0	30.0
Herdsmen (n=30)	6.7	-	6.7	-	13.0
Fishermen (n=20)	-	-	15.0	-	20.0
Wildlife hunters (n=25)	-	-	-	8.0	12.0
<b>Inter user group conflict</b>					
Farmers (n=150)	33.0	29.0	41.0	66.0	74.0
Herdsmen (n=30)	53.3	56.0	63.0	70.0	73.0
Fishermen (n=20)	10.0	15.0	10.0	10.0	20.0
Wildlife hunters (n=25)	16.0	12.0	12.0	16.0	20.0
<b>Conflict with tourism centers</b>					
Farmers (n=150)	5.3	8.7	5.3	10.6	14.0
Herdsmen (n=30)	20.0	16.7	10.0	26.7	33.3
Fishermen (n=20)	15.0	15.0	20.0	15.0	20.0
Wildlife hunters (n=25)	16.0	20.0	16.0	20.0	24.0

Table 2b further shows that inter user-group conflicts were the most prevalent type of resource conflict in the study area, with a somewhat progressive increment over the five-year period. For instance, 74% and 73% of farmers and herdsmen respectively were involved in

resource conflicts with other competing user groups in 2010, higher than the figures for the previous years. Indeed, increasing rates of involvement in inter user-group resource conflicts were revealed among respondents in the other user-groups over the same period. This finding suggests that inter-group resource conflicts are becoming more widespread in the study area. The rates of involvement of the four resource user-groups in conflict with authorities/staff of tourism centres are also summarized in Table 2b. Most of the respondents that conceded that they had, at one time or another in the last five years, been involved in ‘conflict’ with tourism centers agreed that they more often than not lost their way and strayed into ‘reserved areas’ during farming, grazing, fishing or hunting.

Table 2b also shows a somewhat increasing rate of involvement in conflict with tourism centers among respondents in the four user-groups. The highest rates of involvement were in 2010 for all the user-groups. Herdsmen, however, stood out as the user-group with the highest rate of involvement. This is despite the fact that in all the three states where this study was carried out, there were grazing reserves and government-designated herdsmen’s stock routes, outside which herdsmen are not expected to venture. In fact, the bulk of the 415 grazing reserves in Nigeria could be found in north-central Nigeria. The incidence of natural resource users’ trespasses into reserved areas such as national parks and forest reserves, as revealed by this study and others, thus continues to be worrisome.

### *Perceived Causes of Conflict*

An investigation of respondents’ perspectives of the causes of resource conflicts in the study area revealed the data contained in Table 3. Eight major causes of resource conflicts in the study area were identified and the percentages of respondents from each of the user groups that had common perceptions of the identified conflict causes were determined.

**Table 3: Perceived causes of conflict among natural resource user-groups in North-Central Nigeria, 2010. (N=225)**

Causes	User-group						Range (%)
	F (n=150)	WH (n=25)	HM (n=30)	FM (n=20)	TE (n=25)	All (N=225)	
Inequitable Access	59	23	68	25	52.0	52.4	45.0
Diminishing Resource	75	72	80	75	84.0	75.6	8.0
Changing Authority	22	20	26	25	24.0	22.7	6.0
Antagonistic Values	26	24	23	25	44.0	25.3	3.0
Insecurity	71	72	63	65	68.0	65.3	17.0
Policy contradictions	66	68	63	60	76.0	65.3	8.0
Non-recognition of Indigenous Rights	88	84	77	80	68.0	85.3	8.0

F=farmers; WH =wildlife hunters; HM=herdsmen; FM=fishermen; TE=tourism employees

Table 3 reveals that out of the seven causes of conflicts, four were overwhelmingly agreed upon by respondents as being their perceived causes of the resource conflicts in the study area, while the other three were agreed upon by between 12% and 52% of the respondents. Specifically, ‘non-recognition of rights of indigenous people’ was perceived as the major cause of conflicts by 85% of the respondents. In fact, not less than 75% of respondents in each user-group believed that lack of proper recognition of the rights of indigenous people

