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ATTITUDES OF LOCALS AND THEIR DEPENDENCE ON THE NATURAL FORESTS: A CASE STUDY OF AL-BAHA AREA- SAUDI ARABIA

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ABSTRACT

This paper examines the attitudes of local people living in the Al-Baha area towards natural forests. Some 500 respondents/locals through a random stratified sample were selected for the study. Data were collected by using questionnaires. A positive attitude of local people towards the natural forests was observed. On a 5 point scale, the mean value of the locals' attitudes towards forests was 3.9 with SD 1.10. About 80% of the local citizens were well-educated, having jobs and with the reasonable income levels. Also, locals do realize the recreational importance and environmental benefits of the nearby forests. Some 76.2% respondents depend on the local forests for recreational activities. The study recommended planning and executing forestry extension programs for the education of the locals on forest management, environmental roles, development and protection; designating more resources for the development of forests; developing a new forests management system that ensures the participation of locals in the management, development, and protection of the forests**.**

Key words: Attitudes; extension role; rural livelihood; environmental benefits; sustainable forest management

INTRODUCTION

Although forests are viewed as an important natural resource and a main source of wood yet they receive great importance as well due to their innumerable environmental, economic, recreation and eco-tourism, and social benefits (FAO, 2011).

In Saudi Arabia, forests cover an area of 27280 km^2 (UN Statistics Division, 2012) representing only 1.3% of the country total area (FAO, 2007). Unfortunately forest resources in Saudi Arabia are continuously dwindling and are witnessing degradation at an alarming rate due to the natural factors and anthropogenic activities (Rawat *et al*., 2008; El-Juhany, 2009).

Features like very low and variable rainfall, high temperatures and low humidity and lack of rivers and scarcity of underground water have great influence on forest stands of Saudi Arabia. All these factors hamper the natural growth and making regeneration of the forests to be very slow and the afforestation and tree planting programs very expensive (Ministry of Agriculture, 2002; Aref, and El-Juhany, 2000; Badai and Aldawoud, 2004). On the other hand, excessive tree cutting, overgrazing, deforestation, deterioration of natural pastures and expansion of agricultural lands are considered among the main challenges for sustainable development of the forests in Saudi Arabia (Aref and El-Juhany, 2000; Al-Hady, 2005; Ministry of Economy and Planning, 2005; El-Juhany, 2009). To protect, conserve and develop the forests in Saudi Arabia, the Ministry of Agriculture has implemented several afforestation programs and projects (Al-Mosa, 1999).

Forestry extension has several roles such as: creating awareness on the importance of forests, concerns over their economic, social, ecological advantages, benefits, and interdependence of these benefits in urban and rural areas. In addition, forestry extension also provides locals with the opportunities to acquire the knowledge make commitments; develop skills, develop positive attitudes towards forest. These traits and features certainly help protecting and improving the environment and forests. Above all, forestry extension can assist shaping the behaviors in individuals, groups, and community as a whole towards the forests and associated environment (Agbogidi and Ofuoku, 2009).

A review of past studies carried out by Abo-Hassan (1983) and Abo-Hassan *et al*., (1984) revealed that projects were initiated with the objectives to grow more trees, re-planting of forests and to realize more wood from the existing forests in Saudi Arabia. However, Agbogidi and Ofuoku (2009) maintained that these features and traits cannot be integrated into the forests without the involvement of the native people. In the situation, it is imperative to analyze the attitudes of the locals towards forests and the associated environment. Before any management plan is introduced and implemented in a particular area, it would be critically important for the planners to clearly understand the nature of the forest resources available to the locals, their socio-economic characteristics and their attitudes towards the forests (Agbogidi and Eshegbeyi, 2008; Agbogidi and Ofuoku, 2009).

In the kingdom of Saudi Arabia, such studies have not been undertaken so far. Therefore, it seemed imperative to initiate studies to examine the attitudes of locals towards forest, their dependence on it, and their perspectives about factors causing damage to the forests.

Objectives and purpose of the study: The major objective of this study is to understand the attitudes of locals in Al-Baha area towards the surrounding forests. However the specific objectives are as under:

1. To identify the attitudes of locals towards forests.
2. To know the socio-economic characteristics of the locals.
3. To explore the relationship between the locals' dependence on forests and some of their socioeconomic characteristics.
4. To identify factors causing damage to the natural forests from locals' perspectives.

