



## TRADITIONAL NATURAL RESOURCE MANAGEMENT PRACTICES: A REVIEW OF LOCAL CONCEPTS AND ISSUES ON CHANGE AND SUSTAINABILITY

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### Abstract

The natural resource management issues in the present scenario are not taking into consideration the contributions of the indigenous people and their culture. This paper reviews the importance of traditional resource management practices among the Rajbongshi community of North East India. An anthropological study has been carried out to investigate the local perception of forests, wildlife, biodiversity conservation and traditional beliefs and their significance in natural resources management. Among the major findings of the paper is that although the potential of traditional natural resources management for biodiversity conservation among the Rajbongshi community of North East India is immense, the sustainability of these practices at present times is seriously threatened. This has resulted because of the rapid changes in belief systems. It has been found that biophysical as well as socio economic factors were found to underlie these changes. The breakdown of traditional beliefs among the new generation has been the greatest threat to sustainability of these traditional practices.

**Key words:** natural resource management, traditional beliefs, biodiversity conservation

### Introduction

The traditional systems to manage common property resources and open access land are built on common beliefs within a community (Achim, S. and Gonzalo, O. 2004, UNCED 1992). Rural women and men use biodiversity and sustainable practices for managing natural resources to secure livelihood (Agarwal, B. 2009). This includes not only harvesting of wild species for food, fuel and medicines but ecological services such as nutrient cycling, local climate regulation and cultural benefits, which are not included in economies (Balmford *et al*, 2002). Their collective environmental wisdom and ethics are expressed through religious beliefs and a range of sacred and cultural practices. Much of the worlds' biodiversity exists in resource bases that are either managed as common property resources or as open access resources. These common property resources are usually governed by traditional rules that determine who can use which resource and when. The success of community-based natural resource management projects thus depend on attitudes held by the local community, which in turn influence their level of participation and behaviour. It has been seen that the loss of biodiversity and poverty are intricately linked problems and therefore need to be solved concurrently (Adams *et al*, 2004). Thus it becomes imperative to understand rural womens' and mens' knowledge of indigenous plants, fish and livestock biodiversity uses and practices, including their cultural values and belief systems as these practices have survived through ages.

### Objectives

1. To investigate local concept and perceptions about natural resource management.
2. To study the change and sustainability of natural resource management practices.

### Methodology

For the study Bongaigoan district Assam, India, was selected. The two villages namely Mulagoan and Dholagoan are primarily inhabited by people belonging to Rajbongshi community. Agriculture is the main mode of livelihood. The study was conducted from August 2013 to December 2013.

A trend analysis was used to study how traditional resources are managed over time. Survey method was employed and questionnaires were administered to the survey population on issues in relation to natural resources management. For the purpose the same set of research question were asked to all the different category of respondents. This helped to study the trend on change that have occurred in the traditional natural resource management system over the years. The data was collected through purposive sampling method.

The study was conducted in two stages, the reconnaissance survey and the main or in-depth survey. In reconnaissance survey, initial visits to familiarize, establish linkage and rapport and build relationship with the community was done. Unstructured interview approach was employed in which a framework or a focus group was developed to guide the interview process. In the main in-depth study, the "three generational perspective" (Ouden, 1989) was employed to study the change taking place. In this regard, family units with three generations: the grandparents, parents and children were interviewed. In case of families with members migrated, dead or married out, the interview was modified and grandparents, parents and children who did not come from the same family but from the broad household compounds were considered. This approach was used to solicit in- depth information on traditional natural resources management practices, values, believes, norms and generation involved in relation to natural resources management.

## Findings & Discussions

### 1. Generational Line study

The Three (3) Generational Studies (Millar and Bonye, 2004) were conducted in the first phase of the survey. Table 1 shows findings indicating the generational lines of Rajbongshi community of the two sample villages with three generations. Four hundred fifty (450) respondents comprising of grandparent, parents and children with ages spanning from 55+, 45-54 and 18-39 respectively were made up.