has continued to be responsible for resource conflict. `Diminishing resource stock` was also agreed upon by about 75% of the respondents (farmers, 75%; hunters, 72%; herdsman, 80%; and fishermen, 75%). Depleting soil fertility, decreasing stock of wildlife, scarcer fodder, and fewer catches were cited by farmers, hunters, herdsman, and fishermen respectively. About 65% of all respondents agreed that `insecurity` and policy contradictions were major causes of conflict. It is noteworthy that 76% of tourism employees (the highest among the study groups) opined that `policy contradictions` was a major cause of resource use conflict, suggesting that this group was equally dissatisfied with policy regime in respect of access to and use of natural resource in the study area. For instance, they cited policy inconsistencies regarding grazing reserves, stock routes, and access to, and use of river basins (*fadama*) as examples where government need to reconcile the interests of concerned resource user-groups.

Most of the respondents in each user-group, including the tourism employees, did not agree that `changing authority`, and `antagonistic values` of resource users were major causes of resource conflicts in the study area. This perhaps indicates that changes in authority or natural resource governance *per se* and the differences in cultural and socioeconomic values of resource users might not be playing significant role as causes of resource conflicts in the study area, at least based on the perceptions of the conflict actors.

It is interesting to note, however, that just about half of the total respondents perceived `inequitable access to resources` as a major cause of intra and inter user-group conflict. Among farmers and herdsman, however, 59% and 68% of respondents respectively perceived that unfair access rights to resources might be responsible for resource conflicts. This may not be astonishing because the two groups have for long been engaged in accusations and counter-accusations over the use of arable land (Adekunle and Adisa, 2010). Out of the seven listed perceived causes, `inequitable access` exhibited the highest `perception differential` (range = 36%) as shown in Table 3. Indeed, none of the remaining six perceived causes of conflict had up to 9% perception differential among the respondents. These findings suggest that contending resource user-groups all the same shared somewhat similar perceptions on the causes of resource conflicts, a good omen for meaningful resolution of resource conflicts.

### **Effects of resource conflicts**

The manifestations of the conflicts ranged from mere altercations to violent skirmishes resulting in loss of livestock, crops, life and valuable property. Table 4 presents the summary of the results of an investigation of the effects of resource conflicts among respondents. The resource conflicts on the respondents included economic, physical and socio-psychological effects and respondents remembered these vividly. The level of agreement on economic effects of resource conflicts among respondents ranged from 3.39 (in 2007) to 3.91 (in 2010) over the five year period. This implies general agreement that they were affected negatively by the economic effects of resource conflicts. The most important perceived economic effects of resource conflicts among the respondents over the five-year period were loss of yield, reduction in income, and indebtedness. These effects are inter-related, but they are individually capable of engendering poverty and precipitating further competition and conflict among the resource user-groups. An investigation of the physical effects of conflict, however, revealed that none of the listed items was considered to be generally a significant effect of resource conflict over the years. In fact the mean levels of agreement ranged between 1.10 and 1.93 as could be observed from Table 4.

**Table 4: Effects of resource conflict among natural resource users in North-Central Nigeria, 2010 (N=225)**

Effects	Year				
	2006	2007	2008	2009	2010
<b>Economic Effects</b>	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$
Loss of yield	4.03	3.91	4.23	3.94	4.53
Reduction in income	4.13	4.27	3.99	4.23	4.38
Loss of household resource	2.75	2.62	2.83	3.00	3.15
Loss of man-hours	4.24	3.98	4.07	4.36	3.22
Security expenses	3.05	4.11	3.16	3.93	3.02
Indebtedness	2.12	3.03	3.36	4.22	4.46
<i>Grand mean</i>	20.32	21.92	21.64	23.68	22.76
<i>Level of agreement</i>	3.39	3.65	3.60	3.91	3.79
<b>Physical Effects</b>					
Home destruction	1.05	1.21	2.09	1.55	2.29
Bodily injury (self)	1.04	2.13	1.06	1.82	2.32
Bodily injury (household member)	1.28	1.10	2.03	1.79	2.04
Death of household member	1.03	1.20	1.30	2.10	1.09
<i>Grand mean</i>	4.40	5.64	6.48	7.16	7.72
<i>Level of agreement</i>	1.10	1.41	1.62	1.79	1.93
<b>Socio-psychological Effects</b>					
Declining quality of children's education	3.57	3.66	4.45	4.67	4.22
Sleepless nights	2.83	2.02	3.11	3.91	3.98
Anger\anxiety\emotional exhaustion	3.49	3.81	3.69	3.91	4.03
Reduction in family food quality\quantity	3.43	3.54	3.23	4.11	4.21
Job dissatisfaction	3.43	3.33	2.34	3.21	4.49
<i>Grand mean</i>	16.75	16.36	16.82	19.81	21.03
<i>Level of agreement</i>	3.35	3.27	3.36	3.96	4.20