MATERIALS AND METHODS

The study was done from March 2008 to November 2009 in Al-Baha area of Saudi Arabia. The study population includes all the 411888 dwellers of the area. The questionnaire consisting of questions based on the objectives of the study was developed, and then reviewed by some faculty of the Department of Agricultural Extension and Rural Society and Forestry faculty in the Plant Production Department in the College of Food and Agriculture Sciences, King Saud University. Also, the questionnaire was pre-tested and found reliable. The study area has been divided into four sub-areas; 1) the Central and Qura area, 2) Buljarshi and Ageeg area, 3) Almundig area and 4) Tohamah area, based on dominance of major vegetation communities. A stratified random sample comprising 500 households was selected. As it was difficult to obtain a complete list of all households in the study area, high homogeneity and extreme similarity of the households' lifestyle in each area, and high enrolment rate of children in schools, therefore, students from all primary, intermediate and high schools of the study area were treated as the sampling frame. Then 125 students were selected randomly in each sub-area from a list developed for all students enrolled in these 4 sub-areas schools by random number generator (Stat Trek, 2008). The data were collected from each selected household by a trained data collector, with the help of household' student, through personal interview. The collected data were subjected to statistical analyses by using the statistical package for social sciences (SPSS), in which the percentages, means and standard deviation plus the Spearman correlation coefficient were used.

RESULTS AND DISCUSSION

Socio-economic and demographic characteristics: Approximately ages of two-thirds of the respondents (62.2%) ranged from 30 to 60 years. However, 21.4% of them were less than 30 years old. Since the respondents were grouped in various age classes, therefore the age variation factor could affect their attitudes towards the forests and the use of forest products. The study reveals that most of the people in the study area are well educated as little less than half (48.4%) of the inhabitants had received university education. Slightly more than one-third (37.0%) of the respondents received secondary and intermediate education. Only 3.8% of respondents had a post graduate degree and 2.4 % of them had no education (Table-1).

About 48.2% of the respondents were serving in the civil governmental sector and additional 9.8% respondents had employment in the military sector. Only 3.6% respondents were involved in farming and agriculture. About 21.2% of the respondents had monthly income less than SR 3000 and 36.2% of the respondents had income more than SR 9000. Monthly income for the majority of the population (42.6%) ranged between SR 3000 to 9000.

Some 48.4% of the respondents had families comprising less than 5 members whereas 40.4% of them were with the families, ranging from 5 to less than 10 members. Only 11.2% of the respondents had big families with 10 or more family members.

Simply little less than half of the respondents (49.6%) were living in flats and about more than one third (35.2%) were residing in traditional old village houses whereas 15% were living in apartments. A very negligible number of respondents (0.2%) were living in tents. About 35.6% of respondents were not having animals and approximately 64.4% were rearing animals. The findings of study revealed a great variation regarding socio-economic conditions and demographic characteristics of the respondents that may have caused the difference in the attitudes of locals and their dependence on forests.

Extent of reliance of locals on the nearby forests in Al-Baha: Locals have great dependence on nearby forests and some 92% respondents were recognized as the users of the nearby forests for having recreational activities and picnics (Table-2). However, almost two-third (66%) population depends on the neighboring forests for their woodfuel needs. The reason could be that many people find it easy to collect woodfuel to meet their heating needs. The importance of such perceived benefits have also been noted by Kobbail, (2012). Little less than half of the respondents (49.2%) reported that they used the nearby forest for grazing their livestock. Animals feed on forest browse are viewed as the part of the ecosystem

providing fodder and forage for the sustainability of the livestock of the graziers, living near the forests (Kobbail, 2012; FAO, 2012).

Table -1 Personal, social, and economic characteristics of local people of Al-Baha (n=500)