*Table: 1*

	Estimated Age	Frequency	Percentage
<b>Grandparent</b>	55+	122	27.11
<b>Parent</b>	40-54	197	43.78
<b>Children</b>	18-39	131	29.11
<b>Total</b>		<b>450</b>	<b>100</b>

The incomplete generational units for grandparents and children were due to deaths reported in the case of the grandparents and migration for training, education and marriage in the case of the children. In this instance, grandparents and children who did not come from the same family line under consideration but from the broad compound were considered for interview.

### 2. Age and status in the community

The research revealed that the aged are the store house of knowledge, hence in traditional societies they are often respected and seen as authorities in their various fields of endeavours while the younger ones learn from them.

### 3. Gender status

The findings revealed that men dominate the rural scene in the leadership and decision making.

### 4. Level of education

Education is perceived as the key to development as it enables the individual to realise the happenings of the outside world. In the study it was found that 78% children were educated up to tenth standard while only 57% of grandparents and 62% parents had school education.

*Table: 2*

Generational line	Formal education (%)
<b>Grandparent</b>	57
<b>Parent</b>	62
<b>Children</b>	78

### 5. Occupation

The nature of the occupation of the respondents may affect negatively or positively the natural resource base in the district and thereby influence the way natural resources are managed. 77% of the respondents reported farming/agriculture as their major occupation. The younger generation are mostly in service sector both government and private.

## Perception of Natural Resources

Analyses were made on how issues on ownership, access and control over the natural resources are perceived by the respondents. The perceived spiritual, physical, socio-cultural and economic significance of the natural resources are also analysed. Resources access is of great significance for ensuring the sustainable management and use of natural resources. Majority of the people rely heavily on their natural resources for livelihood and other performances.

### 1. Spiritual Relevance

Spiritual relation is the major driving force that regulates the performance of traditional communities to manage natural resources. The traditional beliefs of the Rajbongshi community in the spiritual properties and uses of natural resources has effects on the protection and improvement of the environment. 87% of the grandparents acknowledge the spiritual significance of forests, water and wildlife resources, while 78% of parents and only 58% of children acknowledge the spiritual significance. The spiritual significance of resources are further disaggregated as follows. 54.4% of the respondents believed that forests has high spiritual significance, while 21.7% opted for water resources and 21.4% for wildlife. Forest resources attracted the highest percentage of 54.4% as forests are regarded as home for the ancestors.

### 2. Significance of the Natural Resources to Livelihoods

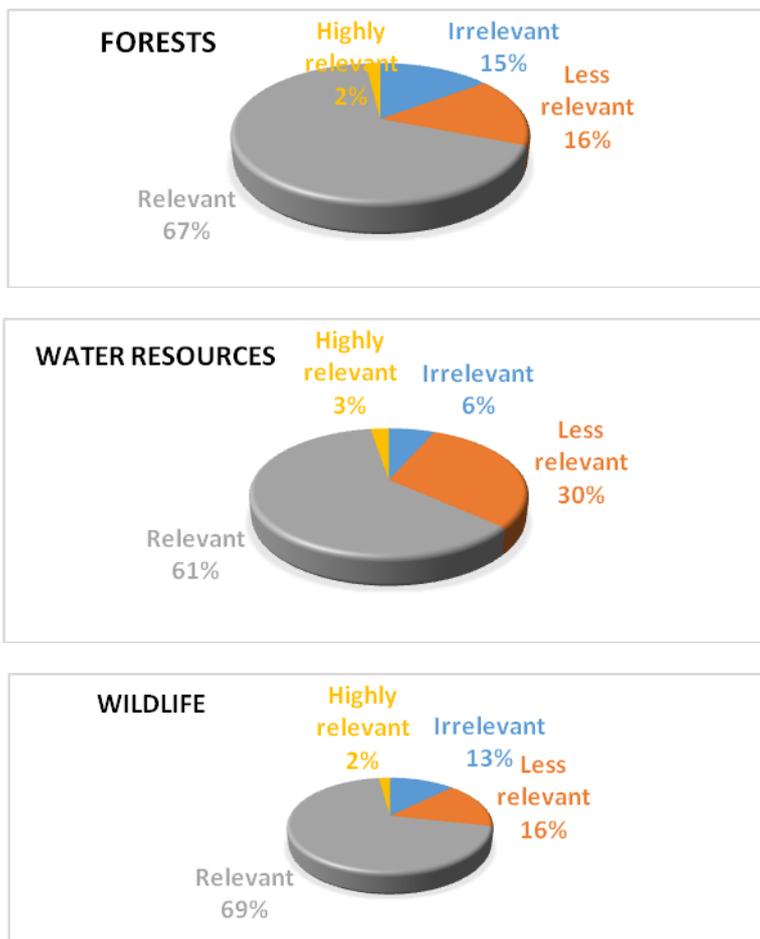
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### 3. Physical Significance