This finding suggests that resource conflicts in the study area in the last five years had not taken a generally violent dimension. It is however instructive to note the progressive increment in mean levels of agreement between 2006 and 2010 implying a gradual but surely increasing manifestation of overt hostilities among resource users in the study area.

Furthermore, Table 4 reveals that respondents generally experienced the socio-psychological effects of the conflicts, especially between 2009 and 2010. The mean levels of respondents' agreement with the items on the socio-psychological effects scale ranged from 3.27 to 4.20 over the five-year period. Respondents generally agreed that the quality of their children's education had been badly affected due to the economic losses they encountered as a result of resource conflicts. Table 4 further shows that anxiety, emotional instability, job dissatisfaction, reduction in quality and quantity of family food intake and sleeplessness among the respondents increased over the years – all reaching their peaks in 2010. It is noteworthy that the respondents were generally emphatic about the direct linkage between the stated effects and their involvement in resource use conflicts.

The study also investigated respondents' views of the effects of resource conflicts. Data contained in Table 5 summarizes the findings. The negative effects of resource conflicts on the development of tourism and the society as a whole were not lost on the resource users as well as tourism employees. Based on their personal experiences over the five year period, 86% of the interviewed tourism employees and about 70% of resource users opined that

incessant resource use conflicts in the past five years have demonstrated considerable propensity to negatively affect tourism activities in the study area.

**Table 5: Perception of the negative effects of resource conflicts among tourism employees and resource users in North-Central Nigeria, 2010**

	<b>SD</b> %	<b>D</b> %	<b>U</b> %	<b>A</b> %	<b>SA</b> %
<b>Negative effects on tourism</b>					
Resource Users (n=225)	4.8	8.0	17.8	44.4	25.0
Tourism Employees (30)	3.3	3.3	6.7	36.0	50.0
<b>Negative effects on peace and progress</b>					
Resource Users (n=225)	-	-	-	14.0	86.0
Tourism Employees (n=30)	-	-	-	10.0	90.0

It is instructive, however, to note that about 13% disagreed that resource conflicts had no negative effects on tourism, while 18% were undecided. These groups of respondents probably had negligible or no negative experiences of natural resource use conflict in the five year period covered by this study. Table 5 however further reveals that all the respondents agreed that resource use conflicts had threatened overall peace and progress in the study area over the last five years. This implies that the resource users are all well aware of the consequences of resource conflicts at the macro society level and might be thus favourably disposed to contribute to conflict mitigation efforts.

### ***Socio-psychological Coping Strategies***

An adaptation of the cybernetic coping scale, CCS, (Edwards, 1992) was used to analyze the socio-psychological coping mechanisms for the effects of resource conflict among the respondents. The findings as presented in Table 6 show the use of the five categories of the adapted CCS factors among the user-groups, including tourism employees. The original CCS (Edwards, 1992) contained 20 items. However, reconnaissance surveys conducted prior to data collection informed the addition of the asterisked items in Table 6. Furthermore, their inclusion was necessitated due to the fact that the study focused on socio-psychological factors and not just the psychological ones.