Characteristics	Percent	Characteristics	Percent
AGE		**INCOME/MONTH**	
< 30 years	21.4		
30 < 40	32.8	< 3000 SR	21.2
40 < 50	19.2	3000 < 6000	20.2
50 < 60	10.2	6000 < 9000	22.4
60 years and above	4.4	9000 or More	36.2
EDUCATIONAL LEVEL		**MARITAL STAUS**	
		Married	81.6
Illiterate	2.4	Unmarried	15.4
Read and write	5.4	Divorced	2.6
Primary	3.0	Widow	0.4
Intermediate	9.6	**FAMILY SIZE**	
Secondary	27.4	<5 persons	48.4
University	48.4	5 <10	40.4
Post-graduate	3.8	10 and More	11.2
RESIDENCE		**TYPE OF HOUSE**	
Village	14.8		
City	82.8	Flat	0.2
Country side	2.4	Traditional houses	15.0
CCUPATION		Apartment	49.6
Governmental civil sector	48.2	Villas	35.2
Military sector	19.8	**LIVESTOCK OWNERSHIP**	
Private sector	9.8		
Trader (own business)	10.0		
Middleman	5.6	Having animals	64.4
Agriculture	3.6	Not having animals	35.6
Others	**3.0**		

More than one third of the respondents (38.8%) have dependence on the forests in close proximity for bee-keeping. Only 27.6% respondents have dependence on the neighboring forests for their timber needs for the construction of their buildings as depicted in Table -2. The findings of the study established that Al-Baha people not only used forests for recreational activities but also had dependence on them for several other reasons including economic benefits. Therefore, their usages of forests need to be regulated in order to keep the forests environmentally, socially, and economically sustainable.

Attitudes of local people towards natural forests in Al-Baha: The overall analyses of the statements indicate that locals generally have a positive attitude towards the forests (Mean 3.9; SD 1.10). Findings of the study are consistent with the statements made by Schindler *et al*., (2011) on the attitudes of locals towards forests. As depicted by Mean 4.49; SD 0.83 (ranging from agree to fully agree) forests play an important role in promoting tourism and attracting tourists to Al- Baha area (Table-3). Similar findings have been presented in the study conducted by Yalçin and Akan, (2005). Findings of the study undertaken establish that forests could be helpful in strengthening the tourism industry and the tourism sector that in turn would create economic opportunities for the locals. In fact, people from arid and hot areas, due to its mountainous landscape, forests, mild climate and scenic beauty, are attracted to the Al-Baha area (NCWCD and JICA, 2006).

With the second highest mean of 4.44; SD 0.85 (ranging from agree to fully agree) respondents demand to make the resources available for the development of the forests. The respondents of the study area stress for the availability of the needed resources for the development and sustainability of the local forests.

With the 3rd highest mean 4.42; SD 0.83, respondents stress on the protection of forests from over-grazing and fires. As revealed in Table-3, respondents are of the opinion that forests must be protected from over-grazing and fire hazards.

In the document namely "Forests National Work Plan and Strategy" produced by the Ministry of Agriculture (2002) overgrazing has been recognized to be a major impediment to the regeneration of vegetation on woodlands. Trampling caused by the over-grazing of animals also results in the degradation of woodlands, making the forest vegetation suffer from the abnormalities like die-off and dieback (JICA, 2002; Chaudhary and Le Houerou, 2006).

The study also revealed that support extended by the locals would provide them with the opportunities to participate in the endeavors related to the protection and development of Al-Baha forests (Mean 4.41; SD 0.88). Locals have exhibited their willingness to exercise their roles and enhance their participations in protecting and developing the forests. The findings of the study are in consistence with those obtained by Schindler *et al*., 2011; Kobbail (2012). Furthermore, the participation and involvement of the locals has been recognized quite essential in many studies; their needs and aspirations deserve due consideration if natural resources including forests are to be conserved as narrated by Kellert, 1985; Triguero-Mas *et al*., 2009. Many researchers have also advocated for adopting participatory approaches and effective communication strategies for conserving natural resources including forests (Papageorgiou and Vogiatzakis, 2006; Pressey and Botrill, 2009; Pullin *et al*., 2009; Khamfeua and Tosuchiya, 2012). Various authors like Silori (2007) and Macura *et al*., (2011) are also in agreement that devolving rights and responsibilities helps locals equipping with the skills required to manage the resources sustainably. The findings of the study suggest for the development and launching of a new forests management system that primarily focuses on the extension education and capacity building of the locals; and ensures their participation in the initiatives leading to their sustainable management.