In-depth discussions on issues pertaining to the physical value of the resources were revealed during Focus Group Discussions with the various community members. It was revealed that forest resources are of immense significance to the community's sustenance. In view of this, its physical relevance is enormous. Forest provides firewood, materials for construction and materials for household items, wild fruits and vegetables, and herbal medicines are obtained from the forest.

*Table: 3*

Degree of Relevance (%)	Natural Recourses		
	Forest	Water resources	Wildlife
<b>Irrelevant</b>	9	3	7
<b>Less relevant</b>	10	14	9
<b>Relevant</b>	41	28	39
<b>Highly relevant</b>	40	55	44



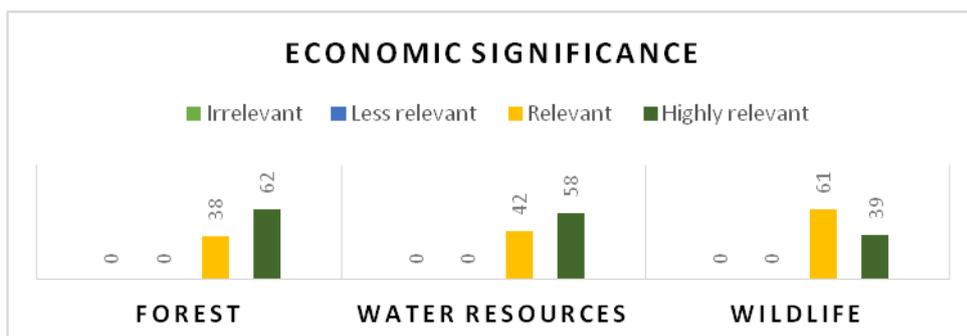
**4. Economic Significance**

It is not possible to quantify the relative contributions of each of the natural resources (forest, water and wildlife), to each household but the ranking of the importance of each natural resources can be determined. The economic value of natural resources leads to protection and sustainable management of the resource. Therefore the resources were graded in order of significance.

*Table :4*

Degree of Relevance (%)	Natural Recourses		
	Forest	Water resources	Wildlife
Irrelevant			
Less relevant			
Relevant	38	42	61
Highly relevant	62	58	39

From the table, it can be inferred that, the resources contributes highly to the economic sustenance of the local people. None of the respondents indicated that the resources are less relevant or irrelevant to their livelihoods. It is evident from the table that forest resources attracted much higher economic value followed by water and wildlife. The study found out that, forest, water and wildlife resources provide the basis of a wide range of uses for both subsistence and economic purposes. Many people take to fishing as their livelihood.



**5. Socio-cultural Significance**

Apart from economic benefits derived from natural resources, traditional societies derive their socio-cultural identity from the resources around them. Hence, the respect for the resource is built around the use of these resources. It has been

found that traditional practices are based on a sense of harmony with the natural environment, which results in sustainable practice and sustainable use.

### Management Systems 30 Years Ago

Various indigenous beliefs and practices have contributed to indigenous natural resource management systems.