**Table 6: Socio-psychological coping strategies for resource conflict among natural resource users around tourism communities of the Nigerian Savannah, 2010, (N=225)**

Strategy	Year				Cumulative Total
	Farmers (n=150)	Hunters (n=30)	Herdsmen (n=25)	Fishermen (n=20)	
<b>Changing the situation</b>	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$
Tried to change the situation	1.39	1.08	1.03	1.22	
Focused my efforts on changing the situation	1.22	2.29	2.77	1.39	
Worked to change the situation	2.33	2.11	1.23	3.19	
Tried to fix what was wrong with the situation	1.88	2.62	2.11	1.09	
Tried to avenge the situation*	3.98	4.21	3.77	3.58	
Borrowed money*	3.69	2.16	1.34	1.09	
<i>Grand total</i>	<i>14.49</i>	<i>14.47</i>	<i>12.25</i>	<i>11.56</i>	
<i>Mean level of agreement</i>	<i>2.42</i>	<i>2.41</i>	<i>2.04</i>	<i>1.92</i>	<i>8.79</i>
<b>Accommodation</b>					
Made an effort to change my expectations	3.42	3.39	2.61	3.08	
Convince myself that things were acceptable	2.56	1.73	2.11	1.84	
Adjust my expectations to meet the situation	3.81	2.33	3.77	4.05	
Adjust my own standards	2.89	1.93	2.23	2.48	
Appease the other party*	3.08	2.29	3.31	1.26	
<i>Grand total</i>	<i>15.76</i>	<i>11.67</i>	<i>15.03</i>	<i>12.71</i>	
<i>Mean level of agreement</i>	<i>3.15</i>	<i>2.33</i>	<i>3.00</i>	<i>2.54</i>	<i>11.02</i>
<b>Devaluation</b>					
Convince myself the problem wasn't important	1.88	1.07	2.03	1.67	
I told myself the problem was unimportant	1.59	1.71	1.44	1.81	
I told myself the problem wasn't so serious	2.00	2.36	1.53	2.04	
I told myself the problem wasn't a big deal	1.15	1.83	1.66	1.35	
Socialize with friends/relatives*	4.09	3.37	1.87	2.21	
<i>Grand total</i>	<i>10.71</i>	<i>10.34</i>	<i>8.53</i>	<i>9.08</i>	
<i>Mean level of agreement</i>	<i>2.14</i>	<i>2.06</i>	<i>1.70</i>	<i>1.82</i>	<i>7.72</i>
<b>Avoidance</b>					
Keep myself from thinking about the problem	3.93	4.02	3.86	1.43	
Turn my attention away from the problem	3.56	2.29	1.81	2.25	
Refused to think about the problem	2.12	1.90	1.41	2.11	
Avoid thinking about the problem	2.30	2.19	3.06	1.37	
<i>Grand total</i>	<i>11.91</i>	<i>10.40</i>	<i>10.17</i>	<i>7.16</i>	
<i>Mean level of agreement</i>	<i>2.98</i>	<i>2.60</i>	<i>2.54</i>	<i>1.79</i>	<i>9.91</i>
<b>Symptom Reduction</b>					
I tried to just let off steam	4.24	3.66	3.05	4.22	
I tried to relieve my tension somehow	3.88	4.22	4.13	3.79	
I tried to just get it off my chest	3.19	4.13	3.32	3.82	
I just tried to relax	4.33	3.87	3.27	4.19	
Used drugs/alcohol*	3.67	3.99	2.28	2.88	
<i>Grand total</i>	<i>19.31</i>	<i>19.87</i>	<i>16.05</i>	<i>18.90</i>	
<i>Mean level of agreement</i>	<i>3.86</i>	<i>3.97</i>	<i>3.21</i>	<i>3.78</i>	<i>14.82</i>

\*Items not included in the original cybernetic coping scale

Findings revealed that respondents in all user-groups generally used combinations of socio-psychological coping strategies towards the effects of resource conflicts in the study area. As contained in Table 6, the most commonly used coping socio-psychological factor among all the user-groups was 'symptom reduction', with the highest cumulative total mean level of agreement for all the user-groups (14.82). Indeed, symptoms reduction had the

highest mean level of agreement among all user-groups. This means that majority of the respondents in all the user-groups were preoccupied with reducing the socio-psychological symptoms associated with the impact of resource conflict. On the other hand, the least commonly used coping factor among the respondents was 'devaluation', having a cumulative total mean level of agreement of 7.72 for the four user-groups, implying that most respondents preferred to face the realities on ground rather attempt to downplay the socio-psychological consequences of resource conflict. It is noteworthy, though, that the use of drugs/alcohol as psychological means of reducing the symptoms of the effects of conflicts was relatively pronounced among respondents, especially herdsmen ( $\bar{x} = 3.99$ ) and farmers ( $\bar{x} = 3.67$ ). This finding is worrisome because drug/alcohol use could have adverse effects on users' health and the socioeconomic well-being of their households, apart from its potential to exacerbate the conflict situation.