Table -2: Extent of reliance of locals on the nearby forests in Al-Baha (n= 500)

Purpose of dependence on forests	No dependence on forests		Dependence on forests	
	Number	Percent	Number	Percent
Recreational activities and picnics	41	8.2	459	91.8
Woodfuel from the nearby forests	170	34	330	66.0
Grazing their livestock	254	50.8	256	49.2
Beekeeping	307	61.4	193	38.8
Timber for buildings	362	72.4	135	27.6

Table -3: Attitudes of locals towards natural forests in Al-Baha (n= 500)

Statements	Fully Agree 5		Agree 4		Abstain 3		Disagree 2		Fully disagree 1		Mean	S.D
	#	%	#	%	#	%	#	%	#	%		
Forests play an important role in attracting tourism to Al-Baha Area	323	64.6	124	24.8	34	6.8	13	2.6	06	1.2	4.49	0.83
Forests must be developed and resources should be made available for this purpose	306	61.2	134	26.8	41	8.2	12	2.4	07	1.4	4.44	0.85
Forests must be protected from threats of over-grazing and fire hazards	295	59.0	153	30.6	26	5.2	18	3.6	08	1.6	4.42	0.87
Locals contributions to forest protection and development are necessary	300	60.0	139	27.8	36	7.2	17	3.4	08	1.6	4.41	0.88
Forests can contribute significantly to reducing the risk of pollution	236	47.2	161	32.2	75	15.0	21	4.2	07	1.4	4.20	0.94
Forest development and conservation are essential for agricultural development	223	44.6	173	34.6	75	15.0	23	4.6	06	1.2	4.17	0.93
Obtaining permission from the responsible authorities should be essential for cutting trees for firewood and fuel	256	51.2	134	26.8	50	10.0	36	7.2	24	4.8	4.12	1.15
Forests reduce the negative effects of wind	202	40.4	177	35.4	97	19.4	10	2.0	14	2.8	4.09	0.96
Local environment cannot prevent pollution and reduce environmental problems without the development and protection of forests	221	44.2	166	33.2	69	13.8	24	4.8	20	4.0	4.09	1.06
Forests play an important role in protection from the risks of floods	194	38.8	174	34.8	99	19.8	24	4.8	09	1.8	4.04	0.97
Forests in Al-Baha provide an indispensible natural habitat for wildlife	208	41.6	176	35.2	49	9.8	53	10.6	14	2.8	4.02	1.09
Forests happen to be an important natural economic factor	214	42.8	157	31.4	71	14.2	36	7.2	22	4.4	4.01	1.12
Trees should not be cut from forests to convert them into farms	184	36.8	159	31.8	50	10.0	65	13.0	42	8.4	3.76	1.30
Forests play an important role in increasing water table within the soil	137	27.4	123	24.6	205	41.0	30	6.00	05	1.0	3.71	0.97
Roads should not be constructed in the forestlands	165	33.0	144	28.8	56	11.2	101	20.2	34	6.8	3.61	1.31
Forests are an important source of timber in Al-Baha	145	29.0	140	28.0	76	15.2	87	17.4	52	10.4	3.48	1.34
Forests are an important source of many important non-wood products	115	23.0	107	21.4	201	40.2	53	10.6	24	4.8	3.47	1.10
Forest development and protection of forests in Al-Baha do not necessarily mean the development of tourism	150	30.0	139	27.8	53	10.6	68	13.6	90	18.0	3.38	1.48
Al-Baha forests play an important role in rainfall	105	21.0	82	16.4	233	46.6	44	8.8	36	7.2	3.35	1.12
I do not mind the urban expansion at the expense of forestlands and areas under forest cover	84	16.8	96	19.2	39	7.8	150	30.0	131	26.2	3.30	1.42
It is not necessary to establish windbreaks and shelterbelts around farms	75	15.0	152	30.4	70	14.0	93	18.6	110	22.0	2.98	1.40
Grand mean											3.88	1.10

Although the statement "Al-Baha forests play a great role in rainfalls" received a mean 3.35 and SD 1.12 yet a significant portion of the sample population remained abstain. It is an established fact that areas adjacent to forests receive more rains than the areas not having forests. Similarly, Alaska Department of Natural Resources (2010) also reported that forests release moisture and increase water vapors in the atmosphere. That could be possible cause of more rains received in Al-Baha area. Such findings also call for the development of extension education programs to increase the knowledge levels and to bring positive changes in the attitudes of the locals toward environmental benefits of forests.