Table: 5

Management system	Category of Respondents		
	Grandparent	Parent	Children
1. Restriction to protected areas	62	30	8
2. Rules and regulations	35	22	4
3. Moral sanctions and fines	72	30	0

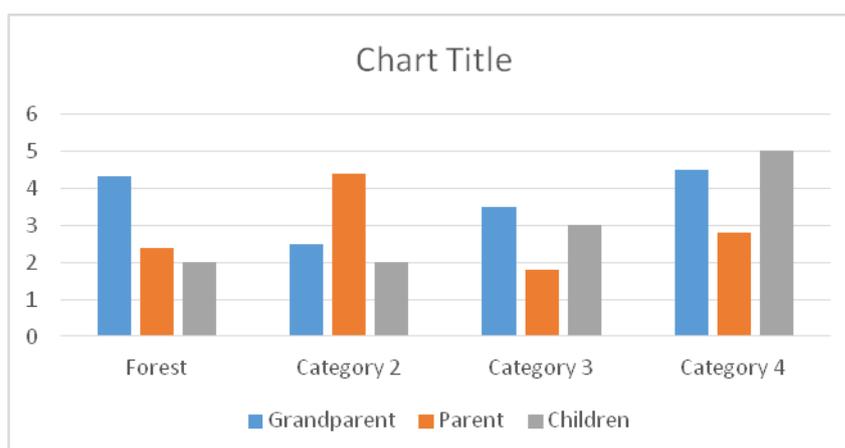
In Table-5, grandparents, parents and children’s views were solicited on the management systems. Responses on management systems varied from generation to generation. Out of 450 respondents, 62% of grandparents, 30% of parents and 8% of children were of the view that management systems were restricted to Traditional Protected Area. The above table also show that 35%, 22% and 43% for grandparents, parents and children respectively indicated that rules and regulations were the modes of natural resources management. While moral sanctions and fines as a management system recorded 72% for grandparent, 29% for parents and none for children.

It is evident from Table 5 that traditional protected areas, rules and regulations and moral sanctions were the main modes of managing natural resources 30 years ago as indicated by grandparents and parents. Experiences recounted during group discussions revealed that in the past, traditional societies adhered to taboos in the management of traditional protected areas and that the taboos restricted access to activities that are destructive to the environment as a result, sacred sites survived over several years and acted as reservoir for biodiversity.

These systems of management are however, unpopular with children and therefore they not adhered to as indicated by low percentages in Table 5. Their knowledge on the use of taboos and totems and traditional protected areas in the management of natural resources was low, they however mentioned government policies and community bye-laws as modes of managing natural resources. They have faith in government institutions, service providers and agencies in the management of natural resources. Nevertheless, they acknowledged that the management and use of natural resources is very much depended on rules and regulations as indicated in the Table 5 hence, they believe in ensuring that those who break the rules should be apprehended and punished. However these regulatory mechanisms that were prevalent accounted for the survival of protected areas over time.

### Issues on Change and Sustainability

The common beliefs within a community are the basis of managing the common resources and open access land. But as these beliefs change, traditional management systems have become less effective. During the study it has been found that the community beliefs among the Rajbongshi community of the sample villages are changing. This is in response to a variety of pressures, such as changing land use practices, population growth, the introduction of market values, change in occupation and the declining value of the traditional authorities (Kramer D, G. U. 2009). Increased incidence of immigration and emigration has also eroded traditional social values. There have been various reasons for migration patterns such as conflict, climate change, disappearing resource base, and market opportunities among others. As migrant populations have less knowledge of traditional practices, little vested interest in long term sustainable practices, and few resources, the impacts of migration on biodiversity are potentially significant. These migrant population have engaged in the uncontrolled expansion of agriculture and grazing on marginal land has caused a major biodiversity loss, including loss on officially protected areas. The expansion of agriculture to open access forests have led to serious land degradation. This has been portrayed as the major cause of instances of ethnic violence and conflicts in the recent past.



It has been found that the customary management systems and agreements are breaking down or have loosened. In such a scenario, many traditionally managed lands are on the verge of being sold out. In some instances, it has been

found that, open access and common property land have increase in value or have gained a market-value. Another revelation is that the long standing traditional system are diluting without being replaced by equally effective modern institution. Moreover it was revealed during the in-depth discussion that the farmers have also expanded their activities onto marginal lands, or converted open access and common property resources into agriculture lands to increase farm size in response to demographic pressure.

## Conclusion

Internally, a generational shift is visible in the community, as traditions of elders are ignored by the youth who have migrated instead to cities. Now the main onus is on the community as how to keep the youth tuned to their culture in a globalized world. As has been said when an elderly person dies, a library dies with him/her. When a culture dies, much more of this valuable knowledge is lost for ever.

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