Also worrisome is the use of 'vengeance' to 'change the situation' as a coping strategy among respondents in the four user-groups. Table 6 shows that the mean level of agreement with 'tried to avenge the situation' was above 3.5 for each user-group. Indeed it was 4.05 for herdsmen. Unfortunately, a situation whereby conflicting parties are desirous of vengeance portends unfavourably for meaningful conflict resolution.

The results of Focus Group Discussion (FGD) data analysis revealed the 'serious negative effects' experienced and the 'deep concern' felt by members of user-groups concerning resource use conflicts in the study area. The FGD further confirmed that there were varying degrees of psychological, physical and socio-economic dimensions to the effects of the conflicts among respondents from all sides, as earlier revealed by the quantitative data. Participants further exhibited their belief that the 'government was not doing enough' to mitigate conflicts and expressed their willingness to 'cooperate with government and other concerned NGOs' in the management of resource use conflicts around tourism-rich enclaves. On their part, FGD participants from tourist centers observed that the frequency of resource users' trespasses into restricted territories 'has continued to increase over the years'. They noted that 'herdsmen and hunters were the biggest culprits' and that authorities have 'expended more resources on security and surveillance as a coping strategy to discourage intrusion especially by hunters, herdsmen and farmers'. Suggestions offered by participants for better management of resource use conflicts included 'establishment of more grazing reserves', revision of herdsmen's stock routes, 'compensation' for victims of resource conflicts and increased involvement of indigenous people in the exploitation and management of their 'God-given natural assets'.

### **Conclusion and Implication of findings**

Occurrence of resource use conflicts in and around communities possessing rich tourist attractions runs counter to the development of tourism in Nigeria and her overall socioeconomic development. The causes, patterns, consequences, responses, and perceptions of the conflict have been shown to be multifarious, despite the fact that the respondents generally shared nearly similar socioeconomic characteristics. Over the past five years, there had been gradual but continual increment in the occurrence of resource conflict within and between the identified user-groups, including tourism centers. The study showed that the respondents had generally congruent perceptions of the causes of their mutual conflict. Since 'perception undergirds conflicts', it is perhaps safe to conclude here that natural resource conflicts in north-central Nigeria might not be as intractable as they currently seem, going by the level of similarity in the actors' perceptions of causes of conflict.

Concerted efforts by all stakeholders should be enhanced to mitigate the conflicts. The study recommends that it is imperative to mainstream the peculiarities of the patterns of resource use conflict and actors/victims' coping strategies into the management of natural resource conflicts by:

- Setting up more functional natural resource conflict management committees at local village levels to incorporate all stakeholders. Such committees should be funded and coordinated by government and non-governmental organizations,
- Providing alternative job opportunities for people and stepping up poverty alleviation programmes in the study area. The people should be encouraged to explore the possibility of participating in tourism-related income-generating activities.
- Educating and encouraging conflict actors and persons affected by conflict in the use of appropriate coping strategies and discouraging vengeance and the use of drugs and alcohol.
- Making more funds available to tourist centers in conflict-affected areas for security and surveillance. There should be enhanced public information and education on the need to respect the inviolability of restricted areas such as parks, gardens and forests
- Exploring better involvement of indigenous resource user-groups in policies relating to natural resource management and utilization.
- Involving tourist centers and organizers of tourist attraction activities (as important stakeholders) in the management of natural resource conflicts.
- According more recognition to indigenous people in the use and management of natural resources.
- Assisting victims of resource conflicts financially through credits and insurance facilities.

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