The second lowest mean 3.30; SD 1.45 was realized for the statement, "I do not mind the urban expansion at the expense of forest areas". The statement clearly establishes the importance of forests for the masses of Al-Baha and the locals want to keep the area under forest that has already been covered with the existing forests. Sprawling of the urban areas is one of prime factors responsible for vanishing of the forests. Due to the developmental activities which started 3 decades ago in the Kingdom, urbanization is happening at the gigantic scale. Expansion of farms, establishment of the infrastructure; construction of houses, building of roads and development of the recreational areas are the key factors responsible for the urbanization and the decline of forestlands in the Kingdom as well. Such initiatives particularly in the South-Western area have also caused the shrinking of forest areas (Johannesburg Summit, 2002). According to Aref and El-Juhany (2000) at present the loss of environmental equilibrium remains the most challenging issue faced by the forests in the South-Western area of Saudi Arabia. They believe that construction work and building of roads network are attributing factors of this loss. Imbalanced environmental equilibrium also results in the decline of forests' biodiversity and on the other hand conversion of forestlands into the parks further damages the biodiversity of the forests. Also, similar findings have been reported by Yalçin and Akan (2005).

Locals attach low importance to windbreaks and shelterbelts as revealed by its ranking (Mean 2.98; SD 1.40). The possible reason could be their low knowledge level about the value of trees when planted at the borders of the fields and around the farms to mitigate the harsh effects of desiccating winds and ameliorate the extreme temperatures. However, windbreaks and shelterbelts could be introduced and promoted among the locals through the extension education programs. However, the beneficial effects of wind-breaks and shelterbelts in terms of reducing wind velocity, increasing humidity, lowering evapo-transpiration, decreasing soil loss and increasing soil moisture have been reported at length (China, 1985; FAO, 2011).

Factors causing damage to the natural forests from local perspectives: With the highest mean of 4.30; SD 0.91 (ranging from agree to fully agree) respondents believe that lack of awareness among the locals on the importance of forests and their conservation is a threatening factor to the sustainability of forests. With the mean 4.29 SD 0.99, the respondents agree that Al-Baha forests are damaged when tourists ignite fires in the places not designated for cooking and heating.

Achieving the next highest rank (Mean 4.29; SD 0.89), locals believe that lack of extension programs to educate and create awareness among the locals was the reason for the deterioration of forests. Educational and extension programs to create awareness are essential to elevate the knowledge levels of locals on the importance of forests. The beneficial roles of extension education programs towards enhancing the knowledge of locals about forests and developing the management skills to use forest resources wisely have been well documented (Agbogidi and Ofuoku, 2009; Kobbail, 2012).

The respondents agree (Mean 4.29; SD 0.93) that pollution hazards can be noticed when tourists would throw their left-over and do littering in the forests. This has been a world-wide concern experienced in the woodlands necessitating the launching of extension education programs to change the attitudes of locals towards the forests in their close proximity.

Also, locals seemed very concerned over the irresponsible behavior of the tourists towards the forest environment. With the value of mean 4.25 and SD 1.15, locals agree that breaking out of fires does damage and consume the forests. In the light of the findings of the study, it seems very important to change the tourists' behavior towards forests and launch the extension education projects to create awareness as well as strict regulations are needed to be implemented to overcome the problems.

The respondents seemed quite scared of the initiating and launching of new tourism projects in the forests. They were of the opinion that such initiatives could harm, degrade and deteriorate them (Mean 3.79; SD 1.33). Similarly with the mean value of 3.91 and SD 1.15, locals almost agree that urbanization is causing damage to the forests. Although with the lowest mean of 3.58; SD 1.27, respondents slightly emphasize agriculture expansion in the forests remains a threat to the forests. Forests are shrinking and being cleared up to expand the agricultural fields. It is not only happening in the kingdom, it is a wide-spread issue faced by almost every country around the globe. With the 2nd lowest mean of 3.66; SD 1.32, respondents' positions ranged from abstain to agree about the negative impact of construction roads in the forests areas. The construction of roads in the forests could consume forestlands and would attract more tourists and it remains a serious concern of the locals.

Table -4: Factors causing damage to the neighboring forests from local perspectives in Al-Baha (n= 500)

Factors causing damage	Fully Agree 5		Agree 4		Abstain 3		Disagree 2		Fully disagree 1		Mean	SD
	#	%	#	%	#	%	#	%	#	%		
Lack of awareness of the locals on the importance of forests and their conservation	251	50.2	185	37.0	39	7.8	12	2.4	13	2.6	4.30	0.91
Tourists ignite fires in the places not allocated for cooking and heating	271	54.2	153	30.6	41	8.2	19	3.8	16	3.2	4.29	0.99
Absences of extension programs to educate and create awareness among locals about the importance of forests	252	50.4	175	35.0	51	10.2	12	2.4	10	2.0	4.29	0.89
Pollution caused from throwing waste by the tourists in forests	255	51.0	177	35.4	43	8.6	09	1.8	16	3.2	4.29	0.93
Weaknesses of developmental programs for Baha forests	251	50.2	180	36.0	37	7.4	16	3.2	16	3.2	4.27	0.96
Breaking out of fires	288	57.6	136	27.2	19	3.8	26	5.2	31	6.2	4.25	1.15
Disposal of municipal waste in the forests	266	53.2	151	30.2	45	9.0	17	3.4	21	4.2	4.25	1.04
Excessive chopping or felling of trees	247	49.4	155	31.0	33	6.6	39	7.8	26	5.2	4.12	1.15
Overgrazing	259	51.5	146	29.2	17	3.4	49	9.8	29	5.8	4.11	1.21
Urbanization	185	37.0	185	37.0	55	11.0	51	10.2	24	4.8	3.91	1.15
The establishment of tourism projects in forests	200	8.0	147	29.4	48	9.6	56	11.2	49	9.8	3.79	1.33
Construction of roads in the forests area	170	34.0	156	31.2	48	9.6	86	17.2	40	8.0	3.66	1.32
Agricultural expansion in the forest areas	150	30.0	151	30.2	66	13.2	103	20.6	30	6.0	3.58	1.27
Grand mean											3.98	1.04

All the discussion made in the aforementioned paragraphs leads to establish and conclude that the factors damaging the forests in Al-Baha area need to be addressed in order to conserve and develop these forests. In addition, the launching of forestry extension education programs would be helpful educating locals on the negative impacts and outcomes that emerged due to the introduction of initiatives on infrastructure development.

Correlation between the respondents' level of dependence on forests and some of their socio-economic characteristics: In assessing the degree of association between some selected variables expected to affect the respondents' level of dependence on forests, Spearman correlation was used. By examining the effect of the respondent's education as an independent variable on their dependence on the nearby forests (as dependent variable), a negative correlation between the respondents' educational level and dependence on the natural forests was revealed; i.e. the lower the educational level of the respondents, the greater their dependence would be on the forests. Educated people residing in the forests' vicinity are usually aware of the importance of forests and their potential role in the protection of the natural resources and environment. The results obtained are in agreement with Xu *et al*. (2006) and Ozturk *et al*. (2010).

Similarly negative correlation (significant at the 0.01 level-2-tailed) exists between the respondents' level of dependence on forestry and their income level. People residing in the forest vicinities with higher income levels have lesser dependence on the adjacent forests.

As depicted in Table-5, significant and positive relationships have been observed between the level of dependence of the respondents on the nearby forests and the number of sheep, goats, camels, cows and bee hives (Correlation is significant at the 0.01 level -2-tailed). The shepherds and graziers not only make their livestock graze in the adjacent forests but are also involved in beekeeping as well. The correlations among the independent variables like: number of sheep, goats, cows, camels and bee hives) indicate that graziers are highly dependent on nearby forests. Similar statements have been made by FAO (2011). According to report of the "State of the World Forests" published by (FAO, 2011), animals feed on forest browse for a considerable part of the year in many parts of the world and for the reason forests are viewed as the part of the ecosystem providing fodder and forage for the sustainability of the livestock of

the villagers living around the forests. However, the study revealed that the socio-economic characteristics like age and family size of the respondents are not significantly correlated with their dependence on the nearby forests.

Table – 5: Spearman's Correlation between some of the respondents' socio-economic characteristics and their dependence on forests

Socio-economic Characteristics	Correlation coefficient
Age	007
Education	-.214**
Monthly income	-.165**
Family size	.070
No. of sheep	.351**
No. of goats	.310**
No. of camels	.260**
No. of cows	.276**
No. of bee hives	.404**

Notes: Number of respondents (N) = 487
** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Recommendations: Based on the results of this study, the following recommendations were developed:

- Planning and conducting suitable forestry extension programs for the education of the locals on forest management, environmental roles, development and protection.
- Designating more resources for the development of forests.
- Developing a new forests management system where local people could officially participate in the management, development, and protection of the forests**.**

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